3.2	Research Publication and Awards
3.2.1	Number of papers published per teacher in the Journals notified on UGC website during the last five years

Chapter 4
An Experimental Study on Benzo[a] Pyrene Concentration in Particulate Matter at Industrial Area of Bangalore

Prashant Basavaraj Bhagawati, Satish G. Muttagi, Poorna B. Bhagawati, Sandip S. Sathe and Abhijit M. Zende

Abstract Assessment of benzo[a]pyrene concentrations, with particularly preferred metals in polluted air, is significant issue for estimating counter health effects. Polycyclic aromatic hydrocarbons (PAHs) recognized one of the major crucial toxic air pollutants in industrials cum urban regions. With partial combustion of organic materials such as motor oils, gasoline, tobacco, cooking oils, butter, and other food leads to the formation of PAHs. With considering the importance of tracing the concentration of PAHs the experimental analysis work is carried out, to recognize the adverse effect on atmosphere. The air samples were collected (as 24 h sample once in a month) from eight specific spots within Peenya industrial monitored network Bangalore, India. The qualitative and quantitative analysis tests were carried out with modern scientific instrumental tool GC-MS. The concentration of B[a]P in eight measuring locations ranged from below detectable limit (BDL) to 0.0490 ng/m^3. From the results obtained, there was noticeable variation in B[a]P concentration, with respect to measuring locations.

Keywords Polycyclic aromatic hydrocarbons · benzo[a]pyrene · Particulate matter

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Surface Runoff Assessment for Nandani River Basin Using SCS-CN Method and GIS

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Abstract— Watershed is simply the geographic area through which water flows across the land and drains into a common body of water, whether a stream, river, lake, or ocean. A surface runoff (also known as overland flow) part of watershed is the flow of water occurring on the ground. Soil conservation Service (SCS) method is a simple, widely used efficient method for determining the approximant amount of runoff from a rainfall even in particular area. The runoff estimated from the SCS-CN model used to know the variation of runoff with different land use/land cover and with different soil conditions. The study area is carried out in Nandani river which is a major tributary of Yerala river, Nandani river Kadegaon Tahsil of Sangli District. The yearly rainfall data of 3 rain gauge stations (1998-2019) is collected. Landuse/Landcover map was prepared from the satellite image and soil map of study area was prepared using GIS. Landuse/Landcover map and Soil map are used to estimate curve number for SCS method. Antecedent Moisture Conditions (AMC-I, AMC-II and AMC-III) are also used for selecting suitable curve number in study area. SCS-CN method was used to determine the runoff depth distribution using Remote sensing and GIS.

Keywords: Watershed, Runoff, AMC-I, AMC-II and AMC-III), SCS, Landuse/Landcover

I. INTRODUCTION

In water resource engineering in watershed is defined as any spatial area from which runoff from precipitation is collected and drained through a common point. In arid and semi-arid regions with scarce vegetation and those disturbed by humans (urbanization).Modification of the land surface during urbanization changes the type and magnitude of runoff processes.

There are large number of methods and models in vogue for computation or estimation of runoff from a watershed. Runoff estimation becomes necessary, as the number on gauged watersheds are generally small particularly the small agricultural watershed are seldom gauged as a routine. However, runoff and its features must be known for the design of any structure either fpr storage (e.g. percolation tank) or for safe disposal (e.g. spillways) of the runoff water.

Runoff estimation is also required to know the watershed water yield. which is the governing factor for planning irrigation projects. drinking water projects and hydroelectric projects. Runoff is the result of interaction between the rainfall features and the watershed characteristics. Rainfall features are highly variable over space and time and watershed features are highly variable mainly over space. such variability precludes the possibility of developing a comprehensive theoretical base of runoff estimation. Hence, the most runoff formulas are empirical in nature, arrived at by processing long term monitored data of runoff and the causative rainfall, as well as many of the watershed features.

Runoff modeling attempts to take into account a large number of causative for estimating runoff. But many times, their complexity and the absence of well and systematically recorded time and space variant data make them difficult to utilize, in this study to produce rainfall runoff model by physiographic features like geology, geomorphology. land use/land cover, structure soil and drainage pattern using SCS-CN technique with the help of RS data and GIS technique [Abhijeet zende et,al.2012,R.Amrutha 2009].

A. Objective

Evaluation of hydrological parameter, such as soils, land use/land cover, drainage, geomorphology with the help of GIS, The estimation of rainfall-runoff model value using combination of SCS model.

II. STUDY AREA AND METHOD

The present study is carried out in Nandani river which is a major tributary of Yerala river. Nandani river flows in between Khatav tahsil, Satar and Kadegaon Tahsil Sangli District. The study area is located on 17°13′14″ N to 17°33′52″ N latitudes and 74°14′35″ to 74°25′21″ longitude. It is bounded by Upale Vangi at north, Kherade Bk at east, Tondoli at the south-east, Belavade at the south direction and Yede at the west. The watershed experiences tropical monsoon climate with normal temperature, humidity and evaporation throughout the year. The monsoon season in the watershed is from June to December. The rainfall occurrence during July and August is comparatively more than rest of the year and significant amount of runoff occurs in the river basin. Average annual rainfall is 600 mm.

III. METHODOLOGY

In this study, survey of India topographical sheet no E43O06, E43O07, E43O08 on the scale of on the scale of 1:50000 were used to fixed the watershed boundary. Drainage and contour Remote sensing data of IRS P6-LISS 3 sensors, on the scale of 1:50000 for layout of land use and land cover map. Hydrological soil map, hydrological soil group was prepared according to soil properties and type of land use and land cover for the assessment of runoff by river basin. Yearly rainfall data from 3 rain gauge stations for the year of 1998 to 2019 (21years).data were used to calculate the runoff using SCS-CN method.

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Dry Spell and Wet Spell Characterisation of Nandani River Basin, Western Maharashtra, India

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Abstract

Soil and water conservation measures are necessary to know the sequence of dry and wet periods along with the onset and withdrawal of rainy season for successful agricultural management and planning. Daily observed rainfall (1998–2017) are analysed to compare and contrast the large-scale duration characteristics of rainfall over semi-arid region. This paper analyses the trend of rain spell frequency in terms of duration by using standard statistical methods. The analysis has been carried out at four locations, namely Kadegaon, Karad, Vaduj and Vita, in and nearby the Nandani river basin. In the Nandani river basin, the duration of dry spell varies from 69 to 119 days, and wet spell varies from 34 to 87 days. In this study, the rain spells were classified into low, medium, high, very high and extreme rain spells. The important results have been found through analysis of this study. These results are: the spells were examined only for the monsoon season (June–October) because all the above categories of rain spells occur only in this monsoon season. The rain spells help to coordinate various activities, like water effect on crop growth, supplementary irrigation, water release schedule and so on. The maximum dry spell (DS) was 119 days at Vaduj in 2003 and minimum 69 days at Kadegaon in 2006. The maximum wet spell (WS) was 87 days at Karad in 2005 and minimum 34 days at Vaduj in 2003.

Keywords

Crop growth Dry and wet spell Supplementary irrigation Water release schedule

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Geo-Morphometric Assessment of Nandani River Basin, Western Maharashtra, India using Geospatial Techniques

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Abstract - *Geographic Information system (GIS) technique is appropriate tool for the identification of geomorphological features. GIS and image processing techniques can be used to define morphological characteristics and to investigate the characteristics of the basin. The present study focused on the morphometric analysis of Nandani river basin using RS and GIS techniques. The Nandani river basin has covered an area of 492 km2. For this study, all the satellite data is obtained from Bhuvan website and analyzed in ArcGIS software. Morphometric analysis of river basin was performed by determining the parameters like Linear Aspects, Basin Geometry, Drainage Texture Analysis, Relief characteristics. The drainage pattern of stream network from the basin have been observed as mainly dendritic type. Watershed boundary, flow direction, flow accumulation, flow volume flow ordering have been prepared using a hydrological tool and the slope aspect has been prepared using a surface tool in ArcGIS. These geomorphometric assessment results can be used in river basin or watershed management and hydrological studies.*

Key Words: **ArcGIS, Geographic Information system (GIS), Morphometric analysis, Remote Sensing.**

1. INTRODUCTION

Morphometry is the measurement and mathematical analysis of the configuration of the Earth's surface, shape and dimension of its landforms (Clarke, 1966; Agarwal, 1998; Obi Reddy et al., 2002). Morphometric parameters of a drainage basin describes basin network, form, structure and extension. It is actually quantitative analysis of basin's terrain and drainage network in the basin which helps us to understand the consequent development of drainage network and thereby enable us to have an idea of the geological and geomorphological processes over time. Thus it gives us a cue of landform evolutionary phase that basin is currently going through as described in various morphometric studies (Horton, 1945; Strahler, 1952; Strahler, 1964; Shreve, 1969; Muller, 1968).

Horton is considered to be the pioneer in application of quantitative techniques in drainage basin analysis. In early days the method was very much manual which was both time taking and laborious (Horton, 1945; Strahler, 1952; Strahler,1964; Shreve, 1969; Muller,1968; Evans IS, 1972; Chorley et. al., 1984; Strahler, 1957; Schumm, 1956; Chorley and Morgan, 1962). Then J.T. Hack's Stream-profile analysis and stream-gradient index proved to be significant in the quantitative description of drainage basins (Hack, 1973). The advent of Remote Sensing and Geographical Information System (GIS) techniques began to make things much easier and computation of results more accurate. Now much advancement in RS, GIS and personal computers has made possible its widespread application in quantitative geomorphology in general and in morphotectonic analysis of drainage basins in particular (Williams, 1972; Mesa,2006; Lyew-Ayee et al., 2007; Altin and Altin, 2011; Buccolini et al., 2012). Here in India too, Quantitative techniques have been applied to study the morphometric analysis of different drainage basins (Vittala et al., 2004; Chopra et al., 2005, Vijith and Sateesh, 2006; Rudraiah et al., 2008; Bagyaraj and Gurugnanam, 2011; Malik et al., 2011; Thomas et al., 2011; Magesh et al., 2012; Singh et al., 2012; Pareta and Pareta, 2012; Rai et al., 2014; Biswas et al., 2014; Chougale and Sapkale, 2017). Various Studies concludes that morphometric properties of drainage basins as good indicators of structural influence on drainage development and neotectonic activity (Nag and Chakraborty, 2003; Das et al., 2011; Bali et al., 2012; Demoulin, 2011). There are many studies where morphometric analysis of drainage basins has been used to assess the groundwater potentiality of the basins and to locate suitable sites for construction of check dams and artificial water recharge structures (Sreedevi et al., 2005; Narendra and Rao, 2006; Avinash et al., 2011; Mishra et al., 2011; Jasmin and Mallikarjuna, 2013). Nowadays, remote sensing and GIS provide cheap, convenient and higher accuracy results in morphometric analysis of drainage basins. According to (Rao et al., 2010) the fast emerging spatial information technology, remote sensing, GIS, and GPS are effective tools to overcome most of the problems of land and water resources planning and management of basin rather than conventional methods of data process. The present study aims at using the remote sensing and GIS technology to compute various parameters of morphometric characteristics of the Nandani river basin.

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Impact of 5S and Kaizen Implementation on Industrial Organisation's Performance

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ABSTRACT

5S and kaizen are Japanese concepts which are generally used to improve working environment of an organization. This paper high spot the proper implementation guideline required for successful exercise of 5s as a part of the daily management practices. The main pillars of the 5S are- Seiri, Seiton, Seiso, Seiketsu and Shitsuke. These 5S are used doing the all the tasks in proper way and within the time. In the kaizen continuous improvement is occurs as well as use better techniques to simplify the work. The eventual objective of this paper is to increase efficiency and productivity of the organization. Various housekeeping activities are often used first in adopting the continuous improvement way of life. Here adopted some practice at plant are: Sort out what is unneeded; Set-In-Order what must be kept; Shine everything that remains and establish a cleaning schedule; Standardize the system throughout the facility and provide employees with training Sustain the effort with self-discipline and resources and time to improve their workplace.TPM starts with 5S. It is a systematic process of housekeeping to achieve a serene environment in the work place involving the employees with a commitment to sincerely implement and practice housekeeping. Problems cannot be clearly seen when the work place is unorganized. Cleaning and organizing the workplace helps the team to uncover problems.

Keywords: Kaizen, 5S, Housekeeping, TPM

1. INTRODUCTION

5S is an approach to organize, order, clean, standardize and continuously improve a work area. 5S is not just about housekeeping. The initiative of all the 5S is starts from the letter S so this method known as 5S. The words are Seiri, Seiton, Seiso, Seiketsu and Shitsuke. The meaning of all these 5S are sort out, set in order, cleanliness, standardize and self-discipline. In the 5S councils are also formed to discuss about problems related to productivity and efficiency. Kaizen also play important role in organization. Kaizen increases simplicity of operation by modifies the process consistently [4, 5].

2. LITERATURE REVIEW

A] Rajesh Gautam et al. (2012) discuss the problem which is happened in the industry. This case study discusses about the kaizen implementation in the assembly line in organization which machining front and rear axle.

B] Soumya R. Purohit et al. (2015) described by using the 5s effectively how the productivity increases at Sphoorti Machine Tools Pvt. Ltd. In this case study he explained all the 5s with its proper use.

C] Manjunath Shettar et al. (2015) explained the background of kaizen and also impact of kaizen. He also discusses the techniques which transform the organization in well manner.D] Ravee Phoewhawm et al.(2014) explained a case study of president food management team who supporting kaizen. This team was bestowed by the President Food Company to manage the kaizen events and was requested to meet the seven objectives for continuous improvement.

3. METHODOLOGY

Kanban is a data framework that is utilized to control the number of parts to be created in each cycle. The mostregular sorts of Kanban are the withdrawal Kanban, which indicate the amount that the succeeding cycle should pull from the first cycle, and the creation Kanban, which determines the amount to be delivered by the procedure interaction. A provider Kanban is another sort of Kanban that is utilized between the provider and the maker under JIT [4, 6].

The Analytical Study Of Substitute Refrigerants

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Abstract:. ***Domestic and industrial applications, ventilation and air conditioning play an essential role. They have a big impact on our daily lives. These have added to major ecological issues on the planet, for example, ozone consumption and a dangerous atmospheric deviation. The development of cooling systems and coolant used for cooling since the days when cooling was not presently established. Refrigeration means the rejection of heat from an enclosed space or from a substance to maintain its temperature under in the world. Pre-1830 techniques such as salting, spicing, smoking, ham and freshening were used for food protection. In India and Egypt evaporative refrigeration has been studied. Now days, use of refrigeration and air conditioning is indispensable in domestic and industrial purposes. CFCs and HCFCs were the widely used refrigerants during the past few eras. As these refrigerants form a group of ODS (Ozone Depleting Substances), the Montreal protocol demanded its gradual replacement with more environment friendly substitutes. Accordingly, few of them are replaced and the residual are in its course of substitution. HCFCs and CFCs may be wisely substituted by HFCs due to their higher GWP (Global Warming Potential). Hence, these types of natural refrigerants form a group of environment friendly refrigerants.***

Keywords: **Refrigeration, Refrigerants, Global warming potential**

1. Introduction

Refrigeration is described as the mechanism by which a temperature below the surroundings may be achieved and maintained, with the purpose of cooling a product or space to the desired temperature. The protection of perishable food items by store them at low temperatures was one of the most significant applications for Refrigeration. Refrigeration systems are still widely used to provide people with warm relief through air conditioning. The air conditioning is the treatment of air in order, as requested by occupants, process or goods in space, to concurrently monitor its temperature, its moisture quality, smoothness, odor and circulation. The issue of cooling and air conditioning comes from human diet and comfort, and its source goes back decades.

"Refrigerant is the heat transfer fluid used in a refrigeration system which absorbs heat from low temperature and pressure areas during evaporation and releases heat at a higher temperature and pressure during condensation."

The Experimental Study Of Substitute Refrigerants

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Abstract: *Coolants are the job medium for cooling systems that evaporate from the cooled area by collecting heat to ensure a cooling impact. The background of coolant production was based on a range of factors such as protection, stability, longevity, economic or environmental problems, thus promoting modern safety and performance research and equipment enhancement. The coolants may be divided into the following generations. In the early 20th century, chlorofluorocarbons (CFCs) substituted traditional coolants. Midgely and his colleagues also chosen R-12, dichlorodifluoromethane as a cooling compound suitable for use as a stable yet non-toxic and non-inflammable refrigerant testing product in 1928. R-12 was launched in 1931 and was followed by R-11 in 1932 and R-13 in 1945. Chlorofluorocarbon (CFC) and hydrochlorofluorocarbons of R-22 and zeotropic R-502 is controlled for the second generation of coolants. In the second half of the 20th century, these refrigerants flourished. Only the most used industrial coolant, the natural coolant, was ammonia.*

Keywords: Compressor, COP, Capillary

1.Introduction

The effects of alternating coolant mixtures (50 per cent R290/50 percent R600a) are experimentally examined with the conventional R134a system which operates at medium temperature applications. This section contains the experimental framework and steps for this study.

2.Visi Cooler

A medium temperature cooler is a cooling system often used for cooling flasks containing cold drinks and other fluids. The liquids are typically cooled to 20°C to 40°C. The cooling machine evaporates temperature between -70C and -100C. In general, R12 or R134a was used for cooling purposes. It is comprised of a plate-finished air-cooled condenser, a capillary hose, A standard evaporator spindle and compressor hermetically sealed.

3. Experimental setup

The research plant for experimentation has been specifically planned and manufactured. There are two related cooling circuits as shown in Figure 1.

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Smart Security System For Vehicles

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Abstract – Traditional locks available in the bike are well known to thieves and they can be broken by them. Thus there is need for more security for the motorcycle which is unique and different locks. Biometrics system can be used as good and effective security option. An important and very good human identification method is Fingerprint Identification. As fingerprint of each person is exclusive thus it are often utilized in various security options. Finger print sensor are often interfaced with a microcontroller. Through keypad we will add new user and delete the prevailing user, also identify the user by selecting corresponding option through keypad. In this project we use a fingerprint module to read once identity to start the equipment. For this we use microcontroller to enable the ignition system if matching between scanned data and the already existing data is correct. Comparison is done inside the fingerprint module and output given to microcontroller. Result is displayed during a LCD display whether the user is permitted or not.

1. INTRODUCTION

This project was started with the only purpose of eliminating keys as conventional method of starting the vehicle. Traditional and commonly used key locks available within the bikes are documented to the thieves and thus it are often easily unlocked by the professional thieves. With the assistance of passkey it becomes very easy to unlock the lock of the bikes by the thieves. The new and modern lock has to be unique. That means it is only be unlocked by special and specific key. This type of feature is available in the biometrics locks i.e. the lock which can only be locked and unlocked by the human body feature. The other types of biometrics are Face recognition, voice recognition, fingerprint recognition, eye (iris) recognition etc. Of all these type of special biometric recognition technique the fingerprint recognition is the most widely used because fingerprint of every person on the earth is unique and can provide good reliability. Thus fingerprint recognition locking system can provide better reliability than the normal locks and is also cheaper and straightforward than the opposite biometric locking systems.

2. BLOCK DIAGRAM

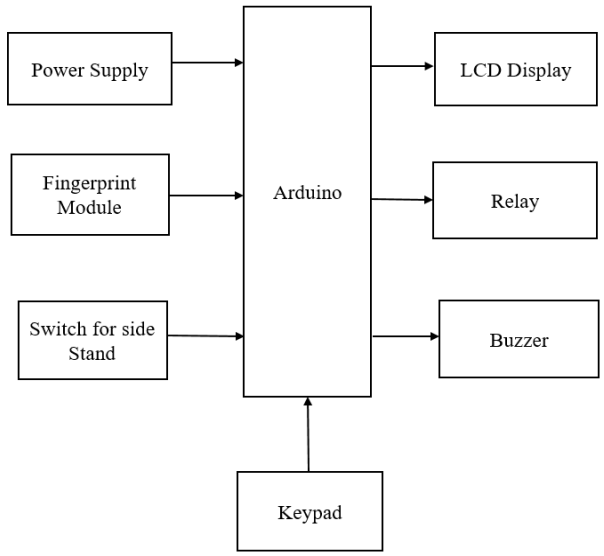

Fig 1. Block Diagram

The design involves inclusion of a fingerprint identification module which provides high security and authentication features. Various components required for this design implementation are described within the following sub-sections.

ATMEGA328: The Atmega328 may be a very fashionable microcontroller chip produced by Atmel. It is 8-bit microcontroller that has 32K off Lash memory, 1K of EEPROM and 2K of internal SRAM.

Fingerprint Module: The fingerprint sensor module is interfaced and powered through Arduino board. To enroll the fingerprint into the ATmega328microcontoller the user can use Arduino IDE.

Liquid Crystal Display (LCD): A LCD may be a tool used for visual display of the output and it follows the properties of sunshine modulation for its display. An LCD is required during this project to display various messages to user and thus making the device handy

Sanitizer spraying and temperature checking robot using smart phone

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Abstract - *The design depicted shows the preventive measure that can be taken during the COVID-19 pandemic in the hole world orld Sanitizers have become the most significant commodities right right now. By the new rules and regulations given by WHO vigorous sanitization is needed to survive. The design gave the solution for the problem stated. The design introduces an automatic hand sanitizer and temperature sensing system, to keep the hand sanitized whenever a person wants to do it, without a contact with the sanitizing machine. The temperature sensor on touching gives the body temperature of the person.*

***Key Words*: Automatic hand sanitizer, Arduino, ultrasonic sensor, temperature sensor, Relay, L293D, Motor, LCD.**

1.INTRODUCTION

Since December 2019 the world is under tremendous tension, the numbers are increasing day by day, and till date no vaccine has been full proved against the pandemic agent. Yes it is COVID-19, it was unknown to the race before it out broke in Wuhan, China. Being from a large family, a continuous mutation is occurring, forbidding the researchers, microbiologist,and pharmaceuticals to draw the line of conclusion on the vaccine. Affecting the most prestigious countries in a chain;China,Italy, Spain,USA,India,
Russia,

The design encompasses few parameters to be calculated and taken as priority, such as – [1] the virus has proved its strength and subservient a technologically enhanced race. The race of homosapiens. The policies taken worldwide has lessen its affect to some extent but could not eradicate it. Lockdown has economically weakened many nations, and testing of different medicines has also not proven to be satisfactory. The question now prevail is Life vs. Livelihood. The weaker section of

the society is facing the hardship due to vigorous lockdown across the nations. Seeing the picture of India, one of the most promising countries in technology, the laborers are rushing for a little piece of grain. The starving faces reveal the pain. Industries are in losses, workers are losing jobs, economical growth of the nation has taken a back seat, but it should be realized that a regular monitoring of body temperature and periodical hand sanitization can prevent the spread of the pandemic to the masses. Keeping in mind, the situation worldwide, sanitization commodities should be installed in each and every corner of the sphere, be it an industry, a corporate office, an educational institute or a shopping mall. In this research work, an automatic hand sanitizer with temperature sensing design prototype has been made

Sanitizer spraying and temperature checking robot using smart phone

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***Key Words*: Automatic hand sanitizer, Arduino, ultrasonic sensor, temperature sensor, Relay, L293D, Motor, LCD.**

1.INTRODUCTION

Since December 2019 the world is under tremendous tension, the numbers are increasing day by day, and till date no vaccine has been full proved against the pandemic agent. Yes it is COVID-19, it was unknown to the race before it out broke in Wuhan, China. Being from a large family, a continuous mutation is occurring, forbidding the researchers, microbiologist,and pharmaceuticals to draw the line of conclusion on the vaccine. Affecting the most prestigious countries in a chain;China,Italy, Spain,USA,India,
Russia,

The design encompasses few parameters to be calculated and taken as priority, such as – [1] the virus has proved its strength and subservient a technologically enhanced race. The race of homosapiens. The policies taken worldwide has lessen its affect to some extent but could not eradicate it. Lockdown has economically weakened many nations, and testing of different medicines has also not proven to be satisfactory. The question now prevail is Life vs. Livelihood. The weaker section of

the society is facing the hardship due to vigorous lockdown across the nations. Seeing the picture of India, one of the most promising countries in technology, the laborers are rushing for a little piece of grain. The starving faces reveal the pain. Industries are in losses, workers are losing jobs, economical growth of the nation has taken a back seat, but it should be realized that a regular monitoring of body temperature and periodical hand sanitization can prevent the spread of the pandemic to the masses. Keeping in mind, the situation worldwide, sanitization commodities should be installed in each and every corner of the sphere, be it an industry, a corporate office, an educational institute or a shopping mall. In this research work, an automatic hand sanitizer with temperature sensing design prototype has been made

"VEHICLE ACCIDENT DETECTION SYSTEM BY USING GSM AND GPS"

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MRS. MOUSAMI GUJAR

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

&

MRS. SMITA JANUGADE

DEPARTMENT OF MECHANICAL ENGINEERING

THROUGH

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DR. DAULATRAO AHER COLLEGE OF ENGINEERING, KARAD.

ABSTRACT

Arduino Based Vehicle Accident Alert System using GPS, GSM and Accelerometer. Accelerometer detects the sudden change in the axes of vehicle and GSM module send the alert message on your Mobile Phone with the location of the accident. The advancing technology has made our day to day lives easier. Since every coin has two sides similarly technology has its benefits as well as its disadvantages. The rise in technology has increased the rate of road accidents which causes huge loss of life. The poor emergency facilities available in our country just add to this problem. Our project is going to provide a solution to this problem.

Keywords: Arduino, GSM, GPS, LCD, Vibration Sensor.

INTRODUCTION

The high demand of automobiles has also increased the traffic hazards and the road accidents. Life of the people is under high risk. This is because of the lack of best emergency facilities available in our country. An automatic alarm device for vehicle accidents is introduced in this paper. This design is a system which can detect accidents in significantly less time and sends the basic information to first aid centre within a few seconds covering geographical coordinates, the time and angle in which a vehicle accident had occurred. This alert message is sent to the rescue team in a short time, which will help in saving the valuable lives. A Switch is also provided in order to terminate the sending of a message in rare case where there is no casualty, this

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IOT BASED INDUSTRIAL AIR QUALITY POLLUTION MONITORING SYSTEM USING ARDUINO

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ABSTRACT

The majority application of air pollution monitoring systems is in industries. The main objective of our project is to design an efficient & to control the parameters causing air pollution to minimize the effect of parameters & make life easier & control industrial appliances by using Arduino UNO (microcontroller). For controlling harmful gases is increases So we detected by MQ6 sensor we get the alert on "IOT web page", SMS alert & email alert. Harmful industrial accidents can be prevented by implementing of Analog sensor like LM35 (temperature sensor), MQ6 (gas sensor) & MQ9 (Carbon monoxide sensor).

Keywords: Microcontroller (Arduino UNO), LM35, MQ9.GSM SIM 800L, FAN Cooling, SPDT Realy,16*2 LCD Display.

I. INTRODUCTION

The main objective of IOT pollution monitoring system is that the Air pollution is rising issue these days It is compulsory to monitor air quality and keep it controlling the harmful gases like carbon monoxide. For healthier & happy future we detected the harmful gases by using Arduino so we detected the problem of increasing gases in industries & save control. The growth of population increases day by day and with the increase in the automobiles and Industries the atmospheric conditions are considerably deteriorating day by day. Risky effects of pollution include several allergic reactions causing irritation of the eyes, nose and infections of the throat. It can also lead to inflammation inside lungs paving way to problems like heart diseases, pneumonia, lung & asthma. These pollution related issues can be detected & alert detection. We some percentage of risky effects can be reduces by using the air pollution monitoring system & control.

II. BLOCK DIAGRAM

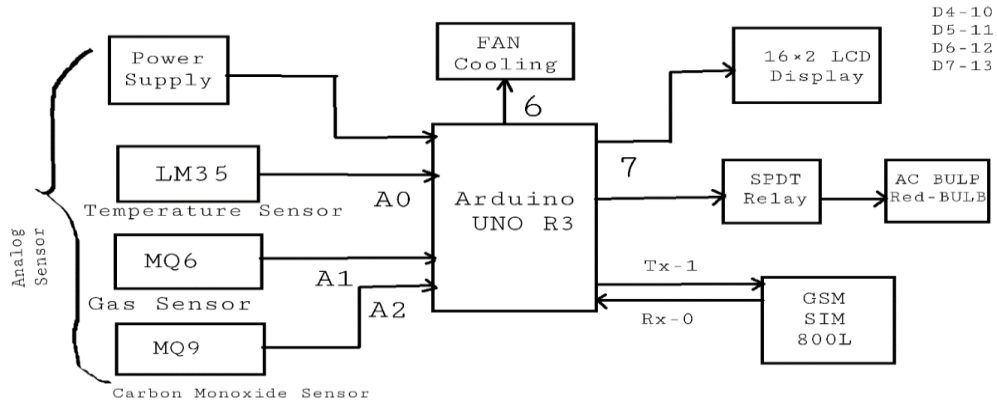

Figure 1: Block Diagram

The design involves analog sensor for alert & which provide high security features. Various components are required to design & implementation are described following subsections.

2.1 Microcontroller (Arduino UNO)

Arduino UNO is a microcontroller board based it converted analog data to digital data. It works like a microcontroller connected to a computer with a USB cable & power with an analog converter to a digital

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Vehicle Ignition Using Biometric Security Scanner

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Abstract – Typically accessible secures in the bicycles don't give sufficient security to the bicycle proprietors. Conventional secures accessible in the bicycles are notable to cheats and they can be handily broken by them. In this manner there is a requirement for greater security choices to be accessible for the cruiser which is novel and should be not the same as the conventional key locks. Biometrics framework can be utilized as a decent and successful security choice. A significant and truly solid human distinguishing proof technique is unique finger impression ID. As finger impression of each individual is one of a kind along these lines it very well may be utilized in different security alternatives. In this paper we are zeroing in on the utilization of unique finger impression acknowledgment to begin or light the cruiser against the utilization of traditional strategies for key locks. A definite examination is displayed in the paper identified with this work. In this paper the work done before in this field is shown. Human ID is field exceptionally huge and which has gone through quick changes with time. A significant and truly solid human ID strategy is unique finger impression ID. Finger impression of each individual is special. So this aides in distinguishing an individual or in further developing security of a framework. Unique mark of an individual is „read" by an extraordinary sort of sensor. Unique mark sensor can be interfaced with a microcontroller. Through keypad we can add new client and erase the current client, additionally distinguish the client by choosing comparing choice through keypad. In this paper we utilize a finger impression module to peruse once character to begin the hardware. For this we utilize a microcontroller to empower the start framework if the coordinating between examined information and the all-around existing information is right. Examination is done inside the finger impression module itself and its yield is given to microcontroller. Result is shown in a LCD show if the client is approved.

1. INTRODUCTION

Vehicles have been utilized in one structure or other since the innovation of wheel. With the development of wheel, came in the second most cutting edge innovation, The Steam Engine. With the advancement of steam motor vehicle appeared as what we see today. In prior occasions driving rod instrument were utilized to touch off the vehicles. Leaving that customary technique behind came in the idea of touching off the vehicles utilizing key. What's more, presently, Keys are being supplanted by Push start catches. This venture was begun with the sole reason for killing keys as regular technique for beginning the vehicle. With the presentation of Biometrics in the eighteenth century, security headway in innovation has gone up to different levels. In view of expanding number of burglary instances of the bikes there is a need to upgrade the security level of the bicycles. Conventional and usually utilized key secures accessible in the bicycles are notable to the criminals and in this manner it tends to be effortlessly opened by the expert cheats. With the assistance of expert key it turns out to be extremely simple to open the lock of the bicycles by the hoodlums. This provokes the interest of such kind of lock which is new and gives an extra security level. The new and present day lock should be interesting in itself for example it should be just opened by unique and explicit key.

2. BLOCK DIAGRAM

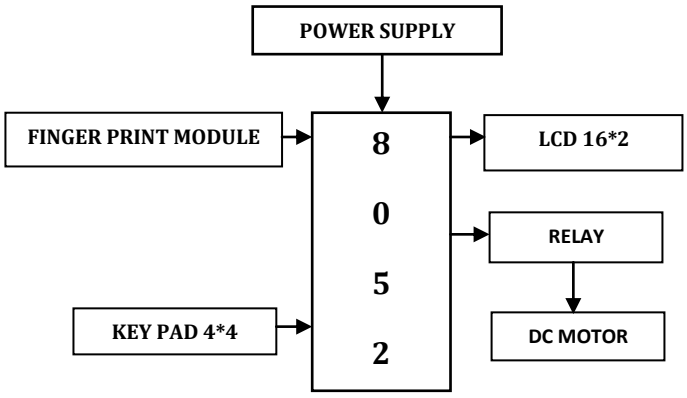

Fig 1. Block Diagram

The design involves inclusion of a fingerprint identification module which provides high security and authentication features. Various components required for this design implementation are described within the following sub-sections.

POWER SUPPLY: Our project requires 5 volt and 12 volts for operation of microcontroller and relay respectively. So, we need to design supply having 5 volts and 12 volts from AC source.

MICROCONTROLLER: The AT89C52 is a low force, elite CMOS 8 cycle microcomputer with 8kB of burst

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ROBOTIC WAITER

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ABSTRACT

In today's world the automation technology such as machine learning and robotics play an increasingly great role in everyday life. At restaurants customers face a lot of things due to congestion at peak hours and unavailability of waiters, customers waste their valuable time due to manual order processing. These lacks can be overcome by our design "ROBOTIC WAITER". It is used for ordering food and beverages and delivering food and beverages. Here customer needs to scan the QR code on a particular table. After scanning QR code a menu card will be opened on his/her smart phone from where he/she can order the food. As the orders will directly display in the kitchen and kitchen staff prepare order and then load the order on the robot & then the only task of the robot is to deliver the food on particular table. Robots produce accurate and high quality work. Robots rarely make mistakes and are more precise than human workers they can produce greater quality in short amount of time they can work at a constant speed with no breaks ,days off or holiday time . We use line follower to move the robot.

Keywords: Qr Scanning, Line Follower Robot, Hotel Automation, Rendering, Sensors.

I. INTRODUCTION

In today's restaurant automation technologies and other forms of digital facility are replacing old fashioned services for example digital menu card. Intelligent Restaurant system delivers almost infinite flexibility in promoting meal and snack options[1]. It uses technologies such as Arduino mega, RF module, database management & line following robot innovatively in a modern restaurant to enhance quality of services and to enrich customer's dining experience[1]. Line follower robots, following a certain path or trajectory controlled by feedback mechanism. Infrared sensors are used to locate the path that the robot has to follow. It is fundamental line follower robot's function. Customers can pay the order bill through cash or any mode of online payment.

In this project we demonstrate the idea of automation in restaurant. In this project we made a robot which provides 100% hygienic food to customer at restaurant. Here customer needs to scan QR code present on the table, after scanning the code menu card will be open and customer will counter on their own mobile itself. There they can order the food and beverage. The order will directly display in the kitchen and chef prepare order, the kitchen staff will load the order on the robot and then the only task of the robot is to deliver the food on particular table.

II. METHODOLOGY

Block Diagram:

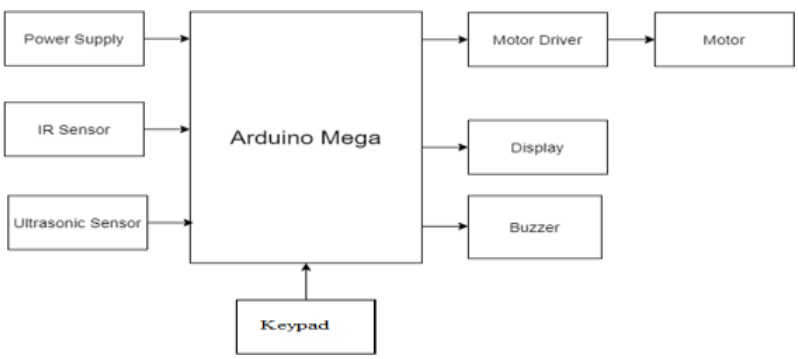

Fig 1: Block Diagram

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GSM based Garbage Monitoring System

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Abstract - In the present occupied world time is a crucial issue which can't be overseen by seeing every single marvel with our tight timetable. So presently a day's Automatic frameworks are being liked over manual framework to simplify life and simpler in all angles. To make it an amazing achievement Internet of Things is the most recent web innovation created. The quantity of clients of web has developed so quickly that it has become a fundamental piece of our every day life. Our question of worry in this task is improvement of Internet of Things based Garbage Monitoring System. As the number of inhabitants in world is expanding step by step, the climate ought to be spotless and sterile for our better life leads. In a large portion of the urban communities the flooded trash containers are making an offensive smell and making an unhygienic climate. Furthermore, this is prompting the fast development of microscopic organisms and infections which are causing various kinds of illnesses. To beat these circumstances proficient trash assortment frameworks are getting created dependent on GSM. Different plans have effectively been proposed and enjoy benefits just as impediments. This paper is a survey of Garbage Monitoring System dependent on GSM**.**

1.INTRODUCTION

In our every day life, we see the photos of trash canisters being overfull and all the trash pours out bringing about contamination. This likewise expands number of infections as huge number of bugs and mosquitoes breed on it. Consequently our concern articulation is to plan a System Based on 89C51 for gathering the trash from a specific region – the region whose public Garbage Bins are spilling over with earlier concern. A major Challenge in the metropolitan urban communities is Solid waste administration .Not just in India yet for the greater part of the nations on the planet. The task gives us perhaps the most proficient approaches to keep our current circumstance perfect and green. Worldwide System for Mobile Communication (GSM) is the most recent patterns. To give a short portrayal of the venture, the sensors are put in the normal trash canisters set at the public spots. At the point when the trash arrives at the level of the sensor, then, at that point that sign will be given to microcontroller 89C51 Controller.

2. BLOCK DIAGRAM

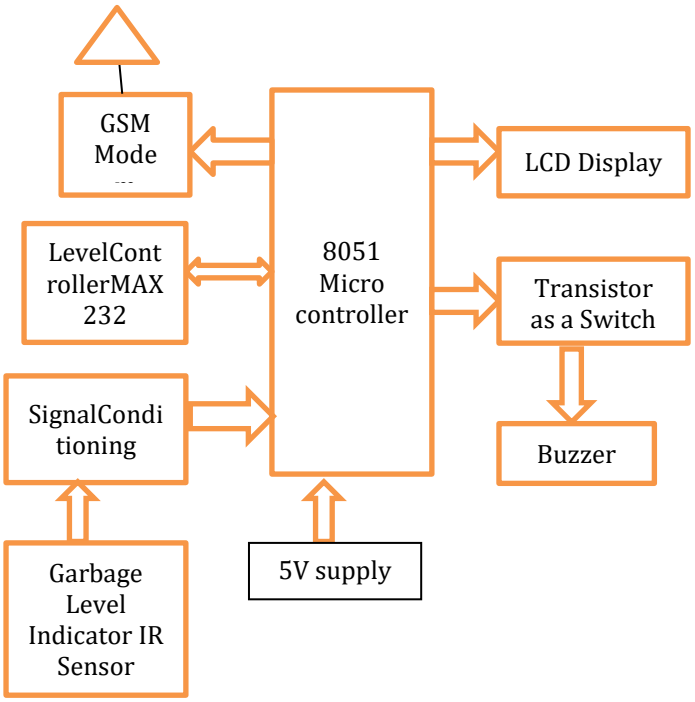

Fig 1. Block Diagram

The plan includes consideration of a unique mark distinguishing proof module which gives high security and validation highlights. Different segments needed for this plan execution are depicted inside the accompanyingsub-segments.

AUTOMATION PETROL BUNK MANAGEMENT USING POSTPAID CARD

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[2]Student-Batchelor Of Engineering,Electronics & Telecommunication Engineering Department, DR. Daulatrao Aher College Of Engineering Karad , Maharashtra , India
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Abstract -. *This paper shows the improvisation of manually operated petrol bunks, as of this process the automated petrol bunks using cloud communications and Microcontroller along with RFID reader is proposed. Every step is made user friendly, where computerized RFID reader is installed at the bunk and post-paid cards are issued to every person along with vehicle registration certificate. It is that when the user approaches the petrol bunk and swipes the card at the RFID reader, it shows the respective user details. Then, after verifying the details and password is entered just to verify the user and then the required amount of fuel is entered, then the relay sensor gets activated and fuel gets released. When the quantity assigned is filled the filling gets stopped automatically, after this process the message of transaction details is automatically sent to registered mobile number of the user.*

***Key Words*: AVR Microcontroller ,RFID module , Smart card ,GSM Module ,Motors ,Power Supply ,Relay ,Adapter ,Keypad .**

1.INTRODUCTION

Automation petrol bunk management is a microcontroller based project which controls the whole assembly i.e. smart card, relay, motor. It also provides onsite recharge facility. The main attraction ofthis project is that it eliminates human interaction and avoids the situation of black selling when there is no serviceman. In this, microcontroller acts as a master device while smart card acts as slave device. On completion of transaction, money is deducted from card and the updated balance is shown again. In case of low balance, transaction cannot complete and respective message is cannot complete. Every time fuel is dispensed, a bill giving details of the date, time and quantity of the petrol will be generated automatically. In this manner many ideas have been proposed to discover Automation Petrol Bunk.

2. BLOCK DIAGRAM

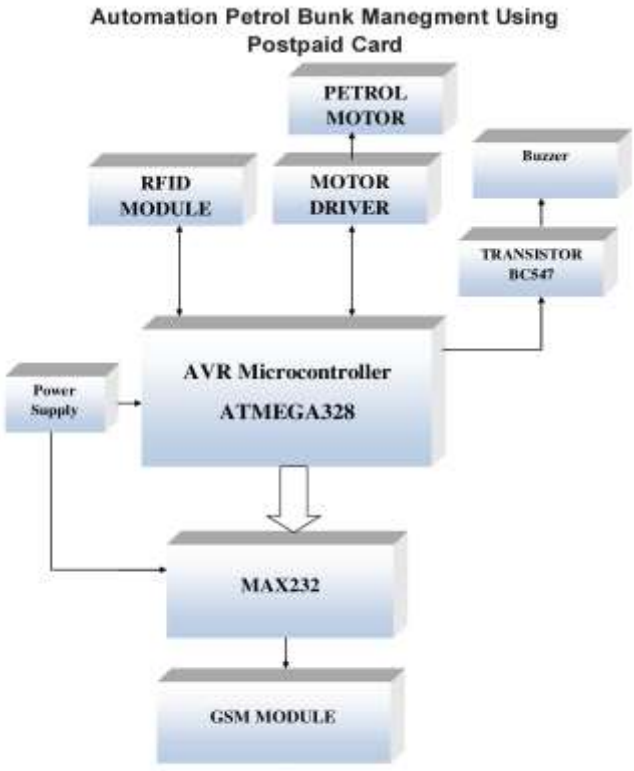

Fig 1 Block Diagram

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IOT Based Digital Notice Board

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ABSTRACT: Nowadays smartphones can be used to control a host of electrical and electronic devices including motors, music systems and lights. Here we present an Arduino based sanitizer spraying and temperature checking robot , which can be controlled using an Android smartphone having ArduinoRC application installed in it. This bot receives commands from your smartphone with the help of a Bluetooth module.

Then user needs to turn on the bluetooth in the mobile. The wireless communication techniques used to control the robot is bluetooth technology. User can use various commands like move forward, reverse, stop move left, move right. These commands are sent from the Android mobile to the bluetooth receiver which is interfaced with the Arduino robot.

Android based robot has a HC-05 Bluetooth receiver unit which receives the commands and give it to the microcontroller circuit to control the motors. The microcontroller then transmits the signal to the motor driver IC's to operate the motors.

This robot consists temperature sensor which check the temperature of human between it's range and display it on LCD display for information. Infrared (IR) temperature sensors enable accurate non-contact temperature measurement in medical applications. The most common applications for this type of temperature sensor is measuring ear temperature, forehead temperature, or skin temperature.
The sanitizer spraying detects the near object or human being close to it or it's range define and it will start spraying sanitizer for some period of time

I. INTRODUCTION

This is a electronic notice board with GSM modem at receivers end. So if the user wants to display any message, he/ she can send the information by SMS and thus update the scrolling LED display accordingly Examples Personal Digital Assistant and Mobile phones etc.Lower end embedded systems - Generally 8,16 Bit Controllers used with an minimal operating systems and hardware layout designed for the specific purposeAn Embedded System is a combination of computer hardware and software, and additional mechanical or other parts, designed to perform a specific function. An embedded system is a microcontroller-based, software driven, reliable, real-time control system, autonomous, or human or network interactive, operating on diverse physical variables and in diverse environments and sold into a competitive and cost conscious market.An embedded system is not a computer system that is used primarily for processing, not a software system on PC or UNIX, not a traditional business or scientific application. High-end embedded & lower end embedded systems. High-end embedded system - Generally 32, 64 Bit Controllers used with OS. Examples Personal Digital Assistant and Mobile phones etc. operating systems and hardware layout designed for the specific purpose..

