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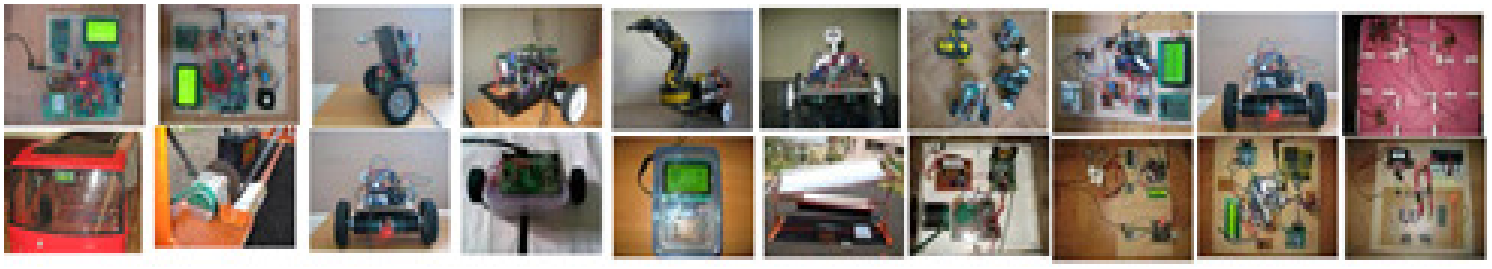

PROJECT ABSTRACT FOR ACADEMIC YEAR 2019 – 2020

#19, MN Complex, 2nd Cross, Sampige Main Road, Malleswaram, Bangalore – 560003
Call Us: 9590544567 / 7019280372 www.makefinalyearproject.com
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	2019-20 LATEST EMBEDDED &HARDWARE PROJECTS ABSTRACT
IGTE01	**TITLE: BLOCKED DRIVEWAY SUPPORTIVE AID FOR PARKED CAR BLOCKED** **Parking guidance and information (PGI) systems are becoming important parts of intelligent transportation systems due to the fact that cars and infrastructure are becoming more and more connected. One major challenge in developing efficient PGI systems is the uncertain nature of parking availability in parking facilities (both on-street and off-street). A reliable PGI system should have the capability of predicting the availability of parking at the arrival time with reliable accuracy. In this paper, we study the nature of the parking availability data in a big city and propose a multivariate autoregressive model that takes into account both temporal and spatial correlations of parking availability. The model is used to predict parking availability with high accuracy.**

IGTE02	**TITLE: IOT - Safe Drive - Dangerous Driving Recognition of Delivery Boys With Speed Limiter** **Now a days cars are widely used than other form of vehicles due to its low cost and simplicity .Drunken driving and Drowsy driving are the major factors for such road accidents. Some statics shows that 35% of the accidents are caused by two wheelers and in that 60% of the two wheeler accidents are caused due to lack of consciousness From above, taking in to consideration the safety of delivery boys who works for online business travels across areas using car, where safety of cars and rash driving method of rider counts. Also to provide safety to pedestrians. Hence to track the activities of such rider and to detect rash driving, riding this project has been proposed. This project aims for avoidance of accidents and develop rash driving, riding detection system. The proposed system is an intelligent rash riding method detection Additional feature of accident avoidance detection module will be installed on the bike.**

IGTE03	**TITLE: CVUCAMS: Computer Vision based Unobtrusive Classroom Attendance Management System** **One of the major challenges in a smart classroom environment is to develop a computer vision based unobtrusive classroom attendance management system. Traditional classroom environment follows a manual attendance marking system either by calling the student's names or by forwarding an attendance sheet; both interrupts the teaching-learning process and also consume a lot of time. Further, it can be erroneous due to factors such as students' proxy etc. In this paper, we propose an unobtrusive face recognition based smart classroom attendance management system using the high definition rotating camera for capturing the faces of students. The proposed system uses Max-Margin Face Detection (MMFD) technique for the face detection and the model is trained using the Inception-V3 CNN technique for the students' identification. The proposed smart classroom system was tested for a classroom with 20 students at National Institute of Technology Karnataka Surathkal, Mangalore, India and we got the experimental results demonstrate the train and test accuracy of 97.67% and 96.66%, respectively.**

IGTE04	**TITLE: Automatic Control of Driver fatigue and drowsiness using landmark predictor** **Safe car driving has become a priority in everyday life. The main reason for designing a real time system which monitors the state of the driver's eyes is related to a decrease in car crashes that will benefit millions of people around the world. This work proposes a method to detect and to monitor the eyes of the driver, more precisely it analyses the eyes and check if they are closed or open. The number of frames in which eyes are closed is determined. When this number of frames is above a certain**

	threshold, the driver will get a visual warning, on the navigation display that points out he is drowsy.