Audio Rotating Camera Based on Speaker Voice

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Abstract— This paper gives an idea and the implementation of "Audio rotating camera based on speaker voice" project. The idea of this project came into our mind due the problems we faced in our first video conference. The problem was that we had to keep a person with the camera throughout the meeting to control the recording and it took almost an hour to set up every thing. That's why we have designed a system which can do all the process of recording automatically since this is an automatic system it takes less time than the manual one. As speaker person speak up the sound sensor will detect it and camera which is placed on the motor will rotate to that direction of the speaker.

Keywords: Speaker Person, Video Conferencing, Microphone, Camera, Conversation

I. INTRODUCTION

We know the problems related to the conventional video conferencing that is we need appoint a professional cameraman who can record the entire meeting. As this method is manual it takes much time than the automatic one. And also it is awkward to speak in front of the camera and the cameraman it seems like an interview rather than a meeting. That's why we have designed a system which will eliminate such kind of problems easily. In our system, it is not necessary to look at the camera, instead the speaker person can directly speak to the other person and so that our system is able to capture the natural conversation in between the meeting members. Our system is fully automatic hence this process will be done in some seconds.

II. BLOCK DIAGRAM AND DESCRIPTION

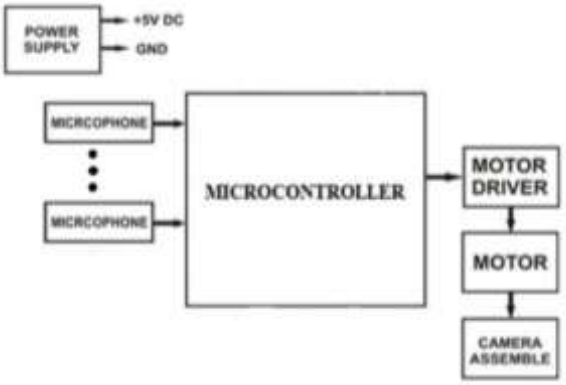

Fig. 1: Block diagram

A. Power Supply

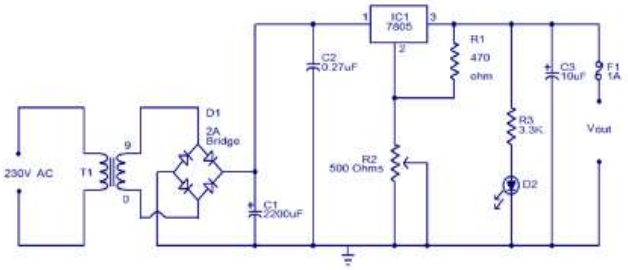

Fig. 2: Circuit diagram of power supply

Above circuit diagram shows how to make a 5V to 12V variable DC power supply from a fixed 5V regulator IC 7805. This is attained by using two resistors R1 and R2. By varying the POT R2 we can adjust the output voltage between 5V and 12V.

B. Microcontroller

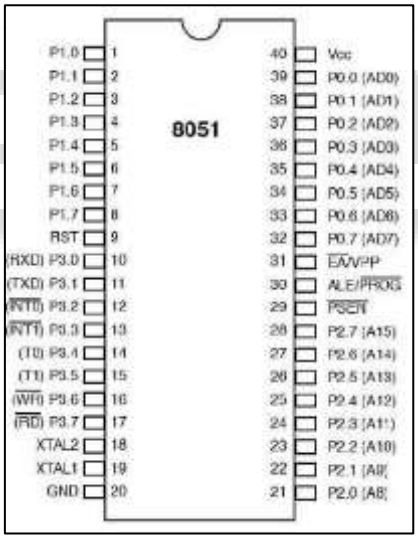

Fig. 3: Pinout diagram of microcontroller

This is the central processing unit of our system. It takes input from microphone, processes it and give it to the motor driver IC. We have used 8051 microcontroller, specifically AT89C51 because we have learned the 8051 microcontroller last semester and we are familiar with its architecture, its all ports and almost everything about it.

- 8-bit data bus and 8-bit ALU (Arithmetic and logic Unit)
- 4K bytes of Flash
- 128 bytes of RAM
- 32 I/O lines
- Two 16-bit timer/counters
- A five vector two-level interrupt architecture
- A full duplex serial port
- On-chip oscillator and clock circuitry.

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Smart Fuel Meter with Detection of Frauds by SMS

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Computer Science, Shivaji University[1, 2, 3, 4,5,6]

Abstract: This project mainly deals with the device which will give exact volume of incoming fuel at real time. Some of the petrol pump owners do the modification with petrol machines so it causes to customer cozenage. To avoid this, our system will provide the accurate result of incoming fuel in tank. To design this system we are going to use Flow sensors, LCD display, GSM+GPS kit and Arduino Uno board with battery power. The system will also helpful for commercial vehicles. The GSM of proposed system will send message to the owner of commercial vehicles so it will stop the frauds by drivers of commercial vehicles. The GPS module of this system will detect and update the location of vehicle.

Keywords: GSM,GPS, Arduino Uno,USB

I. INTRODUCTION

Fuel is a commonly used commodity by all people and its use is going on increasing with the advancing growth of vehicles. But the common people seem to be shaken up with the ever increasing prices of these fuels which cause a direct effect on the family budget. But the common man still remains unaware of the fuel frauds which are created while refilling the tank. Even a small per cent of fraud can cause a huge adverse effect on the financial budget and dent the savings of a person. Hence, it becomes the necessary to build a system which measures the exact amount of fuel that goes into the tank of the vehicle. By supplying the correct amount of fuel in the tank, the vehicle can go a longer distance than it might have. This in turn saves money of a common man and enhances his/her budget.

The proposed project work has aim for a feasible accurate fuel measurement technique to measure the quantity of incoming fuel in tank at real time. We can achieve least possible errors and maximum accuracy in the measurement. We are designing a system which digitally displays entering quantity of the fuel inside the tank.

II. RELATED WORK

L Monishas S shubhras Nishanth Kannaa Ramya (Electronics and Communication SRM Institute of Science and Technology Kattankulathur, India) “Smart Fuel Meter Design and Implementation” In countries like India with a lot of vehicles, the consumption of fuel from fuel stations is large. Most of the times, consumers are not satisfied with quantity or quality of fuel, because the consumers get less quantity and are cheated. Smart fuel meter is a microcontroller board which will calibrate the amount of fuel flowing into the fuel tank with the help of a fuel flow sensor. The amount of fuel is measured very accurately and can be viewed in the display provided to the driver of the vehicle. The information regarding the amount of fuel flow is also transferred to the owner’s mobile phone through SMS. Flow meters are devices that measure the amount of liquid, gas, or vapor that passes through them. Some flow meters measure flow as the amount of fluid passing through the flow meter for a particular time period (such as 60 litres per minute). Other flow meters measure the total amount of fluid that has passed through the flow meter (such as 100 litres). Smart fuel meters shall be portable / fixed type. It is a battery operated device and is based on a microcontroller. When our fuel meter is implemented in a vehicle it gives complete satisfaction to its users.[1]

G. Kiran Kumar M.Venkat Bharadwaj K. Ashok Reddy (MLR Institute of Technology, Hyd.) “Digital Fuel Meter” Petrol bunk frauds were very common in recent time. Many of the petrol bunks today manipulated pumps such that it displays the amount as entered, but in reality, the quantity of fuel filled in the customer’s tank is much lesser than the displayed value. The pumps are cheated for the benefit of the petrol bunk owner. This results in huge profits for the petrol bunks, but at the same time the customers are being cheated. Majority of the two wheeler vehicles in India consist of analog meters which will not help to precisely know the amount of fuel currently in the vehicle and also it is not possible to cross check the quantity of fuel filled at the petrol bunk. Also in this modern and competitive world, products are being digitized owing to its benefits, user friendliness. So we are conducting a project named “design and

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A Survey Paper on Smart Gas Leakage Detection with Monitoring and Automatic Safety System

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Abstract: Explosion occurred due to gas leaks have become a serious problem in our day to day lives. Home safety has become a huge problem due to increasing gas leak accidents. Many fire truck accidents are caused by poor-quality used rubber-tubes or shutting off the regulators when not in use. That's is why developing a gas leak detection system is very good objective and necessary.The survey states that any gas leak in LPG occurs so care should be taken as to how the gas leak detection system is used in safety systems in various automation and how the necessary safety can be taken to prevent an explosion of LPG.

Keyword: LPG, Wi-Fi Module, Arduino, Buzzer, Microcontroller sensor(Gas, Sound).

I. INTRODUCTION

Gas leakage are a serious problem and are found in many residential, industries and vehicles such as Compressed Natural Gas(CNG). Gas leaks have been reported to cause accidents in many places. Gas leaks due to increasing demand from LPG users are often to improper and untimely action, leading to many dangerous accidents.[3] An effective method by installing a safety system such a situation as well as monitor the level of LPG in the cylinder is required so that users are aware of remaining Gas in cylinder.[4] There have been many accidents due to gas leakage in the last few years. There are some similar examples due to gas leakage. Due to gas leakage, LPG leak at one place in Pune caused loss of 4 people. And another example is, A 45 year old women, two boys and a girl were suffocated to death in a fire at a residence in Shahdara after an LPG cylinder exploded. The house caught fire due to leak in the LPG gas cylinder, resulting in the death of 4 people.

II.LITERATURE SURVEY

- The author has observed gas leakage and LPG levels where gas leakage occurs automatically. The authors suggests that gas leakage is performed by various gas sensors. Whose author has worked on gas leaks and mentions that we can take care if a found using a sensor and gas booking can be done automatically when a small amount of gas is taken closed.[1]
- RFID tag microcontroller, pressure sensors and buzzers are used to monitor gas. Through this paper important parameters are used to find the level of gas in the container. The good purpose of this project is to get notification of gas leak to user when gas leakage is started. Arduino was originally created as a tool for fast sampling and activities for students with no knowledge for electronics. This paper uses a microcontroller, buzzer and a gas sensor to detect gas leakage system. When a gas leak is detected by a gas sensor ,the microcontroller turn on the buzzer in critical condition. The author suggest that this message or instruction may be displayed using an LCD display for LPG monitoring.[2]
- The proposed system detects LPG leaks and alerts customers. The alarm starts when the system notice and increases in LPG leakage concentration by sending an alarm and sending a message to specific mobile phone. The device assures safety and prevents explosions.

A microcontroller based system based on gas sensor(MQ6) has been developed in proposed system to detect LPG leakage . The unit is also integrated with an alarm unit to detect signal a leak.[5]

III.EXISTING LPG LEAKAGE DETECTION AND MONITORING SYSTEM

Sensors, microcontrollers, relays, LCD display and buzzer are the material used for gas leak. It is used to convert power supply system area from alternative current to direct current.

Mq 5 sensor: This sensor is constructed by micro AL203 ceramic pipe and contains SnO2 (Tin Dioxide) layer, capable of measuring electrode and the heater is covered by plastic and stainless steel.

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The Smart Gas Leakage Detection with Monitoring and Automatic Safety system

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Abstract – In this paper, we have proposed a Smart Gas Leakage Detection with Monitoring and automatic safety system. Nowadays, people are facing huge side effects due to gas leaks. As a solution, we have developed a gas leakage detection system. This system can help people to avoid the risk of gas leakage. With the increasing demand and consumption of LPG has made it necessary for you to monitor the level of LPG cylinders. So, you can get a little idea about when the gas cylinder will be empty and you can order another gas cylinder before the gas runs out. In today's fast paced world people need to work smart. So, it is now possible to use IOT (Internet of Things), that's why we have used mobile application to turn gas ON/OFF. Through this application we will get notification on our mobile when leak occurs and you will also get an alert through alarm system.

Keywords – LPG sensor, Arduino board, sound sensor, LCD display, Buzzer, Solenoid valve, servo motor, load cells

1. INTRODUCTION

Gas leakage has become a serious problem and now days it is used in many places like residences, industries and vehicles like Compressed Natural Gas (CNG), buses, cars, etc. It is noticed that due to gas leakage dangerous accidents occurs. The Liquefied Petroleum Gas is an extension of LPG. The LPG is a flammable mixture of hydrocarbon gases. It is a mixture of 48% propane, 50% butane and 2% pentane. Which makes the LPG gas cylinder more dangerous and extremely inflammable gas. With the increasing demand of LPG gas users, most of the time user have to face many dangerous accidents occurs by gas leakage due to inappropriate and unavailable of timely action. In gas leak situations an efficient method to establish a safety system as well as monitor the level of LPG in the cylinder is required, so that the users are aware of the LPG level within the cylinder. The objective of the proposed system is to continuously measure the weight of the cylinder and as soon as it reaches the minimum threshold it will automatically sends notification on android application.

The main aim of this proposed system is to monitor for Liquid Petroleum Gas (LPG) leakage to avoid major fire accidents. The system detects the leakage of the LPG using gas sensor and give notification to the user on android application. and another feature is to ON/OFF gas from android application. The system measures the weight of cylinder by using weight sensor and display it on android application. The proposed system uses Wi Fi module to alert the user about gas leakage via sending notification on android application. A proposed system is an effective combination of features which are LPG leakage detection system, Gas regulation and monitoring, Android based safety system. The proposed system is used to detect gas leakage and also send notification to android application. An android application will help to on/Off the gas from anywhere in home and surrounding. This system also useful to regulate the gas flow.

2. LITERATURE REVIEW

[1]. S. M. Zinnuraain et al. The proposed smart gas leakage detection with automatic safety system. With the extremely increased demand and use of LPG, this system would be helpful to monitor the usage of LPG on regular basis and to take safety about any hazards that may occur due to LPG leakage. This system was designed a system that notify the user using IoT through mobile app about the amount of LPG so that appropriate measures can be taken.

[2] Mohd Abid et al. The proposed design system explains about the most common problem experienced in our day- to-day lives that is regarding GAS container going empty. The purpose of the system is, to create awareness about the reducing weight of the gas in the container, and to place a gas order using IOT. A load cell is used for the continuous

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7. CONCLUSION

The proposed Smart Gas Leakage Detection with Monitoring and Automatic Safety System is mainly aimed for household purpose, where the user can be notified of the amount of LPG remaining in the cylinder so that necessary steps or actions can be taken to pre-book a new cylinder. Also, the proposed system notifies the user about any LPG Leakage to take preventive action to avoid an explosion by sending data with the help of Wi Fi communication system or Wi Fi module and with automatic safety system. The proposed system can also be used in hotels, hospitals in case of LPG leakage.

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Surface Runoff Assessment for Nandani River Basin Using SCS-CN Method and GIS

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Abstract— Watershed is simply the geographic area through which water flows across the land and drains into a common body of water, whether a stream, river, lake, or ocean. A surface runoff (also known as overland flow) part of watershed is the flow of water occurring on the ground. Soil conservation Service (SCS) method is a simple, widely used efficient method for determining the approximant amount of runoff from a rainfall even in particular area. The runoff estimated from the SCS-CN model used to know the variation of runoff with different land use/land cover and with different soil conditions. The study area is carried out in Nandani river which is a major tributary of Yerala river, Nandani river Kadegaon Tahsil of Sangli District. The yearly rainfall data of 3 rain gauge stations (1998-2019) is collected. Landuse/Landcover map was prepared from the satellite image and soil map of study area was prepared using GIS. Landuse/Landcover map and Soil map are used to estimate curve number for SCS method. Antecedent Moisture Conditions (AMC-I, AMC-II and AMC-III) are also used for selecting suitable curve number in study area. SCS-CN method was used to determine the runoff depth distribution using Remote sensing and GIS.

Keywords: Watershed, Runoff, AMC-I, AMC-II and AMC-III), SCS, Landuse/Landcover

I. INTRODUCTION

In water resource engineering in watershed is defined as any spatial area from which runoff from precipitation is collected and drained through a common point. In arid and semi-arid regions with scarce vegetation and those disturbed by humans (urbanization).Modification of the land surface during urbanization changes the type and magnitude of runoff processes.

There are large number of methods and models in vogue for computation or estimation of runoff from a watershed. Runoff estimation becomes necessary, as the number on gauged watersheds are generally small particularly the small agricultural watershed are seldom gauged as a routine. However, runoff and its features must be known for the design of any structure either fpr storage (e.g. percolation tank) or for safe disposal (e.g. spillways) of the runoff water.

Runoff estimation is also required to know the watershed water yield, which is the governing factor for planning irrigation projects, drinking water projects and hydroelectric projects. Runoff is the result of interaction between the rainfall features and the watershed characteristics. Rainfall features are highly variable over space and time and watershed features are highly variable mainly over space. such variability precludes the possibility of developing a comprehensive theoretical base of runoff estimation. Hence, the most runoff formulas are empirical in nature, arrived at by processing long term monitored data of runoff and the causative rainfall, as well as many of the watershed features.

Runoff modeling attempts to take into account a large number of causative for estimating runoff. But many times, their complexity and the absence of well and systematically recorded time and space variant data make them difficult to utilize, in this study to produce rainfall runoff model by physiographic features like geology, geomorphology. land use/land cover, structure soil and drainage pattern using SCS-CN technique with the help of RS data and GIS technique [Abhijeet zende et,al.2012,R.Amrutha 2009].

A. Objective

Evaluation of hydrological parameter, such as soils, land use/land cover, drainage, geomorphology with the help of GIS, The estimation of rainfall-runoff model value using combination of SCS model.

II. STUDY AREA AND METHOD

The present study is carried out in Nandani river which is a major tributary of Yerala river. Nandani river flows in between Khatav tahsil, Satar and Kadegaon Tahsil Sangli District. The study area is located on 17°13´14´´ N to 17°33´52´´ N latitudes and 74°14´35´´ to 74°25´21´´ longitude. It is bounded by Upale Vangi at north, Kherade Bk at east, Tondoli at the south-east, Belavade at the south direction and Yede at the west. The watershed experiences tropical monsoon climate with normal temperature, humidity and evaporation throughout the year. The monsoon season in the watershed is from June to December. The rainfall occurrence during July and August is comparatively more than rest of the year and significant amount of runoff occurs in the river basin. Average annual rainfall is 600 mm.

III. METHODOLOGY

In this study, survey of India topographical sheet no E43O06, E43O07, E43O08 on the scale of on the scale of 1:50000 were used to fixed the watershed boundary. Drainage and contour Remote sensing data of IRS P6-LISS 3 sensors, on the scale of 1:50000 for layout of land use and land cover map. Hydrological soil map, hydrological soil group was prepared according to soil properties and type of land use and land cover for the assessment of runoff by river basin. Yearly rainfall data from 3 rain gauge stations for the year of 1998 to 2019 (21years).data were used to calculate the runoff using SCS-CN method.

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Geo-Morphometric Assessment of Nandani River Basin, Western Maharashtra, India using Geospatial Techniques

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Abstract - *Geographic Information system (GIS) technique is appropriate tool for the identification of geomorphological features. GIS and image processing techniques can be used to define morphological characteristics and to investigate the characteristics of the basin. The present study focused on the morphometric analysis of Nandani river basin using RS and GIS techniques. The Nandani river basin has covered an area of 492 km2. For this study, all the satellite data is obtained from Bhuvan website and analyzed in ArcGIS software. Morphometric analysis of river basin was performed by determining the parameters like Linear Aspects, Basin Geometry, Drainage Texture Analysis, Relief characteristics. The drainage pattern of stream network from the basin have been observed as mainly dendritic type. Watershed boundary, flow direction, flow accumulation, flow volume flow ordering have been prepared using a hydrological tool and the slope aspect has been prepared using a surface tool in ArcGIS. These geomorphometric assessment results can be used in river basin or watershed management and hydrological studies.*

***Key Words*: ArcGIS, Geographic Information system (GIS), Morphometric analysis, Remote Sensing.**

1. INTRODUCTION

Morphometry is the measurement and mathematical analysis of the configuration of the Earth's surface, shape and dimension of its landforms (Clarke, 1966; Agarwal, 1998; Obi Reddy et al., 2002). Morphometric parameters of a drainage basin describes basin network, form, structure and extension. It is actually quantitative analysis of basin's terrain and drainage network in the basin which helps us to understand the consequent development of drainage network and thereby enable us to have an idea of the geological and geomorphological processes over time. Thus it gives us a cue of landform evolutionary phase that basin is currently going through as described in various morphometric studies (Horton, 1945; Strahler, 1952; Strahler, 1964; Shreve, 1969; Muller, 1968).

Horton is considered to be the pioneer in application of quantitative techniques in drainage basin analysis. In early days the method was very much manual which was both time taking and laborious (Horton, 1945; Strahler, 1952; Strahler,1964; Shreve, 1969; Muller,1968; Evans IS, 1972; Chorley et. al., 1984; Strahler, 1957; Schumm, 1956; Chorley and Morgan, 1962). Then J.T. Hack's Stream-profile analysis and stream-gradient index proved to be significant in the quantitative description of drainage basins (Hack, 1973). The advent of Remote Sensing and Geographical Information System (GIS) techniques began to make things much easier and computation of results more accurate. Now much advancement in RS, GIS and personal computers has made possible its widespread application in quantitative geomorphology in general and in morphotectonic analysis of drainage basins in particular (Williams, 1972; Mesa,2006; Lyew-Ayee et al., 2007; Altin and Altin, 2011; Buccolini et al., 2012). Here in India too, Quantitative techniques have been applied to study the morphometric analysis of different drainage basins (Vittala et al., 2004; Chopra et al., 2005, Vijith and Sateesh, 2006; Rudraiah et al., 2008; Bagyaraj and Gurugnanam, 2011; Malik et al., 2011; Thomas et al., 2011; Magesh et al., 2012; Singh et al., 2012; Pareta and Pareta, 2012; Rai et al., 2014; Biswas et al., 2014; Chougale and Sapkale, 2017). Various Studies concludes that morphometric properties of drainage basins as good indicators of structural influence on drainage development and neotectonic activity (Nag and Chakraborty, 2003; Das et al., 2011; Bali et al., 2012; Demoulin, 2011). There are many studies where morphometric analysis of drainage basins has been used to assess the groundwater potentiality of the basins and to locate suitable sites for construction of check dams and artificial water recharge structures (Sreedevi et al., 2005; Narendra and Rao, 2006; Avinash et al., 2011; Mishra et al., 2011; Jasmin and Mallikarjuna, 2013). Nowadays, remote sensing and GIS provide cheap, convenient and higher accuracy results in morphometric analysis of drainage basins. According to (Rao et al., 2010) the fast emerging spatial information technology, remote sensing, GIS, and GPS are effective tools to overcome most of the problems of land and water resources planning and management of basin rather than conventional methods of data process. The present study aims at using the remote sensing and GIS technology to compute various parameters of morphometric characteristics of the Nandani river basin.

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Performance up gradation of static VAR compensator with thyristor binary switched capacitor and reactor using model reference adaptive controller

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ABSTRACT

There are various static var compensator configurations are available and listed in the literature. Their performances are evaluated based on their voltage support, dynamic response, losses, cost, and additional filter requirement, if any. In this paper, efforts are made to improve the dynamic performance parameter such as rise time, settling time, and peak overshoots. A new topology with an adaptive controller is presented, in which capacitor and reactor banks are divided in their binary values and connected in the shunt. Capacitor and reactor banks are operated by thyristorised switches. Both these banks are operated in closed-loop form as a cascade control. Amongst these, capacitor bank operates as coarse control, and reactor bank acts as fine control. For the performance enhancement, a model reference adaptive controller is used. The system identification toolbox is used to evaluate the mathematical model of the plant with Matlab. The model's performance was analyzed deeply by the adaptive controller with different reference models such as critical, under, and overdamped. The performance parameters such as rise time, settling time, and peak overshoot in the form of reactive power swings, are evaluated and plotted for different adaptive gains using MIT rules.

Abbreviations: m_p: Peak overshoot; Q_C: Reactive power of capacitor; Q_L: Reactive power of inductor; Q_{TBSC}: Reactive power of TBSC bank; Q_{TBSR}: Reactive power of TBSR bank; t_r: Rise time; t_s: Settling time; e: Error; $G_c(s)$: Transfer function of TBSC plant; $G_l(s)$: Transfer function of Disturbance plant; $G_r(s)$: Transfer function of TBSR plant; SVC: Static VAR Compensator; t:time; TBSC: Thyristor binary switched capacitor; TBSR: Thyristor binary switched reactor; TSC: Thyristor switched capacitor; TSR: Thyristor switched reactor; u(t): System input; v(t): System disturbance; y(t): System output; Y_m: Reference model output; Y_p: Plant output; γ: Adaptive gain; θ: Theta

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KEYWORDS
Binary switched capacitor and reactor; reactive power; model reference adaptive controller; performance parameter; system identification

1. Introduction

The electricity demand increases day by day, and fulfilling it requires installing a new generating station with a transmission and distribution network. But the installation of a new generating station in the existing power system network becomes costly and less feasible. Also, nowadays, the use of renewable energy sources in power systems is increasing rapidly and integrated with the grid. It creates new challenges in the power grid regarding the dynamic variation in power-frequency (P-f) and reactive power-voltage (Q-V) control problems. Also, power electronics devices like converters for grid integration and controllers in charging stations of electric vehicles in smart grids cause dynamic variation, leading to power quality problems. It is not limited to this, but the distributed generation (DG) in the microgrid gives a poor performance in reactive power-sharing. Because in the microgrid, the reactive power of each distributed generator depends on the load active power. There is a need to maintain the balance between generation and utilization of power along with fulfilling the demand of reactive power in the microgrid. The dynamic variation in voltage because of poor management of reactive power-sharing in the microgrid can be resolved through upgrading the existing system by reducing losses, improving efficiency, and enhancing the power transfer capability of the system, which will give a better solution.

To achieve these, there are different types of FACTS controllers like shunt and series-connected static VAR compensator, static synchronous compensator (STATCOM), unified power flow controller (UPFC), and interline power flow controller (IPFC), phase angle, and voltage regulator are available. All these devices are used with ordinary PI or advanced controllers with a closed-loop system. Because systems are already heavily loaded, it requires maintaining system stability at the steady-state and dynamic disturbance in the

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Development of Rose Model for Hybrid Renewable Energy Generation and Analysis of Carbon Foot Printing QOS Parameters

Manjusha Sham Patil, Anwar Mubarak Mulla

Abstract: ***The risk presented by world-wide weather transformation is known and so the government panel about weather transformation prompts that guidelines need to be consider limiting world-wide median temperature boost. I expect effective strategies meant for the statistic and administration of GHG exhausts for aim for positioning and determining the accomplishment of climate change minimization activities. 'Carbon footprints' are progressively being acknowledged as an important signal in the arena of GHG and carbon exhausts supervision. During COVID-19 pandemic the GHG percentage dropped considerably for a moment worldwide, but there is an immense need of lowering carbon foot printing with development of new hybrid renewable energy sources. This paper presents the innovative development in the same direction by development of rose model for automation of energy plants to reach its installed capacity with identification of MPPT along with optimum ratio of demand-supply. Paper also presents the analysis of proposed developments.***

Keyword: ***Hybrid Renewable Energy Sources, Carbon Footprints, Rose Model, MPPT, QOS Parameter Analysis***

I. INTRODUCTION

The terminology carbon footprint has turned into a typically accepted term, commonly accustomed to summarize the strategy concerning a specified level of GHG exhausts to a specific process, system or perhaps inhabitants [1,2,3]. The terminology is additionally utilized synonymously by various conditions just like 'carbon accounting' or maybe 'carbon inventory'. The usage of the terminology has been operated typically through information, authorities, industry as well as, nongovernmental institutions, alluring the significance of organization, clients and so policy designers, nonetheless theterminology has merely lately been implemented through the informative network, just where efforts has usually aimed on life cycle analysis (LCA) [4,5,6,7]. As a consequence, previous authors advise that certainly, there is dilemma as well as little accord with what the terminology essentially represents or perhaps which the procedure dimensions.

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Existing research has revealed that the aspect of statistics complications simply cannot be utilized to rationalize exemption of exhausts, proclaiming that statistics access for exhausts monitoring will strengthen with time as well as, an important signal need to incorporate all GHGs [8,9].Especially in cases where one takes the carbon footprint, seeing that a signal meant for most GHGs, it is a work in solitude can allow an unreliable impression of the entire impression in several cases. For being nearly effective, a carbon footprint needs to be a signal concerning the anthropogenic impact among a termed technique to environment transformation [10, 11]. Employed in separation, it can crash to reflect on geographical affect categorizations such as land-use, caused in 'burden shifting'; as an illustration, bio-fuels are beneficial to precious energy sources in the event that viewed as relating to environment influence, however, this breaks down to reflect on the influences on area [12]. A carbon footprint is a signal among the contributions formed to weather transformation through a system, processes as well as populace, as an alternative to a total LCA, so it needs to be processed as such as a decision supporting application, preferably than a decision developing application [13,14]. The approach that carbon footprints are proclaimed to scheme decision producers, providers as well as, individuals is an essential condition. Demonstration as well as , manifestation of carbon footprints is an essential condition in the production concerning a sensible as well as, workable carbon footprint classification [15]. The more general unit for outcomes is CO2 e, estimated implementing the GWP. The GWP indication is usually employed in LCA to point out promising weather change influences. It is a determination of the severity to which a presented GHG provides to world-wide warming [16].Sometimes the green energy systems are viewed as probable electricity producing resources, a setback of the energy source possibilities is the irregular quality and so dependence upon climate as well as, whether circumstances [17]. This concern triggers the point that green power formulation cannot adhere to the effectiveness requirements concerning the load at every time. This kind of challenge interrelated by the diverse aspect of such assets may be resolved through combining the outlined solutions in an acceptable hybrid conjunction that features the potential to boost the model efficacy and so the energy resource stability [18]. Consequently, the sustainable energy transmission in upcoming sustainable organizations may easily be boosted. This paper hence targeted to develop and analyze rose model for periodical utilization of renewable energy sources.

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ANALYSIS OF MAXIMUM POWER POINT TRACKING FOR WIND ENERGY RENEWABLE ENERGY SOURCES

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ABSTRACT

Wind power strategies are among the important power assets that obtained popular necessity through the previous some years as a result of more than a few aspects like the probability of load of standard electric power, its intense expenses, along with offering undesirable results on the environment. As an effect, a wind electricity era technique may end up being on the set of important prospects as an alternate energy resource with the direct potential. Wind power is definitely favored primarily considering it can be obvious, pollution-free, and so tremendous as well as guarded. The quantity of kinetic power that will get produced over the wind is not totally encouraged by the wind power, and likewise influenced through the part of the rotational velocity to blowing wind speed. So, this paper presents the important algorithms to identify maximum power point tracking to use energy source with full potential.

KEYWORDS: MPPT, Wind Energy, Incremental Conductance & P&O

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Original Article

1. INTRODUCTION

Overall performance of substitute energy methods throughout the maximum power point is usually important in order to improve their overall performance affiliated by applying them all in outlying sites or getting together with up to the grid. The wind generator devices will be regarded as choice energy resources, obvious as successful; they will work with a standard or transforming wind power. In a work to evaluate the appropriate working point of the wind generator, a maximum power point tracking (MPPT) algorithm is essential for proper energy utilization. Several MPPT algorithms are suggested in the literature [1,2,3,4].

A huge quantity of Maximum Power Point Tracking (MPPT) techniques and several topologies of converters had been recommended to get the maximum power. A great deal of maximum power point Tracking (MPPT) strategies just as good as many topologies involved by converters experienced been lately recommended obtaining you see, the maximum power. Many of these methods vary in cases where it seems to price, rate attached with concurrence, complexness, recognition, products needed, transport besides additional complications [5].

A wind energy system produces electric powered recently as their amplitude is dependent after the acceleration of wind movement. The quality contour of wind component is usually non-linear and consists of simply one maximum power point (MPP) through maximum velocity of wind stream. The MPP varies with all the transforming speed of throwing out wind. As a result, an organized staff of regulations is usually required to carry out the system at MPP. Such types of models of regulations will be completely regarded as MPP tracking (MPPT) draws near. A range of MPPT approaches will be currently suggested as well as released in the suitable technical data that could become, in fact, assorted strategies to bring out the impedance matching [6].

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OPTIMIZATION OF FUEL COST INCORPORATING WITH WIND, SOLAR PV AND ELECTRIC VEHICLE ENERGY SOURCES USING IMPROVED ARTIFICIAL BEE COLONY ALGORITHM

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ABSTRACT

Today entire world is witnessing the root causes of global warming and greenhouse gas effects. The problem has been raised because of excessive use of fossil fuel in energy generation as well as in transportation sector. But over the last two decades the contribution of renewable energy sources increases vary rapidly and new energy sources like electric vehicle to grid becoming more popular. The various algorisms are used to achieve the Optimal Power Flow (OPF) without violating constraints. In this paper an improved guided Artificial Bee Colony (IABC) is used to solve the objective function for minimization of fuel cost and emission in presence of conventional thermal power and wind power, PV system and Electric Hybrid Vehicles (EVs). The results are tested on modified IEEE 30 bus test system and compared with results of available published paper.

Key words: Improved Artificial bee Colony algorithm (IABC), optimal power flow, wind energy, solar PV system, Electric Vehicle (EV)

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Understanding Electric Vehicles Battery, Charging & It's Impact on Power Quality

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Abstract—**Battery is a device that converts chemical energy into electrical energy and vice versa. The use of battery in automobiles started in early 1900's. In initial stages, battery was used for energizing automobile accessories like head lamps, indicators, horn etc. The recent advances has put battery for use in staring IC engine with electric start, integrating music system in automobiles, mobile charging and even in some of the high end vehicles custom inverters are build on battery that makes the vehicle suitable for camping purpose. Now a day's the battery operated electric vehicles are becoming popular which addresses the key challenges in reducing pollution. Likewise the use of battery in automobile sector has advanced through the years. The cycling of battery is done in terms of charging and discharging. Depending upon the size and specifications, the time taken to charge battery differs. This charging time layoff hampers the performance of electric vehicles. Various strategies, battery charging methods, charging stations are proposed and developed by researchers leaving behind critical issues related to the power quality to be addressed. This paper focuses on advancements in battery usages and charging in Electrical Vehicles. The power quality issues arising as a result of non linear load are presented.**

Index Terms— **Battery, Electric Vehicle, Battery Charging, Power Quality, Harmonics.**

I. Introduction

Conventionally power systems are designed for unidirectional power flow. Recently PV systems and wind turbines are gaining popularity as alternate energy source. Being accepted as a clean energy source, it helps ecological system in reducing CO2 emission. They also offers many advantages like reducing burden on grid, flexibility in installation and capacity extension and decrease dependency on fuels.
Batteries have been commercially accepted as energy storage device. Until recent developments, high installation cost, short life time, low efficiency, long charging time were setbacks for installation of battery systems. However, developments in lithium ion battery have somehow overcome some of the limitations in battery usages.

II. Battery Systems

A battery converts chemical energy into electrical energy and vice versa. A battery is composed of cells. These cells are assembled in series and parallel combination so as to bring it to the required specifications. The

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Design and Manufacture of High Performance Concrete by using GGBFS & Alccofine

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Abstract - The durability of high performance concrete is the key index of design. With the high durability, the high volume firmness, the high compressive strength and the good workability, high performance concrete extensively used in high-rise buildings, large-span Bridges, offshore in the construction of buildings, roads, etc. This paper prepared with different water & cement ratio of high performance concrete and verified the concrete workability, mechanical properties, and durability. High performance concrete need to prepare with low water & cement ratio, choose high quality raw materials, adding a adequate number of mineral admixtures and high-performance admixture. Using the high strength and high performance concrete can made reduction in the size of cross section, lose weight, and gain superior economic benefits.

Key Words: GGBFS, Alccofine, Concrete, *Poly carbolic ether*

1. INTRODUCTION

By using convectional concrete it can consume more water because of which w/c ratio increases and compressive strength decreases. Hence by using ggbs and Alccofine as an mineral admixture in concrete it will enhance the initial and final setting time of the concrete, the workability and compressive strength of concrete is also increased when ggbs and Alccofine is used as mineral additive in composition of concrete. The binding properties of ggbs and Alccofine will reduce the water content in concrete mix to enhance the properties of concrete. Being cheaper in cost it can be used in low budget construction and it improves high compressive strength, tensile strength, high flexural strength.

1.1 Literature review

[1]Grain size distribution plays a vital role for characterization of soil. Particle size distribution (PSD) in a soil mass is a character which gives a major idea about bearing capacity of soils and bearing capacity of the soil is a key parameter to design foundation of any civil engineering structure. Indian Standards has classified the soils as per particle size gradation. As per I S Code range of the particle size varies from boulder to clay. This paper discusses about the results of particle size distribution of varied soil stratum at a construction location in Jabalpur M.P. Present paper also suggests some recommendations about types of foundation and suitable methods for ground improvement.

[2] In this research study, the effect of magnetized water on workability and compressive strength of concrete was studied, in order to obtain operative concrete with high resistance and at a lower cost. Data were collected from previous studies and researches. The magnetized water was prepared using the magnetic treatment system. Four concrete mixes were prepared, one without magnetized water and three with. Cement reduction of 12.5 % and 25 % was imposed on the last two mixes with magnetized water. Slump and compressive strength tests were carried out on all four mixes and it was found out that concrete produced by the magnetic technology is easy to operate without affecting the compressive resistance of concrete. It was also found that magnetized water increases the compressive resistance of concrete while cement is reduced up to 25 %.

[3] In consideration of higher specifications for concrete, particularly in strength, the proportion of ingredients is usually modified to satisfy the mix design requirements. However, its practicality is not always appropriate in construction because of the expense and availability of the materials. Hence, additives and supplementary materials are adopted in the mix design with present studies directed to the application of nanoclay constituents to concrete technology. Consequently, the study is concerned with the utilization of nano-montmorillonite and halloysite nanoclay as partial substitutes to cement in which the workability and compressive strength of concrete are investigated at combined replacements of these nanoclays. The results show that the workability of fresh concrete generally decreased at the addition of nanoclay in the mix wherein a maximum loss of 50.000 percent in the slump is observed for 5% replacement of the nanoclay combination. In addition, a 28th-day compressive strength of 44.541 MPa is achieved as the highest among the concrete samples at 3% replacement which demonstrates an increase by 27.430 % compared to a control specimen with strength of 34.954 MPa. It is also recognized that there is a parabolic trend of compressive strength with respect to the amount of nanoclay replacement which indicates that the strength of concrete continues to increase until the optimal value of nanoclay replacement is attained.

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Marital Conflict in Zakes Mda's Select Novels: *The Madonna of Excelsior* and *Black Diamond*

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Abstract:

The present paper attempt to analyses the impact marital conflict in Zakes Mda's The Madonna of Excelsior. Zakes Mda treats marital relationship of husband-wife in different way. Zakes Mda is one of the well known South African novelist. Mda places himself in a rich tradition rightly. He deserves his place alongside Gordimer, Coetzee, Brink, Van Harden, and others. Mda often uses paradigm of man-woman relationship across the race for the reconciliation between blacks and whites. Relationship between marriage partners is revealed in some of the novels of Zakes Mda.

Keywords: The Madonna of Excelsior, Pule, Niki, Black Diamond, Kristin Uys, Barend.

The conflicts and crises emerge from a plurality of role played by human beings as husband, father, mother, wife, daughter, son etc of a family relationship. Protest reaches its greatest intensity at two opposite extremes, in conditions of close intimacy. It becomes cold, impersonal, stranger to stranger situations. There is a close co-relation between intimacy and a violent behaviour. Thus, the family within which the two great biological differentiations of culture interact is often a place where the origin and form of aggression are found. Males have been the dominant aggressors in society. Violence begets violence and permanent good can never be the outcome of violence. Domestic protest is created due to marital demands and expectations. The institution of marriage is central to the idea of family in society. It may cause fatal violence unless one is prepared for the responsibilities of married life. If the expected demands are not fulfilled, it brings disillusionment. Basic conflicts between marital partners arise

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CONTROLLING AND MONITORING WATER DISTRIBUTION SYSTEM USING SENSORY NETWORK

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Abstract— **Water distribution systems present a significant challenge for monitoring. They comprise a complex network of pipelines that are difficult to access. There is a need for, on-line monitoring and control of water distribution systems in order to facilitate efficient management and operation. In particular, it is important to detect and localize pipe failures such as leakage, no uniform pressure and flow soon after they occur, and identify areas of the distribution network that are more likely to be susceptible to failure. These capabilities are vital for reducing the time taken to identify and repair failures and hence, minimize impacts on water supply.**

The key concept of system is to plan a low cost proficient system to accomplish better water supply by controlling and supervising it from a mobile to eliminate problems in the supply of water. Arduino is minicomputer in this system design with water flow sensor, and solenoid valves. Arduino is utilized to control the valve and flow meter. System will take care of the issue of overflow, leakage detection, monitoring of water pressure and flow makes an appropriate.

Keywords— **Arduino, Water flow sensor, Solenoid valve**

I. INTRODUCTION

Water Distribution Systems (WDS) supplies potable water to industrial, commercial and residential consumers from water sources (reservoirs, water tanks) through distribution pipe networks. This WDS should supply water to perform many daily tasks, and controlled water supply through planned maintenance or leakage repairs can cause significant problems.

Urban water is provided to the habitats with the assistance of labor. The individual labor in control will go to the place and afterward open the valve to that specific territory. Once the time is over the individual will go again to that place and close the valve. This sort of activity needs labor.

In the market, for monitoring of water distribution we have different methods or systems, but they are very expensive. They use PLC or SCADA to monitor distribution. The cost of PLC's and different sensors make the system very expensive. So to minimize the cost and make it easily available for small industries. We are used Arduino as microcontroller and low cost sensor to develop smart network.

As mentioned proposed design utilizes an Arduino as minicomputer, water flow sensor, and solenoid valves. Arduino is utilized to control the valve and flow meter. The proposed design will monitor the overflow from source, controlled water flow rate with adequate pressure and will display online condition of each control valve.

1.1 Advantages

- Manual work is minimized by automation.
- Due to automation manpower is reduced.
- Detection of failure of system.
- To control flow.
- Less expensive

1.2 Applications

- Water Distribution in big structures ,in agriculture field
- In irrigation

OPTIMIZATION OF PROCESS PARAMETERS FOR PEAK TEMPERATURE DURING FRICTION STIR WELDING OF ALUMINUM ALLOY

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Abstract. Friction stir welding is a solid state joining method used to join materials which cannot be joined by fusion welding. In this joining method, heat produced due to the friction between tool and workpiece is used to weld workpiece material. Heat input depends upon amount of friction caused by process parameters such as rotational speed, weld speed, tool geometry, axial force etc. In the present study, effect of friction stir welding process parameters such as shoulder to pin diameter ratio, rotational speed and weld speed on peak temperature obtained during friction stir welding of aluminum alloy were investigated using taguchi L9 orthogonal array. ANOVA result shows that shoulder to pin diameter ratio (D/d) is the most significant factor affecting on peak temperature obtained during the FSW. **Keywords:** Friction Stir Welding, Peak Temperature, Taguchi L9 array.

1.INTRODUCTION

Friction stir welding is a solid state joining process used for wide applications with different aluminium alloys. Many researchers have successfully studied joining of different aluminium alloys for various applications such as automotive, aerospace, defence, structural, marine, transportation etc. The main principle of friction stir welding is the joining of materials using heat generation though friction, stirring and solidification after cooling. The amount of heat required should not reach melting point of the joining materials but it should be enough to reach plasticity zone of the joining the materials.Fig.1 explains working principle of friction stir welding process which shows FSW tool with shoulder and small pin plunged over the weld line of joining materials rigidly fixed. Rotational speed causes materials stirring action while weld speed gives joining direction and friction time. Amount of friction which causes peak temperature formation depends upon various process parameters such as rotational speed, weld speed, axial load, tool geometry etc. Shinde et al[8] explained friction stir welding can be performed on low cost simple machine tools like universal milling machine. Shinde et al [7] studied effect of various tool geometries and tool materials on friction stir welding and tool failures. Shinde et al [5,6] described effect of process parameters on heat input required for friction welding.Shinde et al[5] discussed reliability based design approach for development of FSW fixture to overcome issues of thermal instability, defect formation, better weld strength etc.

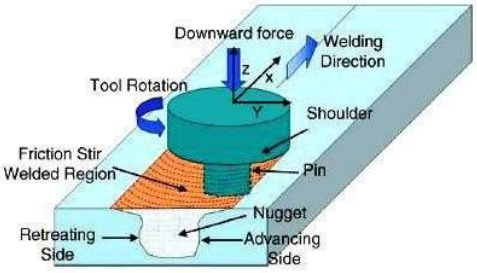

Figure 1. Working Principle of Friction Stir Welding

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RESEARCH ARTICLE OPEN ACCESS

Line Balancing by Using Time Study

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Abstract:

Assembly line is the key function to get the mass production. The research has been done for assembly line balancing with various studies. Assembly is the important process for manufactured goods insight where parts and subassemblies are incorporated together to form the end products. As product variety increases due to the shift from mass production to mass customization, the time factor is an important parameter. In this paper introduce the challenges of design and execution with respect to the time study.

Keywords: - Product realization, mass customization, disassemble and installation

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I. INTRODUCTION

One of the main issues concerning the development of an assembly line is how to arrange the tasks to be performed. This arrangement may be somewhat subjective, but has to be dictated by implied rules set forth by the production sequence. For the manufacturing of any item, there are some sequences of tasks that must be followed. The assembly line balancing problem (ALB) originated with the invention of the assembly line. However, during the initial years of the assembly line's existence, only trial-and-error methods were used to balance the lines. Since then, there have been numerous methods developed to solve the different forms of the ALB. Development of assembly line and then balancing of the assembly line is having importance from the productivity point of view. As most of the small scale and medium scale industries are does not following the various techniques available for line balancing or even line developing which may cause the loss of the productivity**.**

II. STEPS IN ASSEMBLY LINE BALANCING

Time study

Time study is the combination of eight steps of activities which are used for developing the standard time of a projected task. Eight steps of activities are discussed below:

Step 1: Define the task- In this step; a job should be selected for time study according to the requirements.

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Cashless Automatic Rationing System by using GSM and RFID Technology

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Abstract - *Now a day ration card is very important for every home and used for various field such as family members details, to get gas connection, it act as address proof for various purposes etc. All the people having a ration card to buy the various materials (sugar, rice, oil, kerosene, etc) from the ration shops. But in this system having two draw backs, first one is weight of the material may be inaccurate due to human mistakes and secondly, if not buy the materials at the end of the month, they will sale to others without any intimation to the government and customers. In this project, proposed an Automatic Ration Materials Distribution Based on GSM (Global System for Mobile) and RFID (Radio Frequency Identification) technology instead of ration cards. To get the materials in ration shops need to show the RFID tag into the RFID reader, then controller check the customer codes and details of amounts in the card.*

After verification, these systems show the amount details. Then customer need to enter they required materials by using keyboard, after receiving materials controller send the information to government office and customer through GSM technology. In this system provides the materials automatically without help of humans.

***Key Words*: GSM, RFID Reader, LCD Display, buzzer, Keypad**

1. INTRODUCTION

The most of the people having a ration card to buy the materials from the ration shops. When get the material from the ratio shop, first need to submit the ration card and they will put the sign in the ration card depends on the materials. Then they will issue the materials through weighting system with help of human. But in this system having two draw backs, first one is weight of the material may be inaccurate due to human mistakes and secondly, if not buy the materials at the end of the month, they will sale to others without any intimation to the government and customers. In this project, we have proposed an Automatic Ration Materials Distribution Based on GSM and RFID Technology to avoid the drawbacks. Today we are facing a number of transport related problems. RFID technology effectively used to solve some of them. RFID is act as ratio card and other purpose such as RC book, insurance details, service details etc. GSM used to communicate the information between the two people or more than two persons to update the information depends on the requirements.

Radio-frequency identification (RFID) based access-control system allows only authorized or responsible persons to get the materials from ration shops. An RFID system consists of an antenna or coil, a transceiver (with decoder) and a transponder (RF tag) electronically programmed with unique information. There are many types of RFID systems available in the market. RFID classified based on their frequency ranges. Some of the most commonly used RFID kits are low-frequency (30-500 kHz), mid-frequency (900 kHz-1500MHz) and high-frequency (2.4-2.5GHz). The passive tags are lighter and less expensive than active tags.

Global system for mobile communication (GSM) is a globally accepted standard for digital cellular communication. GSM is a common European mobile telephone standard for a mobile cellular radio system operating at 900 MHz. In the current work, SIM300 GSM module is used.

Voice based Notice Board Using Android

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Abstract -The era of mobile technology opens the window to the android app. the websites are disappearing and the mobile phones are prominent. It's the time to change from conventional websites and other things to apps, which has become the part of over daily routine. We are introducing the android application software which would convert the voice into text. It works on all android platforms, but also it can work with a working internet. It gives us more comfort and a better user interface. It is easy to use and easy to install Voice controlled notice board has additional advantage of ease of use. User has to give voice command in his/her own voice to control the messages displayed on the electronic notice board.

Key Words::Notice Board, Android Application, Information, Smart Phone, GSM, Bluetooth.

1. INTRODUCTION

We come across situations where we need to urgently need to display notices on a screen. For areas likes railway stations and other such as busy facilities the station announcer need not have to type in every announcement message manually on the screen. The display the notice without typing manually. Here, the announcer may speak out the message though her smart phone, the message is then transferred wirelessly and displayed on the screen. The LCD Screen to display the message. The LCD is interfaced with an 8051 microcontroller. We use the Bluetooth receiver to receive android transmitted message, send them to the microcontroller for decode and further into the process. The microcontrollers then display the message on the LCD screen. Use of notice board system can be used in various places including railway stations, offices to display emergency announcement on screen instantly, instead of typing the message at all times.

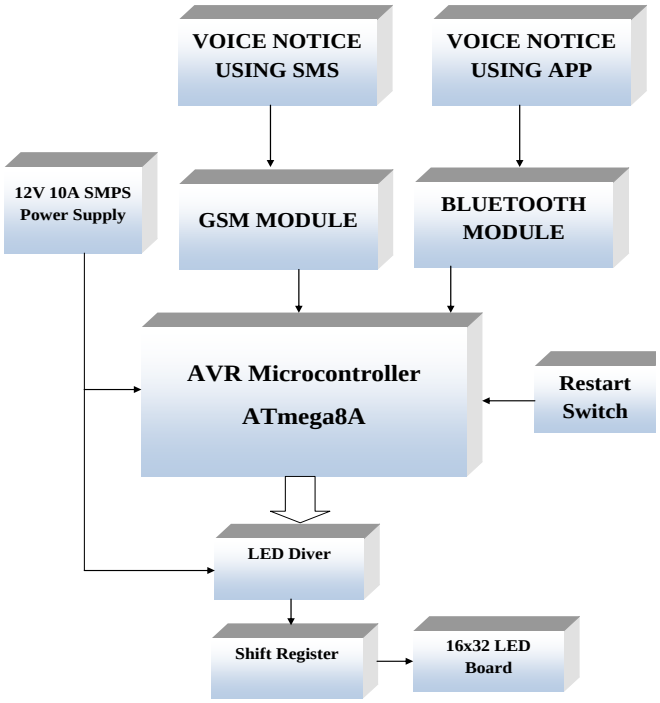
Use of notice board system can be used in various places including railway stations, offices to display emergency announcement on screen instantly, instead of typing the message at all times. So that voice based notice Board is very useful in different organizations.

Voice controlled notice board has additional advantage of ease of use. User has to give voice command in his/her own voice to control the messages displayed on the electronic notice board. Voice recognition is done in the android application. User has to install this android application in his/her smart phone.

So that voice based notice Board is very useful in different organizations.

2. BLOCK DIAGRAM

Block Diagram



2.1 BLOCK DIAGRAM DESCRIPTION

AVR Microcontroller:

The Atmel 8-bit AVR RISC-Based microcontroller combines 32KB ISP Flash memory with read- while-write capabilities.1KB EEPROM,2KB SRAM,23 general purpose I/O lines,32 general purpose working registers, three flexible timer/counters with compare modes, internal and external interrupts, serial programmable USART,a byte-oriented 2-wired serial interface,SPI serial port,6-channel 10-bit A/D converter. Programmable watchdog timer with internal oscillator, and five software selectable power saving modes. The device operates between 1.8-5.5 volts. The device achieves throughout approaching 1MIPS per MHZ.

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THIRD EYE FOR BLIND PEOPLE USING ULTRASONIC VIBRATING GLOVES WITH IMAGE PROCESSING.

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Abstract – *The visually impaired face several challenges when performing their daily tasks. These tasks may be differentiating objects that have similar shapes or knowing the content of a restaurant menu. There is an increasing interest in developing effective solutions that can help the visually impaired to recognize objects. However, automatic techniques cannot answer most of the questions asked by the visually impaired. Besides, it can be seen that there is an obvious deficiency in the number of applications that target blind users. Therefore, to address all of these issues, there is a need to design an effective solution that can help blind people to identify any objects at any place without any restrictions. The proposed solution is developing an ultrasonic glove with an image processing hat that uses human-powered technology to help the visually impaired persons with the many challenges they face. As a result of evaluating the proposed application, it is shown that it is easy to use and useful and can be employed for many important purposes in daily life.*

Key Words: human computation, blind, identification, visually impaired, human-powered technology…

1. INTRODUCTION

For blind people, walk freely is a challenge due to lack of information about the destination addresses, obstacles, etc. For them, there are plenty of new technologies that could be employed to decrease the difficulties caused by this impairment, making the relationship between man and environment more harmonious as possible. Blind people use mainly the canes to move around and avoid obstacles. That is a very useful instrument and widely spread among blind people worldwide. Unfortunately, it is still a limited resource unable to provide independent navigation and it cannot be used to detect objects or people more than a few feet away or above the waist of the user. Related proposals are dealing with this problem based on modern technologies. Barathi and his associates presented a navigation technique using ultrasonic sensors on a cane and glasses to perceive obstacles on the ground level and above the head. They used standardized audio messages related to the perceived values to communicate with users. Xiangxin and Mates described the building of a dog robot guide that uses ultrasonic sensors and an intelligent cord to communicate with users. The hat also used a camera to capture images to recognize obstacles. Tian and his group proposed a tool that makes use of pre-estimated directions obtained by magnetic sensors, angular velocity calculus, gravity sensors, and RGB camera to guide their users. This work used Kalman filters to process data and to increase the location accuracy and the route calculations. Based on the already presented works and the specific needs of the local blind community we decided to develop a new low-cost tool able to help the indoor navigation through audio instructions. The guidance mode is done using visual markers arranged on the environment, linked as nodes in a bi-directionally connected graph. Detection of obstacles is made using computer vision and ultrasonic perception.

2. BLOCK DIAGRAM

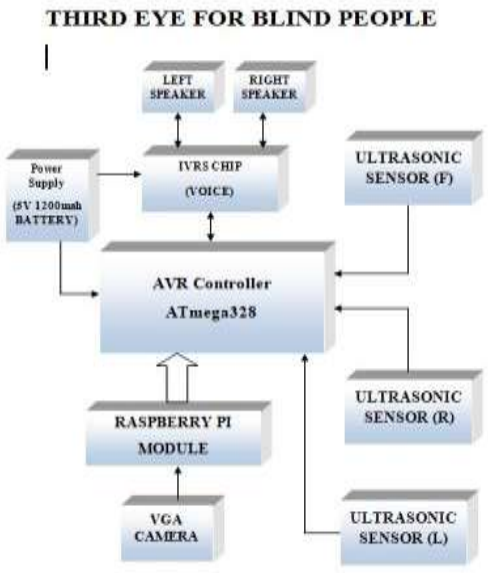

Fig1.block diagram

2.1 Block diagram description-

2.1.1 SPEAKER

A transducer(converts electrical energy into mechanical energy) that typically operates A buzzer is in the lower portion of the audible frequency range of 20 Hz to 20 kHz. This is accomplished by converting an electric, oscillating signal in the audible range, into mechanical energy. It vibrates when an obstacle is detected. If the obstacle is close

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GRAIN SORTING AND CLEANING SYSTEM USING RASPBERRY PI.

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Abstract : Grain sorting and cleaning system is a process of sorting two or more object. In India agriculture production is important for income of people because more than 50% population depend on agriculture field. If grain sorting and cleaning process did properly, it will increase quality and productivity of grains. This paper describes a working of system using image processing technique, Raspberry PI with color based separation on matplotlib platform. System segregates wheat and waste separately, which is used for day to day life in low cost. The testing parameter of grain is color, shape and defect etc.

***Key Words*: Image processing, Raspberry PI, Matplotlib**

1. INTRODUCTION

Machine can perform highly repeated tasks better than humans. The purpose of this model is design and implements system which properly separates grains based on their colours. System consists of three parts conveyor belt, CV camera and DC motor. The output and input of this part was interfaced using raspberry pi.

To reduce human efforts on mechanical manoeuvring different types of sorting machine are being developed. Grain sorting and cleaning machine can be used in different packaging industries or glossary shop as well as home appliances. System help to reduce efforts and avoid back pain problems.

1.1 OBJECTIVES

In our project, we are going to research feature requirement of grains sorting cleaning system for day to day life. Instead of traditional method of sorting or large scale machinery used for sorting we use, grains sorting and cleaning system which can be used at domestic level.

2. BLOCK DIAGRAM

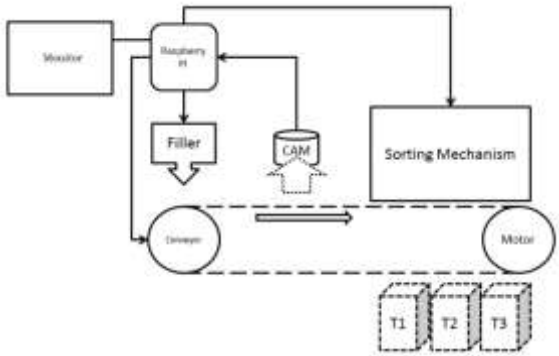

Fig.1 Block diagram

3. BLOCK DIAGRAM DESCRIPTION

System initialization:

At this step, the entire component will be start. Initially system will check the status of all components. If any of component fails, then system correct that error or notify the user about component failure if there is no such failure, then system goes online and start working. Operation done then conveyor starts running in forward motion.

Capture frame:

At this stage camera takes the snapshots of the grains which moves over the conveyor belt. Camera takes a snapshot and transmitted to system for further process.

Perform preprocessing:

To get more information about grains preprocessing is done.

In this step compare last capture image.

Detect grains:

After preprocessing detection of grain done. Information of detected clean grain is displayed. From which output efficiency of system can be measure.

Sorting:

Sorting of grain and waste carried here. After above process once again camera takes the image and the algorithm also stars once again to sort the grains to specified range of

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SMART FARM FERTILIZER AND PESTICIDE PREDICTION USING IOT

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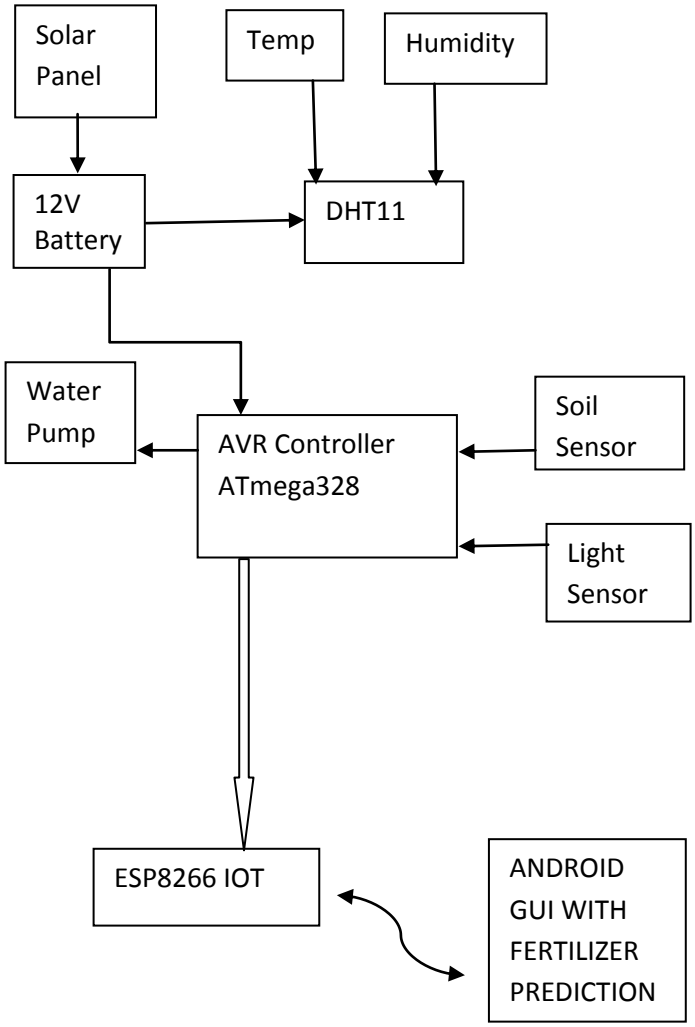
ABSTRACT – This project gives the use of technology in the field of agriculture. IOT is a shared Network of objects where these objects interact through Internet. One of the important applications of IOT is Smart Agriculture. Smart Agriculture reduces wastage of water, fertilizers pesticides and increases the crop yield. Here a system is proposed to monitor crop-field using sensors for soil moisture, humidity and temperature, Light Sensor. By monitoring these parameters the irrigation system can be automated if soil moisture is low.

***Key Words*: IOT, AVR ATmega328, Sensor Network, Smart Agriculture**

INTRODUCTION

As the world is trending towards new technologies and implementations it is a necessary goal to trend up in agriculture too. Many researches are done in the field of agriculture and most of them signify the use of wireless sensor network that collect data from different sensors deployed at various nodes and send it through the wireless protocol. The collected data provide the information about the various environmental factors. Monitoring the environmental factors is not the complete solution to increase the yield of crops. There are number of other factors that decrease the productivity. Hence, automation must be implemented in agriculture to overcome these problems. In order to provide solution to such problems, it is necessary to develop an integrated system which will improve productivity in every stage. But, complete automation in agriculture is not achieved due to various issues. Though it is implemented in the research level, it is not given to the farmers as a product to get benefitted from the resources. Hence, this paper deals about developing smart agriculture using IoT and given to the farmers.

BLOCK DIAGRAM



Fig, Block diagram of Smart Farm Fertilizer Prediction

BLOCK DIAGRAM DESCRIPTION.

AVR Microcontroller

AVR is a family of microcontrollers developed since 1996 by Atmel, acquired by Microchip Technology in 2016. These are modified Harvard architecture 8-bit RISC single-chip microcontrollers. AVR was one of the first microcontroller families to use on-chip flash memory for program storage, as

A Survey Paper on Bus Tracking System using GSM & GPS

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Abstract— The present generation requires information from time to time. Every day the use of technology has been increasing. We are planning for the present technology with the requirement of information transmission. Bus tracking is an application that tracks a bus and accident detection. There are two applications one for the client and another for the server. The server will monitor the location and will store its data in the database. It is a real-time system as this method automatically sends the information on the GPS to a system/SMART phone. The waiting time of the user can be reduced. A simple model of communication is the key feature of the Bus Tracking System. This application can be easily extended for the central tracking system to keep track of all the buses. To overcome the drawbacks of the previous method of paper-based and we introduce a project to track a bus using GPS and GSM. This Bus Tracking System can also be used for Accident Detection Alert System, accident detection, by just making few changes in hardware and software and widely in tracking Cabs/Taxis, vehicles, school/college buses, etc.

Keywords: GPS, GSM, Tracking System

I. INTRODUCTION

A bus tracking system is the technology used to determine the location of a vehicle using different methods like GPS and GSM. By following trilateration methods the tracking system enables us to calculate the easy and accurate location of the bus. The smart system is necessary which provides real-time information on the bus to a remote user. So we proposed a new system which overcomes the drawback of the public transportation system. So our system handles all the data about the current location of bus and by using this data the real-time tracking of bus can be done and this information is then given to user who wants to know the bus information. Bus information like location detail, passenger count, accident detection, etc. can be viewed on a mobile with the help of software via the Internet. The vehicle unit is the hardware component attached to the vehicle having either a GPS/GSM modem. The controller modem converts the data and sends the bus location data to the server. Fixed based station consists of a wireless network to receive and forward the data to the server. Base stations are equipped are useful for determining the bus location. Maps of every landmarks and city are available in the base station that has an already in-built Web server. The position information or the location of the bus is stored in a database, which later can be viewed in a display screen using digital maps. However, the users have to connect themselves to the satellite with the respective bus ID stored in the database and only then he/she can view the location of the bus. The microprocessor-based system is built for controlling a function is not designed to be programmed by the end-user in the same way a PC is defined as an embedded system. An embedded system is a combination of both hardware and software, each embedded system is unique and the hardware is highly specialized in the application domain. Hardware consists of processors, microcontrollers, IR sensors, etc. The main advantage of this project is that it reduces the overall pollution, reduces the traffic on the road, time management, etc.

A. *Existing System*

Due to an increase in population, there is a need for a public transportation system. So the user needs a smart system that provides the information of the bus. So we planned a new system which solves the drawback of this system. So our system handles all the data like the current location of the bus, passengers count, etc. The bus tracking can be done by our proposed system and this information is then given to the user who wants to know bus information. Some technologies like GPS (Global Positioning System), GSM (Global System for Mobile) are used for development purposes. Our system provides a web-based application, which gives real-time location of bus on the mobile user.

B. *Proposed System*

Firstly GPS receives the satellite signals and then the position co-ordinates with latitude and longitude are determined. The system is operated by GPS and GSM which is connected to the bus. With the help of GPS and GSM, the location is determined. The data may be received by Satellite from the bus to the receiver. After receiving the location the tracking bus information can be transmitted using any wireless communication systems. The information is received by the satellite is from the bus to a receiver. After receiving the bus location, the information can be transmitted. This system uses GSM to transmit the information. Generally, a user can access the information on a bus based on the user's supply and destination. This system provides the precise location of the bus.

II. SYSTEM BLOCK DIAGRAM

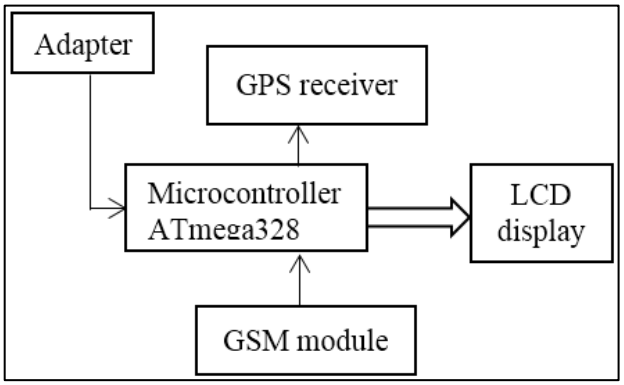

Fig. 1: System Block Diagram

III. MODULES

- Microcontroller
- Crystal oscillator
- LCD

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A Survey Paper on Ultrasonic Navigation System for Blind People

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[1,2,3,4]Department of Electronics & Telecommunication
[1,2,3,4]DACOE, India

Abstract— This paper represents is an investigation of the development of navigation aid for blind and visually impaired people. It based on a microcontroller AVR Atmega328 with having synthetic speech output. This project is built to use the blind as well as they may walk easily in rural areas as well as avoid obstacles using special detection sensors. The paper shows an innovative project design and implementation of Ultrasonic sensors fitted with the system provides obstacle data to the blind person through voice message so that he/she may avoid them. As well as, to reduce the navigation difficulties of the blind, and obstacle detection system using ultrasounds and vibrators is added to this device. The proposed system detects the nearest obstacle via an ultrasonic sensor and sends back vibrator tactile feedback to inform the blind about its location. In this project, the system is designed in such a way that it gathers data about the environment via ultrasonic sensors and extracts the visual information that data. The information is to transform the audio signal and the blind person can recognize the environmental information through binaural sound generated by the system.

Keywords: Handicapped aids, Navigation, Sonar, Ultrasonic

I. INTRODUCTION

The development and application for the technology for orientation and moving has a long history. A walking stick and guide dogs are used blind persons for surviving in day to day life. By technology, some electronic devices are made for blind persons. Most of the commonly used electronic travel aids use ultrasound. All such devices use the principle of reflection of the high-frequency ultrasonic beam and are available in different models. Sonic Pathfinder, Moswat-Sensor, and Guide-Cane are called clear path indicators or obstacle detectors since the blind can only know whether there is an obstacle in the path ahead. These devices are used to search for obstacles in front of the blind person, and they operate like a flashlight, which has very narrow directivity. Ultrasonic and navigation is the environment sensor since it has searched for several obstacles at the same time. The motive of this project is the develop navigation use for blind people. It is used for the primary use for today is the long cane. Some limitations are present such as a range limited to the length of the cane, typically pace ahead of the blind person, difficulties detecting overhanging obstacles, and also the difficulties storing in public places. In this paper, the recommendation for the navigation system involves a microcontroller with speech output It is a self-contained portable electronic unit. It can supply the blind person with assistance about walking routes by using instructions to point out what decisions to make. On the other hand, and to overcome the imperfections of existing electronic travel use the proposed method of measuring the distance traveled in this system, is to use the acceleration of a moving body which this case is the blind person. An accelerometer, follow by the two integrators is used to measure a distance traveled by the blind.

A. *Existing System*

The system is straightforward and it's easy to use. The system is attached to the belt of the user's waist. They are provided for the test to ascertain that the blind person step is detected by the accelerometer receiver. Then the user is selected the route number and direction and the appropriate.
A repeat key is considered to enable a blind person to make the use repeat the word indicating decision.
On the other way, when an obstacle is detected and the output occurs in the pulses at a rate inversely related to the distance from the user.

B. *Proposed System*

Proteus is the essential software for circuit implementation and simulation. The ARES is used for the PCB designing and ISIS has used for the circuit designing with simulation. Including required components with corresponding information from its library, it is simulated after building the circuit. AVR microcontroller needs to include the hex file for the implementation of the project. The proteus combines circuit simulation and co-simulation of complete to based microcontroller design.

The equipment used for the design as well as the implementation of the circuit is AVR microcontroller, voltage regulator, diode, crystal oscillator, capacitor, variable resistor, transistor, ultrasonic sensor, and the SD card.

The three reflective signals they produced: front obstacle sensor, right obstacle sensor, left obstacle sensor. All signal are inputs for ADC on the microcontroller these signals are used as well as the input to a specific program implementation on the real-time within microcontroller then according to internal instruction it will produce the output which transferred from the microcontroller to the SD card then it aware the blind pedestrian about the barriers blocking his way.

II. SYSTEM BLOCK DIAGRAM

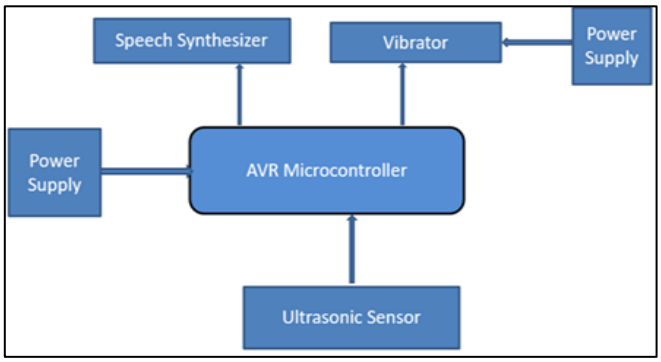

Fig. 1: Block Diagram

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A Survey Paper on Air Pollution Detection and Controlling Vehicle System

Apoorva Bhanage[1] Priti Padale[2] Pranali Surywanshi[3] Rajesh Dodake[4]
[1,2,3,4]Department of Electronics & Telecommunication Engineering
[1,2,3,4]DACOE, India

Abstract— Nowadays vehicle is an important part of everyone life, Vehicle is needed to save a time. As the vehicle good aspects, it's having an emission but it becomes a problem when it crosses the threshold level. Due to the improper maintenance vehicle causes the partial combustion of fuel & it causes pollution. This emission can be controlled by the automated control system for pollution detection in the vehicle. This emission of hazards gases can be controlled by the sensor system. The work of sensor is to detect level of air pollution. If the pollution level goes beyond the threshold level there will be buzz which indicates that the vehicle will stop after some time & a certain time is given for the driver to park the vehicle.
Keywords: Air pollution, sensor, buzzer

I. INTRODUCTION

The concept of detecting the level of pollution and indicating to the driver is implementing the project. There is an increasing level of pollution leading to several environmental problems. There will be a huge population who do not care about the population from their vehicle which has already resulted in environmental problems such as ozone layer depletion and human health problems. Hence the system will be highly beneficial. Every vehicle has its emission of gases, but the problem occurs when the emission is beyond the standardized values. The primary reason for this breach of emission level is the incomplete combustion of fuel supplied to the engine. This emission from vehicles definitely can be controlled. The incomplete combustion in the engine of a vehicle leads to the emission of different gases contributing to an increase in the pollution and adversely affecting the environment. Detection and control of these gases is an important work. This emission from vehicles definitely can be controlled. We aim to build an automated control system for emission level control of the vehicle. The carbon sensor senses the carbon content and gives it to the Microcontroller to check the maximum percentage of carbon content released by vehicles. So the controller checks the carbon content, if it exceeds the threshold level the system gets triggered and the engine comes to halt state.

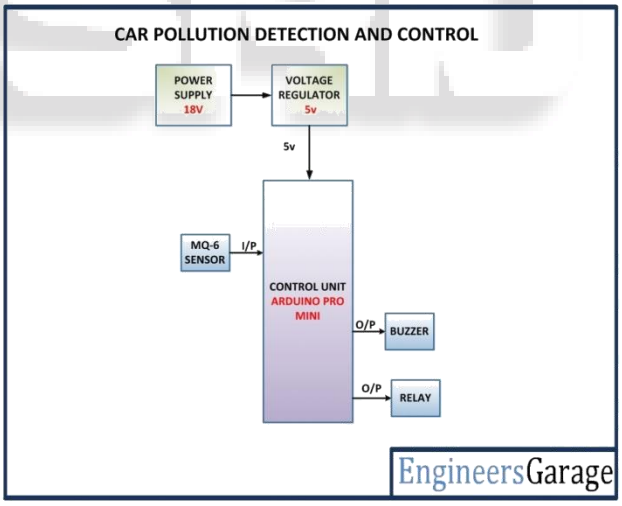
A. Existing System

Every vehicle has its emission of gases, but the problem occurs when the emission is beyond the standardized values. The reason of emission level is the incomplete combustion of fuel supplied to the engine which is due to the improper maintenance of vehicles. This emission from vehicles cannot be definitely can be controlled. The project aims to monitor and control the pollutants in the vehicle by using the pollution control circuit. vcontroller. It is a real-time work where a demo application has been made in which the ARM 7 processor is used and a controller board is made where all these devices get integrated and work accordingly. The vehicle is controlled by this circuit. When a vehicle attains a some threshold air pollution level then the ignition of engine gets switched off and an SMS is generated and sent to the pre-defined number stored in the memory through the GSM module. The GPS module is used to locate the vehicle position where it is halted. This paper demonstrates an effective utilization of technology by which we save our environment by controlling the pollution of vehicles. members to react rapidly

B. Proposed System

MQ-7 sensor senses carbon monoxide .it gives a signal to condition. the output of the carbon gas sensor is in the form of currents so we have used the current to voltage converter so in this we used simple resistor. The current passes through this resistor and we will get voltage proportional to current. Then we use a microcontroller to check the percentage of carbon content released by vehicles. LCD is used to display the ignition is on or off. After that relay is used to control the ignition of the car. To drive the relay we are using relay driver.

II. SYSTEM BLOCK DIAGRAM



III. MODULE DESCRIPTION

- sensor
- signal conditioning
- microcontroller
- LCD
- Relay driver

A. Module Description

1) MQ-7 Sensor

MQ-7 sensor senses carbon monoxide .it gives a signal to condition. the output of the carbon gas sensor is in the form of currents so we have used currently to voltage converter
Signal conditioning

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A Survey Paper on Thumb and Password Based Locker System

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[1,2,3,4]Department of Electronics & Telecommunication Engineering
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Abstract— In this paper we implement and design a circuit of a bank locker system with help of a Password & Thumb only. In this project the Password is enter by using keypad. Most of the robberies are happens due to the traditional lock systems. This project provides a solution, which can ensure the safety of the bank locker and also private sectors such as shops, home. This project is used to control OPEN/CLOSE the door lock with the human thumb print or password only. This system required Password from keypad & Thumb from biometric sensor to operate the door lock (OPEN/CLOSE). In this system bank collect a thumb print or biometrics of each person for assigning locker and bank manager so the only authenticate person will open a locker. So it provides more security. The entered Password & Thumb is compared with the Password & Thumb store in the ROM of the microcontroller. If the entered Password & Thumb is correct, then only the door can be turns OPEN/CLOSE. Open or close of locker system by using solenoid lock. Here we also use GSM module so authenticate person will receives a message. This project is designed to operate the system by only authorized person to avoid such accident.

Keywords: Bank Locker, GSM, Solenoid Lock, Biometric Sensor, Keypad

I. INTRODUCTION

The most of the people refers a smart locker system to protect the most valuable things such as cash, jewellery, important documents. For this most people requires a secure locker system. The most of people to use this system for the security purpose to provide more security. In the thumb and password based bank locker system, when any combination from four possibilities of the thumb and password is entered from authenticate person and bank manager or any employee in bank, then the door is easily open. In this project we can use 4*4 keypad to enter the password. And biometric sensor R307 is used for collect thumb. When the password or thumb is wrong the door not open. After three unsuccessful attempts the authenticate person and bank receives message that any unknown person will try to open door. And every time of open a bank locker the authenticate person and bank receives message that successfully open. The same locker with slight modification also use to secure valuable things at private sectors such as homes, shops and any type or organizations and companies.

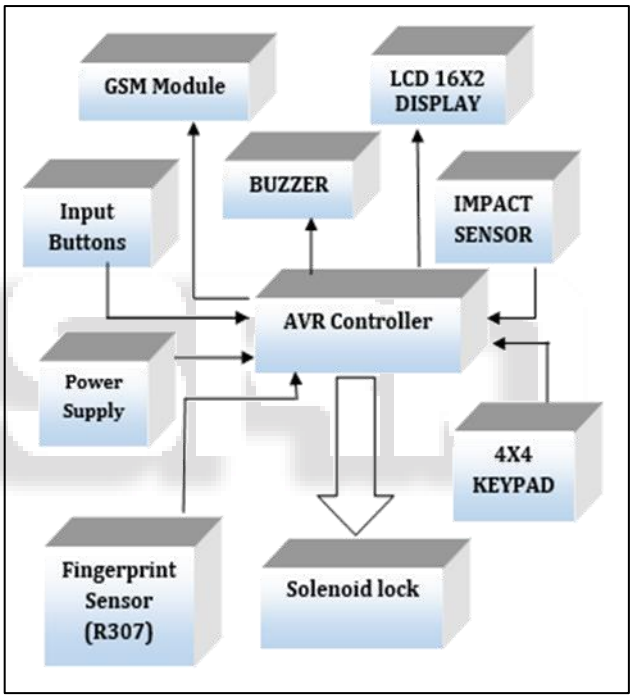
A. *Existing System*

In this project the traditional bank locker system has same drawbacks. Like if any one key from two is missing. Then it creates lot of problems also someone take misuse and the valuable things are not safe. To recover this problem our project is important. As we know Fingerprint is a unique identification for everyone. So using this concept we use biometric sensor and key pad for open a door. GSM impact sensor and buzzer is used for alerting authenticate person as well as bank.

B. *Proposed System*

In this project two personas are more important one is authorized person and second is bank manager. For this password and thumb prints are saved by the bank. For this any one from four conditions are checked. These are thumb & thumb, thumb & password, password & thumb, password & password. If anyone combinations are true then only open the door locker. If not more than two time the buzzer is alarming. Also authorized person will get message by using GSM.

II. SYSTEM BLOCK DIAGRAM



III. MODULES

- AVR Microcontroller
- Power Supply
- GSM module
- Fingerprint Sensor
- Impact Sensor
- Keypad
- LCD Display
- Buzzer
- Solenoid Lock
- Button

A. *Module Description*

1) *AVR Microcontroller*

AVR microcontroller ATmega 328 is a brain of whole circuit. Based on the microcontroller, programming is done. When power supply is off other controllers erase all the

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"IOT BASED ICU PATIENT MONITORING SYSTEM"

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[4]*Assistant professor, Electronics & Telecommunication Engineering Department, Dr. Daulatrao Aher College of Engineering, Karad, Maharashtra, India.*

Abstract – Monitoring various parameters of the patient using internet of things. In the patient monitoring system based on Internet of things project, the real-time parameters of patient's health are sent to cloud using Internet connectivity. These parameters are sent to a remote Internet location so that user can view these details from anywhere in the world. There is a major difference between SMS based patient health monitoring and IOT based patient monitoring system. In IOT based system, details of the patient health can be seen by many users. The reason behind this is that the data needs to be monitored by visiting a website or URL.

This is one of the Latest Electronics Project Ideas related to Medical applications. One more benefit of using IOT is that, this data can be seen using a desktop computer, laptop, using an Android smart phone comma using a tab or Tablet. The user just needs a working Internet connection to view this data. There are various cloud service providers which can be used to view this data over Internet.

***Key Words*: IOT, Arduino Uno, Sensor networking,**

1. INTRODUCTION

With the development of world, Health monitoring system is used every field such as hospital, home care unit, sports. This health monitoring system use for chronicle diseases patients who have daily check-up. Normally it is difficult to keep track on abnormalities in heartbeat count for patient itself manually. The average heartbeat per minute for 25- year old ranges between 140-170 bpm while for a 60-year old it is around between 115-140 bpm and body temperature is 37degree Celsius or 98.6 Fahrenheit. Patients are not well versed with manual treatment which doctors normally use for tracking the count of heartbeat. There are various instruments available in market to keep track on internal body changes. But there are many limits in maintenance part due to their heavy cost, size of instruments and mobility of patients.

Different biomedical sensors like temperature sensor, heart rate sensor, blood pressure sensor are used for monitoring the health condition which is integrated on single system on-chip. If any varied change takes place it is notified. This notification would help to take an appropriate action at an instance of a time. This would save patients from the future health problem. This would also help patient's concern doctor to take an appropriate action at proper time.

1.1 OBJECTIVES

Using IOT patients health can be easily monitored over the internet. The doctor does not need to present every time and everywhere with the patients. There health status can be easily monitored over the internet using IOT. IOT Monitoring proves really helpful when we need to monitor & record and keep track of changes in the health parameters of the patient over the period of time.

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IoT BASED FLOOD DETECTION AND ALERT SYSTEM

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Abstract:*There are some places that are more prone to flooding than other places, the implementation of flood alert systems near any major water area or body of water provides critical information that can protect property and save lives. Of course, the most effective flood warning methods are very costly and requires high maintenance and also requires highly qualified employee to operate it. Nowadays, there is no idea about when flood will occur so there is need to prewar people who are near the flooded area. Hence we are design this system to inform the people about the upcoming flood through notification and alert messages. For that purpose we are going to use float and rain sensors which will helpful to give information about the flood. This system sends alert message to authority person through GSM module. Also data is processed and can be checked on webpage through Wi-Fi module.*

Key Words: *Flood, IoT, Arduino Controller, Float Sensor, Rain Sensor, Wi-Fi, GSM.*

1. INTRODUCTION

In Recent years flooding became one of the major natural disasters occurring in India. India is among the top 10 in the world's most food-threatened country. There are many effects of floods where the material, human, economic and social losses are considered as some of the main effects of floods. Heavy rains are also one of the major aspects for the causes of flash floods. In order to reduce the human and economic losses there are some necessary steps to be followed. One of the most and the preliminary step is to alert the people before the occurrence of the disaster. There are some places with early flood alert systems but most of them are not most efficient as they can usually send the information to only some respective organizations with limiting distances. So, in case of floods it is taking more time for passing the message to the people living in the nearby areas so that the people could not save most of their belongings as water rises rapidly within less time. Usually, the flooding cannot be abandoned but the early detections can be made i.e., early alerting system with help of continuous monitoring can be used to reduce the losses faced by the society.

The sensor in this utilizes the GSM communications for transmission of data to the server. It also utilized to detect the monitor timely and sends the location status of the control unit using Float and rain sensor which indicates the flood conditions whose data is gathered by the sensors. The alert system and flood monitoring system updates the condition of the floods and sends the information or notifications in the form of SMS to the affected zones for the further steps. There is also an implementation of sensor network using flood monitoring system based on the Wi-Fi Module. In this when the water level rise to the primary level an electromagnetic water level sensor will sense the rising in the water level and process the signals to the Central Processing Unit and triggers Global System for Mobile modem which in turn sends an alert SMS.

2. BLOCK DIAGRAM

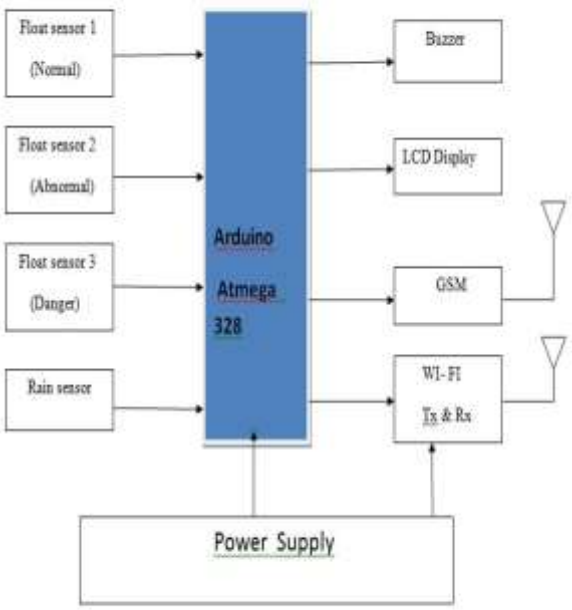

Fig 1. Block Diagram

Intelligent Framework for Auto Filling Web form using Scanned Documents

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Abstract— Nowadays, people use online services or various platforms to complete various tasks, such as form filling, online shopping and trip planning using web applications. Generally, users are required to enter the information into web forms. Users often have to type same information repetitively into different web applications or forms. It is a tedious job for all the user to fill in web forms with same information. To save users or organizations from typing unnecessary information and increase creative productivity, it is critical to propagate and pre-filling user inputs across different web applications. However, the existing systems approach do not support this need well. User have all the information on the documents so it is easy to fill the forms using scanned documents.

Keywords: Form Filling, Scanned Documents, Tedious, Pre-Filling

I. INTRODUCTION

There are many things we do on the internet and most of them involve filling up forms. It is common that when you want to register as a member of any website, you are asked to provide information. It is not too much trouble if the form is simple one to fill but if form requires lot of information, it may be a bit tedious to fill it up. The most annoying situation is when you have completely filled up the form and for some reason the submission failed forcing you to refill the whole form again. A large amount of information is same for the various services. To save end-users and the any organization member from such tedious process, it is more convenient for them if the information, which required commonly among different services, can be generated and filled using the scanned documents. Recently, researchers in various industry and academics have developed various tools and approaches towards the problem. Web browsers provide web form auto-filling tools, such as Mozilla Firefox Auto fill Forms and Google Chrome Auto fill Forms, to help end-users fill in web forms. In general, the above-mentioned auto filling tools stores the values entered by a user. The recorded or stored information is used for prefilling by identifying the parameters names. The tools also allow user to modify the recorded and filled information manually.

II. LITERATURE VIEW

A. Noman Islam, Zeeshan Islam, Nazia Noor, A Survey on Optical Character Recognition System, Journal of Information & Communication Technology

This system uses Optical Character Recognition (OCR), which is a piece of software that converts printed text and images into digitized form such that it can be manipulated by machine. Unlike human brain, which has the capability to very easily, recognize the text/characters from an image. Machines are not intelligent enough to perceive the information available in the image. Therefore, a large number of research efforts have been put forward that attempts to transform a document image to format understandable for machines.

B. Derek Edwin Pappas, Palo Alto, A survey on Intelligent Data search Engine in 2009.

This system automatically extracts the information that matches a predetermined criterion from one or more web pages at one or more web sites. The extracted information includes at least one extracted data-field value associated with one of the one or more extracted data-field names.

III. METHODS

A. Data Extraction

OCR is known as optical character recognition and it is the technology that allows software to convert the machine printed text or image-based text on scanned documents. Data extraction software uses simple zone ocr can be employed to convert specific region of page to usable data.

B. Field Matching

The field matching methods and different field matching algorithms are very important part of the matching rules matching criteria. They help to determine how one field in one record is compared with the same field in another record. This will help to recognize the data and fill the accurate data into the field.

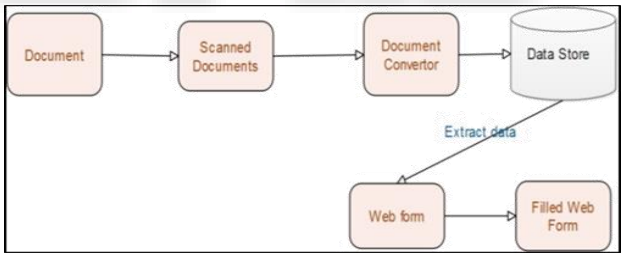

Fig. 1: Architecture

C. Data Analysis

Data analysis is a process, which is required for inspecting, cleansing, transforming and modelling data to discover useful information, informing conclusion, and supporting decision-making. This also help to improve the accuracy of the system.

D. Data Requirements

The data is necessary as inputs to the analysis, which is specified based upon the requirement of those directing the analysis or customers who will use the finished product of the analysis. In addition, the data is depending on the requirements of the form.

E. Data Cleaning

Once the documents are scanned and converted, the data may be incomplete, contain duplicates, or errors. The need

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Storage Optimization of Video Surveillance

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Abstract— Video surveillance becomes easier to monitor the premises and also gather information of an incident. Video surveillance is an important component for the protection of infrastructures. As digital and networking technologies have been expanding worldwide and penetrating into many traditional industrial areas during the past years, the video surveillance industry has rapidly adopted these technologies. Now a day Closed-circuit television (CCTV) or video surveillance is the most useful technology used in the field of security purposes. CCTVs can be found at many places. The proposed idea is to reduce the storage space. We are proposing a method to optimize the storage space occupied by the CCTV footage. The approach will optimize the storage space occupied by unnecessary data, as well as it maintains quality of the video.