IGTE05	**TITLE: Student Eyes Closure and Yawning Detection for Drowsiness Analysis using Landmark Predictor** **Whenever we are thinking about any programmable devices then the embedded technology comes into fore front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. This smart system to detect drowsiness among the students in the classroom. The detection system is able to detect sleeping individual by using a web camera to obtain real-time continuous images. The camera is positioned directly towards the students in the classroom. An alert signal will be triggered when the system detects fatigue among the students. The developed system detects the condition of the eye: opening and closing conditions. The captured image is binaries in order to find the edges of the face of the students. The conditions of the eye will vary the distance between two consecutive dips of the light intensity. Experiments were carried out at several classrooms with one target of a student at one time. The effects of light intensity and the distance of camera placement were studied. The closing eye yielded greater distance value than the threshold value. Meanwhile, the open eye condition yielded shorter distance value than the threshold. The system is limited to detect one target at a fixed position.**

IGTE06	**TITLE: A Novel Cascade Classifier of Vehicle Unlocking System Based on Face Recognition** **There are some short comings in both safety and convenience for existing vehicle unlocking methods, mostly due to the separation between the vehicle and its key. As an improvement, we propose a vehicle unlocking system based on face recognition. The system**

	includes hardware and software. The hardware scheme adopts a modular design, and try to make full use of existing devices of the autonomous driving system and ADAS. The software uses Haar Cascade Classifier algorithms to verify facial identity. A prototype is implemented using the Python programming and embedded platform Renesas Microcontroller and a series of tests are carried out on it. The prototype verifies the feasibility of the hardware scheme and the effectiveness of the algorithms. Test results show that the system is available, quick in unlocking, safe and reliable.

IGTE07	**TITLE: Elderly Assistant based on Face Emotion and Posture Analysis** **Whenever we are thinking about any programmable devices then the embedded technology comes into for front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. In this paper, we develop face recognition to assists elderly people for independent living in their own homes. It reduces the health expenditures and burden of health care professionals in care facility units.Facial expressions are one of the key features of a human being and it can be used to speculate the emotional state at a particular moment. This paper employs the Convolutional Neural Network and Deep Neural Network to develop a facial emotionrecognitionmodelthatcategorizesafacialexpressioninto some different emotions categorized as Afraid, Angry, Disgusted, Happy, Neutral, Sad and Surprised. This project is mainly developed for elderly person the people who are not able to take care of by themselves so that we can take care of them based on their facial emotion what actually they needs and also we have some senor called accelerometer to detect the fall detection of person based on the accelerometer movements.**

IGTE08	**TITLE: EmoPlayer - Feature Extractor Approach for Emotion Based Music Player** **The goal of this work is to build an emotion detect system which can analyze basic facial expression of human. In this project a method is presented for mood detection based on humans face emotions. The proposed method used the humans face to identify the mood of that human and finally using this result play the audio file which related to human's emotion. Firstly system takes the human face as input then the further process will going on. Face detection and eye detection is carried out. After that using feature extraction technique to recognize the human face. This method helps to recognize the human's emotion using feature of face image. Through the feature extraction of lip, mouth, and eyes, eyebrow, those feature points are found. If the input face wills matches exactly to the emotions base dataset face then we can identify the humans exact emotion to play the emotion related audio file also we will fetch the news data based on user preferences using API. Recognition under different environmental conditions can be achieved by training on limited number of characteristics faces. The proposed approach is simple, efficient, and accurate. System play's very important role in recognition and detection related field.**

IGTE09	**TITLE: Face Feature Extractor for Emotion Analysis and Behavior Analysis of a Prisoner** **Facial Emotion Recognition has been a very significant issue and an advanced area of research in the field of Human- Machine Interaction and Image Processing. Human-Machine relation is a major field for that different approaches have been proposed for developing methods for recognition of automated facial emotion**

	analysis using not only facial expressions, also speech recognition. Facial expression detection the multiple varieties of human faces like texture, color, shape, expressions etc. are considered. Firstly, to detect a facial emotions of the human with variations in the facial movements including mouth, eyes, and nose are to be determined and after that considering those features using a very good classifier to recognize the human emotions. This paper gives a brief summary of emotion recognition methods like Feature Fusion, Deep Auto-Encoder, Sigma Pi-Neural Network, Genetic Algorithm, PHOG and Hierarchical Expression Model etc. which are used to recognize human emotions are presented. Keywords.