Keywords: Storage, Optimization, CCTV, Compression, Frames

I. Introduction

Video surveillance is the most useful technology used in the field of security. CCTV cameras are basic requirement for security of any places like colleges, home, hospitals, banks, ATMs etc., but it requires high maintenance cost of upgrading memory after a certain period of time.

One of the most challenging problems in installing the cameras at large scale is storage space occupied by the footage. Because each day, camera stored large amount of data. That data is may be size of 10 GB per day at its lowest quality. But some of these data may be useless when there is no activity is performed, because camera is active 24X7 and records everything. There are millions of cameras present in the world and storage of data is huge problem. So, to reduce the storage space compression techniques are used. And optimized video will be stored on hard disk.

The optimization of video size can be done by removing redundant frames by comparing adjacent frames using MSE. Compression and image processing techniques are also used. This approach will optimize the storage space, maintaining information as well as quality. Whenever the motion sensor detect an movement then the camera will start streaming, take image and recognize by using open Computer Vision (CV) technique (Image processing).

Image processing is a method of converting an image digitally and performing certain operations on it where the input is an BGR (Blue, Green, Red) image and output can be a grey image or functions associated with the image. Result of optimized video of same information stored in less disk space.

System will provide face detection facility in which, whose faces are regularly occurred in the video their count will be detected by reports generation. The notification of movement after official time will send to the administrator for security purpose.

Fig. 1: CCTVs

II. Problem Identification

The most challenging problem in camera is large storage space occupied by the footage. Because each day, the camera captured large amount of data and stored it, but some of these data may be useless. Hence image processing techniques and compression techniques will be used to overcome this problem.

III. Objectives

- To reduce storage space occupied by the unnecessary data.
- To reduce the time required to access any footage.
- To provide E-mail notification for security purpose.
- To provide face detection facility for analytical purpose.

IV. Literature Survey

"Storage optimization of video surveillance from CCTV camera" by Shikhar Arora, Karan Bhatia, V Amit. IEEE.

"An Efficient Image Compression Algorithm Based on Histogram Based Block Optimization and Arithmetic Coding" by Subarna Dutta, Aditya Abhinav, Partha Dutta, Purushottam Kumar, and Amiya Halder.

"Storage Optimization of Video Surveillance from CCTV Camera**"** by D.Suganya, R.Shyla, V.Jayasudha, S. Marirajan.

"A New Algorithm for Data Compression Optimization" by Agus Dwi Suarjaya.

V. Proposed System

The main objective is to propose a method to optimize a size on disk of video clip obtained from a camera. In this

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Storage Optimization of CCTV Footage

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Abstract— Video surveillance becomes easier to monitor the premises and also gather information of an incident. Video surveillance is an important component for the protection of infrastructures. As digital and networking technologies have been expanding worldwide and penetrating into many traditional industrial areas during the past years, the video surveillance industry has rapidly adopted these technologies. Now a day Closed-circuit television (CCTV) or video surveillance is the most useful technology used in the field of security purposes. CCTVs can be found at many places. The proposed idea is to reduce the storage space. We are proposing a method to optimize the storage space occupied by the CCTV footage. The approach will optimize the storage space occupied by unnecessary data, as well as it maintains quality of the video.

Keywords: Storage, Optimization, CCTV, Compression

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"A New Algorithm for Data Compression Optimization" by Agus Dwi Suarjaya.

V. Proposed System

The main objective is to propose a method to optimize a size on disk of video clip obtained from a camera. In this optimization process camera is active all the time but it only captures the video if there is any occurrence of movement. It stores the video in the form of frames and system will check the difference among the frames by images processing algorithms.

System contains threshold value. If the difference between two frames is above threshold value then camera will start the recording until it comes to below threshold value. For security purpose system provide E-mail notification facility in which if any unauthorized movement will happen then it capture the snapshot of that movement and send through e-mail to the administrator. Also, the system will provide face detection facility in which the number of faces are detected and their reports are get generated.

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Public Auditing for Shared Data using Cloud

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Abstract— The data services in the cloud, users can easily modify and share data as a group. To ensure data integrity can be audited publicly, users need to compute signatures on all the blocks in shared data. Different blocks are signed by different users key due to data modifications performed by different users. For security reasons, once a user is revoked from the group, it cannot access the data in the group. The straightforward method, which allows an existing user to download the corresponding part of shared data and re-sign it during user revocation, is inefficient due to the large size of shared data in the cloud. In this paper, we propose a novel public auditing mechanism for the integrity of shared data with efficient user revocation in the cloud. By utilizing proxy re-signatures, we allow the cloud to re-sign blocks on behalf of existing users during user revocation, so that existing users do not need to download and re-sign blocks by themselves. In addition, a public verifier is always able to audit the integrity of shared data without retrieving the entire data from the cloud, even if some part of shared data has been re-signed by the cloud. Experimental results show that our mechanism can significantly improve the efficiency of user revocation.

Keywords: Public Auditing Shared Data, RSA-PSS algorithm, Cloud

I. INTRODUCTION

Based on the new proxy re-signature scheme and its properties in the existing System, we now present Public Auditing Shared Data using ECSDA and RSA-PKCS Algorithm. In our project, the original user acts as the group manager, who is able to revoke users from the group when it is necessary. Meanwhile, we allow the cloud to perform as the semi-trusted proxy and translate signatures for users in the group with resigning keys. As emphasized in recent work, for security reasons, it is necessary for the cloud service providers to storage data and keys separately on different servers inside the cloud in practice. Therefore, we assume the cloud has a server to store shared data, and has another server to manage resigning keys. To ensure the privacy of cloud shared data at the same time, additional mechanisms, such as, can be utilized. The main focus of this project is to audit the integrity of cloud shared data.

II. LITERATURE REVIEW

A. [1]."Public Auditing for Shared Data with Efficient User Revocation in the Cloud," B. Wang,Li, and H. Li, in the Proceedings of IEEE INFOCOM 2013, 2013, pp. 2904–2912.

Techniques used in Public Auditing on Cloud There are some different techniques which used in different auditing mechanisms. This section introduce some the techniques like MAC, HLA etc. which are used for different purposes like data authentication, data integrity in auditing schemes on cloud.

B. [2]."Privacy-Preserving Public Auditing for Data Storage Security in Cloud Computing"C.Wang, Q. Wang, K. Ren, and W.lou, in the Proceedings of IEEE INFOCOM 2010, 2010, pp. 525–533.

With cloud data services, it is possible to all or common place for data to be not on stored in the cloud, but also shared across multiple users. Unfortunately, the integrity of cloud data is subject to misconception due to the existence of hardware/software failures and human errors. To allow both data owners and public verifiers several mechanisms have been designed for efficiently auditing cloud data integrity without retrieving the entire data from the cloud server. However, public auditing on the integrity of shared data with these previously existing mechanisms will inevitably reveal confidential information, identity & privacy to public verifiers. In this work a novel privacy-preserving mechanism used to supports public auditing on shared data stored in the cloud. In particular, here exploit ring signatures is used which computes verification of metadata on user demand and audit the correctness of shared data.

C. [3]."Provable Data Possession at Untrusted Stores,"G. Ateniese, R. Burns, R. Curtmola, J. Herring, L. Kissner, Z. Peterson, and D. Song, in the Proceedings of ACM CCS 2007, 2007, pp. 598–610.

In this model the client that has stored data at an untrusted server to verify that the server possesses the original data without retrieving it. The model generates probabilistic proofs of possession by sampling random sets of blocks from the server, which drastically reduces I/O costs. The client maintains a constant amount of metadata to verify the proof. The challenge/response protocol transmits a small, constant amount of data, which minimizes network communication. Thus, the PDP model for remote data checking supports large data sets in widely-distributed storage systems.

We present two provably-secure PDP schemes that are more efficient than previous solutions, even when compared with schemes that achieve weaker guarantees. In particular, the overhead at the server is low (or even constant), as opposed to linear in the size of the data. Experiments using our implementation verify the practicality of PDP and reveal that the performance of PDP is bounded by disk I/O and not by cryptographic computation.

D. [4]. "Proxy Re-signatures: New Definitions, Algorithms and Applications,"G. Ateniese and S. Hohenberger, in the Proceedings of ACM CCS 2005, 2005, pp. 310–319.

In a proxy re-signature scheme, a semi-trusted proxy is given some information which allows it to transform Alice's

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A Novel Approach for Public Auditing for Shared Data using Cloud

Miss. Pooja R. Mandal[1] Mr. Nikhil P. Jadhav[2] Prof. Archana H. Renushe[3]
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Abstract— With sharing services and data storage in the cloud, the users in group can easily modify the data and restore in the cloud. Users are working in a specific groups, as project are different the users working in different groups respectively. No users can share or access data through different groups, users can share data and access the data belongs to same group. When a user register for the cloud its generate a signature which divide into blocks. For security reasons once a user revoked from the group by public verifier, the blocks which were previously signed by this revoked user must be resigned by a existing user. In this paper, we propose the mechanism of public auditing mechanism to maintain integrity of Data as well as security of shared data user efficient user revocation. In addition public verifier can audit the integrity of shared data. Experimental results show that our mechanism can significantly improves efficiency of user revocation.

Keywords: shared Data, User revocation, cloud computing

I. INTRODUCTION

With the sharing services and storage data in the cloud, users can share and modify data within a group. User have to register to cloud with unique id. After registration of user, user's account will be activated when the public verifier will activated the user after that only a user can shared or modify the data through the cloud in a group. User can upload and download data, user can view the shared data of other users which are shared in that group.

To ensure the integrity of data in the cloud a number of mechanisms have been proposed. In these mechanisms, the signature were devoted to the each blocks in data, the integrity of data relies on correctness of all signatures. The most common features of these mechanisms is the public verifier have to check the data integrity efficiently without downloading the entire data. Different from these works, several recent works concentrate on how to preserve identity privacy from public verifiers when auditing the integrity of shared information. Unfortunately, none of above mechanism, consider the efficiency of user revocation when auditing the correctness of shared data in the cloud.

Based on the new proxy re-signature scheme and its properties in the existing System, we now present Public Auditing Shared Data using ECSDA and RSA-PKCS Algorithm. In our project, the original user acts as the group manager, who is able to revoke users from the group when it is necessary. Meanwhile, the cloud is allow to perform as the semi-trusted proxy and convert signatures for users in the group with resigning keys. As emphasized in recent work, for security reasons, it is necessary for the cloud service providers to store data and keys separately on different servers inside the cloud in practice. Therefore, it is assume that the cloud has a server to store shared data, and has another server to manage resigning keys. To ensure the privacy of cloud shared data at the same time, additional mechanisms can be utilized. The main focus of this project is to audit the integrity of cloud shared data.

Since shared data is outsourced to the cloud and users no longer store it on local devices, a straightforward method to re-compute these signatures during user revocation as shown in Figure. 1 is to verify an a existing user i.e., Alice to download the blocks previously signed by the revoked user i.e., Bob, verify the correctness of these blocks, then re-sign the blocks, and finally upload the new generated signatures to the cloud. This straightforward method may cost the existing user a large amount of transmission and computation resources by downloading and verifying blocks, and by re-computing and uploading signatures, especially when the large number of re-signed blocks or the membership of the group is frequently changing. To create this matter even worse, existing users may access their data sharing services provided by the cloud with resource limited devices, such as mobile phones, which further prevents existing users from maintaining the correctness of shared information efficiently during user revocation.

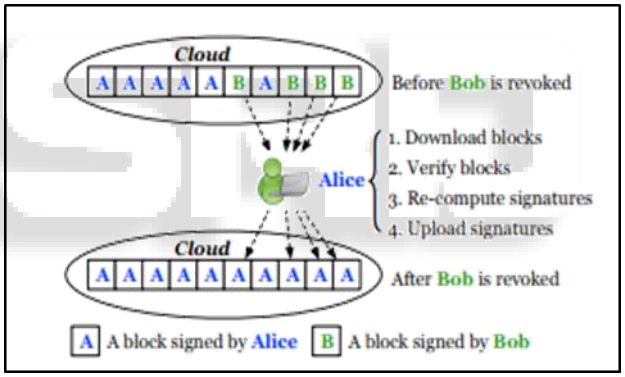

Fig. 1: Alice and Bob share data in the cloud. When Bob is revoked, Alice re-signs the blocks that were previously signed by Bob with her private key.

Apparently, if the could carry each user's private key, it can easily complete the re-signing task for existing users beyond asking them to download and re-sign blocks. However, since the cloud is not in the similar faithful domain with each user in the group, utilize every user's private key to the cloud would introduce denoting security issues. Another important issue we need to consider is that the re-computation of any signature during user revocation should not disturb the most interesting property of public auditing — auditing data integrity publicly without retrieving the whole information. Therefore, how to efficiently overcome the significant load to existing users introduced by user cancellation, and still allow a public verifier to check the integrity of shared data without downloading the entire data from the cloud, is a face off work. In this paper, we propose, a novel public auditing mechanism for shared data with efficient user revocation using cloud. In our mechanism, by applying the concept of proxy re-signatures, once a user in the group is revoked, the

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A Synoptic Survey of Social Network Mental Disorder Detection

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Abstract: ***Social media has many good and bad traits but extensive use of social media effect on health. Using Social media regularly has been proven to cause many serious health issues. An increasing number of social network mental disorder such as cyber relationship addiction, Information overload, net compulsion have been noted. Suffering from serious mental illness such as depression can lead to many people become suicidal. Symptoms of these mental disorder are observed today and resulting in delayed clinical intervention. So In this paper, we argue that detect social network mental disorder at early stage. And also provide solution to overcome social media usage. Our approach is to build an android app that analysis behavior of user, provide report of social media usage and detect mental disorder by using report. If user has extensive use of social media app then restrict those users from using social media app by blocking that app for certain time limits.***
Keywords: Online social network, behavior analysis, Social network mental disorder detection, Tensor Flow lite.

I. INTRODUCTION

With explosive growth of popularity of social network, messaging app , online social Network have become part of many people daily lives. Most research on social network mining focuses on discovering knowledge behind the data for improving user's life. While online social Network's seemingly expand their user's capability in increasing social contrasts, they may actually decrease face-to-face interpersonal Interaction in real world. Due to epidemic scale of these phenomena, new terms such as Phubbing i.e. Phone Snubbing and NomoPhobia i.e. No Mobile Phone Phobia have been created to describe those who cannot stop using mobile social networking app. Social media has negative impact on health. Most of user's get lazy because of excessive use of social network which bring disorder in our routine life. Virtual world which devours mind of users. These symptoms form important diagnostic criteria for SNMDs like Cyber-Relationship Addiction, Information Overload, Net Compulsion, Cyber-Sexual and Computer Addiction. The symptoms of these disorders were till now observed passively and hence the clinical intervention got delayed. Research shows that the early diagnosis of such mental disorders can greatly reduce the risk. Hence the practice of SNMD, that relies on self-revealing of those mental factors via questionnaires in Psychology is not adopted in our proposed model as the users might try to over smart the diagnosis by answering questions dishonestly. We propose a new innovative machine learning android app called Social Network Mental Disorder Detection that detects potential SNMD users, by analyzing their behavior based on some important factors such as Count of lock or Unlock Screen, Night Time access, Text Detector, Social media Usage. Also provide Users information about how many time they spend as Useful and how many time they spend as Useless time. By using this generate Report of Behavior analysis and by using this Report detect Social Network Mental Disorder detection.

II. RELATED WORK

Internet is considered as one of the largest sources of information that is used worldwide. Unfortunately, many people are addicted to the internet. The Usage of internet has increased to great extent that it started interfering in other key areas of life such as education, work and relationship, physical and emotional health. When internet becomes a priority, the individual no longer participate in life outside the virtual world. Internet addiction is a compulsive disorder that interferes with normal living. It causes Severe stress and relationship problems with family and friends. There are different forms of addiction involved with over-use of internet, and it is essential to identify the category. Most of the times, internet addiction is characterized by a compulsive desire to interact online through gambling, gaming, social networking and compulsive surfing.Net Compulsion includes compulsive gaming ,gambling ,trading stocks ,shopping or excessive use of interferes with personal and professional well-being[7].
There were cross-sectional studies to examine the associations of suicidal thoughts and attempt with Internet addiction and Internet activities in a large representative adolescent population where students aged 12–18 years were selected using a stratified random sampling and were asked to complete the questionnaires.

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IoT based Farm Intrusion Detection & Prevention System

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Abstract— Farmers in India face many problems which results in lower yields. Traditional methods followed by farmers are not that much effective and it is not feasible to hire guards to keep an eye on crops and prevent from wild animals. Since safety of both human and animal is equally essential, in this paper, an intrusion detection systems using WSN technology is introduced. Motion sensors are placed at boundaries of the farm. These sensors continuously detect the movement and send the message to the owner through GSM. Further, to differentiate between authorized and unauthorized entries Camera Image Sensor Module is used. An animal ward-off system employed in farmlands to prevent loss of the crops by wild animals. Intrusion Detection System will play a major role in detective work and preventing security attacks.

Keywords: Animal Ward-Off System, Camera Image Sensor Module, GSM, PIR Sensor, WSN

I. INTRODUCTION

India has always been known for agriculture on which most of the population depends and it is most important economic sector in India. The farmers are still facing lot of problems like pests, natural calamities, damage caused by animals and theft in farm resulting in lower yields. The unauthorized humans enter the farm and steal the farm merchandise or cause crop vandalization. Whereas animals cause harm to the crops either by overwhelming or damaging them. To avoid the damages, farmers need to sleep in field area to save his crops which he might even lose his life if the wild animals attack the field. If animals spoil the crops and those crops are gone to the market it will cause the infections to the buyers also due to the animal poison. The methods followed by farmers are not that effective and feasible to hire guards to keep an eye on crops and prevent it from wild animals and unauthorized people. Hence, it is necessary to monitor the boundaries of the farm to discover movement of unauthorized entries into the farm.

II. LITERATURE REVIEW

The author in [1] explained the approach for automatic animal detection on highways to prevent animal-vehicle collision by use of computer vision techniques. The author in [2] explained the methodology to overcome the problem of human and animal injury and mortality due to the wild animals out of the national parks and wildlife sanctuaries track by automatic tracking and alert system. This system is implemented by the use of GSM and GPS technology in the form of a device that attached to the body of an animal that monitor the position of the animal and buzzers which produce acoustic sounds. The author in [3] proposed a system to track animal motion in the zoo or national parks by the use of temperature sensor and PIR sensor and the output is displayed using LCD. The voice processor used for alert to people through the pre-recorded voice. The author in [4] proposed the bird intrusion system which detects the birds by the use of wireless sensors and buzzers which produce acoustic sounds.

III. PROPOSED SYSTEM

This system is designed to protect the farmland from wild animals and also provides surveillance. The system used Passive Infrared sensors (PIR) to detect any motion of intruder. Once the mounted PIR sensors detect motion, the images are captured to differentiate between the authorized persons and the intruders. If person found to be an intruder then it notifies to the farm owner about the intrusion. The system also uses image processing for detecting animals and accordingly start animal ward off system for automatic prevention as per the type of animal.

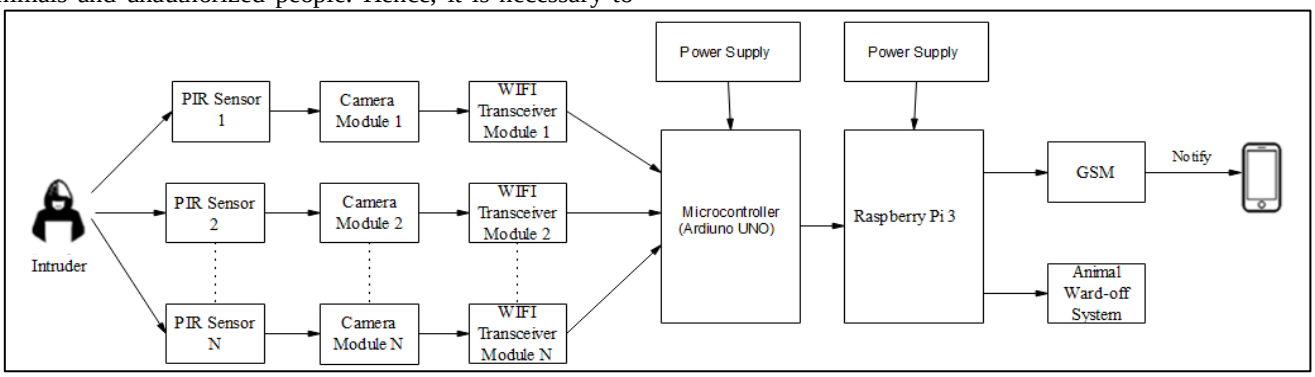

Fig. 1: IoT based Farm Intrusion Detection & Prevention System

IV. METHODS

In this system various nodes consisting of multiple PIR motion sensors and camera modules are mounted at border of the farm. Once the motion is detected by sensor, the camera turns ON. The sensors and cameras are interfaced with Arduino Uno R3 board through ESP-01 ESP8266 WIFI transceiver module. The GSM SIM900A module is interfaced to the raspberry Pi 3. If the motion is detected and unauthorized person is found, the camera module captures the pictures and send them to centralized system for image processing. Also a message will be sent automatically to the registered number of the owner using a GSM module to inform about the intrusion. If intruder detected is animal,

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ACTIVE CHAT MONITORING AND SUSPICIOUS DETECTION OVER INTERNET

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Abstract— The increasing use of Instant chat messengers to share information, suspicious activities have also increased. There are many sources to share information but instant chat messengers and social networking websites are the quick and easy means to share anything. Sometimes even new stories initially broken up on social media site and further on chat messenger instead of any news channel and newspaper etc. Due to these technology advancements, some people are misusing these instant chat messenger to share suspicious chat activities and make a plan to do something suspicious. This kind is mainly available in texture in the format. With the advancement of internet technology and the change in mood of communication and it is found that much first-hand news has been discussed in internet forums well before they are reported in traditional mass media. Also, this communication channel provides an effective channel for illegal activities such as broadcasting of copyrighted movies, threatening messages and online gambling etc. Our proposed threatening messages and online gambling etc. Our proposed system will analyses online plain text sources from selected discussion forums and will classify the text into different groups the text into different groups and system will decide which post is legal and illegal.

Keywords— Suspicious activities, Misuse of technology, Classifying the text.

I. INTRODUCTION

Chat refers to the process of communicating, interacting and/or exchanging messages over the Internet. It involves two or more individuals that communicate through a chat-enabled service or software. Chat may be delivered through text, verbal, communication. Chat is also known as chatting, online chat or Internet chat. Terrorist activities communicate over application and chat programs over the internet. It also uses these chat applications over the internet for getting their message to younger generation and making all of types terrorists. The chat monitor system is an Important application that could allow for secure chats along with terrorism related chat detection that helps track down spread of terrorist networks and locate the activities using IP addresses. The internet chat application is a dedicated chat application for free internet chat as well as tracking down on spread of terrorism online. Communication provides effective areas for illegal activities such as threatening messages. This system we have created called as Active Chat Monitoring & Suspicious Chat Detection over Internet which will tackle with these issues. Internet technology had been increasing more. The law looking for solutions to detect these discussion forums for all possible criminal activities and download suspected Postings as evidence for investigation. Active Chat Monitoring System which will tackle with this problem. It has used a data mining algorithm to detect criminal activities, legal and illegal postings. In this system will use text data mining technique. Active Chat Monitoring System will let us help to analyses online plain text sources from selected discussion forums and will classify the text into groups and system will decide which post is legal and illegal accordingly to their points. It will help us to reduce and minimize many criminal activities which are held on social-site such as Facebook, Twitter, Tinder, etc.

II. EXISTING SYSTEM

Online chat might allude to any sort of correspondence over the Internet that offers a continuous transmission of instant messages from sender to beneficiary. Chat messages are by and large short keeping in mind the end goal to empower different members to react rapidly. Along these lines, an inclination like a talked discussion is made, which recognizes chatting from other content based online correspondence structures, for example, Internet gatherings and email. Online chat might deliver point-to-point correspondences and in addition multicast interchanges from one sender to numerous collectors and voice and video chat, or might be a component of a web conferencing administration. As information goes through server it constantly Filters it for any suspicious watchwords. The customary examination of Internet chat room dialogs puts an asset trouble on the knowledge group due to the time required to screen a huge number of persistent chat sessions.

III. PROPOSED SYSTEM

The proposed System will analyse online plain text sources from selected discussion forums and will classify the text into different groups and system will decide which post is legal and illegal. This system will ensure that the admin may not

An Optimal Way To Find And Evaluate OPI of Student Using Data Mining

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Abstract- *Education can be utilized as a tool to face many problems, overcome many hurdles in life. The knowledge obtained from education helps to enhance opportunities in one's Employment development. To extract useful information from the knowledge obtained, Educational Data Mining is widely used. Educational data mining provides the process of applying different data mining tools and techniques to analyze and visualize the data of an institution and can be used to discover a unique pattern of students academic performance and behavior. The present work intends to enhance students academic performance in data mining techniques. There is need to calculate API using the Behavioral Index as well as the academic performance. Academic performance achievement is the level of achievements of the students educational goal that can be measured and tested through examination. However, the academic performance achievements varies as different kind of students may have different level of performance achievements. Where as, the behavioral performance achievement varies with the personality and behavioral techniques. These available students data could be extracted to produce academic useful information along with the Behavioral index. Hence, OPI i. e overall performance index will be calculated. we provide the basic information of student as well as the student has to give the two tests Academic test and the personality test. On the basis of these two tests the overall performance of the student is calculated. The project will also help to find out the weak students and the strong students. Various factors of the student are considered (such as the occupation of their parents, education of their parents, family relation etc) there are 35 factors of student for calculating the overall performance of the students.*

Keywords- Academic performance index(API), behavior performance index(BPI), Overall performance index(OPI), Naive Bayes, data mining.

I. INTRODUCTION

The analysis aims to firstly implement an automated system which just requires the data-set of students, and then the system classifies the students automatically into two classes which are pass and fail reducing the human work. Secondly, building classification algorithms on educational environments helps to identify the students who need special tutoring or counseling from the school/college. The higher authorities of an institution can use such classification models to improve students' performance according to the data-set. The proposed system predicts students' academic performance and the factors which affect performance failure. Building such classifiers helps an educational institution to get the picture of their educational level, can compare their progress with other educational institutions and finally, guide students for their better future.

II. LITERATURE REVIEW

In several studies, Association rule based DM approach has addressed input variables such as sex, age and performance over past years and the proposed system has outperformed traditional allocation procedure. They have used many approach such as neural networks and decision tree (94% combined accuracy), binary classification (72% accuracy) [1].

The best result was obtained by Naïve Bayes classification. The authors adopted regression approach to predict math skills based on score obtained by individuals. Most of the students join the public schools for free education. There were some core courses which share a common language like in other countries. 170 International Conference on Computing, Communication and Automation (ICCCA2017) 2 The grading point is scaled up to 20, where 0 is the lowest and 20 is the perfect score. During school year, students were evaluated in three periods and last evaluation.

In [2], Naïve Bayes Classification is used to build a model in which probability distribution function is computed to take care of continuous data. In order to increase the accuracy of the model, optimal equal width binning for discretization is introduced. Furthermore, to increase the accuracy of the model classes are balanced.

In [3], two classifiers namely, Naïve Bayes and J48, are used by considering the data from the UCI Machine Learning Repository. Analysis for these algorithms are

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Android Application Development for Parking System

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Abstract— Android Application Development for Parking System is an Android App which will be helpful for vehicle owners to park their vehicles. In the current system, activities are performed by Admin at the Server side and Mobile app at the client side or by the user. The system provides secure parking with the help of registration and login for the system through Android App and with the RFID Tag or RFID Card. It also provides the parking view for users on Mobile App through which user can register a particular parking slot which is available. Once the registration is done, the user can use its RFID Tag/Card at various parking places due to its unique identification where the system is available. This system reduces the traffic congestion at parking places through Slot Allocation Method.

Key words: RFID - Radio Frequency Identification

I. INTRODUCTION

Now a days, as the population increased in the metropolitan cities, the usage of vehicles increased at highest level. It causes problem of parking which leads to traffic congestion, driver frustration, and air pollution. When we visit the various public places like Shopping malls, multiplex cinema hall & hotels during the festival time or weekends we face more parking problem. In the recent research found that a driver takes nearly 8 minutes to park his vehicle because he spent more time in searching the parking slot. This searching leads to upto 50% of traffic congestion. In this project, we are going to reduce traffic congestion problem. Also to do secure parking using the smart parking under Slot Allocation method with the help of an Android application. RFID application is used to deduct the amount for parking charges with the help of the RFID tag which will calculate the IN & OUT Time of the specific Parked Vehicle. The main contribution of our proposed systems is to find out status of the parking area and provide secured parking slot to user.

II. LITERATURE SURVEY

A. Prof. R. S. Sandhya Devi, Dr. V. R. Vijay Kumar, S. Sridevi."Application Development for Reservation Based Parking Slot Allotment and Management System Android. App"

To increase the standard of living and for better transportation means, people own vehicles. Increase in vehicles increases the complexity of traffic and parking. Parking of vehicles is becoming a major problem in day to day life. This paper presents a design and implementation method of a smart car parking technique for less time consuming car parking using mobile application. The system is designed to identify the empty slot automatically by a proximity sensor and to park the car at the corresponding slot for a particular time period by using RFID, GSM.

B. Luca Mainetti, Luigi Patrono, Maria Stefanizzi, Roberto Vergallo. "A Smart Parking System on the basis of IoT Protocols and Emerging the Enabling Technologies."

This paper presents a novel Smart Parking System based on the jointly use of different technologies, such as RFID, WSN, NFC, Cloud and mobile. It is able to collect the environmental parameters and information about the occupancy state of parking spaces and to direct drivers to the nearest vacant parking slot by using a customized software application. This last one leverages a NFC-based e-wallet system to allow users to pay for parking fees. Furthermore, a customized software application, installed on a cloud platform, is able to manage alert events e.g.Theimproper use of a reserved space of the purchased time. In such cases, it informs the traffic cops through an Android application, which has been designed adhoc for the considered scenario.

C. Rosarieo Salpetro, Luca Bedogni, Marco Di Felice, Luciano Bononie."Park Here! A Smart Parking System on the basis of Smartphones, Embedded Sensors and Short Range Communication Technologies."

The paper provides the presence of vacant parking slots in real-time of Advanced smart parking systems by describing Park Here!, a novel mobile application that aims at mitigating the overhead caused by parking slots seeking operations in urban areas. It targets the common city environments, where no per slots sensors are available and there is no remote service allowing the reservation in advance of a parking slot. For this scenario, a novel algorithm for the automatic detection of parking actions performed by the users through the analysis of the smart phone embedded sensors and of Bluetooth connectivity. Once a parking event has been detected, an adaptive strategy allows disseminating the information over the target scenario, using a combination of Internet connection to connections over Wi-Fi Direct links.

III. SYSTEM ARCHITECTURE

In this System, the Admin operates at the Server Side, User at Android Mobile Application. Admin adds the Functionalities according to Parking Area and Parking Slots.

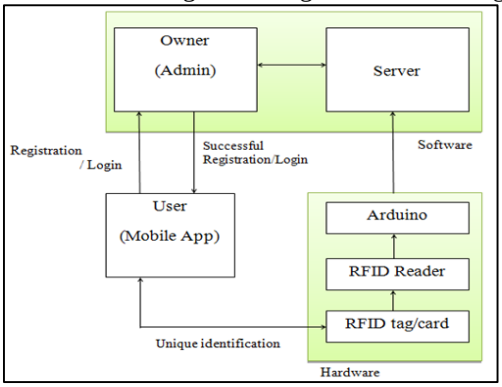

Fig.1: System Architecture

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Real Time Bus Location and Data Administration System

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Abstract: ***The massively populated states in the country needs an efficient and the effective transportation system for public use. Public bus transportation is one of important and widely used transportation system. The android application developed for this system with the use of other technology simplifies the transportation for travellers and management people as well. Tracking the real time location and updating the data in the timely manner on the application advances the use of application.***
Keywords: Administration, Latitude, Longitude, Google map API, real-time data update

I. INTRODUCTION

There is no real time information available about the government buses at the bus depot. Not the exact location of the buses is known to the depot at particular time. Passengers need to wait for the bus without any knowledge. There is allot waste of time. The depot management also fails to confirm the bus location. The movement of Bus Transport is always affected by various conditions such as congestion, unexpected delays, and incident. The real time location tracking will help to the management and passengers as well. The application will contains dynamic and updating data about the bus schedules and their running paths, departure and arrival time. Use of advanced technology enhances the reliability of the database of the proposed system and can eliminate the drawbacks of existing system document is a template.

II. RELATED WORK

An Manish Chandwani, Bhoomika Batheja, Lokesh Jeswani, Praveen Devnani, Prof. Richard Joseph (Computer Engineering, VESIT, India) "Real Time Bus Tracking System", proposed a location tracking system using Google map API and system is an Android application that gives necessary information about all the buses travelling in Mumbai. The platform chosen for this kind of system is android, reason being Android Operating System has come up on a very large scale and is owned by almost every second person. As more and more applications of android operating system is developed day by day on large scale ever since it is advent. [1]
Manini Kumbhar, Meghana Survase, Pratibha Mastud, Avdhut Salunke Final Year Students of Department of Computer Engineering SBPCOE, Indapur .Asst. Professor Shrinivas Sirdeshpande,Asst. Professor of Department of Computer Engineering SBPCOE, Indapur, Pune(SPPU), Maharashtra, India "Real Time Web Based Bus Tracking System", the relevant information regarding all the bus numbers going from users source & destination along with the route details , real time location. Generally our system is operated by GPS which is attached with the bus. Firstly GPS receives the satellite signals and then the position co-ordinates with latitude and longitude are determined by it. The location is determined with the help of GPS and transmission mechanism. After receiving the data the tracking data can be transmitted using any wireless communications systems.[2]
Prof. Seema Vanjire, Unmesh Kanchan, Ganesh Shitole, Pradnyesh Patil "Location Based Services on Smart Phone through the Android Application", The idea of using the mobile handsets and phones is to deliver the valuable services. Location-based services or LBS refer to _a set of applications that exploit the knowledge of the geographical position of a mobile device in order to provide services based on that information.' Location based services (LBS) provide the mobile clients personalized services according to their current location. They also open a new area for developers, cellular service network operators, and service providers to develop and provide value-added services: advising clients of current traffic conditions, providing routing information, helping the users to find nearby shopping malls. [3]
Mihir Garude Department of Electronics Engineering, Nirmal Haldikar Datta Meghe College of Engineering, Airoli. "Real Time Position Tracking System Using Google Maps API V3", Firstly GPS based system that tracks the current location of the bus and the passenger to calculate the distance between the two. Also tracks the real time speed of the bus. Secondly the prediction system, which calculates the average velocity of each segment from the data that captures the historical trends of traffic on the basis of different attributes like segment, day, time, volume of traffic and crossings in the segment. The proposed system is based on the client server technology, which consists of two types of client side application and the server side. The drawbacks of both the parts have been taken into account during development. Two client side applications are Bus Module and Passenger Module.[4]

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Road Accident Prevention System using Data Mining Technique

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Abstract— The increase in automobiles and road facility especially in developing cities in India has resulted in an increasing the number of accidents which most of them are avoidable with some primary precautions. Road Accident Prevention System is providing guideline for drivers so that possible accident will not take place in real time. The accident prevention system provides an android application through which user will interact with system. When any user is found near to dangerous location, he will be notified with audio precaution message. The precaution message is created with the help of dataset containing all previous data regarding incident, there actual location and causes due to that incident in past. The KNN algorithm is used to find the near location with any record of incident from the dataset. Since the prevention system is providing necessary precautions before entering into the accidental area the possibility of actual accident is reduced.

Key words: Audio Prevention Message, Incident, Location, Prevention

I. INTRODUCTION

As we all know that 'Precaution is always better than cure' and we can get benefits of this statement is real time by taking required precaution while driving. Road accidents are serious issues, which can possibly cause injuries, disabilities and even fatalities. Definitely if we take necessary preventions while driving the accident happing chances will reduce automatically.

Many of accidents are caused may be of driver's fault. At present there are only records of all accidents, number of deaths in respective and with the cause of accident. These records are just stored but not utilized in proper way in order to reduce the source of these records. Many mobile applications are developed but they play roll actively after accident takes place in real time. [9]

We can use this dumped data of accidents in order to find out the main reasons that are responsible for increasing only the record count. If those reasons are able to provide us basic get reduced. Hence, we can develop a software system that uses and provide necessary precaution before entering in accidental zone.

A. Need of Project

Many of the application with road accident as their main concept are developed such that they come into picture after the actual accident happens. Many off the projects are such that they inform the nearest rescue resources, hospitals, automatically contacts the family members and near ones. All these activities happen when any vehicle meets an accident in real world. Many times, causes of accident are seem to be same at same place. We can make a try to avoid same kind of driving mistakes while passing the same place where number of accidents were happened due to similar kind of driving mistakes. If driver get an idea about the precaution need to be taken while enriching the area where accidents were found in past, there are chances that some extra care will be taken by the driver while crossing the dangerous zone. If this happens, we can make a step to avoid the accident before actually taking place in real. [10]

II. RELATED WORK

This section includes the work done related to data collection of accidental information, how the collected data is stored, attribute specification, data extraction etc.

DipoT.Akomolafe," Using Data Mining Technique to Predict Cause of Accident- and Accident-Prone Locations on Highways", as per the accident is concern many of thecost of deaths and injuries due to traffic accidents has a great impact on society. In recent years, researchers have paid a great attention at determining the factor that significantly affects accident severity in traffic system. [1]

Sreenithy Chandran, "An Internet of Things (IoT) based Smart Helmet for Accident Detection and Notification", an integrated network of sensors, Wi-Fienabled processor, and cloud computing infrastructures areutilized to build the smart helmet for accident detection andnotification. The helmet is designed to detect an accident andimmediately alert emergency contacts.A tri-axial accelerometer, GPS, and microcontroller arepresent on the helmet helps to detect the accident and notify the emergency helps.[2]

S.Shanthi, R.Geetha Ramani, " Feature Relevance Analysis and Classification of Road Traffic Accident Data through Data Mining Techniques", as there are many algorithms to extract required results from dataset. Accidental records are to divided based on patterns of the accidents, number of injured and many more attributes. The comparisons between these algorithms are done with considering more appropriate attributes. [3]

KengaMosoti Derdus1, "A Mobile Solution for Road Accident Data Collection", it is very important to have the accurate dataset of the accidental incidents with all its attribute (like location, type of vehicle, number of injuries etc.) to extract required information in future. There are multiple mobile applications developed that helps to collect this accidental information with accuracy. These applications also provide emergency contact service for help.[4]

Mbachu, C. B., "A VEHICULAR ACCIDENT DETECTION AND AVOIDANCE SYSTEM FOR PROTECTING PASSENGERS AND VEHICLES", the system of Robust Sensors and Actuators coupled to a Rugged Microprocessor to achieve a Low Cost but highly reliable Vehicular Accident Detection and Avoidance System using Ultrasonic Sensors installed in the front end of the vehicle. [8]

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IoT based 3D Printer

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Abstract :- *The main objective of this project is to print things remotely and monitor or aspects of your 3D printer using a Raspberry Pi computer. You can remotely load new print, monitor your extruder temperature. Turn your printer off and on, check the status of your prints, and watch your prints with a live video feed and more.*

3D printing is any of various processes in which material is joined or solidified under computer control to create a three-dimensional object. Where a 3d object is created with material being added together, typically layer by layer. Additive manufacturing is a method of manufacture where layers of material are built up to create a solid object. Objects can have a very complex shape or geometry and are always produced from a digital 3D model or a CAD file. It is the requirement to convert a CAD model into an STL file. Then slicer program takes the STL file and convert it into G-code. G-code is a numerical control (NC) programming language.

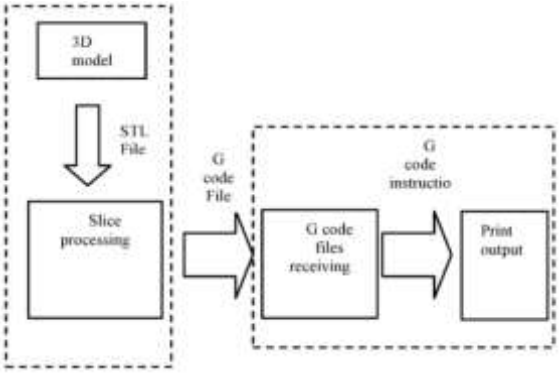
As the system is IoT based octoprint provides a web interface for controlling 3D printers, allowing the users to start print job by sending G-code to 3D printer connected via USB. Octoprint is free, open source software that allows you to remotely perform and monitor all the aspects of your 3D printer using a Raspberry Pi. For most 3D printers, a computer running the host software must stay connected to the 3D printer at all times during use. An increasing number of 3D printer operators are looking for way to use their 3D printers remotely.

Key words: **IoT, 3D printing, additive manufacturing, Octoprint, G-code.**

Introduction:

3D Printing or additive manufacturing is a process of making three dimensional solid objects from a digital file. The creation of 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object. 3D printing is the opposite of subtractive manufacturing which is cutting out/hollowing out a piece of metal or plastic with for instance a milling machine. 3D printing enables you to produce complex (functional) shapes using less material than traditional manufacturing.

Producing a digital model is the first step in the additive manufacturing process. The most common method for producing a digital model is computer aided design (CAD). Reverse engineering can also be used to generate a digital model via 3D scanning. Then convert a CAD model into an STL file. Slicer program takes the STL file and converts it into. G-code is a numerical control(NC) programming language.



There are basically two ways to do 3D printing. First, a g-code file can be saved onto an SD card using a computer, then the SD card can be transferred to the 3D printer.

Second, Octoprint provides a web interface for controlling 3D printers, allowing the user to start a print job by sending G-code to a 3D printer connected via USB. Octoprint monitors the status of the print job, as well as the printer itself, primarily the temperature of the print head (hot end) and the temperature of the bed, if the bed on the printer is heated.

The technologies which are used in ALM are stereo lithography (SLA), laser sintering(SLS) and fused deposition manufacturing (FDM).

The FDM printing process start with a string of solid material called the filament. This line of filament is guided from a reel attached to the 3D printer to a heated nozzle inside of the 3D printer that melts the material. Once in a melted state, the material can be extruded from on a specific and predetermined path created by the software on the computer. As the material is extruded as layer of the object on this path, it instantly cools down and solidifies –providing

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Hotel order processing

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Abstract:*Our aim to decide this project is to bring a smartness in ordering system in hotels. We seen in hotels when customers enters in the hotel, Traditional method that is commonly been used in hotels is by taking the customers order and writing it down on the piece of paper. and also when there is large crowd of customer then there may be waste of time of customer. To utilize the time of customer, we choose this project which will automate the food ordering system. This project uses Xbee as a communication medium and this will make the customer more interested while giving the order that means customer can send menu directly from its table to the kitchen, by this system which will reduce the efforts of waiter. And giving self order customer will not have to wait for waiter this will send the time. In this way our system will make the use of modern technology and will helpful in hotel*

Key words : Arduino, Xbee.

Introduction :

Many times when we visit any restaurant due to overcrowded when order is being placed, it takes more time to process and increase the manpower. To overcome such disadvantage system is being implemented named as Hotel order processing. Where at the input of system that means at the table of customer there is one LCD on which menus are displayed. By reading this menu on LCD, customer can press the relevant code on the Keypad which is connected to arduino and order will send directly to the kitchen with the help of Xbee module. And at the output at the kitchen order will display on LCD, and chef will process the order. This will saves the time of customer as there is no need of waiter to take the order and no need of pen and paper which will increases the efforts of customer. And when number of customers then, no need to wait the customer for order they can directly send the order to the kitchen. This will save the time of customer. Due to this system restaurant service will be improved as this makes customer more interested while using modern technology menu ordering system. With this system the order which is received by chef will process and when order is ready then it will be indicate by chef to know the customer that the order is ready with the help of buzzer sound and order will serve.

Objective:

The main objectives of this project are to increase customer'scomfort ability with encouraging them to use modern technology. As the work for waiter reduces the paying cost for them will also reduce. And there will be no mistake by waiter in order. As the customer will order by itself then they will not waste their time.

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IOT BASED PORTABLE HAND GESTURE RECOGNITION SYSTEM

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Abstract – *In our country around 5% of peoples has difficulty in speaking or cannot speak. They communicate with others only using the motion of their hands and expressions. Some peoples are easily able to get the information from their motions. The remaining is not able to understand their way of conveying the message. To overcome this problem, The proposed system introduces a device called as artificial speaking mouth for dumb people. It will be very helpful to them for conveying their thoughts to others. This system is based on the motion sensor. According to dumb people, for every motion they have a meaning. That message is kept in a database. Likewise all templates are kept in the database. In the real time the template database is fed into a microcontroller and the motion sensor is fixed in their hand. For every action the motion sensors get accelerated and give the signal to the microcontroller. The microcontroller matches the motion with the database and produces the speech signal. The output of the system is using the speaker. By properly updating the database the dumb will speak like a normal person using the artificial mouth.*

***Key Words*: Gesture, Flex sensor, Arduino, Bluetooth model, Speaker/mobile phone**

1. INTRODUCTION

Deaf and dumb people communicates using visual gestures and signs, this system is known as sign language. There are different categories in the sign language such as Indian Sign Language, American Sign Language, British Sign Language and etc... But none of the sign languages are universal or international. A person should know the sign language to understand the language; this becomes complicated when a person who has inability to speak or hear wants to convey something to a person, since most of them are not familiar with the sign language. A Dumb communication translator is also a tool that interprets the hand gestures to sensibility speech. A gestures include movement of hands, face or other parts of body. Gesture recognition is classified into two main categories: vision based and detector based. The disadvantage of vision based techniques includes advanced algorithms for process. Another challenge in image and video method includes varied lighting conditions, backgrounds and other natural conditions. The detector based technique provides larger quality. The aim of this project is to introduce efficiently translate language gestures to every text and sensibility voice. The interpreter makes use of a glove. This glove consists of 2 detectors; flex sensors and measuring device sensor. The output of the measuring device sensors and overall gesture is detected by the detection module(Arduino), the Arduino decodes the detected gesture and compares it with the database. The decoded instruction is transmitted to the smartphone via Bluetooth module. The smartphone uses a app which converts text message to a voice output.

2. METHODOLOGY

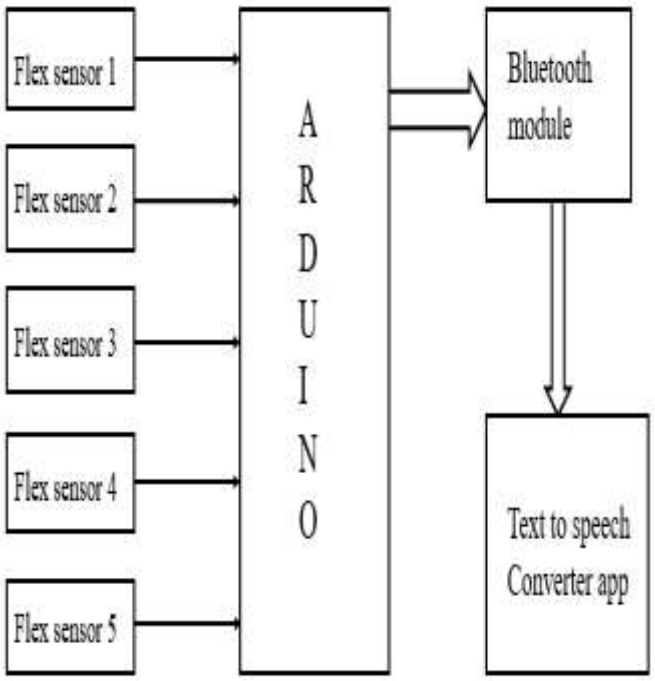

Fig 1: Block diagram

2.1 Components used

Flex sensors: Flex means 'bend' or 'curve'. Sensor refers to a transducer which converts physical energy into electrical energy. Flex sensor is a resistive sensor which changes its resistance as per the change in bend or curvature of it into analog voltage. By increasing the curvature from 0° to 90°, resistance varies accordingly. The sensors are usually connected to the microcontroller via three pin connectors namely ground, live, and output. The device can turn on the sensor from off mode, enabling it to power down when not in use and greatly decreasing power consumption.

Smart Power Distribution Scheduling for Electric Vehicle

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Abstract— As electric vehicles going to capture the market and also Indian pollution standards are going to narrow. So there is huge change in traditional vehicles. As our conventional electric grid is infeasible to use as reliable source for electric vehicle according to time aspect. There is always headache to charge battery operated equipment's. In this project, we are going to develop smart scheduling system to charge the electric vehicle on demand. We are going to use RFID tags for on/off the switch, also we are using voltage sensor. By using this system user will able to avoid misuse of charging switch which located at a parking area and also reduce the power consumption.

Keywords: Electric Vehicle, RFID, Arduino Uno

I. INTRODUCTION

We are surround with many embedded products our daily life depends on the proper functioning of these gadgets. By using palm devices of our work space enables us to do many of our tasks effectively like television, radio, washing machine, micro oven in our kitchen. As the technology is advanced things are becoming easier for us and with the help of Automation devices are controlled to reduce the human work in production of goods and services. The most important problems faced in our society is misuse of electricity and its loss. Sometimes due to knowingly or unknowingly persons switch ON the lamps or fans which results in wastage of electricity. The design helps to finish all these problems. So there is the system which useful for the misuse of electricity. RFID is used for identification purpose. Identification of individuals is always prioritized in secured places like bus and train stations, national and international airports.

It is very important factor to be considered while allowing security solutions for apartment area. RFID is an inexpensive technology which does not require Guided data for transmitting data.

In fact, security provided by the RFID is much better for identification purpose. Enhancement in the usage of this emerging technology is being traced in the fields of business, industry and logistics support in particular due to its capability to detect, track, classify and manage the flow of information systematically. An ideal RFID system comprises of RFID tag, RFID reader, application software at back-end for management, computing hardware for operation handling and middle-ware to cover up any incompatibility among the components regarding the data formats.

II. BLOCK DIAGRAM

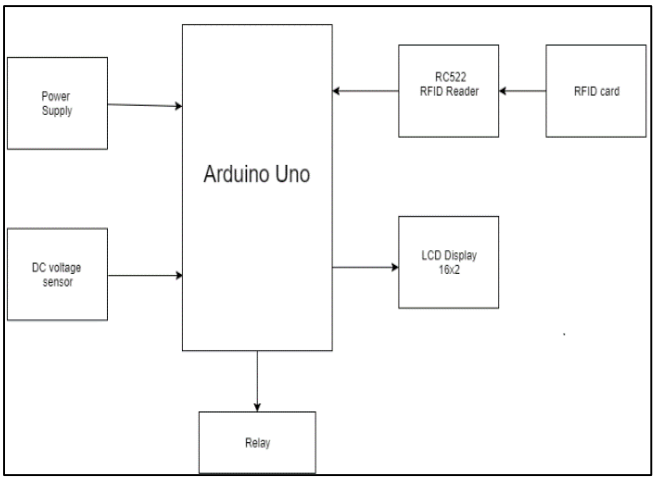

Fig. 1: Block Diagram of Proposed System

A. Block Diagram Description:

In this project we use RFID (RC-522) module at input side. For controlling section there is use of ATmega328 (Arduino UNO) controller. Also Relay is present at output side for on/off purpose.

1) RFID Module:

Radio Frequency Identification (RFID) module use for the identification purpose. This module consist of a reader and tags/cards. Reader acts as Receiver and Tags acts as Transmitter.

2) Arduino (UNO):

ATmega328 is a controller which control the RTC and RFID system. According to input section (RTC and RFID) Arduino (ATmega328) this controller control the output section (Relay).

3) Voltage Sensor:

Voltage sensor measures the voltage of the battery of the electric vehicle. It has maximum input voltage range in 0-25 v DC.

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Governing System for Rule Breaking Vehicle at Traffic Signal

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Abstract:- Nowadays, traffic congestion is a major problem in cities of developing countries like India because of the increasing number of vehicles. As result traffic is becoming one of the important problems in big cities and urban areas all over the world. The existing traffic lights follow the static traffic control mechanism. These lights are called static traffic lights. So, we propose a dynamic traffic control system using RFID. In this, each individual vehicle is equipped with the special radio frequency identification (RFID) tag to track the vehicle and we use RFID reader to read the RFID tags attached to the vehicle's windshield.

I. INTRODUCTION

A. Dynamic Traffic Control Systems

for traffic signals include communication systems, adaptive control systems, traffic responsiveness, real-time data analysis and collection and maintenance of the system that enable dynamic traffic control system to operate with greater efficiency.

Traffic signal control system coordinates individual traffic signals to achieve network-wide traffic operations objectives. Traffic light posts are positioned at the traffic junction. Traffic light set the green passage for a specific period of time which is not a complete systematic system as it cannot solve the traffic problems fully. The proposed system will have RFID readers at the traffic junctions and that will read RFID tags attached to the vehicles coming towards the junction. RFID technology uses digital data within RFID tag, which is made up of integrated circuits which contain a small antenna for transferring information to RFID readers.

The RFID tags contain an integrated electromagnetic circuit along with antenna for transmitting and receiving RF signals. Frequency ranges differ from low frequencies of 125 to 134 kHz and 140 to 148.5 kHz, and high frequencies of 850 to 950 MHz and 2.4 to 2.5 GHz. Wavelengths in the 2.4 GHz ranges are limited because they can be absorbed by water.

B. RFID Technology Radio-Frequency-Identification (RFID)

Tag uses electromagnetic signals to identify and track the tags that are attached to vehicle automatically. The tags contain electronically saved information. Passive tags gain energy from a nearby RFID reader's interrogating radio waves. Active tags have their own power source such as a battery and may operate at hundreds of meters from the RFID reader.

C. Problem Statement To avoid the traffic congestion problem

The proposed system gives the solution using RFID technology. To control traffic efficiently and avoid the congestion problem in urban areas a combination of RFID tag and RFID reader are used along with IR sensor. To provide a special service for emergency vehicles such as ambulance, fire brigades, VIP vehicles, police, etc. As soon as such vehicles are detected the system will dynamically set green passage to let the vehicles go, also this system provides service for stolen vehicle by reporting to concerned authority and updating the tag info as stolen for easy detection by RFID this system provides service for rule violation.

Agricultural Parameters Monitoring System using IoT

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Abstract — Agriculture is the main occupation in India. So many people used traditional methods or techniques in their farming. There are lots of hurdles that arise in traditional farming so there is need to minimize the hurdles in agriculture field and also to increase the productivity there is need to use some innovative technology and technique. In this system we use IOT technique. It is an emerging technology. The Internet of Things (IOT) is used for making agriculture field smart and to solve the measure problems of farmers. IOT technology helps in collecting information of weather conditions like temperature, humidity and also to measure soil moisture and water level. It interacts between objects and things as a shared network with internet connection provided. The aim of this work is introduce a system to collect field data and to reduce farmer's efforts. Farmers also keep updated with the ongoing condition of his agriculture land using their smart phone.

***Keywords*—IOT, temperature, Raspberrypi 3 B**

1. INTRODUCTION

Agriculture plays an important role in the life of an agronomics. It is the backbone of our economic as well as agronomics system. In India so many people uses traditional methods for farming. Therefore the productivity of farm becoming low. Due to this farmers suffer large number of problems. To overcome this problem we design a system based on IOT.

Internet of things (IOT) is widely used technology in now days. IOT is mainly used for connecting devices and collecting data information. Agricultural parameter monitoring is systems which monitor agricultural parameters like soil moisture, temperature, humidity and gas. Raspberry pi 3B module is used for the system.

The aim of proposed system is making agriculture smart using IOT. This technology provides automation. The highlighting feature of the system is smart irrigation with smart control based on real time field data.

1.1 LITERATURE SURVEY

K. Lokesh Krishna et.al., In this paper, design and implementation of a novel wireless mobile robot is designed and implemented. It is equipped with various sensors to monitor different environmental parameters that are suitable for croup yield. Monitoring of crops wirelessly allows reducing labor cost and also helps to track the changes accurately occurring instantly in real time at the field. The proposed system is capable of controlling the essential parameters necessary for plant growth. So this proposed smart agricultural system of farming is user friendly and highly robust.[1] Pratibha S. R. et.al., 'Internet of things' is far and wide castoff in relative devices and gathering statistics. This agriculture monitoring system serves as a reliable and efficient system and corrective action can be taken. Wireless monitoring of field reduces the human power and it also allows user to see accurate changes in crop yield. It is cheaper in cost and consumes less power the smart agriculture system has been designed and synthesized. The developed system is more efficient and beneficial for farmers. It gives the information about the temperature, humidity of the air in agricultural field through MMS to the farmer, if it fallout from optimal range. The system can be used in green house and temperature depend in plants.[2] Carlos Cambra et.al., This paper describes the way that communication technologies and intelligent context- service systems provide autonomous decision without human interaction it uses LoRa WAN network protocol which provides a long distance communication with very low energy consumption levels.[3] Abdullah Na, William Isaac, Produces a agricultural mode in IOT environment which is human centric. It incorporates IOT and cloud computing ubiquitously to remove the inefficiency and lack of management, which are the root of problems in agriculture.[4] Rajalakshmi P. et.al., Described to monitor the crop field using soil moisture sensors temperature and humidity sensor, light sensor and automated the irrigation system the data from sensors are send to web server using wireless transmission and JSON format is used for data encoding to maintain server database. The moisture and temperature of the agriculture field falls below the brink, irrigation system will be automated. The notifications are sent to farmers mobile periodically and farmers can be able to monitor the field conditions from anywhere. The parameters used here are soil moisture sensor, temperature and humidity sensor- DHT11, LDR used as light sensor and web server- NRF24L01 used for transmitter and receiver. This system will be more useful in areas where water is in scarcity and it is 92% more efficient than the conventional approach.[5]

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Wireless System for Vehicle Accident Detection and Reporting Using GPS

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Abstract **–** In highly populated countries every day people loss their lives because of accident and poor emergency facilities. This lives could have been save if medical facilities are provided at right time. This paper implies a system which is a solution of this drawback when a vehicle meets an accident immediately a accelerometer sensor will detect the signal and send it to the Arduino Microcontroller. Microcontroller will send an alert message through the GSM modem including the location to the police station, Emergency Medical Services (EMS) and family member. So the police or EMS immediately Trace the location through the GPS modem after receiving information. To avoid accident due to drowsiness- in case of drowsiness of driver and an alcohol is detected in case of high intake of alcohol by user are used, then vehicle would not start after there. The proposed system have been practically designed by the use of hardware components and the results are satisfied with expectation.

Index Terms – Accident detection, wireless system, Accelerometer sensor, AVR controller, GPS device, GSM modem.

I. Introduction.

With the growing population the use of vehicle has become superfluous and this has lead to increases the rod accident which cases huge loss of life because of poor emergency facilities. The proposed of paper is find the vehicle where it is locate the vehicle system. Transmit the location of the accident to the police station, Emergency Medical Services (EMS) and family member. So will get the exact location by the geographical coordinates transmitted via message with the help of map. The main object of the paper is to minimizing the delay of ambulance to save the injured. Hence with this system implementation we can detect the position of vehicle where the accident has occurred so that we can provide the first aid as early as possible. In this system accelerometer detect the sudden change in the axis of vehicle and GSM module send the alert message on your mobile phone which would be entered in database with the location of the accident. Location of accident is sends in the form of Google map link, derived from the latitude and longitude from GPS modem.

To avoid drink and drive this system has the alcohol sensor to detect it and to avoid the accident due to drowsiness. Motor stop automatically whe alcohol is detected though alcohol sensor and which is display on LCD. The whole system is based on AVR controller. This controller is used to co-ordinates all the activities in the system.

II. System overview.

The present criteria, we cannot detect where the accident has occurred and hence no information related to it, leading to death of an individual. The research work is going on for tracking the position of the vehicle. In most of the casus an accident occurred due to drunken driver.

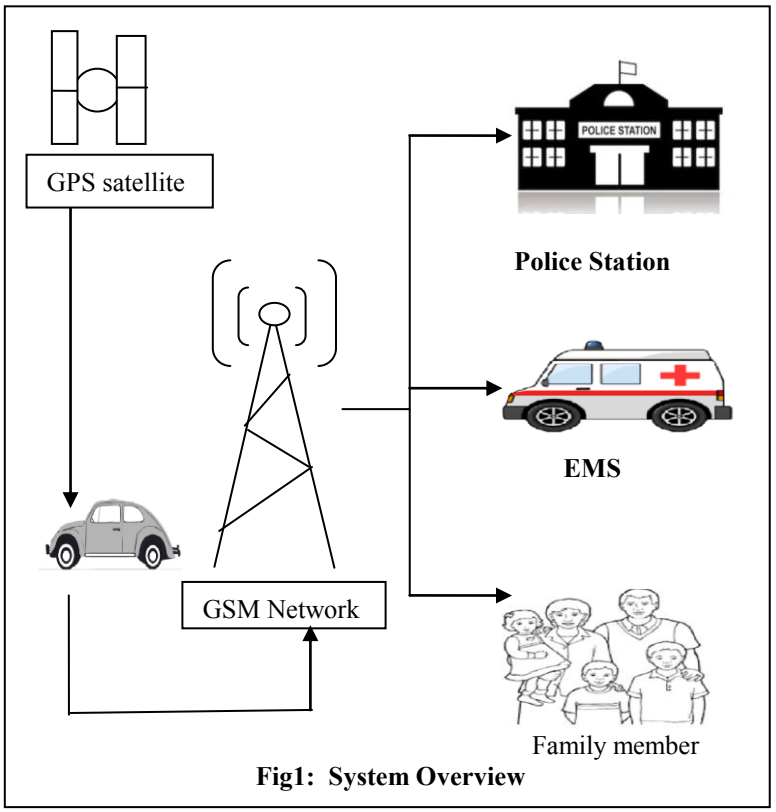

Fig1: System Overview

The system consists of AVR controller unit, Accelerometer (MPU9250) sensor, GPS device, GSM module, Alcohol (MQ3) sensor. An accelerometer is the main sensor used to detect the accident. In this system GPS is used for

IMAGE PROCESSING USING STEGANOGRAPHY

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Abstract: Steganography is the art and science of writing hidden messages in such a way that no one apart from sender and intended recipient even realizes there is a hidden message. There are often cases when it is not possible to send messages openly or in encrypted form. This is where steganography can come into play. While cryptography provides privacy, steganography is intended to provide secrecy. The aim of steganography is to hide the secret messages and also for communication and transferring of data. Steganography is also used in transferring the information of credit card or debit card to e-commerce for purchasing items. So no one apart from the authorized sender and receiver will be aware of the existence of the secret data.

Since the rise of the Internet one of the most important factors of information technology and communication has been the security of information. Cryptography was created as a technique for securing the secrecy of communication and many different methods have been developed to encrypt and decrypt data in order to keep the message secret. Unfortunately it is sometimes not enough to keep the contents of a message secret, it may also be necessary to keep the existence of the message secret.

KEYWORD:

Steganography, Stego image, Cover image, Cryptography.

I. INTRODUCTION:

Information hiding in digital images has drawn much attention in recent years. Secret message encrypted and embedded in digital cover media. The redundancy of digital media as well as characteristics of human visual system makes it possible to hide secret messages.

Steganography is a technique of hiding information within the information or hiding one form of information into another form of information. Steganography word is the combination of two Greek word "**stegos**" and "**grafia**". Stego means "**cover**" and grafia means "**writing**" whereas Steganalysis is a technique to detect the existence of steganography.

II. STEGANOGRAPHY:

Almost all digital file formats can be used for steganography, but the formats that are more suitable are those with a high degree of redundancy. There are following types of Steganography.

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SMART ENERGY METER BILLING, MONITORING AND CONTROLLING SYSTEM

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ABSTRACT:- IOT based energy meter billing, controlling and monitoring system proposes and analyze a system which is used for energy meter billing, controlling and monitoring .The system is fully Internet Of Things based and highly desirable in field of energy .In this system consumer can do power management by knowing energy usage time to time . The customer needs to pay the bill on schedule, if couldn't the electric power connectivity can be turned off autonomously.

Our proposed system uses energy meter with microcontroller system to monitor energy usage using a meter. The meter is used to monitor units consumed and transmit the units as well as cost charged over the internet. This allows user to easily check the energy usage along with the cost charged. Thus the energy meter monitoring system allow user to effectively monitor electricity meter reading and check billing with easy.

KEYWORD:

Electricity energy meter, Internet of things, Atmega328 microcontroller, Bluetooth, ESP8266.

I. INTRODUCTION:

The Internet of things (IOT) concept enables us to connect the normal day to day devices with each other over the internet. The IOT concept provides the basic infrastructure and opportunities to form a connection between the physical world and computer based systems. The concept has been gaining importance with more and more wireless devices that are increasing rapidly in the market. Hardware devices are connected with each other over the internet. The ESP 8266 Wi-Fi module used in the system provides the connectivity with the internet in the system.

Now-a-days the demand for electricity is increasing at a constant rate in the population and is being utilized for various purposes viz, agriculture, industries, household purposes, hospitals etc., So, it is becoming more and more complicated to handle the electricity maintenance and requirements. Therefore there is an immediate requirement to save as much electricity as possible. The proposed system provides a technical twist to the normal energy meters using the IOT technology. Monitoring, Optimized power usage and reduction of power wastage are the major objectives for a better system.

II. SENSOR CONCEPT

The ESP8266 Wi Fi Module is a self contained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your WiFi network. The ESP8266 is capable of either hosting an application or **offloading** all Wi-Fi networking functions another application processor.

The ESP 8266 Wi-Fi module is a low cost component with which manufacturers are making wirelessly networkable microcontroller module. ESP 8266 WiFi module is a system-on-a-chip with capabilities for 2.4GHz range. It employs a 32 bit RISC CPU running at 80 MHz. It is based on the TCP/IP (Transfer control protocol). It is the most important component in the system as it performs the IOT operation. It has 64 kb boot ROM, 64 kb instruction RAM, 96 kb data RAM.

Wi-Fi unit performs IOT operation by sending energy meter data to webpage which can be accessed through IP address. The TX, RX pins are connected to the 7 and 8 pins of the Arduino microcontroller.

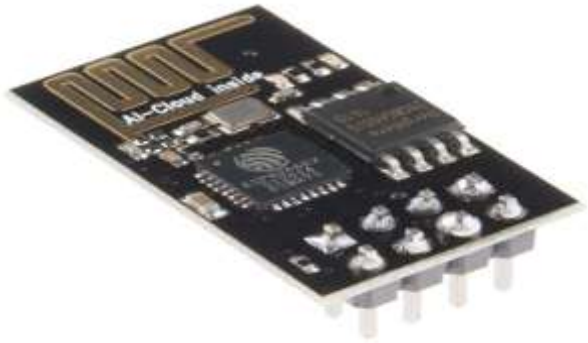

Figure.1. wifi module

III. ENERGY METER

A **digital energy meter** displays the readings of energy used on a digital display (LCD or LED). No moving parts are present in this type of energy meters. Thus, these

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Intelligent Multitasking System for Milk and Milk Tanker

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Abstract:- There is a need of real time monitoring system which will give the detail information about milk and milk tanker which will be transported from one place to another place. By this system will be able to monitor the status of valve of the tanker, and the temperature of the milk. Also we get the information about the milk level in the tanker. this system also able to detect the objects around the tanker. It consists of arduino, GSM module, DHT11 module, MAX232 module, relay driver, electromagnetic switch, solenoid valve, ultrasonic level sensor, IR proximity sensor and valve status sensor.

The temperature of the milk in the container will be monitored by DHT11 module. This system can easily detects the obstacles around the tanker with the help of IR proximity sensor and also owner get information about opening and closing position of valve by using valve status sensor and GSM module. This system operates with the aid of arduino, sensors, GSM module which will control the whole function of the system.

I. INTRODUCTION

Milk transportation is one of the essential part in day to day life. Villages contain no. of dairies which are connected to nearest milk centers. There are various problems we are facing while transportation of milk from one place to another. This project is an automated systems for reducing these problems. Also the system will provide a detail report on the milk loaded send to the receiver. This includes the temperature and quality. Many studies have been conducted in the field of milk quality and consumer satisfaction of the milk consumers. This system is introduced to avoid the misuse of milk during milk transportation. Many times milk gets stolen from the tanker. To avoid this problem we will check the status of inlet as well as outlet valve with the help of valve status sensor and owner gets the information related to switching of valve and temperature of milk through GSM module. Temperature of milk monitored with the help of DHT11 module. Obstacles around the tanker will be detected with the help of IR proximity sensor.

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SMART PREPAID ENERGY METER USING GSM TECHNOLOGY

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ABSTRACT-*The aim of the project is to minimize the queue at the electricity billing counters and to restrict the usage of electricity automatically, if the bill is not paid. The project also aims at proposing a system that will reduce the loss of power and revenue due to power thefts and other illegal activities. The work system adopts a totally new concept of "Prepaid Electricity". GSM technology is used so that the consumer would receive messages about the consumption of power (in watts) and if it reaches the minimum amount, it would automatically alert the consumer to recharge. This technology holds good for all electricity distribution companies, private communities, IT parks and self-containing housing projects. The implementation of this project will help in better energy management, conservation of energy and in doing away with the unnecessary hassles over incorrect billing. The automated billing system will keep track of the real time consumption and will leave little scope for disagreement on consumption and billing.*

Keywords-Energy meter, GSM technology, Microcontroller ATMEL 89C51

1. INTRODUCTION

This method consumers are expected to reload their mobile account and send SMS to the energy meter using GSM network. Then the meter holds the purchased energy units corresponding to the recharged value and let the consumer to use electricity until the purchased units are exhausted. If the available energy units are exhausted then the electricity supply is cut-off After the next recharge occurs the microcontroller pulls the SMS sent by the mobile, decodes it, recognizes the Mobile no. and then makes the power supply connection again. After successful operation, controller sends back the acknowledgement to the consumer's mobile through sms. This technology holds good for all electricity distribution companies, private communities, IT parks and self containing housing projects. The implementation of this project will help in better energy management, conservation of energy and also in doing away with the unnecessary hassles over incorrect billing.

2. OBJECTIVES

1. To study about the prepaid energy meter with GSM technology.

2. To reduce the loss of power& revenue due to thefts & other illegal activities like the queue at Electricity billing.

3. Reduce the billing delay & give better consumer service.

4. Reduce the unnecessary wastage of power.

3. AIM

To Design a Prepaid Energy Meter for save electricity

4.SCOPE OF PROJECT

Steel industries currently are functioning with different sections where each section generally worked on measuring scheduled time. Hence it is completed the

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Embedded System for Automatic Real Time Weight Based Grading Of Fruits

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Abstract— *Separation of fruits is performed primarily by visual inspection using size as a especial quality attribute. Many industries with capability of large-scale buying and selling of fruits & vegetables, are using image processing technology for sorting motive. But the image processing system of sorting requires very highly developed technology of image capturing and processing which is very costly and not right for small traders. The proposed sorting system in this paper offers an economical solution for such grade of automated fruit sorting practices. By dealing with an automated material handling system, it reasons in dividing the fruits by weight which is coming on the conveyor, by moving the fruits near its respective packing place. There by the prosy work done by human is eliminated, acquiring accuracy and speed in the work. Weight of fruit is used as a design metric to sort the fruits in food processing. And for sorting using weight as a parameter the load cell plan is ideal. This sorting method presents a precise, safe, consistent and quantitative sorting technique for fruit sorting based on weight of the fruits. Automated sorting system not only speeds up the time of the process but also decrease fault.*

Keywords: *Fruit, Load cell,*

I. INTRODUCTION

The aim is to design a fruit separation machine which is portable. For this, the main task is to integrate ATMEGA 328 microcontroller as a main control system with intact electro-pneumatic system and is used to control the sequence of operations performed by the system. This project consists of slope and slider assembly and electronics component. The electronics part consists of PCB designing and mounting of various electronics components with the micro Fruit quality management system based on load cell provides a fully automated system designed to combine processes such as feature extraction and sorting according to weight. Weight of fruit is used as a design metric in food processing and for sorting using weight as a parameter the load cell plan is used. Embedded system has the advantage of high accuracy of sorting, high speed and low cost. This proposed system will have a good prospect of application in fruit quality detecting and sorting areas. Performs the sorting and property check using ARDUINO software.

II. BLOCK DAIGRAM

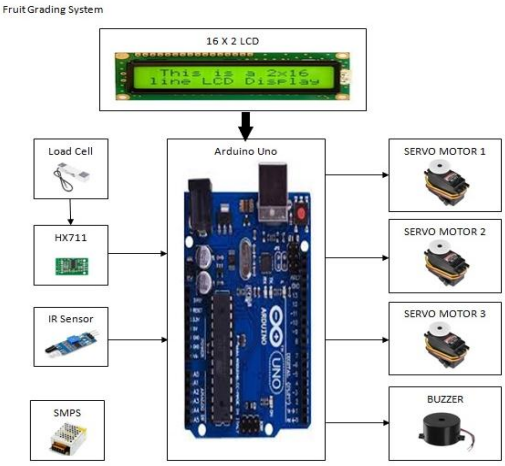

Fig. Block Diagram of Project

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Smart Rationing System using RFID and Raspberry Pi

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ABSTRACT:- *Public Distribution System is an important food security scheme implemented by the Government of India under Ministry of Consumer Affairs, Food and Public Distribution. Smart ration card is useful to every householder for various purposes such as family member's details, to get subsidized food items and non-food items, gas connection and also address proof for various purposes. All people having a ration card to get different food grain items such as sugar, rice, wheat and non-food items such as edible oils and kerosene from fair price shops. But current distribution system having many drawbacks like all customer details stored in manually in the registers. Manual based ration system leads to various problems like corruption. For the own benefit, shopkeeper sales fair price gain which allotted by Government for BPL people to outside.*

E-government is increasingly used to improve transparency in the Government sector and to fight against corruption. All these drawbacks are overcome by using RFID and biometric fingerprint system implementation security features in ration cards so it will bring transparency in Public Distribution System.

KEYWORDS: Finger print scanner, RFID, Raspberry Pi, GUI.

I. INTRODUCTION:

The ration distribution system is one of the Govt. economic policies in India. Its main purpose is to provide food grains (sugar, wheat, rice, kerosene, etc.) to the people at affordable rates. The network of the ration shop is spread all over in India to provide food security to people. The validity and the allocation of the ration cards is monitored by the state government. Ration card contains separate record for each family which includes details like no. of members in family, names of the members, head of the family, permanent address, present living address, and phone number databases. India's public distribution system runs based on the ration card, including its purpose of identification, eligibility, and entitlement. Ration card has three categories – extreme poverty level (AAY), below poverty line (BPL) and above poverty line (APL). The poverty lines are identified depends upon the annual income of that particular family. Depends upon the familyincomes the ration card color is decided. The different colors of ration cards are navy blue (BPL), white (APL) and orange (AAY).

Most of the ration shopkeepers to keep fake rations cards with them. The shopkeeper may sales ration at higher rates than recommended rates by Government or may do wrong entries in register. Due to the fake ration cards, the shopkeeper receives the extra ration from higher authority and he sales it into the open market. The may not provide sufficient amount of food to consumers. Most of the time peoples are not aware of the availability of ration in ration shop. In this way, in the current situation we are facing problems of corruption in PDS. In this paper, we have proposed a Smart Ratioing System based on RFID and BIOMETRICS Technology to avoid the drawbacks. In this system, only authentic person can be recovered ration materials from ration shops based on the amount available in the database. The automatic ration distribution system uses finger print technology to automatize the public distribution system thereby minimizing the corruptions. In this system, the manual work is replaced by automated system. The smart card replaces the ration card by including all user information. This system is much more secured and easier to use.

II. BLOCK DIAGRAM:

Fig. shows the smart rationing system block diagram based on finger print scanner and Raspberry Pi.

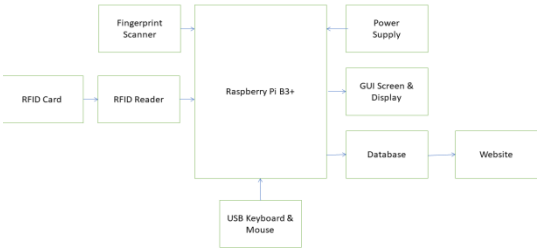

Fig. Block Diagram

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FINGERPRIENT BASED VEHICLE STARTER

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ABSTRACT- *Our project is about fingerprint based ignition in bikes which includes all two wheeler's. Normally available locks in the bikes do not provide enough security to the bike owners. Traditional locks available in the bikes are well known to thieves and they can be easily broken by them. Thus there is need for more security options to be available for the motorcycle which is unique and must be different from the traditional key locks. Biometrics system can be used as a good and effective security option. An important and very reliable human identification method is fingerprint identification. As fingerprint of every person is unique thus it can be used in various security options. In this paper we are focusing on the use of finger print recognition to start or ignite the motorcycle against the use of conventional methods of key locks. Related work include enhancing the security of the bikes by adding different types of locks and alarming unit to alert owner of the bike in case of danger.*

KEYWORD: Atmega328 controller, LCD Display, Arduino, Relay, Fingerprint recognition.

I. INTRODUCTION:

Fingerprint recognition technology allows access to only those whose fingerprints that are pre stored in the memory. Stored fingerprints are retained even in the event of complete power failure or battery drain. These eliminates the need for keeping track of keys or remembering a combination password, or PIN. It can only be opened when an authorized user is present, since there are no keys or combination to be copied or stolen, or locks that can be picked. The fingerprint based lock therefore provides a wonderful solution to conventionally encountered inconveniences.

Biometric system includes various types such as face recognition, voice recognition, fingerprint recognition, eye recognition. Among these techniques the fingerprint recognition is the most widely used. This is because fingerprint of every person on the earth is unique and can provide good reliability compared to the other conventional methods. Fingerprint biometrics are easy to implement. The two significant parts of fingerprint biometric system is Identification and Authentication.

II. FINGERPRINT SENSOR:

A fingerprint sensor is an electronic device used to capture a digital image of the fingerprint pattern. The captured image is called a live scan. This live scan is digitally processed to create a biometric template which is stored and used for matching. Optical fingerprint imaging involves capturing digital image of the print using visible light. This type of sensor is, in essence, a specialized camera. The top layer of the sensor, where the finger is placed, is known as the touch surface. Beneath this layer is a light-emitting phosphor layer which illuminates the surface of the finger. The light reflected from the finger passes through the phosphor layer to an array of solid state pixels which captures a visual image of the fingerprint.

A scratched or dirty touch surface can cause a bad image of the fingerprint. A disadvantages of this type of sensor is the fact that the imaging capabilities are affected by the quality of skin on the finger. For instance, a dirty or marked finger is difficult to image properly.

Fig- Fingerprint Module

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SMART DUSTBIN CONTAINER USING IOT NOTIFICATION

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Abstract: The idea is very simple and is driven by the fact the dustbin require very frequent cleaning which is not always possible. In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. It in turn leads to various hazards such as bad odor and ugliness to that place which may be the root cause for spread of various diseases. To avoid all this hazardous scenario and maintain public cleanliness and health this work is mounted on a smart garbage system. The main aim is to accommodate more and get the dustbin cleaned frequently using alert service.

KEYWORD: Ultrasonic sensor, Internet of things, Atmega328 controller, LCD Display, ESP8266, Relay.

I. INTRODUCTION:

The universal truth is that wastage of anything is harmful for the society. The ultimate need to developing nation is the key for "smart city" the influential ecological factor this may include hazardous pollution, effects on human health so Internet of things (IOT) Provides new opportunities for making cities smarter by introducing the smart waste management system, we are taking key step towards becoming a smart city we have few garbage bins placed in cites which is overflowing and it checked by local authorities there are all types of garbage all disposed in bins and it all dumped together. So we designed the new concept of waste management disposal using automatic garbage level detecting from ultrasonic sensor and it will provide real time information about dustbin which is situated city.

The garbage bin is filled these information can be send to the concerned authority person to clean the dustbin for real time information, we use GSM. GSM is now back bone of communication system which is low cost and high performance device and easy to implementation. GSM module gives message signal when the dustbin is 70% filled and the compressor will compress the garbage. The main target of this project is to save time, money, and fuel and also reduces exhaust gas emission.

II. SENSOR CONCEPT

The ESP8266 Wi-Fi Module is a self contained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your Wi-Fi network. The ESP8266 is capable of either hosting an application or offloading all Wi-Fi networking functions another application processor.

The ESP8266 Wi-Fi module is a low cost component with which manufacturers are making wirelessly networkable microcontroller module. ESP 8266 Wi-Fi module is a system-on-a-chip with capabilities for 2.4GHz range. It employs a 32 bit RISC CPU running at 80 MHz . It is based on the TCP/IP (Transfer control protocol). It is the most important component in the system as it performs the IOT operation. It has 64 kb boot ROM, 64 kb instruction RAM, 96 kb data RAM.

Wi-Fi unit performs IOT operation by sending energy meter data to webpage which

Optimization of Process Parameters in Milling of Stainless Steel 316 Using Coated Insert and MEGA Coated Inserts

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Abstract – In today's manufacturing world it is very necessary to build up bridge between quality and productivity. This study highlights optimization of face milling operation for stainless steel 316 with taguchi orthogonal array. Twenty-seven experimental runs based on an L27 orthogonal array of Taguchi method were performed spindle speed, feed rate and depth of cut are optimized with consideration of multiple performance characteristics namely surface roughness (Ra) and material removal rate (MRR). The analysis of variance (ANOVA) is also applied to identify the most significant factor. The analysis can be done by using two different insert coatings; stainless steel 316 is difficult to machine material so to obtain good surface finish two different coating are used for machining and from that best coating can be find out. Machining can be carried out on CNC vertical milling machine with 25 millimeter cutter diameter. Finally, conformation test were performed.

Index Terms – Stainless steel 316, CNC vertical milling machine, Taguchi, Surface Roughness, Material Removal Rate.

1. INTRODUCTION

Milling is the most widely used process of machining flat, curved or irregular surfaces by feeding workpiece against rotating cutter. Hardik G. Soni [01] studied the optimal machining parameters on surface roughness and tool wear in CNC end milling using AISI 316 as a work piece material and tool used is solid carbide. The machining is done on dry condition. Machining parameters used for optimization are cutting speed, feed rate, depth of cut. In this paper it is studied that there is very few investigator research worked on SS316 stainless steel material. Alpesh R. Patel A et.al [02] to studied the effect of machining parameters such as cutting speed, feed rate, depth of cut, no of cutting flute that are influences on responsive output parameters such as Surface Roughness and Material Removal Rate by using optimization philosophy in CNC end milling. This is review paper in this it is find out that there is very few investigator research worked on SS316 stainless steel material so, they want to do work on this material. Muhammmad Yasiretet.al [03] investigates the effect of cutting parameters on the surface topography of stainless steel AISI 316L with tungsten carbide tool by using response surface methodology. The experiment is conducted in dry condition. The cutting speeds, feed rates were used. Scanning electron microscope (SEM) and Mitutoyo surface tester were used to study in detail the surface topography of stainless steel AISI 316L. A. Shokrani et.al [04] presents one of the very first studies on cryogenic CNC end milling of the Inconel 718 nickel based alloy using TiAlN coated solid carbide tools. Cutting parameters selected were tool diameter, cutting speed, fees rate, depth of cut and immersion rate whereas response factors selected were surface roughness, tool wear and power consumption. Statistical analysis of the results revealed that cryogenic cooling has resulted in 33% and 40%reduction in Ra and ISO Rz surface roughness of the machined parts as compared to dry machining without noticeable (1.9%) increase in power consumption of the machine tool. Cryogenic cooling significantly reduced the tool life of the coated solid carbide end mills. V. S. Thangarasu et.al [05] proposed experimentation on AISI 304 Stainless steel material is taken for the study to determine the parameters and to optimize with Design Of Experiments (DOE) based Response Surface Method (RSM) to find the optimal parameter set as per the requirements of the user of the high speed CNC machine. Machining parameters used for optimization are cutting speed, feed rate and depth of cut. V. S. Thangarasu et.al [06] investigates the AISI 304 stainless steel by using Taguchi based Box-Behnken Response Surface Methodology (RSM) method is used to develop prediction formula and Multi Objective Genetic Algorithm (MOGA) is used for High speed CNC milling process optimization with higher Spindle speed, Feed rate and Depth of cut for better surface finish and material removal rate. Harish Holkar et.al [07] studied the end milling parameters of AISI 321 grade of stainless steel are optimized by using Taguchi method. The tests were carried out with PVD multilayer coated cemented carbide end mill tools coating consists of TiN/TiAlN/TiN coating and the experiments were conducted at three different cutting speeds, with three different

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Brushless DC motor drive with power factor correction controller technique

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Abstract:

In this paper we have proposed a power factor correction technique for permanent magnet brushless DC motor (PMBLDCM) drive. The proposed method improves the power quality of the system by reducing the harmonic contains in current source i.e. total harmonic distortion (THD) in the system. As THD get reduce of the system, the power factor of the system get improved and archived near to unity. To improve power factor of the system it is necessary to bring source current in phase with source voltage, which can be done by the boost converter. PMBLDC motors are best because of their high efficiency, silent operation, compact size, high reliability, and low maintenance requirements. The performance of the proposed system is simulated in MATLAB/Simulink environment.

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Challenges within Big Data and Big Data Analysis

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Abstract— This paper gives overviews on the salient features of Big Data analysis and its challenges. We face daily challenges in data network like where to put it, data complexity, data management etc. It is difficult to process and store a large amount of data in Relational Database management system (RDBMS). Methods for querying and mining Big Data are fundamentally different from traditional statistical analysis on small samples. Big Data is often noisy, dynamic, heterogeneous, inter-related and untrustworthy. Nevertheless, even noisy Big Data could be more valuable than tiny samples because general statistics obtained from frequent patterns and correlation analysis usually overpower individual fluctuations and often disclose more reliable hidden patterns and knowledge. Big Data brings new opportunities to modern society and challenges to data scientists.

Key words: Apache; Data Analysis; Hadoop

I. INTRODUCTION

Big data is used to characterize data that is high volume, high velocity, and high variety; mandatory new technologies and techniques to capture, store, and analyze it; and is used to increase decision making, provide insight and discovery, and support and improve processes.

Big Data is about vast amounts of information. Specifically, it focuses on information sets that are too large to handle in the usual manner. As usual, we mean that they can't be processed by everyday applications, like Microsoft Access or Excel. Unfortunately, even with powerful processors churning away, these applications tend to get bogged down. Add the fact that the size of the information grows each year, and you have a recipe for problems. To get an idea of what we're talking about, consider the amount of information the Internal Revenue Service (IRS) processes. It's a wonder we get our tax returns in the time frames we do.

Thus in nutshell, big data is large datasets, the category of computing strategies and technologies that are used to handle large dataset. In this context, "large dataset" means a dataset too large to reasonably process or store with traditional tooling or on a single computer. This means that the common scale of big datasets is steadily shifting and may vary incomparable from organization to organization.

II. BACKGROUND

A database is an standardized collection of data. [1] A relational database, more hard, is a collection of strategy, tables, queries, reports, views, and other elements. Database designers typically coordinate the data to model manner of reality in a way that supports processes requiring information, such as (for example) modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies.

1) A database management system (DBMS) is a computer software application that relate with end-users, other applications, and the database itself to catch and resole data. A general-purpose DBMS own the definition, creation, querying, update, and administration of databases.
2) Data are simply facts or figures — bits of information, but not information itself. When data are processed, interpreted, organized, structured or presented so as to make them meaningful or useful, they are called information. The information provides context for data.
3) For example, a list of dates — data — is meaningless without the information that makes the dates relevant (dates of a holiday).
4) Data and information combined together even if one is verified them as two separate words or using them, as is common today. In case they are used interchangeably on significant on the usage of "data".

A. Examples of Data and Information

- The history of temperature inspection all over the world for the 100 years ago is data. If this data is formed and predict to find that global temperature is rising, then that is information.
- The number of visitors to a website by country is an example of data.
- Often data is required to back up a claim or conclusion (information) copied or deduced from it. For example, before a drug is validated by the FDA, the compose must conduct clinical trials and present a lot of data to determine that the drug is safe.

III. BIG DATA ANALYTICS

Analytics are structured, or formalized, approaches to manipulating information. It covers activities like calculations, deriving new information, and documenting results, all with an eye to a particular theme. But more to the point, it does these things using a set of standardized tools. This has a couple of benefits:

The tools act as a guide for investigation. This is particularly useful in situations where you are unfamiliar with the information. Basic conclusions can be quickly drawn, which lead to more significant derivations.

The toolset is known and easy to understand. This gets you up-to-speed quickly with new information sets and allows you to progress to the next level of investigation.

The results produced by the tools act as a baseline and can be compared to external information and results. This, in turn, gives you confidence about your results and points you to more complex activities.

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An Android Application for Healthy Diet for Self Care

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Abstract: ***Many people do not pay attention to food because of their fast lifestyle and lack of time. To live a healthy lifestyle, consistently choose healthy food, fit more exercise and physical activity into your daily routine is necessary. You also need to avoid unhealthy habits. Non-communicable diseases (NCDs) are the diseases that are not caused by bacteria or infection through touching, but they caused by the result of lifestyle and bad eating habits. A lack of knowledge in nutrition information leads to unhealthy diet. Healthy food is important for the system inside the body. For healthy lifestyle, healthy food and self care both of them is important. "Healthy Diet for Self Care" has purpose is to help users have better eating habits and healthier lifestyle. This application provides functions for users to keep their personal health and daily food records. The development of this application hopes to help people in order to manage their total diet plan. A dietitian is guideline for healthier lifestyle. In this application users will directly get connected to the dietitian. From this way "Healthy Diet for Self Care" tries to reduce non-communicable diseases (NCD) diseases.***

Keywords: Android Application, Dietitian, Healthy Diet, Self Care.