IGTE10	**TITLE: Motorcycle Helmet Wear Analysis using SIFT Feature Extractor Image Processing Algorithm** **Whenever we are thinking about any programmable devices then the embedded technology comes into force front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. Road accidents are increasing day by day because the riders are not using the helmet and due to consumption of alcohol. In today's world, huge numbers of people are dying on road accidents. By using smart helmet, the accidents can be detected. The main target of the project is designing a smart helmet for accident avoidance and alcohol detection. In the camera using python scripts to check wheather the helmet is wearing the helmet or not. Here the object detection will exist by using image processing and uses the SIFT algorithms. If the person is not wearing the helmet and if he consumes alcohol, the bike will not start. If there is no sign of alcoholic substance present and helmet is used, then only the bike will start. At the point when the rider met**

	with an accident, the sensor recognizes the condition of the motorbike and reports the accident. Then the GPS in the bike will send the location of the accident place to main server of the nearby hospitals. Here GPS can be used through online using python.

IGTE11	TITLE: PYTHON – Image Cascade Classifier for Visitor, Seminar hall or Party Ambiance Whenever we are thinking about any programmable devices then the embedded technology comes into force front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. The main intention of a Bidirectional Visitor Counter with laptop camera using PYTHON is to 1. Design a system wherein the number of persons entering or leaving a room is kept track of and displayed on a LCD. 2. According to human presence in party hall with respect to it counts the entry and exit of the persons. When a person enters the room, count would be increased, whereas on leaving, the count would decrease. PYTHON Laptop camera sensing mechanism is used to sense the entry & exit of visitors and the whole counting operation is done by a microcontroller. The system will have preset value of Light intensity, this light intensity depends on humans present in hall. Also if intensity of light decreases below set value then it is the decrease of peoples present in the hall. Light intensity sensing would be done by LED. Availability of person or visitor can be made available from counter value. Therefore, system would take care of display count of visitors available in party hall.

IGTE12	**TITLE: Restricted Zone SIFT Feature Extractor for ATM Security, Helmet Detection** **Whenever we are thinking about any programmable devices then the embedded technology comes into fore front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. Automated Teller Machines (ATM) have gained popularity in the banking sector due to the number of advantages they offer to ATM users. ATM users are able to withdraw cash, make cash deposits, make balance enquires and pay bills without having to go into the branch and experience the undesirable long ques. ATMs have however brought with them cyber-crime in which ATM users and banks lose huge amounts of money. ATM crime has continued to grow and spread globally despite the regional variation of the frequency of the crime. Commercial banks and IT security professionals around the world have concentrated on fighting traditional ATM crimes like ATM card Skimming. However, new ATM crimes like Jackpotting and Shimming attacks have emerged. These logical attacks have continued to grow in the recent years. In this case study we used a risk management framework to determine traditional and emerging ATM crimes, and made recommendations on measures ATM owners can put in place to mitigate both the traditional threats and the emerging threats. ATM software white listing was recommended to help fight logical and new crimes like Jackpotting which can't be mitigated using traditional ATM security measures like Payment Card Industry Data Security Standard (PCI DSS). Here the main aim of this project is to secure the ATM. . When the person is wearing with helmet and enter into the ATM then only it will allow to withdraw money the voice output will generate and after some**

	delay sms will send to authorized person. Suppose the person won't wear the helmet then it will not allow to the person and door will close. When vibration sensor is used to check the breaking of ATM machine indication will automatically by giving beep sound will produce and sms will send to owner. Continuity sensor is used for security suppose it detects then it will again send the the sms and beep sound will give. Here the object detection will exist by using image processing and uses the SIFT algorithms. Here GPS can be used through online using python.

IGTE13	**TITLE: TerrorBot – Python Based Cascade Classifier to Detect Terrorist and Soldiers** **Most of the Defense organization now takes the help of robots to carry out many risky jobs that cannot be done by the soldier. These robots used in Defense are usually employed with the integrated system, including video screens, sensors, laser gun, metal detector and cameras. The Defense robots also have different shapes according to the purposes of each robot. Here the new system is proposed with the help of wireless camera through we can trace out the intruders (unknown persons) and the robot will be employed with integrated systems, including video camera, sensors, gripper and a weapon. This is specially designed robotic system to save human life and protect the country from enemies.**