I. INTRODUCTION

Recently, there are many people who ignore health concerns especially in their eating habits. This has made the number of diseases found in society, especially non-communicable diseases such as diabetes, hyper tension rapidly increases every year. The patients having these diseases could be reduced by paying more attention to the food that they eat and nutrition that they receive [1]. Good nutrition is important part of healthy lifestyle. Technology devices such as smart phones and tablets have an impact on everyday live. Growth of mobile phones many people tend to use smart phones instead of personal computer [2]. Android is most popular operating system in the world so researches use this opportunity to make use of all of this information by creating an application.

It is easy to development and deployment on to a mobile phone is the main reason of choosing Android to deploy the application [3]. Therefore, Healthy Diet for Self Care is developed to support users, patients with NCDs diseases. User can check their body measurement by having weight and height. System calculates Body mass Index (BMI). Dietitian provide diet plan to user. User directly connected with dietitian by using this application. The ease of development and deployment on to a mobile phone is the main reason of choosing Android to deploy the application.

II. ADVANTEGES

A. Easy to use.
B. Guides us how to maintain the diet.
C. Notification system.

III. RELATED WORK

Natnicha Suthumchai, "An Android Application for Self-Care with Healthy Food" [1]. The number of sicknesses found in the public eye, particularly non transmittable illnesses (NCDs) for example, diabetes, hypertension increment consistently. The quantity of patients having these maladies could be diminished by giving careful consideration to the nourishment that they eat and sustenance that they get. In like manner, the specialists might want to propose Food For Care, an Android application for self-mind with sound sustenance. The principle intention is to enable clients to have better dietary patterns and a more beneficial way of life. It gives capacities to clients to keep their every day individual wellbeing and sustenance records of nourishment admission. The clients can see an examination of nourishment and calories every day application can give a review on sustenance calories and nourishment so they can eat admirably. At last, the improvement of this application wants to enable Thai individuals so as to deal with their

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Monitoring And Reporting Hazards Using Android Application

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Abstract: ***Hazard is any potential damage, harm or adverse health affect of something or someone, so we can say that the hazard is a unavoidable risk, so prevention of hazard is important fact.. In 21st century mobile and information technologies have become an integral part of our lives. A new area where mobile is useful for gathering hazardous information from public area, as they are not easily accessible at any point. Thus, using application, we will try to make available information related to the hazardous through Android Application to the various organizations like Police, Municipal Corporation, News Papers, etc. A mobile application is made available to the common people in order to update the hazardous problems by capturing the image, audio and the location of the area and is sent to the server and informed to responsible authority. Then the respective authority is responsible for allocating the problems to their respective employees and then it is solved by these employees. . The notification of the problem solved is sent to the mobile of the user and authorities. The System generates the ratings Negative and Positive to the work solved within days on basis of work.***
Keywords: Android application, Hazard problem, higher authority, Smart Phone, Web portal.

I. INTRODUCTION

Hazard reporting and monitor is an android application which is really useful for the people who want to do something for their society. Hazard is any type of damage, harm or adverse health effect on something or someone and it is condition with the potential to cause injury, illness, or death of personnel, damage of property. People who survive in hazard area, have to compliant regarding hazard to particular responsible authority, to work on that hazard and solve hazard problems. Now a days mobile and information technology have become an important part of our life. A new area where mobile is useful for gathering hazardous locations, of public area, information as they are not readily accessible at any point. Common user first has to register on android application. After registration user can login & send the hazard report which contains the image, data, audio of hazards area and send it to the specific authority. People can compliant regarding hazard problem to responsible organization using android application. By capturing the image and the location of the area and is sent to the server and inform to responsible authority. Then the respective authority is responsible for allocating their respective employees and then it is solve problem. The notification of the problem solved is sent to the user and authorities. The System generates the ratings Negative and Positive on the basis of work solved within number of days. Hazard reporting system consists two modules: 1) Android application

2) Web portal

In web portal and android application we are using MongoDB. Organization has web portal in which organization must register first and then roles can be assign to particular organization e.g. police, Hospital, Media, Higher authority. Organization can see the complaints related to the user on their web portal. Assign the work to the particular authority, then authority assigns work to their employee. Using this application, we can keep track of the ratio of complaints registered and issues which are unsolved.

II. LITERATURE SERVEY

In hazard reporting system design two main modules:

A. Android Application
B. Web portal

Both are use MongoDB database [1]. After collecting data, that data is stored into android application for both users and authorities and a web application using JSP and servlet for authorities with MongoDB as backend [7]. The data captured from android will be shown on Google Maps using Google Maps API v3.Then System send user hazard compliant to an organization i.e. web portal.

Online Educational Academy Management System

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Abstract— In the modern world of technology, computers are affecting our lives in more ways than we probably are aware of COMPUTERISED MANAGEMENT maintaining information of an educational institutes, Academies. This project paper specified all working that taken by a Academy Management .This project paper is aimed at developing an Online Educational Academy Management System. The system is an Online based application that can be accessed throughout the internet. This system may be used for monitoring attendance for the academy. Students as well as staffs logging in may also access or can be search any of the information regarding academy. Attendance of the staff and students as well as marks of the students will be updated by staff. This system is being developed for an Ambition academy to maintain and facilitate easy access to information. For this the users must be registered with the system after which they can access as well as modify data as per the permissions given to them. For a given student/staff (technical/Non-technical) can access the system to either upload or download some information from the database.

Key words: ASP.Net, SQL Server, JSP, Browser, Cloud-Based System, Academy Management, Information System, Document Management System, Management Information System

I. INTRODUCTION

The project is "ONLINE EDUCATIONAL ACADEMY MANAGEMENT SYSTEM". The project is defined as an application based on Online that aims to all the levels of management providing information within an organization. This system can be used as a information management system for the academy. For a given student/staff (Technical / Non-technical) the Administrator creates login id & password, using these student/ staff (Technical / Non-technical) can access the system to either upload or download some information from the database. The front-end will be HTML pages for client side validation with Java Script whereas all business logics will be in ASP.Net reside at middle layer. Third layer of database will be interacted with these layers, which would be Sql database. The project is divided into multiple scenarios; each scenario can be developed independently. And knowledge of C#.net with Sql server is desirable to execute this project.

II. BASIC CONCEPTS

A. Web Development

Web development broadly refers to the tasks associated with developing websites for hosting via internet.The web development process includes web design, web content development, client-side/server-side scripting and network security configuration, among other tasks.

III. LITERATURE SURVEY

Student Information Management System (SIMS) provides a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. The creation and management of accurate, up-to-date information regarding a students' academic career is critically important in the university as well as colleges. [1]

This paper is aimed at developing an Online Intranet College Management System (CMS) that is of importance to either an educational institution or a college. The system (CMS) is an Intranet based application that can be accessed throughout the institution or a specified department. This system may be used for monitoring attendance for the college. [2]

In the modern world of technology, computers are affecting our lives in more ways than we probably are aware of. COMPUTERISED MANAGEMENT, maintaining information of an educational institutes, Colleges, other the list is endless this paper specified all working that taken by a College Management. [3]

The management of student related information in an educational institute gets more tedious with every passing year as all systems in today's world are being computerized; there is need for an automated system for managing such information. [4]

Student Management System is essential for an institution or to a college or to a university, which utilizes computer, also which reduces manpower. Student Management System manages several student details like USN, student attendance, internal assessment marks, parent name, phone number, email-id, date-of-birth, class, sex etc. [5]

In this scholarly thesis pertinent to the setting up of a automated student performance record management system which enables the users of a university like student and faculty to access the important information with ease through a user friendly web application[6]

IV. PROPOSED SYSTEM

The main objective of this system is to develop a system of improved facilities. The proposed system can overcome all the limitations of existing system. The system provides proper security and reduces the manual work. Paper work is not much suitable for academy management. This system ensures the data accuracy and also provides proper control of higher officials. It minimizes the manual data entry; also minimize the time needed for various processing. This system provides better services. System is user friendly and interactive for students, parents, staff and other users also.

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Survey on a Modern Medicare System using Internet of Things

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Abstract

Since the population of the world is aging rapidly, how to provide appropriate health care to the elderly and unwell people becomes an important issue and draws high attention from medical, academic and industrial fields of the society. The Internet of Things (IoT) drives the evolution of the Internet and is regarded as a great potential to improve quality of life for the surging number of elderly people, significantly. As Android operating system gains immense popularity nowadays, it is a trend to make use of it for the wider access of IoT utility. This project presents a health monitoring system prototype based on IoT, with the increasing use of sensors by medical devices, remote and continuous monitoring of a patient's health. This network of sensors and other mobile communication devices referred to as the Internet of Things for Medical Devices (IoT-MD), is poised to revolutionize the functioning of the healthcare industry. Untimed medicine administration can always show adverse effects on the health of the patients. The proposed system is designed to help these patients to take the required medicine in the right proportion at the right time. The basic ideology is integrating the principle of IoT with weight-based slot sensing on a normal pillbox. To make it more state-of-the-art, it is inbuilt with a Wi-Fi module for alerting the patient and also the chemist at the needed instant using IoT.

Keywords: Intelligent Medicine Box, Internet-of-Things (IoT), Health-IoT

I. INTRODUCTION

Nowadays, a promising trend in healthcare is to move routine medical checks and other health care services from hospital to the home environment. This helps patients to get health care more easily especially in case of emergencies. The main motto of our proposed system is to monitor that the patient consumes right medicines at right time. Also, the main advantage is a reduction of expenditure.

For the development of our project, we are using the concept of IoT and Android. The concept of the Internet of Things first became popular in 1999. If all objects and people in daily life were equipped with identifiers, computers could manage and inventory them. The Internet of Things (IoT) is the network of physical objects —devices, vehicles, buildings and other items embedded with electronics, software, sensors, and network connectivity — that enables these objects to collect and exchange data. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems and resulting in improved efficiency, accuracy and economic benefit.

An android application could be used along with medicine box to make the System more user-friendly. Our system includes a featured medicine box which is wirelessly connected to the hospital administration. Hospital administration monitors the routine details through a webpage which is managed on the hospital side. An android application is installed on the patient's smartphone as well as in doctor's smartphone. Through this application, patients could view their prescriptions, could make appointments and get notification's regarding medicine intake.

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An IoT based Medicine Box using ESP8266

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Abstract— Presently the population of world is rising rapidly, providing proper healthcare to the elderly and ill people becomes an important and serious issue and it draws high attention from medical, academic and industrial fields of the society. The Internet of Things (IoT) drives the evolution of the Internet, and is regarded as a great potential to improve quality of life for the surging number of elderly people, significantly. As Android operating system gains huge popularity nowadays, it is a trend to make use of it for the wider access of IoT utility. This project presents a health monitoring system prototype based on IoT, with the increasing use of sensors by medical devices, remote and continuous monitoring of a patient's health. This network of sensors and other mobile communication devices, referred to as the Internet of Things for Medical Devices (IoT-MD), is poised to revolutionize the functioning of the healthcare industry. Untimed medicine administration can always show adverse effects on the health of the patients. The proposed system is designed to help such patients to take the required medicine in the right proportion at the right time. The basic ideology is integrating the principle of IoT with weight-based slot sensing on a normal medicine box. To make it more simpler, it is inbuilt with a Wi-Fi module for alerting the patient and also the chemist at the needed instant using IoT002E.

Key words: Intelligent Medicine Box, Internet-of-Things (IoT), Health-IoT

I. INTRODUCTION

Presently, a promising challenge in healthcare is to move routine medical checkups and other health care services from hospital to the home surroundings. This leads to help patients to get health care more simpler manner especially in some emergency cases. The main moto of our proposed system is to monitor that the patient consumes right medicines at right time. Also, it reduces the expenditure of the fees charged during every visit to hospital.

The existing system provides the medical box which is assistive device for people suffering from memory loss. The model contains Arduino Uno to which Wi-Fi shield is connected by using long wire headers, it is extended through the shield. At the time if intake of medicine the buzzer gets started. The system is embedded with the temperature sensor, if the temperature crosses the limit the SMS alert is sent to particular person. All the details are saved at server side and can be accessed by hospital server to keep track of patient health.

For development of our project we are using the concept of IOT and Android. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, internet create opportunities to more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.

An android application is used along with medicine box to make the System more user-friendly. Our system includes a medicine box which is connected to the hospital administration. The medicine box generates alert by glowing LED if the quantity of medicine gets decremented and notifies to pharmacist also Hospital administration monitors the routine details through a webpage which is managed at the hospital side. An android application is installed on the patient's smartphone as well as in pharmacist smartphone. Through this application patients could view their prescribed medicines by doctor as per the symptoms send by them for seasonal illness and pharmacist gets the status of medicine box regarding the quantity of medicine available in the box for those patients who continuously have to take intake of medicines.

II. LITERATURE SURVEY

A. Enhancing Healthcare using m-Care Box (Monitoring non-compliance of Medication) [1]

The proposed model here is a smart medical box which lies on a single board computer based for those people who suffer with short term memory loss problem. The model monitors non-compliance of medication which provides a single platform and connection between patient, doctor and pharmacies. Related patient can send status of his/her health condition through a wireless communication network. So, it is an alarm-based device that helps in reminding patient about their medicine intake.

B. A Modern Health Care System Using IOT and Android [2]

In this paper, an intelligent home-based medicine box with wireless connectivity along with an android application is implemented that helps the patient and doctor to be in a closed communication. The box is wirelessly connected to the internet to make timely updates about medicines which will be notified in the android application within patient's smart phone. The system automatically generates the alarm so that the patient consumes medicine at right time.

C. Smart Pill Box [3]

The proposed system is designed to help these patients to take the required medicine in the right proportion at the right time. The basic ideology is integrating the principle of Alarm clock with Light based slot sensing on a normal pill box. An alternate to the light-based sensing method using capacitive fields is also employed. To make it more state-of-the-art, it is inbuilt with a GSM module for alerting the patient and also the chemist at the needed instant.

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Smartphone Addiction Prevention and Detection

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Abstract— Use of Smartphones is increasing day by day. This increase causes the addiction among the peoples. The proposed Application is used to check whether the person operating smartphone is addicted to it or not. This is done by analyzing the overall time spent by the user using the smartphone. If this time exceeds a certain limit then the user is warned about his/her excessive use of smartphone access along with the usage static. If still, the user is using the same application then the application will automatically get locked for certain period of time. Also, information about various syndromes caused due to smartphone use will be provided to the user and relevant yoga practices will be shown.

Key words: Addiction, Smartphone, Threshold, Usages Statistic

I. INTRODUCTION

In a world dominated by mobile technology, personal digital devices such as Smartphone's have become essential among peoples around the world. As a result, peoples tend to be addicted to this device, which can negatively have an impact on their mental health and well-being. Peoples tend to use their smartphones more frequently than in the past. Studies have shown that the average amount of time that peoples spend using their smartphones. Studies have shown that the average amount of time that people spend using their smartphones per day between 2011 and 2013 almost doubled, from 98.1 minutes in 2011 to 194.7 minutes in 2013. Also, use of communication platforms fell from 49% to 25% for all time spent using a Smartphone.

The proposed application is used to check whether the person operating smart-phone is addicted to it or not. The application will monitor the use of the smartphone by the user. If user spent more time on some of the application then threshold, he/she will be warned about it. If the use of smartphones continues the corresponding application will be locked by this application. The lock will be opened itself after some time. Also, the application will provide yoga tips to addicted person.

II. BASIC CONCEPT

A. Android App

An Android app is a software application running on android platform. Android is an open source and it provides rich features that allow you to build innovative applications. The goal of Android is to create real-world products that enhance mobile computing.

B. Application

This application is used to monitor the use of smartphone continuously and set the threshold value for such application which is addicted by the user. If the certain application exceeds the limit then that application will get automatically locked for certain period of time. The lock will be opened itself after some time.

III. EXISTING SYSTEM

Four interesting applications closely related to the development of proposed application are explored and briefly discussed as follows.

A. Flipd

Flipd is an application that will automatically lock the device for a period of time when it reaches the defined criteria.

B. Moment

Moment is an application that shows daily usage in minutes but it doesn't show the minutes' usage app wise. This app can be used to control addiction on the phone.

C. Off time

Off time is an application that collects usage record and statistics. Also, it lets users define automated actions such as turning off notifications and alert and blocking incoming SMS messages.

D. Timer Lock

Timer Lock is a parental control application that allows parents to set when they want their phones to be locked and when they want it to be unlocked in order to control their kids' time to use smartphones.

E. Break Free

Break Free incorporates the usage tracking features found in many similar apps, but it differs in that it breaks down the information into an easy-to-understand "addiction score".

IV. PROPOSED SYSTEM ARCHITECTURE

The Proposed System is used to check whether the person operating the smartphone is addicted to it or not. This is done by analyzing the overall time spent by the user using the smartphone. If this time exceeds a certain limit then the user is warned about his /her excess Smartphone access along with the usage static. If still, the user is using the same application then the application will automatically get locked for certain period of time. Also, information about various syndromes caused due to use of the smartphone will be provided to the user and relevant yoga practices will be shown.

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An Android based Vehicle Maintenance Application

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Abstract— In today's era, everyone is using mobiles phone for communication at the same mobile providers are also providing the variety of services to the user. The project is Android Based Vehicle Maintenance Application. This application is an android app which will be run on any Android compatible tablets and mobile phones. The app will enable any vehicle used to search and the communicating with any service center in the vicinity. Vehicle maintenance is very much important for safety, savings, and smoother ride. So we are presenting the system which will help the user to be updated with servicing information. The web portal will provide the maintenance related services to the user via the android application.

Key words: Android Application, Server, Mobile Phones, Android Tablets, Notification, Database, GPS

I. INTRODUCTION

The application of vehicle services and maintenance is play an important role in conveying the information to user that the vehicle is due for service at regular intervals to ensure prime operating condition of the vehicle. The Vehicle maintains application is a progressive step in the field of garage centers. Any vehicle user can make use of such application to locate and communicate with garage center in the vicinity. Vehicle maintenance is very much important for safety, savings, and smoother ride. So we are presenting the system which will help the user to be updated with servicing information. The web portal will provide the maintenance related services to the user via android application. for this user needs to register and log in to the application. If he stuck in any situation like vehicle breakdown then he can send an emergency message to the server then the location of the user will be tracked and emergency service will provide by the nearby garage.

The system which will help the user to be updated with servicing information. The web portal will provide the maintenance related services to the user via Android application.

In this paper also used the concept of data mining, this describes a processes of converting raw Global Positioning System (GPS) data to a routable road. Data mining is process of sorting through large data set to identify patterns and establish relationships to solve problem through data analysis. Data mining tools also enterprises to predict future trends.

It is possible to obtain fine grained location information fairly easily using Global Positioning System (GPS) Enable devices. It becomes easy to track and individual's location and traces her trajectory using such devices. By aggregating this data and analyzing multiple garages trajectory a lot of useful information can be extracted. In this project we aim to analyze aggregate GPS information of multiple garages to mine a list of interesting location and rank them.

II. LITERATURE SURVEY

The survey regarding this application includes gathering from various sources.

These sources include some of the car showrooms and service center also garage centers, various related websites.

Xu Lin; Bisheng Yang; Li Qingquan; Zhang Tong[1], present K Nearest-Neighbors (KNN) Search/Query in Road network has important applications in Location-Based Services. However, all existing KNN query methods for road network did not consider traffic restrictions' Nearest-Neighbors (KNN) Search/Query in Road network has important applications in Location-Based Services. However, all existing KNN query methods for road network did not consider traffic restrictions such as one-way streets, turn restrictions at intersections, and so on.

E. A. Overstreet [2], present Several field test evaluations were conducted in Bell Operating Companies (BOCS) to purify the economic models and to clarify operational procedures. Prior to system availability, economic planning guides for Loop Maintenance Operations System (LMOS) and Mechanized Loop Testing (MLT) were generated to assist the BOCS in planning for the implementation of ARSB. This article describes the purposes, methods, and results of each of these economic activities.

SayaliNerkar, ShwetaJadhav, Radhikashouche, Sukanya Sonawani [3], present To check a status of the vehicle, the client must register his details in application progress bar. Also, automatic notification for service completion, about insurance expires and costing is sent to the client. After installing the application on phone details about showroom will be available. The server checks its servicing schedule and provides a date to the client, otherwise, next date will be provided the benefit of this application is that it is time efficient, as in the existing system, expected a time of vehicle delivery is given, but the servicing is not done on time. Though this application we can just check the status and go to the showroom if the vehicle is ready.

Expert system is computer program which can be used as virtual expert to guide the vehicle users as well as new mechanics. Expert system is a technological way to deliver expert knowledge from books, research papers, this etc to actual implementation level i.e. at real users. As a result, application of able system in vehicle damage & repairs sector become famous and many industries took initiative to develop different expert system. But most of expert system concentrates on particular aspects of real time application.

Jr-Jen Huang, Yi-Yu Chu, and Yen-Jen Chen prompt to the scheme accept a web-based solution designed at collection the information of vehicle's status and region in real-time. The location information is discovered with topographical equalized, computed by a GPS processor in vehicle. The processor is fixed in the proposed equipment, a

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IoT Based Garbage Monitoring System

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***Abstract*: "A clean India would be the best honor India could pay to Mahatma Gandhi on his 150 birth anniversary in 2019". The Prime Minister insisted people fulfil Mahatma Gandhi's dream of a clean and hygienic India so that they launched 'Swachh Bharat Abhiyan'. To contribute the Narendra Modi's dream we have implemented one system which is based on recent technology Internet of Things. Using this technology we can solve a waste management problem.**

This paper introduced "IoT Based Smart Dustbin for Smart Cities". In this proposed System dustbins which are located across cities are provided with low cost embedded device. The main theme of the work is to develop a smart intelligent garbage alert system for a proper garbage management. This system recommended a smart alert for dust clearance by giving an alert signal to the worker's mobile whose collect the garbage for instant cleaning of dustbin with proper verification based on the level of garbage filling. This process is facilitated by the ultrasonic sensor which is consolidated with Arduino UNO to check the level of garbage filled in the dustbin and sends the alert to the garbage collector if garbage is filled. The System also build up the smart garbage alert system by providing automatic identification of garbage filled in the dustbin and sends the status of clean-up to the municipal authority confirming that the work is done.

Keywords: Ultrasonic Sensor, Iot, Arduino UNO microcontroller, Android Application.

I. INTRODUCTION

Overflowing dustbins are the big problem in developing countries. With the increase in population, the scenario of cleanliness with respect to waste management is humiliating tremendously. Nowadays, we see the garbage bins placed at the boundaries of the cities or public place or roadsides and they are always overflowing and all the garbage spills out resulting in pollution. No one takes action to inform municipal authority about cleaning the dustbins. Hence this project all about collecting the garbage from boundaries of the cities or public place or roadsides. This project is proposed to keep the cities clean. A big Challenge in the urban cities is Solid waste management, not only in India but most of the countries in the world.

.IoT and Arduino UNO microcontroller are the latest trends and are one of the best combinations to be used in the project. Hence, a combination of both these technologies is used in the project. Inefficient waste collection systems lead to environmental pollution, which in turn results in the breeding of insects, animal's scavengers, and rodents, and giving rise to the range of diseases. The traditional method includes burning of the waste if not collected in time. In this proposed System dustbins which located in throughout cities are provided with low cost embedded device. The main thought of developing a smart alert system for a proper garbage management. This system recommended smart alert for dust clearance by giving an alert signal to the worker's mobile whose collect the garbage for instant cleaning of dustbin with proper verification based on the level of garbage filling. This process is facilitated by the ultrasonic sensor which is consolidated with Arduino UNO to check the level of garbage filled in the dustbin and sends the alert to the garbage collector if garbage is filled. The System also build up the smart garbage alert system by providing automatic identification of garbage filled in the dustbin and sends the status of clean-up to the municipal authority confirming that the work is done. To give the brief description, ultrasonic sensors are used which is placed at the top of the dustbin.Arduino UNO microcontroller is connected to the ultrasonic sensor. Arduino UNO microcontroller is popular because of the inbuilt pins are available directly we don't need external connection. C code is burned in the microprocessor of Arduino board, that contains the variable and predefined function for measuring the level of dust. When dust comes nearest to the sensor that time dustbin full message sends to the municipal authority with the location of dustbin through the google map. This message sends through the wifi module which is connected to the Arduino board. When admin gets the message that message forward to the garbage collector with location. after receiving the message garbage collector collects the garbage and cleaning acknowledgment send to the admin automatically.

II. RELATED WORK

N.S.Kumar describes a paper "IOT based smart garbage alert system using Arduino UNO"[1]the Waste management is one of the primary problems that the world faces irrespective of the case of developed or developing country. The key issue in the waste

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STRUGGLE FOR GENDER EQUALITY IN *SHE PLAYS WITH THE DARKNESS*

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Abstract:

The present paper attempts to study struggle for gender equality in Zakes Mda's novel, She Plays with the Darkness. The novel reveals themes like racial exploitation, gender discrimination and isolation. The post-modern novelists struggle for human rights, Zakes Mda is one of them. Zakes Mda is the most acclaimed South African novelist. He employed 'gender' with different views and idea gender means not only synonyms with women it refers to men and women.

Keywords: *Zakes Mda, gender, Dikosha, Radisene.*

Gender is not synonyms with women; it refers to men and women. Females are inferior in patriarchal society. Gender discrimination is basically a discrimination made between men and women. Simeon de Beauvoir rightly observes, "The women of today are in a fair way to dethrone to affirm their independence succeeding in living completely the life of a human being" (Beauvoir 30). Woman is capable of revolting and demanding justice. Simeon de Beauvoir opens her description with a statement that has become famous in feminist literature: "One is not born, but rather becomes, a woman. . . It is civilization as a whole that produces this creature, intermediate between male and eunuch, which is described as feminism" (Beauvoir 89). Black women are exploited in South Africa through white male-dominated society. It constitutes woman's awareness about patriarchal norms practiced in every field of society. It is an attempt to make society aware of injustice and oppression. Women have to undergo their secondary status, perception of processes of gender construction, and woman's subordination in the family and the society. But women reformed it at their own levels.

Mda displays unequal gender roles through the story of two siblings, Dikosha and Radisene. In childhood, Dikosha completes her education up to seventh standard with first class, but her mother was unable to pay the fees for further education. Her twin brother, Radisene even though he had received only a third class in standard seven is lucky, because the Holy Father of the church takes him under his wings and pays his fees at a Catholic high school. Dikosha, a brilliant student, is denied the opportunity to complete her schooling by local church father, who sees no future for an educated woman in their society. So writer also aptly observes: "After all Dikosha was a woman, they argued and bound to find a good man of the church and settle down in blissful matrimony Radisene, on the other hand. . . .He was a man"(5). Being a girl, Dikosha is denied access to higher education as well as advancement. But, being a son, Radisene gets a chance to take higher education. This constitutes Dikosha's awareness of patriarchal home. She observes that society's injustice and oppression are the two things which women have to undergo their secondary status, perception of the processes of gender construction and women's subordination in the family, the society and education. It constitutes her awareness of economic status and inequality of sexes for a long time. Dikosha was angry with the God Father, with her mother, with her twin brother, with herself and after all with everybody. So she cannot speak with anybody. She becomes vocally silent and lonely. Mda explores Dikosho's periodic silence as a weapon against being denied access to education and advancement simply because she is a girl.

The narrator observes, "Throughout that spring and summer she played with the darkness. She, the keeper of memories, sat in her hut, with all the windows closed and played with the absolute darkness that

Greenhouse Control

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Abstract— The Monitoring and developing the GSM system is for use in greenhouse applications, where real time data of climate conditions and other environmental properties are sensed and control decisions are taken by monitoring systems they are modified by the automation system and sends SMS that what operation is performed by them to user. The architecture of a greenhouse monitoring system comprises of a set of sensor nodes and control unit that communicate with each sensor and collect local information to make necessary decisions about the physical environment. The temperature sensor LM35 sense the temperature and sends to SCU, it will amplify and send to control unit. The humidity sensor used to find the humidity of the greenhouse. The control unit have the MCU to check the reading and make the fan ON or OFF. Then status of the Green House will send to the user mobile through GSM.

Key words: Monitoring Sensors, Detection, GSM, Automation, LCD

I. INTRODUCTION

A greenhouse is a made up of glass or plastic walls; it heats up because incoming solar radiation from the sun warms plants, soil inside the room. Because they can provides protection and a controlled environment for growing plants inside the room. This project acquaints the reader with basic principal of green house parameter control. In Green house we have to measure, control and monitor various parameters. For monitoring the green house parameter we are using PIC based system. In our project we had attempted the three parameters wise temperature, humidity, light and CO2. In today's life microprocessor is used in the green house. But we are using the micro-controller in replace of the microprocessor. Therefore our system is embedded system used only for the green house parameter control.

II. LITERATURE SURVEY

A. "GREENHOUSE MOINTORING SYSTEM USING GSM" IN JUNE 2013

-Prakash .H. Patil1, Caitali Borse2, Snehal Gaikwad3, Shilpa Patil4 'GREENHOUSE MOINTORING SYSTEM USING GSM' A greenhouse is a structure usually made of glass or clear plastic that provides protection and a controlled environment for raising plants indoors. Water is the most important element in our life. Without it, we cannot survive. As we know, most of the gardener uses manual system to their plant in the garden and also in the greenhouse. This system is inefficient. When we manually do this, the possibility to get some plant can drown. In order to overcome this problem, automatic greenhouse used. In this paper we studied about control unit used in this project and these are Microcontroller, temperature sensor, humidity sensor, light sensor, CO2 sensor, and GSM module and function of all these units. In this paper LM35 temperature sensor is used and The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature. Humidity sensor used in this paper is HSM-20G and these modules convert relative humidity to the output volt-age. Humidity Sensor is designed to operate on DC 5 V, 0-60º c, 30-90º c RH , output voltage is DC 1.980 mv ± at 25 ºc 60% RH. In this LDR is used and in this two cadmium sulphide photoconductive cells with spectral responses similar to that of the human eye are used. The cell resistance falls with increasing light intensity. Applications include smoke detection, automatic lighting control, and batch counting and burglar alarm systems. And most important is GSM, with the help of GSM we send message to the farmer to know status of all ventilation and a GSM modem is a wireless modem that works with a GSM wireless network. A GSM modem requires a SIM card from a wireless carrier in order to operate.

B. "GREEN HOUSE AUTOMATION USING GSM TECHNOLOGIES"-IN 2015

Shaik Thasleem Bhanu1, Abhinesh A2.

This paper proposes a new approach towards the monitoring and controlling of Greenhouse environment which is based on GSM technology and Zigbee. The zigbee is used to connect the monitoring node and the sink node. Microcontroller reads the value of sensor periodically and transmits the sensed data from monitoring node to sink node via zigbee module. This proposed system is implemented using ATmega16A, Sensors (Humidity sensor, temperature sensor, soil moisture sensor and light sensor), GSM modem and Zigbee. If any of the Greenhouse parameters exceeds the threshold value set by the user, necessary control action will takes place automatically. Also alert will be provided to the user through GSM module. The controlling action will takes place with the help of fan, water sprayer etc. If the Greenhouse parameter falls below the threshold value, the controllers will be turned off automatically.GSM technology combined with wireless sensor network technology to design greenhouse environment monitoring system. These projects are relatively good in designs, but their hardware designs are complex and of high cost, especially in small greenhouse monitoring applications, the cost performance is not high.

C. VISITED GREENHOUSE AT KUMBHARGAON- Mr. PATIL PRASHANT1

Before half year ago we visited Greenhouse at Kumbhargaon. In that greenhouse we studied lots of practical knowledge about greenhouse and that greenhouse head Mr. Prashant Patil told us actual how they the greenhouse worked. They told us about temperature, humidity, soil moisture and also about fobour system in the system if temperature is increased then with the help of this system water is sprinkle and temperature is maintained.

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GREENHOUSE AUTOMATION USING GSM

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Abstract- The Monitoring and developing the *GSM system is for use in greenhouse applications, where real time data of climate conditions and other environmental properties are sensed and control decisions are taken by monitoring systems they are modified by the automation system and sends SMS that what operation is performed by them to user. The architecture of a greenhouse monitoring system comprises of a set of sensor nodes and control unit that communicate with each sensor and collect local information to make necessary decisions about the physical environment. The temperature sensor LM35 sense the temperature and sends to SCU, it will amplify and send to control unit. The humidity sensor used to find the humidity of the greenhouse. The control unit have the MCU to check the reading and make the fan ON or OFF. Then status of the Green House will send to the user mobile through GSM.*

Key words: Monitoring sensors, Detection, GSM, automation, LCD

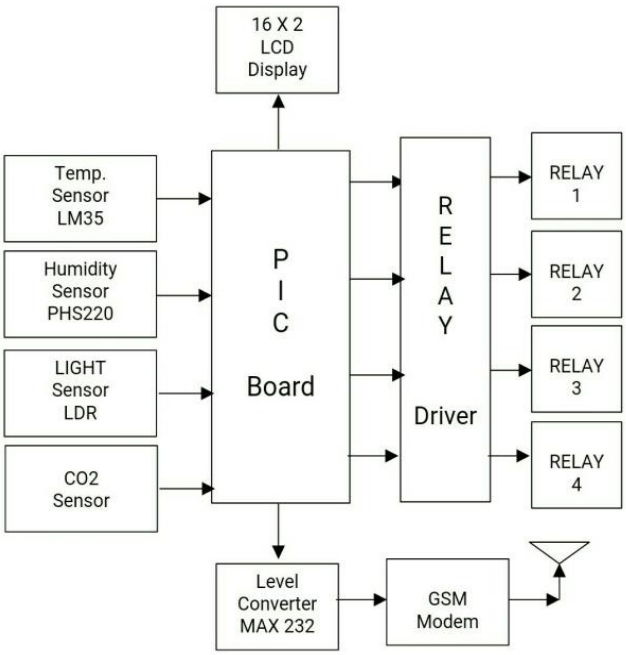
1. INTRODUCTION-

A greenhouse is a made up of glass or plastic walls; it heats up because incoming solar radiation from the sun warms plants, soil inside the room. Because they can provides protection and a controlled environment for growing plants inside the room. This project acquaints the reader with basic principal of green house parameter control. In Green house we have to measure, control and monitor various parameters. For monitoring the green house parameter we are using PIC based system. In our project we had attempted the three parameters wise temperature, humidity, light and CO2. In today's life microprocessor is used in the green house. But we are using the micro-controller in replace of the microprocessor. Therefore our system is embedded system used only for the green house parameter control.

2. OBJECTIVES-

The objective of this project is to automatically control the system in greenhouse using temperature sensor, humidity sensor, light sensor and co2 sensor etc.

3. BLOCK DIAGRAM-



3.1 Block diagram description-

3.1.1. PICMicrocontroller16F877-

Only 35 single word instructions to learn. All single-cycle instructions except for program branches, which are two-cycle. An operating speed is DC – 20 MHz clock input. Up to 8K x 14 words of Flash Program Memory, up to 368 x 8 bytes of Data Memory (RAM) and up to 256 x 8 bytes of EEPROM Data Memory Pin. Parallel Slave Port (PSP) is 8 bits wide with external RD, WR and CS controls (40/44-pin only). A Brown-out detection circuitry for Brown-out Reset (BOR).

3.1.2. Temperature sensor (LM35)-

We use LM35 temperature sensor in our project. The output voltage of LM 35 varies in liner proportion with the temperature. The sensitivity of LM 35 is 10 mV/^{0}C. For 1 ^{0}C output of LM35 is 10 mV. For 10 ^{0}C output of LM35 is 100 mV.

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Amphibian Spy Robot for Continuous Monitoring

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Abstract– *An Amphibian Robot represent an amphibious robot which is viable on land as well as on water. They are made to small and compact enough to easily transport. Amphibian Spy Robot are remotely controlled robots, equipped with a camera, transmitting video data to the intervention troop. The project suppose a movable robot with a remote controller by using ARM processor. The robot equipped with a camera, remote controller, antenna, batteries, four movable wheels and two propellers. Charge Couple Device (CCD) camera is used to capture information surrounding the robot. Remote operated Amphibian Robot is a small robot designed for spying, surveillance and inspection purpose. For transmitting and receiving wireless signals to control the motors of robot control system we used Radio Frequency modules in wireless remote control system*

Key Words– ARM, BLDC motor, Camera, Propeller, LPC 1768

1. INTRODUCTION-

Through RF signal Spy robot can capture audio and video information from the surrounding and can be sending to a remote station. The control of robot involves three distinct phases: perception, processing and action. This robot is not quite huge one and designed to be easy transportation processor, and the task is performed using motors. When the user controls by remote controller, the spy robot will move to desired destination and spy image around the robot in this project. The preceptors are sensors mounted on the robot. It's processing is done by the processor or on-board microcontroller. This task is performed by motors. When the user controls by remote controller, the spy robot will move to desired destination and spy image around the robot in this project. In practice, it is usually an electro-mechanical machine. It is guided by computer or laptop, mobile or electronic programming. It is able to do tasks on its own. Wireless controlled robots use RF circuits which have drawbacks of limited control.

2. PROPOSED SYSTEM:

The operation system is the spy robot with wireless remote control. The CCD camera can modify range more than 100ft. The wireless camera can be able to upgrade with the 360 degree left and right directions by using PIC program so that the functionality is having a movement at many sides. Moreover, this camera can upgrade to move up and down directions. Instead of DC motors which driver the CCD camera, stepper motor can also be used. The spy robot can be commanded directly by remote controller. For the advance of spy robot, it can be built a robot with wireless visual system that the user can observe and control the situation via computer or mobile.

Block Diagram:

ROBOTE MODULE:-

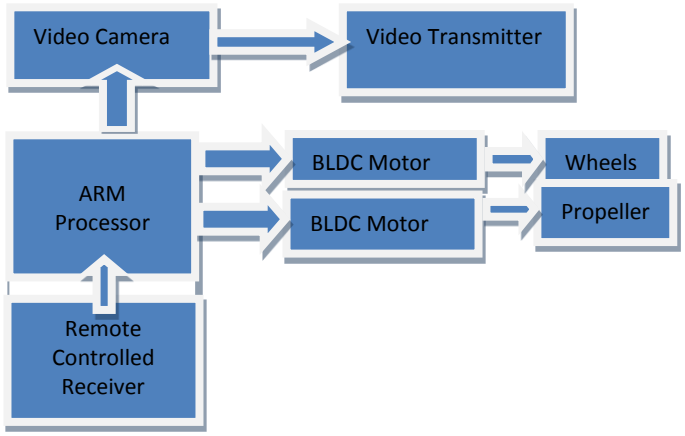

Fig. 1. Block Diagram of Proposed System

CONTROL MODULE :-

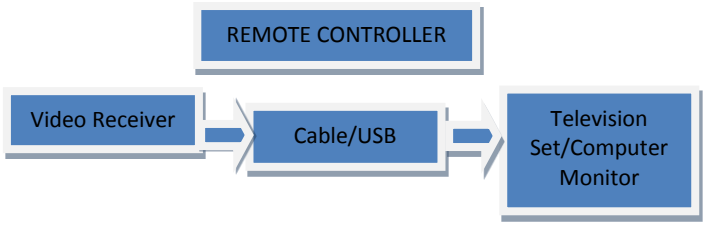

Fig. 2 Block Diagram of Proposed System

Block Diagram Description:-

- Trans-Receiver
  - Charge-Coupled Device camera fixed on roof of robot. CCD camera captures continuous video and sends it using transmitting antenna to the receiver.

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"Hotel Automation Using Arduino"

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Abstract- *Hotel is one where technology and advancements in technology have not been utilized to the fullest potential. Traditional method that is commonly been used in hotels is by taking the customer's orders and writing it down on a piece of paper. Many solutions have been proposed for solving this issue. This project is again one attempt in the same direction. In this paper we discuss the automation for food ordering system. This system makes use of zigbee as a communication device and LCD display module compatible with Aurdino as hardware.*

Keywords - Arduino UNO, Zigbee, LCD display, (4*4 matrics) Keypad, Buzzer.

1. INTRODUCTION-

Automation systems are increase in day to day life. It is the essential part in the field of electronics. It deals with transfer of data from one place to another place. Communication has major role in the successful data transfer and to get the acknowledgement from receiver. There are two mode of transmission; wired and wireless transmission. In wired transmission, data is transferred through a physical medium or a link whereas no physical link is used in wireless transmission. Both mediums have its own characteristics and advantages.

Many times when we visit any restaurants due to overcrowded when order is being placed it takes more time to process and increases the man power to overcome such disadvantages a system is being implemented called as automatic hotel order processing system where users table consists of a keypad and LCD display on pressing the relevant code of the food item user can send that to the kitchen where waiter can take the order and send the acknowledgement to the customer. Then waiter serve the menu to the customer on time.

LTRATURE SURVEY-

Namrata Kakde, Vidula Katambale, Shubham Namaware: "Wireless Hotel Ordering System", International Engineering Research Journal(IERJ), Volume 2 , Issue 2017. This system used to place orders in the restaurants using Touch pad,Zigbee and ARM7 microcontroller. And overcomes the drawbacks such as feedback of order is not obtained, limited distance, System may not work properly if touchpad suffer a defect and also may become a drawback if end users are not able to use the touchpad device.

2. BLOCK DIAGRAM-

2.1 TRANSMITTER SECTION

Customer will observe the menu list of hotel on LCD display. Customer will choose menu of his choice by selecting the respective menu. While doing this, buzzer will ON and LED start blinking which indicates that order has been successfully placed. This order will received by the waiter which will displayed on the LCD placed in kitchen.

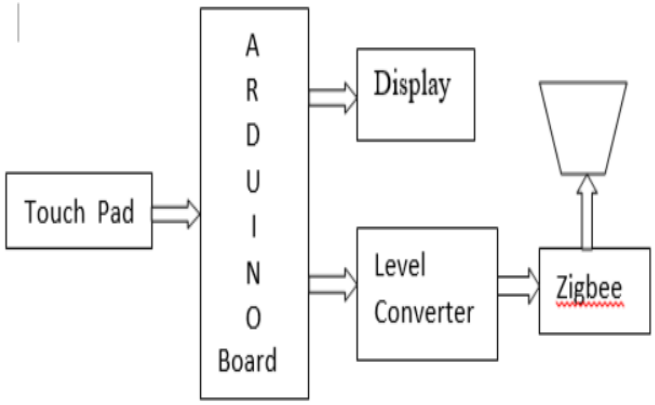

Fig 1. Block Diagram of Transmitter Section

2.2 RESEIVER SECTION

After receiving order waiter will send acknowledgment to the customer. After getting acknowledgement, customer knows about the confirmation order. If respective menu is not present, then waiter press the Reject button which gives the acknowledgement to the customer about the unavailability of menu or item and Re-order. Waiter serves the menu to the customer. Customer can add additional menu if he want. If customer don't want to take any menu he can press "Exit" button and then massage will come "Are you sure to pay bill?" When customer press "YES" bill will generated on table.

PRESSURE COOKER WITH DIGITAL DISPLAY AND CONTROL

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Abstract: *Pressure cooker is a utensil which help us to cook the food by using water and cooking liquid. Pressure cooker helps us to cook a food faster than other utensil and it consumes less energy and helps us to save LPG, Electricity and most important thing is a time. It reduces cooking efforts. In this project we are implementing such a system that continuous monitor status of cooker.*

Keyword: - ATmega328 microcontroller, a Hall Effect sensor, magnet and pressure.

I. Introduction

The old pressure cooker are very slow in pressure. It took a very much time to cook the food. Now a days advanced pressure cookers are available in market with a feature such as preset cook time, display temperature and display whistle count but these advanced pressure cooker are having high cost, so a common man can't afford this advanced pressure cooker. So we have implemented a system with similar feature that can be implemented on our regular pressure cooker. This system is cost effective and easy to use and implement in day to day life. So that a common man easily implement in all kitchen like home, hotel, restaurant, mess and canteen etc.

II. Literature survey:-

This literature review focus on history and generation of pressure cooker which has been used until now.

1. In 1679, the French physicist Denis Papin, better known for his studies on steam, he invented the steam digester in an attempt to reduce the cooking time of food. His invented airtight cooker used steam pressure to raise the water's boiling point, thus food cooks much more quickly.
2. In 1681, London's scientist Papin presented his invention to the Royal Society, but the Society's members consider his invention as a scientific study.
3. In 1864, Georg Gutbrod of Stuttgart began manufacturing pressure cookers. These pressure cookers made of tinned cast iron.

Fig 1. Tinned cast iron pressure cooker

4. In 1918, Spain presented a patent for the pressure cooker to Jose Alix Martinez from Zaragoza. Patent under the name of "express cooking pot", under patent number 71143 in the Boletín Official de la Propiedad Industrial.
5. In 1924, the first pressure cooker recipe manual was published, written by José Alix and titled "360 formulas de cocina Para guisar con la 'olla express or 360 recipes for cooking with a pressure cooker.
6. In 1938, Alfred Vischer presented his invention, in New York City. His pressure cooker was the first one designed for home use, and its success led to competition among the countries American and European manufacturers. At the 1939 New York World's Fair, the National Pressure Cooker Company, later renamed National Presto Industries, introduced its own pressure cooker.

First generation*:*

These cookers known as "old type" pressure cookers, these operate with a weight-modified or "jiggler" valve, which releases pressure during operation. Some people consider them loud because sometimes the valve rattles as excess in steam is released. Pressure cookers typically offer only one pressure level. Some newer pressure

IoT Based Home Automation System using Raspberry Pi 3 Model B

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Abstract— As we are emerging into modern era with innovative and creative things, manual human work is deprecating from our daily activities. The concept of Automation is increasing in most of area like banking, education, engineering, medical, agriculture, etc. To update ourselves with this creative world, it is necessary to control home appliances from any desire location. Our system is representing such home automation that requires hardware and software requirements. This system allows us to control over the home appliances automatically using Raspberry Pi model either by locally presented machine or by web pages. We are designing this project with optimum cost and can be extensible by allowing variety of devices to be controlled. We are adding major environmental details like temperature and humidity to achieve more appropriate decision with environmental aspects. This system is good for time consuming automatic result over the home appliances. We are also providing user interface to get device status and environmental information like temperature and humidity with respect to time.

Key words: Home Automation System, IoT, Raspberry Pi, Temperature, Web Page

I. INTRODUCTION

For simplicity of life, people expect new device and technology. IOT is an upcoming technology that allow us to control hardware devices through internet. By using IOT to control the home appliances result in smarter home and healthier standard of living [12]. The paper mainly concerned with the automatic control of light or any other home appliances using the internet. Nowadays ,increasing various computing devices such as laptop, computers ,mobiles, etc shows that user prefer things which are more comfortable to use i.e. rather than physically going to the place and doing something remotely saves the time. In this paper, we used Raspberry pi 3 model B. Raspberry pi has been used as the main server in the whole system. The server will be interface with relay hardware circuit that controls the appliances running at home [13]. Raspberry pi is a credit card sized single –board computer developed in the UK by the Raspberry pi foundation .The Raspberry pi board contains a processor, program memory (RAM) and various interfaces and connectors for external devices. . A different type of automation services offers wide range, monitoring security camera, live video surveillance etc. whole things are only controlled by raspberry pi [11].

II. MOTIVATION

`The increasing demand of the Automation supplies requires a rapid improvement in electrical and electronic technology production technology. In many countries where technology plays an important part in shaping up the economy and other major fields, but still we are not able to make full use of automotive resources. One of the main reasons is the lack of efficiency. Also, there is not enough old techniques for automatic control of home appliances. Relay circuit could get precise status of electronics devices and can be stored electronically for further use. In addition, a temperature sensor, the most significant advantage is that the change in climate can be easily detected. In recent times, we had been using old technique through the manual control in which we had to take lots of efforts. This process sometimes consumes more costly electricity. There is a place like hilly areas or forests, in which it requires electricity on roads at least but we have to do it manually, in such cases automation can work more efficiently to save electricity.

III. LITERATURE SURVEY

Various eminent researchers have worked on home automation system and tried to find out successful methods and techniques .Different wireless technology that support remote data transfer, control and sensing such as RFID, WIFI, Bluetooth, have evolved to add intelligence at various levels in the home. This literature review focus on various technologies that has been used until now.

A. Muhammad Asadullah and Khalil Ullah, "Smart Home Automation System Using Bluetooth Technology" (2017).

In this paper, design of proposed method is based on Arduino board, Bluetooth module, sensors and Smartphone application. Bluetooth technology has ability to transmit data serially up to 3 Mbps within a physical range of 10m to 100m depending on the type of Bluetooth device. Proposed system is analyzed and tested within the range of 40m [1].

B. Martin V. Urgiles and Paul E. Arpi, "Lighting Control Actuator Design and Development. For a ZigBee Network with a Web Server Mounted on Raspberry Pi" (2015).

The paper represent the ZigBee network that is not secure like Wi-Fi based secured system .Replacement cost of ZigBee module was high when any problem occur in ZigBee compliant home appliances. The coverage area is limited and hence cannot be used as outdoor wireless communication system .It can be used only in indoor wireless application [2]

C. Nicholas Dickey, Darrell Banks, and Somsak Sukittanon, "Home Automation using Cloud Network and Mobile Devices"(2012).

The paper deals with cloud networking in which systems can be controlled by locally and remotely by using cloud network. Cloud networks allow individuals to monitor, manage and control their personal data points through the internet. One of the available service is Pachube, which has to be used. However, the propose system required a large amount of technology .That is why user interface must be required as powerful as possible [3].

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"GSM & GPS Based Vehicle Theft Control System"

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Abstract - *Currently almost of the populace having an own fomite , larceny is happening from anywhere where public green the vehicle .The safe of fomite is extremely essential for public vehicles. Fomite trail ing and locking organisation of rules installed in the vehicle, to track the place and locking engine motor . The exact location of vehicle identified using Global Positioning organisation (GPS) and Global system mobile communication (GSM). This organisation continiously track location of theft vehicle and report the status to user.GSM send sms to arduino board.Respected person need to send password to controller to restart the vehicle and outdoors the door. This system is more secured, reliable and low monetary value .*

Keywords- *GPS modem, GSM modem, Arduino board, Transistor, Buzzer*

I.INTRODUCTION

Various technologies have been introduced in recent years to detect car theft. For example, immobilizer to remotely disable the lost vehicle, microdot identification to identify auto parts using unique microdots, Electronic Vehicle Identification (EVI) to identify the vehicle against the registration database, lojack system to use in-built transponders to tracking down vehicle, GPS to location the position of lost vehicle by using global positioning system and so on. In this project we are going to track the vehicle by using GPS –GSM modem. The engine whose ignition disabled through the relay fed from the Arduino which gets command from the GSM modem. In this system we are going to use Arduino board which is an open source platform used for building electronic project. We also used GSM and GPS for tracking the location of vehicle. LCD display used for display values of latitude and longitude of vehicle location. Buzzer is used to detect the vehicle by using sound of buzzer.

Literature Survey

Rear time tracking and locking of vehicles has been done from many researches and lot of work done for tracking the vehicle. Now a day various anti-theft modules like steering wheel locked equipment, network tracking system and electronic buzzer are developed.

A vehicle tracking system is electronic device, installed in vehicle to detect owner or to track the position of vehicle. This paper is proposed to design vehicle tracking system the can be done by GPS and GSM. This system is based on Arduino board where tracking s done by Global System for mobile communication and position by Global Positioning System. These systems continuously watch vehicle and report status of Vehicle on demand.

2. BLOCK DIAGRAM

Arduino based vehicle tracking and controlling using GPS and GSM has following blocks.

ARDUINO Board
LCD display
Transistor as a switch
Buzzer
Power supply
GSM Modem
GPS Modem

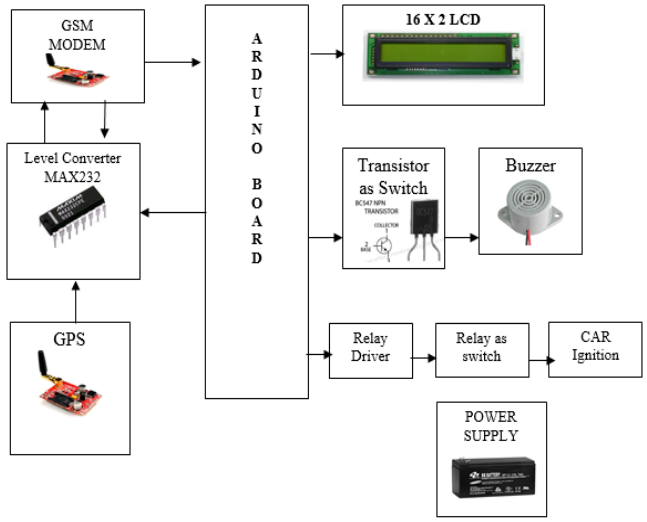

Fig.1:Block Diagram

3. HARDWARE COMPONENT

3.1. Arduino Board

Arduino is an open-source platform used for building electronics projects. Arduino consists of both a physical programmable circuit board and a piece of software, or IDE (Integrated Development Environment) that runs on your computer, used to write and upload computer code to the physical board. The Arduino platform has become quite popular with people just starting out with electronics and for good reason. Unlike most previous programmable

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"Android Based Industrial Device Management System For Physical Handicap Person."

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Abstract: *In the developing world patients along with cognitive disabilities must be provided smart wheelchair system with user friendly screen touch interface. This device is useful for the people who are aged and having physical disabilities to operate industrial applications without any external help. The proposed project based on Android technology is targeted about mentioned people. It enables them to move independently from one place to another place without any external aid & at the same time it also helps them to operate industrial electric applications using wireless communication. The two functions can be perform effectively by using a switch which has two states. In state one, the input given to the Android touchscreen signal is passed to the Arduino control the direction of chair, in state two by selecting the appropriate input on the Android touchscreen the user is able to control by Arduino industrial appliances using Bluetooth*.

KEYWORDS: Android touchscreen, Arduino UNO , Driver circuit, Bluetooth & relay.

1. INTRODUCTION

It is one of real time application in industry. Now a days all electrical devices in industry control by manually, but in industry so many electrical devices is there to control all electrical devices we need lot of 'Man power'. If manpower increases maintenance cost also increases, To avoid such drawback we are using Bluetooth communication system.

This is not only used in industry but also in domestic purpose as home appliances controlling using Bluetooth remote, some persons who are not able to walk to switch board such types of persons need this type of project and also who are old persons, why because you can switch ON/OFF load with remote, without moving away from your place.

With increase of elderly and disabled people, a wide range of support devices and modern equipment has been develop to help improved their quality of life. Some patients which cannot manipulate the wheelchair with their arms due to a lack of force face major problems such as orientation, mobility, safety.

LITRATURE SURVEY

"Touchpad Based Wheelchair And Home Appliances" proposed by Mahesh V. Swami ,Kisan V. Waghmare , and Sagarshinde. This project successfully operate the devices and overcome the movementlimitations of physically handicapped person by using wheelchair made by using hardware like Resistive touch screen, ATmega2560 controller, PIC16F877A microcontroller. We use ATmega 328 instead of PIC16F877A. To avoid make-break contact, we used solid state relay.

2. BLOCK DIAGRAM

2.1 TRANSMITTER SECTION

When the first switch is ON, the switch gives high input to the Atmega 328. The input function from switches is used to control the direction of the motors which are fixed to the chairwheels. To drive the motors having high torque, a driver circuit is designed using L293D.When the second switch is ON, that time first switch will be OFF. The input from Android screen is usedto operate the home as well as industrial appliances like bulb, alarm, fan and so on using the Bluetooth technology.

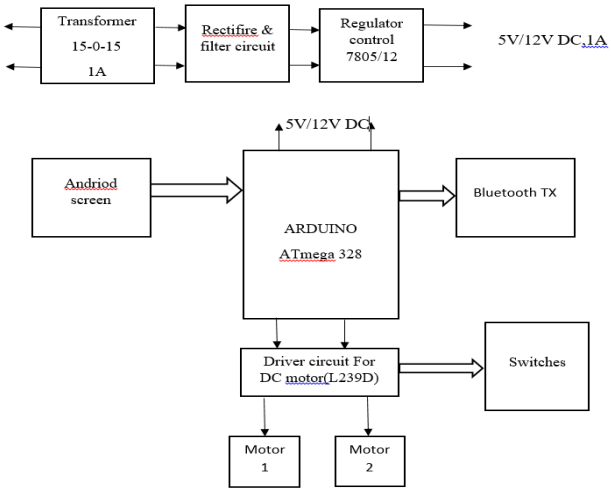

Fig. 1 Block Diagram Transmitter Section.

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SMART MARINE BOUNDARY IDENTIFICATION SYSTEM USING GSM & GPS

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Abstract - *Increasing tension across the indian and sri lankan borders caused much have between the two countries. Unintentional most of the times .the paper deals with a system tracking the location of the boat using GPS and to trigger an alarm which consist of buzzer, when the border is approched or crossed Also,in addition, the GPS information is sent to the cantrol room where it is read and then through a GSM device, information is sent to the family at regular time intervals who are in anticipation about their family member's safety. The paper aims at providing a system that will alert the fisherman well in advanced and ensure maximum safety and peace at the borders and also notify the family members[1].*

Key Words: : **Arduino, GPS, GSM, LCD Display**

1.INTRODUCTION

The tamil Nadu fisherman even today invoke the historical right and routinely stay in to international maritime boundary line (IMBL) for fishing. From tamilnadu about 18,000bout of different kinds conduct fishing along the india-srilanka maritime border .but by accidentally crossing the border without knowledge ,they get shot by the Lankan navy. This leads to loss in the both humans as well as their economic income. We have develop a system which eliminates such problems and save the lives of the fisher men. The system is used to detect the maritime boundary of the country where the long time dispute between sri-lankaa and India still exists. This mainly happens when fisherman crosses maritime border of neighboring country as he is not aware of the limits in sea.The proposed system uses a GPS receiver which receiver signals from the satellite and gives the current position of the boat. With already known details of the latitude and longitude of the maritime boundry,the AURDUINO calculate the current position and sorted boundary position and indicates the fisherman that he has crossed the boundary by an alarm system.it also uses a message transmitted to end message to the base station which monitors the boats in the sea. this system provide an indicator to both fisherman and to coastal guard. thus the system save the lives of the fisherman or reduce the damages caused to them by sri-lankan coastguards.[1]

2. GOAL AND OBJECTIVE

The main objective of the project to design and implement a smart marine boundary identification system is capable to provide the safety for the fisherman's who has crossing the boundaries without any knowledge.

So this system will prevents them by causing the accidents as well as economic losses.

3. METHOD

Design Overview

The Block diagram of our proposed system is as shown below:

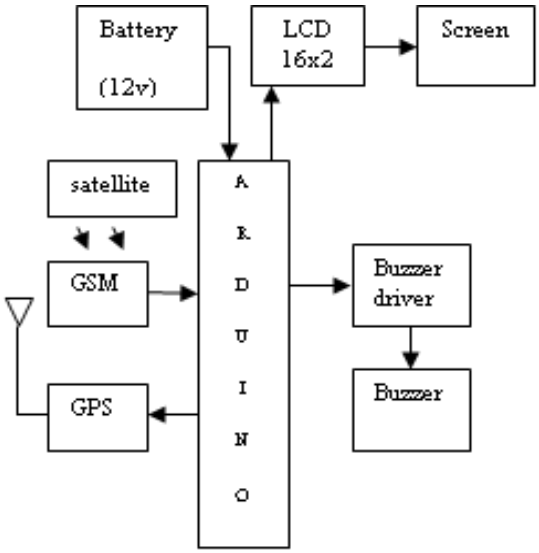

Fig-1: Block Diagram of Smart Boundry Identification System

This system consists of following component which are listed below.

1. Arduino (ATMEGA 328P)
2. LCD Display (16×2)
3. GSM Module(SIM800A)
4. GPS Module(SIM28ML)
5. Power supply

3.1 Arduino:

Arduino Uno is a microcontroller board based on the ATmega328P it has 14 digital input/output pins ,6 analog

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Smart Solar Grass Cutter With Lawn Coverage

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Abstract: *From time immemorial, the sun has been the major source of energy for life on earth. The solar energy was being used directly for purposes like drying clothes, curing agricultural produce, preserving food articles, etc. Even today, the energy we originate from fuel-wood, petroleum, paraffin, hydroelectricity and even our food originates obliquely from sun. Solar energy is almost unbounded. The total energy we obtain from the sun far exceeds our energy demands. Ever since the industrial revolutions human have been dependent on fuels, electricity and wind energy. For human enlargement in many countries there is study and trials are going on the Solar energy and the wind energy, So we make our new concept solar powered grass cutting machine in these concept we cut grass on the agricultural products or on small plants in lawns and gardens. Remote controlled grass cutter can be described as the application of Radio frequency to power a machine on which electric motor rotates which in turn rotates a blade which does the mowing of a grass.*

***Key words: Blade, solar Panel, DC Motor, Microcontroller, Sensor*.**

1. INTRODUCTION

Grass cutter machines have become very popular today. Most of the times, grass cutter machines are used for soft grass furnishing. In a time where technology is merging with environmental awareness, consumers are looking for ways to contribute to the relief of their own carbon footprints. Pollution is man-made and can be seen in our own daily lives, more specifically in our own homes. Herein, we propose a model of the automatic grass cutting machine powered through solar energy, (nonrenewable energy). Automatic grass cutting machine is a machine which is going to perform the grass cutting operation on its own. This model reduces both environment and noise pollution.

Our new design for an old and outdated habit will help both customer and the environment. This project of a solar powered automatic grass cutter will relieve the consumer from mowing their own lawns and will reduce both environmental and noise pollution. This design is meant to be an alternate green option to the popular and environmentally hazardous fuel powered lawn mower. Ultimately, the consumer will be doing more for the environment while doing less work in their daily lives. The hope is to keep working on this project until a suitable design can be implemented and then be ultimately placed on the mark.

2. LITERATURE SURVEY

G. Rahul describes the application of solar energy to power an electric motor which in turn rotates a blade which does the cutting of grass. Bhosale Swapnil ,Khadake Sagar explained that the smart solar grass is automatic system for the purpose of grass cutting. The source is driven from the solar energy by using solar panel from the panel and store the voltage in battery. The automatic grass cutting machine is designed using photovoltaic source and motor speed control**.** Ms. Yogita D. Ambekar, Mr. Abhishek U. Ghate describes the aim of project is to make the grass cutter which operates on solar energy hence save the electricity and reduces manpower. In this project we use microcontroller for controlling various operation of grass cutter. P.Amrutesh, B.Sagar, B.Venu proposed smart solar grass cutter system in which there is an use of sliding blades to cut a lawn at an even length .Unskilled operations can operate easily and maintain the lawn very fine and uniform surface look.

3. METHODOLOGY

I. Block Diagram

Block diagram consist of following components:

1. PIC Microcontroller 16F877
2.Gyroscope sensor
3. Battery
4. ULN 2003
5. Solar panel
6. DC Motors
7. Blade Motor
8. LCD Display

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Wearable sensor fall detection system

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ABSTRACT - *Unobserved human falls can be dangerous and can badly affect health. Falls can cause loss of independence and fear among the older people. Sometimes falls may even lead to death. So, many fall detection systems have been developed in the recent past and still efficient fall detection systems are an area of research. This paper presents a study on many of the currently available systems to detect falls which includes fall detection based on many sensors like accelerometer sensor, camera, contrast vision sensor, etc. Also examined the problems with these solutions and identified their main features.*

Keywords –Fall Detection, Ageing, Sensors, Accelerometer.

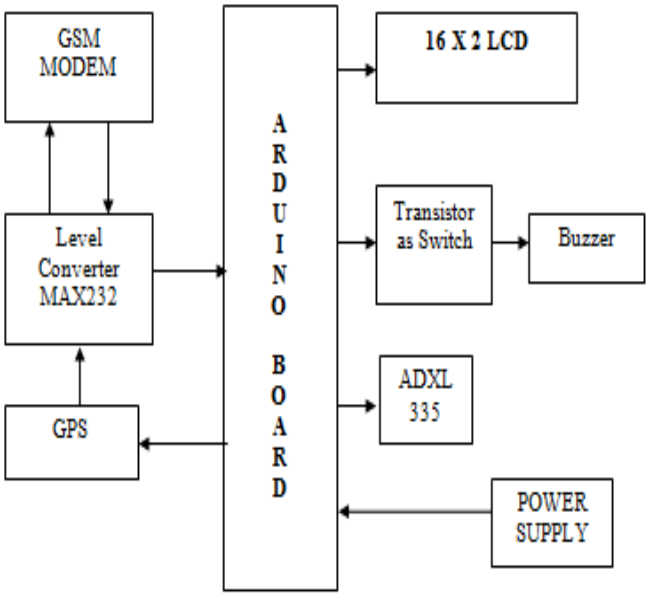
1. INTRODUCTION-

Unintentional falls are a common cause of severe injury in the elderly population. By introducing small, non-invasive sensor motes in conjunction with a wireless network, the Project aims to provide a path towards more independent living for the elderly. Using a small device worn on the waist and a network of fixed motes in the home environment, we can detect the occurrence of a fall and the location of the victim. Low-cost and low-power MEMS accelerometers are used to detect the fall while GSM and GPS is used to locate the person. Falling can be a frequent and dangerous event for the elderly population. It is estimated that over a third of adults ages 65 years and older fall each year, making it the leading cause of nonfatal injury for that age group.

2. OBJECTIVES-

The objective of this project was to design and create a fall detection system for the elderly persons.

3. BLOCK DIAGRAM-



3.1 Block diagram description-

3.1.1 Accelerometer-

Accelerometers are available in one ,two and three axes.so here we are using three axes accelerometer. and it is common and inexpensive. output range is +1.5g. Accelerometers are useful for sensing vibrations in systems or for orientation applications. That's why we are using ADXL335 sensor. This is one of the main part of our project.

3.1.2 Arduino board-

In our project we are using arduino uno board (ATMEGA328P). The operating voltage is 5 Volt and clock speed is 16 MHz. It has 14 digital input/output pins (of which 6 can be used as PWM outputs) and 6 analog inputs. The Arduino Uno can be powered via USB connection or with an external power supply. Arduino IDE supports Windows, Mac OS X or LinuxIn our project we are build up the arduino kit using the IC and mounting with required component.

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Recognition of vehicle number plate using Raspberry pi

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Abstract- The aim of the project is to recognize the number plate of vehicle which passes through system and capture image by camera automatically by using raspberry pi. When number plate is recognized at that time gate will be opened and when number plate is not recognized gate will remain closed. In this system, open CV and OCR(optical character recognition)platform are used. To capture vehicle number plate on gate we have to use ultrasonic sensor which will be helpful for the calculating the distance between camera and vehicle.

Keywords: **Raspberry pi, Ultrasonic sensor, Servo motor, Open CV, OCR (optical character recognition), Image processing.**

I.INTRODUCTION

Automation is the most frequently spelled term in the field of electronics. Due to automation, revolution has occurred in the existing technologies. This paper makes use of an onboard computer, which is commonly termed as Raspberry Pi2 processor. It acts as heart of the project. This onboard computer can efficiently communicate with the output and input modules which are being used. The Raspberry pi is a credit-card sized single board computer which was firstly developed in UK by the Raspberry pi foundation. Basically, the operating system for the detection of vehicle number plate using Raspberry pi is the Raspbian JC. For the recognition purpose, Raspberry pi model3 is used. Raspberry pi is a SOC (system on chip) device has inbuilt 1.2 GHz BCM 2837 Arm Cortex processor. The arm cortex processor is 64 bits. Raspberry pi has 1GB Ram. The overall average power is ranging from 1.5 to 6.7 watt. Raspberry pi has 40 digital input output pins in which 27 pins are GPIO (General Purpose Input Output). It has operating system which is installed in external SD card for booting and long term storage. Here in this system raspberry pi is the heart of the project. In many industries unknown vehicles are not allowed. There security is very important for them our system is going help to recognize number unknown vehicle on gate. The same system can be used in such areas where security is the most important. The recognition of vehicle number plate is working in four steps. The first one is image acquisition, second is license plate extraction, third one is license plate segmentation, and last one is character recognition. OCR is the process which converts image into text.

Section two gives information about literature survey, paper objective is explained in section three, Practical design and hardware implementation is introduced in section third, Conclusion is defined in section five.

II.LITERATURE SURVEY

This paper proposed the Electronic Toll collection System based on RFID which has advantages of less cost, small size and high reliability. It is very suitable for practical applications with the rapid development of national economy, total mileage of expressway and vehicle population remain constantly increase in china, accordingly, expressway network has becoming more complex [1].

This paper proposed that, the double chance algorithm as an approach to car license plate extraction. The first algorithm extracts the line segments and group them based on set of geometrical conditions, using real life data base collected by speed enforcement camera, they obtained a high success rate of 99.5%, through double chance approach with verification [2].

This paper proposed a method to detect Korean vehicle plates from black box videos. It works in two stages: The first stage aims to locate a set of candidate plate regions and the second stage identifies only actual plates from candidates by using a support vector machine classifier. Internet services that share vehicle Black Box videos need a way to obfuscate license plates in uploaded video because of privacy issues [3].

The objective of this paper is to complete automatic recognition system using OCR, they have used to the existing closed circuit, television or road rule for informant cameras or ones specifically designed for the task. The images of vehicles license plate is captured and is processed by segmentation of character and is verified by Raspberry pi processor authentication proposed [4].

The system aims at designing system which captures the image of vehicle number plate and these details were used to Raspberry pi processor for authentication. The system also alerts the authorities when any unauthorized image of number plate is detected using buzzer alarm system. In this case number plate recognition can be indicated even through LED indicators. When any vehicle passes by system, the image of number plate is capture by camera. The image of number plate details are fed as input to the Raspberry pi

FACE COUNTER USING MATLAB

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Abstract-*This paper presents the automatic people face counting in a classroom using MATLAB. Where the number of people present at the specific location, this system used to count people face present in desired location with high accuracy using video camera, where count the people faces in real time. The basic idea to first use the frame difference to detect the rough edges of the people face, morphological processing, skin color detection, face feature detection and last count the human faces.*

Key words: Moving object segmentation, Skin color, Webcam, GUI, Time

1.INTRODUCTION-

In day to day life the counting students in a classroom is done manually ,it consumes large time, also distraction of students such that this project to count the number of students present according schedule of lectures. It gives the accurate data of the number of students present in the any lecture or practical. It doesn't require anytime. Attendance monitoring is important in school and colleges the teacher are counting the total students presents in class but sometime they make mistakes so count is not accurate due to this error are caused in final count. So this problem is solved using this face counter system. This time is based on real time.Any large industry number according to their number of days are they work are counted automatically and the end of the month we pay them salary easily.One of the important applications of counting includes counting people easily in a hall or in a shopping mall etc. People can be counted based on the number of faces detected. Face detection is the process in which the human faces are detected from a color image. Once the number of faces are detected the density can be calculated. There are many ways by which faces can be detected one such method is skin based detection. Rectangles can be used to map the faces in the image. Face detection is used in many day today application.The automatically face counting using the system of face counter where the counting is highly challenging where some variety of techniques or Parameters are used to proposed by the face counting system. Some techniques are moving object segmentation, skin color detection, face detection and counting. The skin color detection to improve the accuracy of the face detection we applied the reference white with NCC(Normalized Color Coordinates) color spaced consider with balance white color automatically and changes of skin color in images caused by intensity difference in light.

MATLAB-

MATLAB is a high-representation language for technical performance. It integrates computation, contemplate, and programming in an easy-to-working area where problems and solutions are state in familiar notations. Standard utilize are following:

- Mathematics and estimate.
- Creating algorithms
- Data obtain.
- Modeling and prototyping
- Data analysis and contemplate

MATLAB is the computational utilize choice for research, development, and obtain.It has image processing tools which are used in processing.

- MATLAB is the level of contemplate environment for all working fields.
- MATLAB has various other tools which are used in mathematical, scientific, engineering etc. It also provides a GUI interface.

2. Literature survey-

1.Mora Albiol and V. Naranjo, "Real time high density people counter using morphological tools"(Dec 2001)-
This paper deals with an application of image sequence analysis and number of people who get into and out of train carriage when it is crowded, and background and or illumination changes. The proposed system analyzes image sequences and processes them using an algorithm based on the use of several morphological tools which are presented in detailed in the paper.

2,T.H. Chen, T.Y. Chen, "An intelligent people flow counting method for passing through gate"(June 2006)-
This paper presents automatic people counting system based on face detection, where the number of people passing through a gate or a door.

Vehicular pollution monitoring using IoT

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Abstract - *The quality of air in all over world degrading using large amount of vehicles [e.g. motor, buses, cars etc.] Due to air pollution from vehicle pollution increases rapidly which causes diseases and trigger, asthma attacks, cancer etc. So monitoring and controlling air quality is most important for healthy life. So we have designed a system which monitors vehicle's pollution. For that we are using IoT technique. IoT(Internet of Things) is an emerging technology in IT and Embedded system. We have used our system in vehicles. When a pollution gets detected system warns to Regional transport office(RTO). By using mailing technique with vehicle's owner details and location send to given mail address which is unique for every vehicle and senders mail address is based on vehicle number plate.*

Key Words: *IoT , Raspberry Pi 3 , Arduino , GPS , Gas sensor, Temperature sensor, Mail etc.*

1. INTRODUCTION

In India pollution is the one of the dangerous thing in society. The government is trying to control it but day by day it is going out of control. The Delhi government brought odd even number plate scheme but it does not work well. So we aimed our project to monitor vehicle pollution, by using IoT. IoT is one of the most dominating technology of 21st century. IoT means the devices connect with each other using wireless network or internet. In today's era internet has reached everywhere and it has become part of human life. According to a research 20 billion devices have connected with each other using IoT. In our system internet is doing major role along with raspberry pi 3. Raspberry pi 3 is a system on chip device which has developed for IoT application It is a credit card size device. It has 1.2GHz ARM cortex processor. It has 64 bit processor. It has inbuilt 1GB RAM and expandable SD card to install Linux operating system.

The system and Raspberry is connected to the internet using Wi-Fi modules and it helps to system to mail the GPS location to RTO. If pollution has been detected then RTO will warn to user /owner to maintain the vehicle. If user do not maintain the vehicle, then RTO can block his vehicle using IoT.

2. LITERATURE SURVEY

Vehicle pollution monitoring and controlling using IoT, December -2015

BRS.PRASANNA KUMAR[1], MADDIRALA SRI RAMA SEKHAR[2], MYLA LOVA KIRAN VERMA[3]

This paper gives us , a novel solution is presented to monitor and control the pollution at the traffic signaling lights. A simple wireless embedded chip is inserted in the personal vehicles to control the ignition on and off remotely. Depends upon the pollution level measured from sensors at the traffic signaling,the operator will send command to the wireless traffic pollution control system. Also a simple radio frequency based embedded chip is inserted in the personal vehicles to control the ignition on the of remotely via control system at the traffic lights is the best way to reduce the air pollution.

Vehicle Pollution Monitoring Using IoT, 13th-14th march 2017

USHA.S[1], NAZIYA SULTAN.A[2], PRIYANKA.M[3], Dr.SUMATHI.S[4]

In this paper ,according to recent technology development in this miniaturization of electronics and wireless communication technology have led to the emergence of environmental pollution sensor network wireless air pollution monitoring system provides real-time information about the level of air pollution. In this regions , as well as provides alerts in case of drastic change in quality of air.

This information can then be used by the authorities to take prompt actions such as evacuating people or sending emergency response team. It uses an Air Quality Index to categorize the various levels of air pollution. The system also uses the AQI to evaluate the level of health concern for a specific area.

Development of IoT based vehicular pollution monitoring system, September 2015

RAMAGIRI RUSHIKESH ,CHANDRA MOHAN REDDY SIVAPPAGARI

This paper gives us, Wireless sensors are used in most of the in real time applications for collecting physical information. The impossible measurements in typical ways have currently become attainable using the wireless technology. In this technology, the measurement of air quality is one of the difficult areas for the researchers. The main source of atmosphere pollution happens due to vehicles. The high

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Intelligent Accident Identification and Prevention System Using GPS and GSM Modem

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Abstract – *Accident is an unexpected occurrence event, which leads to loss of many lives. Accident may occurs due to fast driving of the driver, drunk and drive or no proper driving knowledge, poor road conditions and so on. In many situations we may not be able to find accident location because we don't know where the accident will taken place. So we use GPS to track to the location and GSM to convey message to coded number. The purpose of this work is to prevent the lives of human being and detect the accident. If driver does not wear seatbelt and alcoholic consumed buzzer will on and message display on LCD. When accident occurs, immediately accident sensor will detect signal and then PIC will send signal to GPS. The GPS will track the location and signal send through GSM to coded number.*

***Key Words*: GSM, GPS, PIC, Alcohol Sensor, Limit Switches.**

1. INTRODUCTION

Due to rapidly increase in population of world, number of vehicles are increasing leading to increase in no of accidents. The aim of the work is to minimize vehicle accident which leads to loss valuable human lives by providing some safety. Because of road traffic, accidents are leading problem of death from survey report we comes t o know that nearly 1.3 million people die every year on the world's road. There are many reasons for accident like drunk driving, reckless driving, speeding, unsafe lane changes, street racing, etc. To avoid accident it is necessary to take preventive measures like checking whether the driver is wearing seat belt or not or whether he is under influence of alcohol or not. Also after the occurrence of accident if the injured is treated immediately then it would save many lives so it is important to track the position of accident i.e. tracking the location of accident because accident is unexpected. Seat belt[2] test will ensure that driver is wearing seat belt and alcohol sensor[4] placed on steering will check if driver is drunk. The accident will be detected via limit switches[3] at the back and front of the car. When accident is detected buzzer will ring and simultaneously the accident location details are tracked through GPS[1] and message would be forwarded through GSM to coded number.

2. LITERATURE SURVEY

1] Intelligent automobile system for accident prevention and detection (S.SARANYA, M.SHANKAR, N.MUTHULINGAM)

- From this paper we got idea of seat belt sensor and alcohol sensor. i.e. if seat belt is not weared and driver is alcoholic consumed ignition system remains off .

2] Intelligent accident identification system using

GPS, GSM modem (S.SONIKA1, Dr.K.SATHIYASEKAR2, and S.JAISHREE3)

- This paper tells about tracking of location of accident by GPS and convey the msg to coded number via GSM

3] Real Time Vehicle Accident Detection and Tracking Using

GPS and GSM (NAMRATA H. SANE, DAMINI S. PATIL, SNEHAL D. THAKARE)

- From this paper we get idea of accident sensors i.e limit switches are use in this paper for accident detection.

"BUILDING MONITORING USING WIRELESS SYSTEM"

Prof. Tamboli A.S.[1] , Amruta Jadhav[2], Tejaswi Patil[3], Snehal Suryavanshi[4]

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Abstract- *Building monitoring using wireless system requires less manual power. Wireless sensor network (WSN) refers to a group of various sensors for monitoring and detecting building parameters and collected all data at base location of building. The wireless system is proposed for monitoring buildings are subjected to monitor the parameters such as water tank level, gas leakage detection, fire detection. This will consists of PIC controller as a control device. It will also consists of a sensor network made up of various types of sensors. Bluetooth module will act as a wireless network.*

Key words: Bluetooth, PIC, Sensors, LCD display, Buzzer

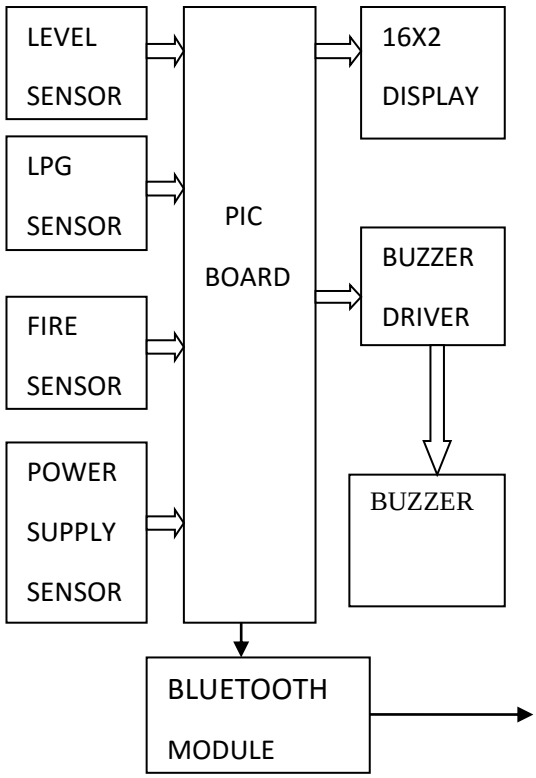
1. INTRODUCTION-

Building monitoring system (BMS) is total automated process therefore it is also called as building automated system (BAS). This system is totally provides security background for the building. In this project we have developed a system whose working is based on the Wireless Sensor Network, which will provide the energy efficient working of the system. For monitoring physical and environmental conditions wireless sensor networks consisting of spatially distributed sensors are used. Building monitoring using WSN is used to monitor the building parameters using Bluetooth. Parameters are like tank level, LPG gas leakage, fire detection and supply failure. The system will continuously monitor the parameter and send to Bluetooth module. Using Bluetooth as a wireless system we can monitor the building parameters. In this paper we are considering four parameters e.g. tank level, LPG gas leakage, Fire hazards. For detecting level we are using LOW level and HIGH level sensors. LPG gas leakage detector we are using MQ6 LPG sensor, for fire detector we are using fire sensor. And for power supply failure we are using PT sensor. There is also one Buzzer used to announce the unsafe condition.

2. OBJECTIVES-

The main objective of the project to built cost effective and efficient wireless monitoring system for building applications by using level sensor, gas sensor, fire sensor, power supply sensor. To understand the benefit of wireless network. Wireless sensor network will provide energy efficient working of the building monitoring system. To aware peoples about the security risks. Primarily this system is designed for wide ranging and controlling applications. To reduce manual power totally automation system is provided. In this paper uses sensors and Bluetooth to carry out the message of hazard to owner of building and the security agency to their mobile phones which will provide quick prevention of hazard.

3. BLOCK DIAGRAM-



3.1 Block diagram description-

3.1.1. PICMicrocontroller16F877-

Only 35 single word instructions to learn. All single-cycle instructions except for program branches, which are two-cycle. An operating speed is DC – 20 MHz clock input. Up to 8K x 14 words of Flash Program Memory, up to 368 x 8 bytes of Data Memory (RAM) and up to 256 x 8 bytes of EEPROM Data Memory Pin. Parallel Slave Port

Smart Stolen Vehicle Detection System using RFID

Mr. P. B. Mohite[1] Mr. R. D. Bhosale[2] Mr. Y. S. Choudhary[3] Prof. A. V. Kale[4]
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Abstract— In automobile field, the security and theft prevention are one of the main areas in current scenario. The security goals are achieved by RFID & GSM technology. But with the increase of number of the vehicles, the safety of vehicles becomes more complex and insecure, so there is more demand of safety and security of the vehicle rather than only monitoring its location. Now the more intelligent systems are deployed with increasing popularity, which will also provide some additional benefits to the vehicle users. If there are availability of many technologies in market then also a vehicles can be theft. To fulfil these requirements, the smart system needs to be developed. In this project, we propose a smart system which will be based on Microcontroller, Bluetooth module(HC-05),GSM and passive RFID(EM-18) technology,Buzzer,16*2 LCD Display for the monitoring, controlling and security of the vehicle. The place of the vehicle is identified using RFID Reader, address of the Bluetooth module and Global System for Mobile Communication (GSM). These systems constantly captures the movement of Vehicle and report the status on demand after the detection of vehicle with Data base. When the theft is identified, the GSM can send the message to respected person and also inform the nearer police station. Then control room can send a message to nearer station to detect the vehicle. A vehicle unique ID is programmed with information of owner, vehicle number, chasing number and develop software to store these ID.

Key words: Microcontroller Atmega328, Passive Radio Frequency Identification (RFID)-EM-18, Global System for Mobile Co1mmunication (GSM), Vehicle Unique ID, Bluetooth Module (HC-05), 16*2 LCD Display

I. INTRODUCTION

In the last few decades, our country has progressed at such a huge rate that many companies have strongly established themselves here. Vehicle Tracking System is now one of the most popular technological changes in all over the world that is going to make our personal and business life lot easier. As the term suggests, it enables one to detect or monitor the location of vehicle in instant time.

In today's life in there are so many vehicle tracking technologies are available in market then also the number of stolen vehicle are same as previous five years. There are thousand number of vehicles are theft every year in allover India out of them just few vehicles are recovered so in these project we have developed a system which will very beneficial to recover the theft vehicle.

These day's vehicle robbery cases are higher than any other time. There are so many systems are available in market which are working on the system of antitheft vehicle detection. If there are so many systems are available in market then also the percentage of stolen vehicles are same as of previous five years. So we are try to develop a system based on RFId technology which help to recover the stolen vehicle as soon as possible. Now a days its take too many time recover vehicle. But after the launching of our project it is possible to getting stolen vehicle very easily with very small interval of time. We are developing the Central App for that recovery system. Primarily, the system functions with the help of different technologies like the traditional cellular network such as Global System for Mobile Communications (GSM) and other radio frequency medium. But GPS is more effective and accurate in this field. As far as vehicle tracking in India is concerned, its uses and market are expected to increase within a couple of years. Vehicle detecting system in India is mainly used in transport industry that keeps a real-time track of all vehicles in the fleet. The location details are later transferred to users via SMS, e -mail or other form of data transfers. The GSM Based System is one of the most important systems, which integrate GSM technology. It is necessary due to the many of applications of GSM systems and the wide usage of them by millions of people throughout the world.

II. LITERATURE SURVEY

In 1945, Leon Theremin invented a listening device for the Soviet Union which transmited incident radio waves with the added audio information. Sound waves vibrated a diaphragm which slightly altered a shape of resonator, which modulated the reflected radio frequency. Even though this device was a covered listening device, rather than an identifications tag, it is considered due to be a predecessor of RFID.

Mr.P.Manivannan, they have proposed a novel method of vehicle tracking and locking systems used to track the theft vehicle by using GPS and GSM technology.

Ms.M.Vinodhin, they have proposed Microcontroller, GPS, GSM and RFID based smart system for the remote vehicle monitor, control, and security and fuel management purpose, has a Business Intelligence (BI) capabilities

Montaser N. Ramadan, the application included a transmitting module which contains an embedded system to combine GPS and GSM devices to retrieve location and vehicle status information and send it to the other stationary module; the second part is the receiving module which collects the transmitted information by SMS and process it to a compatible format to Google Earth to view the location and vehicle status online.

Mr. N. NAGARAJU, they have describes that a Radio Frequency on (RFID) is an□□auto identification technology which uses Radio Frequencies to identify objects remotely that proposes a system which does the job of detecting vehicles.

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"Advanced Vehicle Parking Using PLC"

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Abstract – *The first aim of project is design an advanced vehicle parking system this system will automatically park the car without using the driver. The driver parks his car on the passage of the vehicle park. After driver selects parking space on the computer, the vehicle will transported to the parking space. In order retrieve the car, the driver selects the location of the pallet or number of vehicle on the computer. These systems will retrieving the car from parking space and then send the car in the original position while driver is waiting. Plc is used in the advanced vehicle parking system. The PLC is used to control the movement of necessary to park the car and recover the car to and from the available parking space is choose the driver. A program needs to be created for the PLC. By using in this project ladder diagram programming are used. Steeper motor or (DC) motor is used to provide the movements of transporting the car in the parking system. Then proximity sensor is detected the available parking space and also the location of the carrier.*

Keywords: Dc motor, Multi floor, Programmable logic control, Proximity sensor, Relay, SMPS,

1. INTRODUCTION

In this modern world, parking of vehicles has major issue in the world. Because population is growing drastically which indirectly reduces the space available for parking. Due to this high population, traffic congestion problems have become a major issue in today's world. So it is a need to solve the parking problems and provide an efficient solution for parking of the vehicles. Advanced Car Parking is an efficient solution for traffic congestion. The design of this system is a two storey building in which the parking has no intervention of human at all. This system has not only reduces the human efforts, but also reduces the consumption of space. The advanced car parking assures full safety of vehicle and its owner. The conserved space can be used for gardening or any other purpose to make the environment pollution free. It is the structure with three floors consisting of three parking slots on which each floor can be implemented below ground level, reducing the wastages of space. The PLC used in the system for controlling the lifts, which are used for the movement of vehicles in horizontal, as well as vertical directions, floor to floor and it is done by the pneumatic cylinders. The system has advancements in aspects of security. Prototype system has helped to tackle the parking problems by reducing the struggle to search for parking slots, making it more secure and environment friendly. It is completely automated system where the car owner does not have to take parking and imparking the car.

2. LITERATURE SURVEY

2.1 Design and Fabrication System

It uses sensors to detect the available of the vacant slots and based on the condition, if space is available or not then glows the LEDS used for the indicates the slots are vacant or not. So the green LED is indicates the vacant slot and red LED are indicates that no space is available. Not only the system is accurate but less complex Drawbacks of these system are that is requires more number of sensors. Two sensors on platform and two sensors on the floors are required which increases its cost. This system power consumption is a high. Because of this the parking charges also increases. So it is not viable to all the apartments and commercial areas as there is need of higher security aspects in such area. Also the implementation of this system is difficult and not economical. [1]

2.2 Automated Parking

Automated vehicle parking is a method of automatically parking of the cars or vehicles to solve this problem of increasing demand for safe and reliable parking and total number of vehicles is increasing in day by day. The driver will parks his car at the passage of the car park structure then car is automatically moved through the pallet and stored in a free parking space. All these are done by using the computer controlled system of the , shuttles, pallet, carriers and lifts in transporting cars from the coming up level to a parking space and vice versa without human labour. Then the car will be returned to the driver by using a signalling device outside the building. [2]

2.3 Smart Car Parking System

Opening of the gate to parking slot is its using the smart card; if space is available in the ground floor then driver will be guide to the free parking space. If space is full, then driver is leave his car in a specified place or free space and the car are shifted to parking place in the first floor using the elevator. Then car is taken out, by using the smart card. Then smart card used to opening the exit gate. Microcontrollers are used to controlling the movement of the gate. A user can record his preference through a website/ mobile app otherwise default preference is considered. A message is sent to the car owner about the parking location of the car. But the drawback of this system

Helmet Detection Based Bike Security with GPS

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Abstract— According to WHO (World Health Organization) about 1 million people die due to road accidents in that approximately 25% of them die with accidents due to motorcycles. And more than half of the deaths are due to head injuries because of not wearing helmets. Most of these deaths are preventable by the compulsory use of helmets. It is found that wearing helmets can reduce the death percentage by 70%. To prevent this so many rules are made and wearing helmet is made compulsory. But still so many people are breaking the rules and driving very casually without wearing helmets and thereby risking their lives. To prevent this problem we have created this project "Helmet Detection Based Bike Security with GPS". We developed this system is designed in such a way that the vehicle will not start until and unless the rider wears a helmet. We added addition feature to this system of accident detection in which we added GSM and GPS module through which if accident of rider happens, the location of rider is automatically to hospitals and his relatives. We develop this project for the safety of people.

Key words: Helmet, Accident reporting, Safety, GSM-GPS

I. INTRODUCTION

There is drastic increase in sell of two wheelers in this decade. Due to this the road accidents are also increased. There are many reasons for that like not wearing helmets, violation of traffic rules, drunk driving, carelessness etc. It is found that wearing helmets can reduce chances of injuries and deaths by 70 percent. People are aware of that, but still they ignore these simple rules of safety and risk their lives as well as others. Also it is observed that the some deaths are occurred because the person did not get help on time as hospitals did not get information of accident on time and ambulance did not get on the location on time. To overcome these problems we come with the project "Helmet Detection Based Bike Security with GPS". The very simple idea is that the vehicle will not start unless the rider wears a helmet by the help of IR sensor to detect the person's head. The helmet will also have motion sensor for accident indication and GPS and GSM module for accident reporting.

II. PROPOSED SYSTEM

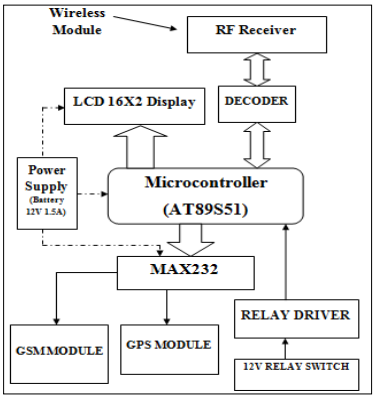

Fig 2.1: Block Diagram Helmet Detection System

Above figure shows basic block diagram of Helmet Detection System.

In this system microcontroller is used as controller. The RF is used for start the two wheeler. The small voltage of ignition of the two wheeler is grounded. In normal condition when the helmet is wearied the pressure sensor is senses pressure and the RF transmitter radiates the FM Modulated signal. The RF receiver is connected with the two wheeler which is receive the radiated signal and activate the relay .The relay is remove the ignition wire from the ground and connected with the starter switch now the two wheeler will start.

When driver met with accident vibration sensor sends message to microcontroller. The GPS receives the location of the vehicle that met with an accident and gives the information back. This information will be sent to a mobile number through a message. This message will be received using GSM modem present in the circuit. The message will give the information of longitude and latitude values. Using these values the position of the vehicle can be estimated.

III. HARDWARE & IMPLEMENTATION

A. RF Receiver

This module converts the high frequency (433MHZ) electromagnetic signal to electrical signal. This is a single bit receiver.

B. Microcontroller (8051)

AT89s51 microcontroller is used as main control & Decision element. This is an 8-bit Microcontroller with 4K Bytes in-System Programmable Flash

C. MAX232

It is a logic level convertor & it converts TTL logic to 232 & vice versa. It is used to interface microcontroller with GSM & GPS.

D. GPS Module

We have used GPS module to retrieve and longitude and latitude of the location. This GPS modem communicates using serial communication with the Controller. GPS modem sends a bunch of data to the Controller. This bunch of Data contains many parameters which include longitude and latitude.

E. GSM Module

In this project GSM is used to send a text message along with the location to the pre-defined number via AT-Command

F. Relay Driver

Relay Driver is same as current amplifier. Here we transistor as relay driver (BC547). It increases the current up to 200m.

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IOT based Industrial Automation

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Abstract- *IOT or internet of things is a technology that makes use of control systems such as computer to control the physical devices over the internet. Here we propose efficient industry automation system that allows user to efficiently control industry appliances/machines over the internet. We use 3 loads as industrial appliances or machines and a motor to demonstrate as an industrial motor.*

I. INTRODUCTION:

The AVR family microcontroller is used by our system for processing all user commands. For the connection to the internet and to receive the user commands a Wi-Fi modem is used. WIFI modem receives the commands which are sent through the internet. The received information is decoded by the WiFi modem and passed to the microcontroller. The microcontroller then takes necessary actions as per user's commands. The state of the system is displayed on the LCD display. Thus the entire industry is automated using online GUI for easy industry automation.

II. OBJECTIVE:

Since today is the generation of smart phones, people prefer smart work. Same goes with the industries. The term automation has led to a great change in the world of industries. Some industries are fully automated while other are partially automated. In short automation has become an important term, whether at home or the industries. Our project focuses on the industrial automation. The machines can be controlled manually from long distance as well.

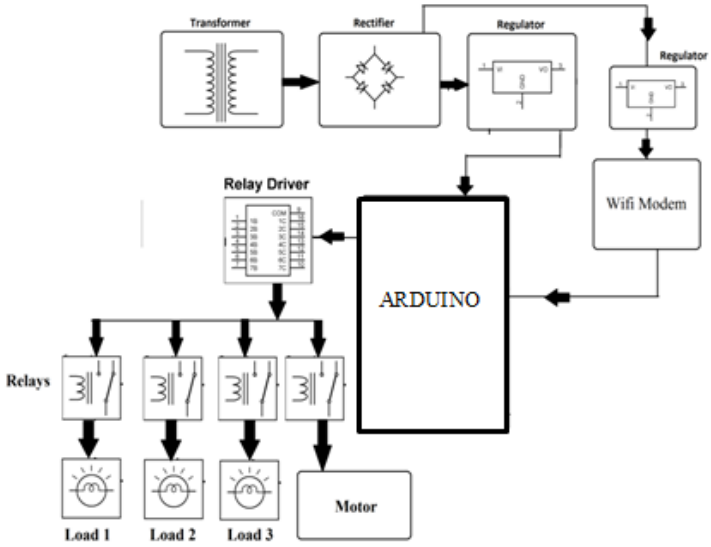
III.LITERATURE SURVEY:

Geetesh Chaudhari [1] "Industrial Automation using sensing based application"-The system makes use of microcontroller and various sensors to control the industrial devices using Bluetooth.

Ashwini Deshpande [2] "Industrial Automation using Internet of Things"-The industrial devices are controlled using cloud server which alerts the admin about uneven conditions using Bluetooth.

Dr.V.Ramya [3] "Raspberry Pi Based Energy Efficient Industrial Automation System"-Sensors such as gas sensor, temperature sensor are used to detect the faulty conditions. Raspberry Pi is connected through the LAN cable to the server PC in the Control Unit.

III. BLOCK DIAGRAM:



IV.HARDWARE DETAILS:-

1. POWER SUPPLY:-

In this project circuits and motor are used which require +12V & +5V (DC) supply, to fulfill this requirement we have used following circuit of power supply which provides regulated +12V & +5V.(DC)

WORKING:

Four diodes (IN4007) are connected to secondary of transformer in bridge for rectifying AC into DC. Capacitor 1000 µf & 1µf are used as a filter red led shows that rectification and filtering is ok.

7805 IC is used as a 5V regulator it converts 12V into regulated +5V DC green led shows that output of 7805 is ok.

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AUTOMATIC DRIP IRRIGATION SYSTEM USING PLC

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Abstract - *Over 60 per cent of the country's population, compromising several million small farming households, depends on agriculture as a principle income source and land continues to be the main asset for livelihood. By the use of Drip Irrigation we can save water and fertilizer provided to the crops. By automating it we can save more water and increase our economy with increase in production and reduction in man power. As the timings provided for agriculture are very inconvinient also due to lack of rains and scarcity of land reservoir. There is improper supply of water to the land which affects the production. Thus it is necessary to find an automatic system which can provide required water to the farm depending on the crop water demands and the electricity availability timings. This project is concentrated on developing an automatic drip irrigation system using plc which is operated on two modes namely timer mode and sensor mode as per the convenience of farmer .*

Key Words: PLC, Soil Moisture Sensor, pump, buzzer.

1. INTRODUCTION

Water is one of the most fundamental part of agriculture. But, nowadays the competition for water resources is much more intense. Successful agriculture is dependent upon farmers having sufficient access to water. However water scarcity is already a critical constraint to farming in many parts of the world. Hence controlled supply of water is required to be given to the crops. Drip Irrigation is the application of controlled amounts of water to plants at needed intervals. It helps grow agriculture crops, maintain landscapes and revegetate disturbed soils in dry areas and during periods of inadequate rainfall. In drip irrigation limited amount of water is provided to the crops. The plc is used to automate the whole process of irrigation which will work on two different modes. In this system two sensors are used which will sense the moisture level in the soil which are placed at different intervals. Sensor will send the data to plc which will compare it with a predefined value and depending upon the analysis the system will perform the task automatically. The main objective of the system is a) Reduce the water consumption in agriculture. b) Increase productivity. c)Automatic and controlled supply of water and fertilizers to the crops.

2. LITERATURE SURVEY

In [1], Prashant S. Patil author said , there should be modernization in the conventional agricultural practices for better results. Here a microcontroller along with various sensors like soil moisture sensor, water flow meter are used to check the water used and provided to the crops. The objective of the system is to: a) Water resources b) Handles the system automatically c) Detects the level of water d) Based on the data available, analysis and prediction will be done e) Builds such system which enhances crop productivity. It states that the system monitors the flow of water and based on the available data it does analysis and prediction.

In [2], Chetna V. Maheshwari author said, due to the affordable prices of plc it can be used as standalone controllers. Here a single climatic criteria is considered to adapt with the irrigation process. A temperature sensor is used which calculates the climatic temperature on hourly basis depending on which the water is supplied to the plants.

In [3], Santosh, Sanket author said, atomizing drip irrigation can save 70% of water. Here a moisture sensor, fire detector, water level sensor, intruder sensor and a vegetable washer are used to provide inputs to the plc to control the whole system.

In [4], Shweta Bopshetty author said, the system provides a web interface to the user with the help of which he can monitor the system distantly.

Here Arduino-Uno is used as an embedded Linux board which communicates with different sensors. Here Node MCU is used to monitor all the environmental parameters.

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"Smart Trolley Using Bluetooth Module"

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Abstract: *In our daily life shopping at a mall is a regular activity in all cities. Customer purchase various items or products in the malls and put them in the trolley. In the existing system customers have to find the product on the list, queue to pay, at the billing section. It is a time consuming and hectic process. To avoid this problem, we are coming with a new idea, called as smart trolley using Bluetooth module. In this whole assembly RFID Tags are used instead of barcodes. Every product in the mall has RFID Tag. Passive RFID Tag has internal power supply. No need of external power supply. Whenever customer purchase any product and put it in the smart trolley, the information of that product like cost and name of that product will display on LCD. After total billing at trolley Bluetooth module is used to transfer all the data to the pc at the main billing section.*

KEYWORDS- PASSIVE RFID TAG, RFID READER, BLUETOOTH MODULE, LCD DISPLAY.

1. INTRODUCTION

Various technologies have been introduced in recent years for smart shopping. A supermarket is a point where customers purchase products which are used for periodic routine. Generally, for shopping of daily used products or for specials occasions customer require at least 30 minutes. After collection of all products it is very hectic problem to stand at a billing counter with a trolley. So we are defining a new idea for a smart shopping which is known as smart trolley with a Bluetooth module. After buying a product, the name and cost of that product will display on the LCD Display. When customer places a product in the smart trolley the RFID Reader will read the product ID and information related to it. The cost of each and every purchased product will get automatically added to the Previous one. Each and every product has passive RFID Tag. Because RFID system has number of advantages over a barcode reader. Barcode reader system read only one item at a time. The reading frequency of RFID is 40 tags. The system is very simple to use and it does not require any training for the customers. After total billing at trolley Bluetooth module is used to transfer all the data to the pc at the main billing section.

Literature Survey

Dr. Suryaprasad J in "A novel Low –Cost Intelligent Shopping Cart" [1] proposed to develop a assembly to scan all types of products at the shopping point using RFID Reader antennas. Which also helps customers to search and select products.

Satish Kamble in "Developing a Multitasking Shopping Trolley Based on RF ID Technology" proposed to decrease the time required for overall shopping.

The main aspect of newly defined system is to provide a low cost, easily usable and rugged system for shopping.

2. BLOCK DIAGRAM

Smart trolley using Bluetooth module has following blocks. Transmitting section contains

- RFID Tag
- RFID Reader (EM 18)
- Bluetooth Module (HC 05/06)
- Power supply
- LCD display
- And receiving section contains only pc.

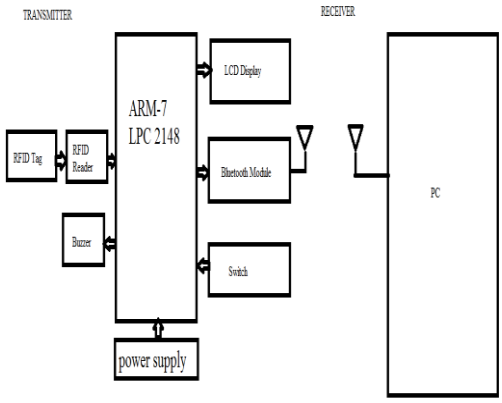

Fig.1:Block Diagram

3. HARDWARE COMPONENT

3.1. ARM LPC 2148

An ARM processor is one of a family of cpu's based on the RISC architecture developed by Advanced RISC Machines. ARM makes 32 bit and 64 bit RISC multicore processor. LPC 2148 is the widely used IC from ARM 7 family. It is

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Experimental Analysis on single cylinder Diesel Engine by varying injection pressure

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ABSTRACT

Aim is to study single cylinder diesel engine to a CRDI (common rail direct injection) and see how the injection pressure affects the performance of the CRDI engine. Diesel engines are used at larger extent for agricultural applications in India. However, performance of these engines are not much improved over the period of time. Hence, a stationary constant speed agricultural based diesel engine was selected for study. The advanced technology in CRDI system was used to control the performance and emission parameters in the stationary constant speed diesel engine, as these engines are slightly neglected for their performance and emission. Thus the engine was converted to CRDI and then the performance was enhanced by increasing injection pressure.

Keywords: Injection Pressure, Diesel Engine, ECU (Engine Control unit), CRDI unit (common rail direct injection).

I. INTRODUCTION

The common rail system prototype was developed in the late 1960s by Robert Huber of Switzerland and the technology further developed by Dr. Marco Ganser at the Swiss Federal Institute of Technology in Zurich, later of Ganser- Hydromag AG (est.1995) in Obergeri. The rest successful usage in a production vehicle began in Japan by the mid-1990s. Dr. Shohei Itoh and Masahiko Miyaki of the Denso Corporation, Japanese automotive parts manufacturer, developed the common rail fuel system for heavy duty vehicles and turned it into practical use on their ECD-U2 common-rail system mounted on the Hino Rising Ranger truck and sold for general use in 1995. Denso claims the rest commercial high pressure common rail system in 1995. Modern common rail systems, whilst working on the same principle, are governed by an engine control unit (ECU) which opens each injector electronically rather than mechanically. This was extensively prototyped in the 1990s with collaboration between Magneti Marelli, Centro Ricerche Fiat and Elasis. After re-search and development by the Fiat Group, the design was acquired by the German company Robert Bosch GmbH for completion of development and refinement for mass-production. Ordinary diesel direct fuel-injection systems have to build up a new pressure for each and every injection cycle, the new common rail (line) engines maintain constant pressure regardless of the injection sequence. This pressure then remains permanently available throughout the fuel line. The engine's electronic timing regulates injection pressure according to engine speed and load. The electronic control unit

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PARAMETRIC STUDIES AND EFFECT ON PNEUMATIC JET MACHINING

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ABSTRACT

In recent years some non-traditional of manufacturing have been invented .In order to supplement affectivity the machining problems of hard to machine and brittle materials. Once of these non- traditional techniques is Pneumatic Jet machining. The pneumatic jet machining can be suitable employed for machining super alloys and refractory type material. The process is also very much suitable for cutting, grooving, cleaning, finishing and deburring operations of hard and brittle materials like germanium, glass, ceramics and mica.

Keywords—Non-traditional, Brittle material, Super alloys

I. INTRODUCTION

As the world is advancing forth technically in the field of space research, missile and nuclear industry, very complicated and precise components having some special requirements are demanded by these industries. This challenge is taken by new development taking place in the manufacturing field. The most basic requirements of future manufacturing technology are:

1. Sustained productivity in the face of rising strength barrier.
2. Higher accuracy consistent with increasing demand for higher tolerance.

The Abrasive Jet Machining (AJM) is considered as an attractive and effective machining method for hard and brittle materials. Abrasive jet machining is similar to sand blasting process but in abrasive jet machining finer abrasive powders and smaller nozzles are used. Focusing on the abrasive jet stream from the nozzle onto the work piece, smaller holes or slots can be machined on hard and brittle materials. Machining mechanism and characteristics of abrasive jet machining are major topics of many research works in the recent years .The parameters associated with abrasive jet machining are summarized .

The nozzle pressure effect has been reported in many proved that after threshold pressure, the Material Removal Rate (MRR) and the penetration rates have increased with increasing the nozzle flow pressure. Similarly, the effect of impingement angle has been reported and concluded that the maximum MRR for brittle material is obtained when normal impingement was applied. The stand-off-distance which is the distance between the work piece and the nozzle has also great effect on the material removal rate as well as the generated surface quality

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Disaster Management in Industry: Ergonomic Perspective

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Performance in Heat Pipe with Variation of Thermal Resistance DI water Mixed with Nano Fluid

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ABSTRACT

In this paper the effort can be made for experimental investigation on the copper heat pipe. The copper heat pipe is efficient for achieving the maximum heat transfer. The copper heat pipe of suitable dimension is taken into the consideration, in which the working fluid like iron oxide mixed with DI water is used. The performance of copper heat pipe is tested and compared different working fluid; also the heat pipe is tested with different filling ratios. Overall the approached is made for improving the performance of heat pipe.

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I. INTRODUCTION

The heat pipe is partially filled with a working fluid and then sealed. The working fluid mass is chosen so that the heat pipe contains both vapor and liquid over the operating temperature range. Below the operating temperature, the liquid is too cold and cannot vaporize into a gas. Above the operating temperature, all the liquid has turned to gas, and the environmental temperature is too high for any of the gas to condense. Whether too high or too low, thermal conduction is still possible through the walls of the heat pipe, but at a greatly reduced rate of thermal transfer. For the heat pipe to transfer heat, it must contain saturated liquid and its vapor (gas phase). The saturated liquid vaporizes and travels to the condenser, where it is cooled and turned back to a saturated liquid. In a standard heat pipe, the condensed liquid is returned to the evaporator using a wick structure exerting a capillary action on the liquid phase of the working fluid. Wick structures used in heat pipes include sintered metal powder, screen, and grooved wicks, which have a series of grooves parallel to the pipe axis. When the condenser is located above the evaporator in a gravitational field, gravity can return the liquid. In this case, the heat pipe is a thermosyphons. The heat pipe is a device that utilizes the evaporation heat transfer in the evaporator and condensation heat transfer in the condenser, in which the vapor flow from the evaporator to the condenser is caused by the vapor pressure difference and the liquid flow from the condenser to the evaporator is produced by the capillary force, gravitational force, electrostatic force, or other forces directly acting on it. The first heat-pipe concept can be traced to the Perkins tube. Based on the structure, a heat pipe typically consists of a sealed container charged with a working fluid. Heat pipes operate on a closed two-phase cycle and only pure liquid and vapor are present in the cycle. The working fluid remains at saturation conditions as long as the operating temperature is between the triple point and the critical state. a typical heat pipe consists of three sections: an evaporator or heat addition section, an adiabatic section, and a condenser or heat rejection section. When heat is added to the evaporator section of the heat pipe, the heat is transferred through the shell and reaches the liquid. When the liquid in the evaporator section receives enough thermal energy, the liquid vaporizes. The vapor carries the thermal energy through the adiabatic section to the condenser section, where the vapor is condensed into the liquid and releases the latent heat of vaporization. The condensate is pumped back from the condenser to the evaporator by the driving force acting on the liquid. For a heat pipe to be functional, the liquid in the evaporator must be sufficient to be vaporized. There are a number of limitations to affect the return of the working fluid.

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Methods of Solving Assembly Line Balancing Problem

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Abstract

One of the main issues concerning the development of an assembly line is how to arrange the tasks to be performed. This arrangement may be somewhat subjective, but has to be dictated by implied rules set forth by the production sequence. For the manufacturing of any item, there are some sequences of tasks that must be followed. The assembly line balancing problem (ALB) originated with the invention of the assembly line. However, during the initial years of the assembly line's existence, only trial-and-error methods were used to balance the lines. Since then, there have been numerous methods developed to solve the different forms of the ALB. Development of assembly line and then balancing of the assembly line is having importance from the productivity point of view. As most of the small scale and medium scale industries are not following the various techniques available for line balancing or even line developing which may cause the loss of the productivity.

Keywords—Assembly Line, Line Balancing, Production Sequence.

I. Introduction

The concept of manufacturing assembly line (AL) was first introduced by Henry Ford in the early 1900's. It was designed to be an efficient, highly productive way of manufacturing a particular product. The basic assembly line consists of a set of workstations arranged in a linear fashion, with each station connected by a material handling device. The basic movement of material through an assembly line begins with a part being fed into the first station at a predetermined feed rate. A station is considered any point on the assembly line in which a task is performed on the part. These tasks can be performed by machinery, robots, and or human operators. Once the part enters a station, a task is then performed on the part, and the part is fed to the next operation. The time it takes to complete a task at each operation is known as the process time. The cycle time of an assembly line is predetermined by a desired production rate. This production rate is set so that the desired amount of end product is produced within a certain time period.

Assembly Process:-

Definition & Types

Definition: Assembly involves the joining together of two or more separate parts to form a new entity (Assembly or subassembly).

The processes used to accomplish the assembly of the components can be divided into three major categories.

1. Mechanical Fastening –Mechanical action to hold components together.

- Threaded fasteners - screws, bolts, nuts etc.
- Rivets, crimping and other methods
- Press fits
- Snap fits –temporary interface of the two parts C-ring.
- Sewing and stitching –for soft, thin material.

2. Joining Methods –welding, brazing and soldering

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Effect of Electrolyte Solution on Various Parameters in ECDM

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Abstract – The performance of ECDM, in terms of material removal rate and rate of machining, is affected by many factors. Relationship between these factors and machining performance are highly non- linear and complex in nature. Therefore it is very difficult to develop a relationship between these factors and the machining performance with conventional mathematical modeling. Electrolyte solutions are one of the major parameters that have to be considered for determining the effectiveness of ECDM process.

Keywords – ECDM, Machining Performance, electrolyte solution, Conventional modelling, Parameters

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INTRODUCTION

Any new technology requires new machining skills. In the last century, the need for using more and more specialized materials (e.g. silicon, composites or ceramics) greatly increased the already large arsenal of machining technology. The last century also saw the birth of micromachining, in particular micromachining of silicon. At present huge variety of micromachining is available for silicon. Similar situation exists for electrically conductive materials, wherein particular electrochemical machining (ECM) and electrical discharge machining (EDM) are two powerful tools available. However several electrically non- conductive materials are also of great interest for many applications. Glass and composite materials are two such examples. The technical requirements for using glass in micro system are growing. Medical devices requiring biocompatible materials are only one amongst many examples.

Electro-Chemical Discharge Machining

Ceramics (glass) and plastic materials are playing vital role in the process industries. Electrochemical Discharge Machining (ECDM) is the means to obtain absolute machining parameters using advanced materials until recently. Electrochemical Discharge Machining (ECDM) is newly developed hybrid process that combines both ECM and EDM (ECM + EDM = ECDM). It has been successfully used for machining electrically non-conductive advanced engineering materials such as glass and ceramics which has shown the possibility of drilling micro-holes by smaller electrodes efficiently and economically [1].

It has been found that the advanced materials are difficult to machine by conventional machining processes [4]. It is no longer possible to produce parts with better surface finish, close tolerances and complex shapes in advanced materials by conventional machining methods. To machine difficult to difficult materials, some non-traditional procedures, like laser machining or ultrasonic machining may be integrated to become a composite machining procedure. So far, it still needs more study for machining of non-conductive brittle materials since it has become key materials in the micro-electro mechanical system (MEMS) field. For example, the glass or quartz is usually bonded with semi-conductive material due to its transparency, chemical resistant properties and so on. Likewise the engineering ceramic is also used often in the high-tech apparatus.

PRINCIPLE OF ECDM

An electrochemical discharge phenomenon is clearly demonstrated by following simple experiment. Two electrodes are dipped inside an aqueous electrolyte. Cathode is chosen with much smaller surface than the anode. When DC voltage is applied, electrolysis takes place and hydrogen gas bubbles are formed at tool- electrode (cathode) while as oxygen bubbles are formed at auxiliary electrode (anode). When the voltage is increased, current density also increases and more and more bubbles grow forming a bubble layer around the electrodes. When the voltage is increased above critical voltage, bubbles coalesce into gas film around the tool-electrode. Sparking phenomena is observed in the film where electrical discharges take place between the tool-electrode and

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Water Security Assessment in Semi-arid Region using Geospatial Techniques

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Abstract

Water assessment needs due to a variation of precipitation, water demand for various sectors, water storage structures etc. usually for a season or more, affecting virtually all climate regimes. The precipitation deficiency results in water shortage for some activities, group or environmental sector, causing economic losses and significant damage to human lives. Furthermore, water demand for growing human population, industrial development and agriculture has increased significantly in developing countries threatening the outcome of major environmental, social and economic problems. For water security, it is essential to assess the major sources of water demand and supply on a scientific based. GIS as a tool helps to assess on macro-level (basin) to micro-level (village) water assessment for water security. Out of 347 villages 116 villages (2,06,935 people) do not have any water source. Their drinking water requirement of 120.03 m^3/yr is not secured.

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Keywords: *Water assessment, water demand and supply, micro-level, macro-level, water security*

1. Introduction

India is facing a serious water resource problem and as trends suggest, it is expected to become 'water stressed' by 2025 and 'water scarce' by 2050.Water security implies affordable access to clean water for agricultural, industrial and household usage and is thus an important part of human security. Water along with food and energy forms a critical part of the 'new security agenda' and redefines the understanding of security as a basis for policy-response and long-term planning. Water security for India implies effective responses to changing water conditions in terms of quality, quantity and uneven distribution. Unheeded it can affect relationships at the inter-state level and equally contribute to tensions at the intra-provincial level. Water resource management is experiencing large-scale changes in water withdrawals and availability (IPCC, 2001). Basic water requirement at local, regional & basin scale is critical for allocation of water. Drought, water scarcity has lowered the role of agriculture threatening rural farmers

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Hybrid Power Generation Using Maglev Turbine

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Abstract— **Nowadays the demand for electricity is increasing and traditional power generations sources has not able to complete this demand. This paper presented different configuration of wind turbine for power generation. Power is generated using an axial flux generator with use of permanent magnets, set of coils and solar cell. A mini model of maglev turbine has made to perform the work of the turbine and this turbine is connected with the solar cells to generate power generation. The aim of this work is to design and implement a magnetically levitated wind turbine system that has the ability to operate in all mediums wind speed conditions and solar energy. Maglev turbine has several advantages over conventional wind turbine and has certain applications. Hence the efficient use of wind power and solar power is possible using this model to generate high power generation.**

Index Terms—Solar Energy, Magnetic Levitation, Maglev Wind Turbine .

I. INTRODUCTION

Wind turbine is a device which converts the kinetic energy of moving air into mechanical energy that can be either used directly to run the machine or to run the generator to produce electricity [1]. Renewable energy sources such as wind, solar and biomass, etc. are very much important to people living [2, 3, 4] The popularity of renewable energy has experienced a significant upsurge in recent times due to the exhaustion of conventional power generation methods and increasing realization of its adverse effects on the environment [6,7] .Combining latest Maglev technology with PV (Solar) panels gives the best solution for generation of electricity against conventional sources. Wind power is utilized by human being for a longer time period and so that technology related to it is highly advanced.

Maglev turbines are an ideal solution to the traditional wind turbine, which need very high structures to allow room for their massive blades. Using Maglev technology in VAWT's (Vertical Axis Wind Turbine) means less moving parts, less maintenance, smaller profile and most importantly, very little wind start working due to the lack of friction [5]. The reality is that demonstrated maglev designs have efficiencies comparable to competitive technology and can be both less expensive and more efficient. The main aim is to design and implement a magnetically levitated wind turbine for generation of electricity with more efficiency. From the literature review, it is found that to working principal of the wind turbines most of the work is carried out on the following principals [7, 8, 9]

A. *Wind Power*

Wind is known as another form of solar energy because of its result of uneven heating of the atmosphere by the sun. Wind energy is the energy which is extracted from the wind. The winds relevant to applications of wind turbines are local winds and planetary winds. The second one is most available. Wind power available in the atmosphere is much greater than current world energy consumption. The locations of these winds are generally along sea shore, mountain, valleys and open plains.

B. *Solar Energy*

Solar energy is that energy which gets by the radiation of the sun. Solar energy is present on the earth continuously and in the abundant manner. Solar energy is freely available. It doesn't produce any gases that mean it is pollution free. It is affordable in cost. It has low maintenance cost. The only problem with the solar system, it cannot produce energy in bad weather condition. But it has greater efficiency than other energy sources. It only needs initial investment. It has a long life span and has lower emission.

C. *Magnetic Levitation*

The basic working of maglev turbine is based on the magnetic levitation principle. The magnetic levitation principle is stated that one subject is suspended over another subject with no support other than the magnetic field magnetic pressure is used to counter out the effect of

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LAND USE/LAND COVER CHANGES PATTERN USING GEOSPATIAL TECHNIQUES - SATARA DISTRICT, MAHARASHTRA, INDIA : A CASE STUDY

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ABSTRACT

Land use and land cover is a key factor in understanding the relations of human activities with the environment and thus necessary to be able to simulate change. The focus of this paper is to map and study the land use and land cover pattern and change among 2012 and 2013 using satellite imagery. Main focus of study is to quantify surface water availability in the region. This paper illustrates the status of land use/land cover in the Satara District of Maharashtra state using an integrated approach of remote sensing and Geographic Information System (GIS). It also produces a land use land cover maps of Satara District in Maharashtra at two epochs in order to detect the changes that take place in the diverse natural resources. After analysis of the image, supervised maximum likelihood algorithm was used to classify the imagery into different land use categories. Five land use classes have been recognized as Water Bodies, Scrub land, Natural vegetation, fallow land, and agriculturai land. The classification of image shows major change in agricultural areas. The change detection analysis shows that agricultural area in 2012 is 40.26 % and 26.12 % in 2013, it has been reduced by 14.14% similarly change detection for remaining areas has been done. The information on urban growth, land use land cover change study is extremely useful to local government and urban planners for the betterment for future plans of sustainable progress of the District, mainly for water balancing.

Keywords: GIS, LULC, Change Detection, Remote Sensing, Satara District

1. INTRODUCTION

Human alterations of the environment over the past few decades have grown exponentially since industrial revolution took place. While earth's landmass has remained factually static over the time, the human demands on it have grown and altered, impacting the earth's ecosystem in numerous ways. Hence, sufficient information on land use/land cover and its revisions to the environment has become an important aspect as the Nation plans to overcome the problems of haphazard, uncontrolled development, deteriorating environmental quality, loss of prime agricultural lands, destruction of important wetlands, and loss of fish and wildlife habitat (Nagraju Avreti et.al, 2016). In the last three decades, the technologies and methods of remote sensing have evolved dramatically to include a suite of sensors operating in a vast range of imaging scales with potential interest and sense to planners and land managers. Remote sensing has become an important tool appropriate to rising and understanding the global, physical processes affecting the Earth. Use of satellite data is to take advantage of increasing amounts of geographical data available in combination with GIS to aid in an interpretation. Digital change detection technique based on multi-temporal and multispectral remotely sensed data have been used to understand landscape dynamics to detect, identify, map and monitor difference in land use land cover pattern over time (Priti Attri et.al, 2015). The spatial pattern of relief yields the topographic mosaic of a terrain and is normally extracted from the topographical maps which are available at various scales and are rarely good inputs for terrain analysis. Survey of India topographical maps, at a variety of map-scales are the most readily

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Demonstration of Race Relation in Zakes Mda's *The Madonna of Excelsoir*

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Abstract:

Race is a classified system used to categorize to human beings into large and distinct population or groups by heritable phenotypic characteristic, geographic, ancestry, culture, history, language, physical appearance, ethnicity and social status. Zakes Mda is one of the prolific black South African novelists. The present paper attempts to study reflection of race relation in Zakes Mda's novel, *The Madonna of Excelsior* (2002). *The Madonna of Excelsior* (2004) was selected as 'one of the Top Ten South African Books published in the Decade of Democracy'. The novel reveals various themes like miscegenation, rape, reconciliation, misalliances, corruption, violence, jealousies, and protest. Race is major notion in the novel, *The Madonna of Excelsior*. Mda focuses on race conflict in South African Society through his major characters in the novel.

This study attempts to discuss reflection of race relation in Mda's novel, *The Madonna of Excelsior*. Race relation explores injustice, exploitation, discrimination and struggle for survival, political inequality in South African Society. This novel mostly discusses about black and white people's social reform.

Keywords: Zakes Mda, South Africa, *The Madonna of Excelsior*, race.

Race is a classified system used to categorize human being into large and distinct population or groups by heritable phenotypic characteristic, geographic, ancestry, culture, history, language, physical appearance, ethnicity and social status. The word 'race' means descendants of common ancestor. In Oxford Dictionary of English defines, "race is each of the major divisions of human kind, having distant physical characteristic: people of all races, colours and creeds" (Soanes 1448). Race is major issue in South African Society. Before apartheid there was colonialism, as well as there was colour Bar. In post 1948, South Africa's Apartheid laws

Design Solution of Shoe Sole (Base of the Footwear) Preparation in Traditional Hand Sewn Footwear Manufacturing: A Case Study on Kolhapuri Chappal

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Abstract. The footwear industry is an important segment of the leather industry. India ranks second among the footwear manufacturing countries next to China. The footwear manufacturing occupies a place of significance in the Indian economy in view of its huge potential for employment, development and exports. Many of the operations in these industries are manual. Inconsistency between operator's physical competencies and demands of physical task to operate tools/equipment often leads to poor performance, low productivity and safety problems. Among all other footwear, "Kolhapuri Chappal" is one of the elegant and traditional handmade craft in India. During filed observation, it was found that few steps of the manufacturing process require intervention, as these processes were not-effective and time consuming without making significant effect on the craft. Among those steps shoe sole preparation was major. Intervention developed based on that. The result of the study revealed that the newly developed tool was effective in preparation of shoe sole in Kolhapuri Chappal manufacturing. The posture adopted during the use of new tool also analyzed and found that it was beneficial for the workers.

Keywords: Kolhapuri Chappal · Hand sewn · Footwear · Hand craft

1 Introduction

In several countries, and mainly in developing countries, small-scale industries hire a high proportion of the personnel and are the main providers of new employment [2]. India has made great strides in development and automation since the post-independence era [4]. The footwear manufacturing is an important section of the leather industry in India. India ranks second among the footwear manufacturing countries next to China [12]. Footwear manufacturing is an important sector in the Indian economy. The footwear industry is labour intensive and is concentrated in the small and cottage industry sectors [12]. Similar to other cottage industries footwear

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The Importance and Need of Universal Human Values in Engineering Student's Life

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ABSTRACT

Universal human values play an important role in the life of human being at various stages including education and career. When a child enters in school, her/his behavior depends on the home culture that is the family circle. In primary and secondary school life, there is major influence of friends and teachers on her/his behavior that is the school circle. When she/he enters the college or professional course, the social circle plays an important role which has dominant impact on the humanity and moral capabilities. The overall personality of individual depends on those circles. This paper discusses the tilt of student towards good behavior or aggression and misbehavior. Those are critically evaluated by the two methods named Value Survey and Value Questionnaire. The article clarifies how education in universal human values is deeply essential to nourish the moral capabilities in the student and ultimately in society in a positive way.

Keywords: Home Circle, School Circle, Social Circle, Family Circle, Human Values, Cultural Impact

Introduction

The life of children has a great impact of three circles, namely home circle, school circle and social circle, at different stages in their development. When children enter in primary school they have a different status of a new recruit compared to their individual status at home. His/Her behavior depends on the home culture. They had a major role of son or daughter in a family. Now the children have achieved roles as students. Families are the central and enduring influence in children's life regardless of their education, composition and income. Children receive care from their parents for their dependency and attention, but the way children are nurtured in childhood influences their relationships towards teachers, friends and overall society. While entering the school, he/she goes under the influence of two major social agents like school teachers and friends. Now the school circle plays major role in his/her life and may decline the influence of home culture.

School students are members of a small group which provides a tremendous influence on their moral development. Teachers are the role models to students in school; they play a major role in developing their ethical behavior. Though there are rules and regulations of school, school circle peers' may show boldness about misbehavior like lying, cheating, stealing and considering others.

The social circle has a dominating impact on youth during his/her education in professional institutions like engineering. The complete technical environment and working with machines/computers may decline the human values in students.

Social media is used by students to exchange information,(audio and video contents) and spread different ideas in a virtual community. The way social media is being used these days brings lots of side effects with it, the most important being on human ethics. Ethics play an important role in interpersonal conflict. Lack of respect for each other leads to poor human relations between them. Students who have warm relations and respect towards teachers are empowered to think for themselves and are more apt to communicate openly with others. "If you give respect to others, you will receive respect from others in return." The engineering institutions infuse value education to the children in an informal way. They play a major role in developing ethical behavior in students.

Importance of the Study

This study points towards the need of universal human values in the life of engineering students. It is very important to cultivate humanity and moral capabilities in a student to be a good human being along with good engineer. The present study focuses on the need of education in human values and the stages where it should be implemented to furnish the moral capabilities. Organizations are giving a message of humanity by providing a quality culture and environment and introducing human value education to the students.

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Disaster Management in Industry: Ergonomic Perspective

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GEOHYDROLOGICAL INTERFERENCE FROM WATERSHED ANALYSIS FOR RUNOFF AND SEDIMENTATION USING GEOSPATIAL TECHNIQUES

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ABSTRACT:1194

Soil erosion is crucial problem arising from agricultural intensification, land degradation and other anthropogenic activities. Sedimentation occurring due to soil erosion reduces the capacity of the water conservation structures as well as soil quality which are the important characteristic of watershed management. Many tools and techniques are developed to estimate the sediment yield till date. A comprehensive methodology that integrates Remote sensing and Geographic Information Systems (GIS), coupled with the use of an empirical models to assess risk, can identify and assess soil erosion potential and estimate the value of soil loss. In India, regional empirical model like Garde model particularly for assessing sediment yield by unguaged basins, proves useful. The current study aims to quantify sediment yield of Upper Karha watershed of Pune districts in Maharashtra, India by adopting comprehensive methodology that integrates sedimentation models, Remote Sensing (RS) and Geographic Information System (GIS) techniques. The average annual sediment yield observed by Garde, USLE and RUSLE is 1.25 t/acre/year, 19.68 t/acre/year and 4.14 t/acre/year respectively. The suitable sites for soil conservation structures are suggested according to norms and suitability.

Keywords: Sedimentation yield, Garde, USLE, RUSLE, Soil conservation structures

1. INTRODUCTION

The economy of all the sectors is primarily rooted in the soil and water resource available in that region. Changing climate, global warming, worldwide ever-increasing pollution, immense deforestation, altering crop pattern, extensively reduction of cultivated land and most prominently changing rainfall pattern are becoming very rigorous issues for current and sustainable life (Gulavani V.S. et.al., 2017). Soil erosion within catchment results in increase of level of sedimentation in the streams and reservoirs and thus reducing their storage capacity and life span as well (Zende et.al., 2013). The sediment reaching the water systems depends not only on the natural characteristics of the area but also on the anthropogenic influences on the area. The information of the resources of the sediment yield within the catchment can be used as the perspective of the rate of the soil erosion in that particular area. The deposition of silt due to soil erosion severely affects the performance of the water harvesting structures by loss of storage capacity, change in flow velocity and degradation of water quality, importantly damage to the water harvesting structure sand reducing fertility of land (Zende et.al., 2013).

The knowledge of sedimentation process will help in ensuring remedial measures to be taken in advance so that the reservoir operation can be planned for optimum utilization. Erosion models can be used as predictive tools for assessing soil loss and soil erosion risk for conservation planning (A.Rehman 2015). Quantification of sediment yield is essential for studies of reservoir sedimentation, river morphology, planning soil conservation strategies, water quality modelling and design of efficient erosion control structures on micro level. Measurement of sediment yield through gauging stations is very limited in India due to lack of adequate funds (Kothyari 1996). Under this situation, sediment yield estimation models are useful for estimating sediment yield from unguaged basins. Regional empirical models for sediment yield calculations from Indian catchments are proposed by Khosla (1953), Dhruvanarayana and Rambabu (1983) and Garde et al. (1983).

To assess the sedimentation yield by implementing soil erosion models, Remote sensing data provide accurate, timely and real time information on various aspects of the watershed such as land use/cover, physiography, soil distribution, drainage characteristics etc. It also assists in identification of the existing or potential erosion prone areas and provides data inputs to many of the soil erosion and runoff models. GIS (Geographic Information System) provides the tools to generate, manipulate and spatially organize disparate data for sediment yield modelling. The GIS technique is best suited for quantification of the heterogeneity in the topographic and drainage features of a catchment (Schumann 1993). Digital elevation model (DEM) along with remote sensing data and GIS can be successfully used to enable rapid as well as detailed assessment of erosion hazards (Jain et al., 2001). All models (conventional and modern) under real conditions are more or less incorrect because of the abstractions and

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LEAST SQUARE SUPPORT VECTOR MACHINE FOR ESTIMATING REFERENCE CROP EVAPOTRANSPIRATION IN SEMI-ARID REGIONS OF INDIA

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ABSTRACT

Accurate estimation of reference crop evapotranspiration (ETo) is very crucial for efficient management of irrigation systems. This is particularly important for arid and semi-arid regions where the availability of water resource is scarce and the existing ones are over exploited. The conventional equations have not proved to be very efficient in estimating evapotranspiration under varying climatic and data availability conditions. This study makes an attempt to model daily reference crop evapotranspiration using least-square support vector machine (LS-SVM). The study was conducted for Hyderabad and Pali weather station situated in semi-arid region of India. The performance of the model was compared with the conventional equations and artificial neural network (ANN) models. The results of the study show that the artificial intelligence based ANN and LS-SVM models perform better than the conventional equations. Further it was observed that the LS-SVM model has performed better than all the other models tested in this study. The study concludes that LS-SVM can be successfully employed for efficient estimation of ETo in semi-arid regions of India.

Keywords:*Evapotranspiration; Least-square support vector machine; semi-arid region.*

1. INTRODUCTION

In agriculture sector, evapotranspiration (ET) is closely related to crop water demand. As evapotranspiration plays a vital role in determining crop water requirement, accurate measurement of evapotranspiration becomes evident. Normally lysimeters are used for direct measurement of evapotranspiration. However, high operating costs and need for accuracy in measurements has limited the use of lysimeters. In nineteenth century, researchers developed various physical, empirical and semi-empirical equations that used meteorological variables to estimate reference crop evapotranspiration (ETo). The Food and Agricultural Organization of United Nations (FAO) has accepted the FAO Penman-Monteith (FAO-56PM) as the standard equation to estimate ETo (Allen et al. 1998). Large requirement of climatic variables has limited the use of FAO-56PM equation in developing countries like India, where, availability of these records has often been minimal. Additionally the performance of empirical equations using fewer climatic variablesis often found to be inconsistent when tested under different climatic conditions.

In the recent years, use of artificial intelligence (AI) techniques like ANN and Support vector machines (SVM) for modeling intricate hydrological processes has increased significantly. Sudheer et al., Sudheer et al.(2003) examined the potential of ANN models in estimating actual crop evapotranspiration from limited climatic data. Zanetti et al. (2007) proposed an ANN model that used only maximum and minimum air temperature to estimate ETo. Rahimi (2010) compared performance of Hargreave's and ANN methodologies for estimating reference evapotranspiration in semiarid environments.

Recently, many studies have used SVM models to estimate various hydrological parameters. SVM achieves an optimum network structure by minimizing the upper bound to generalization error instead of minimizing the training error. In addition, SVM is equivalent to solving a linear constrained quadratic

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