IGTE14	**TITLE: SOLEMATE – ELECTRONIC SHOES TO ASSIST VISUALLY CHALLENGED** **Evolution of technology has always been endeavored with making daily life simple. With a fast paced life everybody today is harnessing the benefits of technology except some parts of the society .One of them is the visually impaired who have to rely on others for travelling and other activities. This paper aims at providing one such theoretical model which incorporates the latest technologies to**

	provide efficient and smart electronic aid in the shoe to the blind. We have used ultrasonic range finder circuit for detection. Bluetooth module which along with GPS technology will provide voice assistance to desired location and in panic situations will send SMS alert to registered mobile numbers through the android application. The basic objective of the system is to provide a convenient and easy navigation aid for unsighted which helps in artificial vision by providing information about the environmental scenario of static and dynamic objects around them.

IGTE15	**TITLE: AgronomoBot a smart answering Chatbot applied to Agricultural sensor networks** **Mobile devices advanced adoption has fostered the creation of various messaging applications providing convenience and practicality in general communication. In this sense, new technologies arise bringing automatic, continuous and intelligent features for communication through messaging applications by using web robots, also called Chat bots. Those are computer programs that simulate a real conversation between humans to answer questions or do tasks, giving the impression that the person is talking to someone else and not with a computer program. For agricultural purposes, it is important that the data about field conditions, such as rain analysis and soil temperature, soil moisture, rainfall, wind speed and other relevant variables, be rapid and easily available for use by farm management systems, by specialists, or the farmer itself in decision-making processes. AgronomoBot was developed focused on the search and display of data acquired from a Wireless Sensor Network deployed on a vineyard. It is based on Telegram Bot API and is able to access information collected by field sensors, bringing it back to a user through interaction over the Telegram application. The IBM Watson cognition services platform was also used for improving the user experience by enabling the use of natural language during the conversation experience, providing**

	intention detection. Further developments are planned for AgronomoBot, such as the expansion to other messaging platforms, the implementation of speech communication capacity, image classification and continuous data analysis. It is hoped that with analytical capacity over the mass of available data, it becomes possible to work towards the prevention of harmful situations to agricultural productions, early detection of diseases in crops, energy and water waste reduction, and advanced management capabilities for the farmer.

IGTE16	**TITLE: IOT based Camcorder piracy Addhar Based Anti-Piracy Screen** **During recent years, a few countries have put in place online antipiracy laws and there has been some major enforcement actions against violators. This raises the question that to what extent antipiracy actions have been effective in deterring online piracy. This is a challenging issue to explore because of the difficulty to capture user behaviour, and to identify the subtle effect of various underlying (and potentially opposing) causes. In this system, we tackle this question by examining the impact of two major antipiracy actions.Camcorder piracy by severely degrading the visual quality of the recorded movie while making the interference signals invisible to the audience. Infrared emitters are installed in movie theatres to interfere with the camcorder and create glares in the recorded frames.**

IGTE17	**TITLE: Smart Seating Management in Public Bus Transportation using IoT and Embedded system** **This paper targets the use of smart seating management in assisting the public using embedded systems and IOT. It explores the current ability and potential uses for this emerging technology.** **To overcome the drawbacks of currently available assistive devices, we propose a RFID technology with Amazon Web Page. Mainly here the RFID READER it reads the bus information (TAG) then process to the controller. When a person interfaces in Amazon Web Page or making use of switches then they will get intimation about buses along with its availability of seats.**

IGTE18	**TITLE: Design And Implementation Of Driverless Car To Recognize Traffic Signs Using MATLAB And Android Device IP Camera** **Traffic Sign recognition system is a part of driverless car to automatically recognize and change the direction of the driverless car automatically based on the traffic signs. In this project an efficient real time sign detection system is proposed for Indian traffic signs. Images are captured using android device IP camera and are processed by MATLAB directly. Image frames may be blurred and corrupted by Gaussian noise due to motion of vehicle and atmospheric turbulence. Hence Image enhancement is done using median filter and nonlinear Lucy-Richardson for de-convolution. Color segmentation using YcBcR color space along with shape filtering through template matching of color detected candidates are used to detect sign from images as color and shape easily distinguishes a sign from its background. The classification module determines the type of detected road signs. Based on the detected road sign the movement of driverless car is changed.**

IGTE19	**TITLE: Ayurvedic Medicine Beetel Leaf Vine Cultivation using IoT & Wireless Sensor Network** **The number of devices connected to the Internet is experiencing an explosive growth. This development leads to a world with endless possibilities offered by M2M (Machine-to-Machine) communication, including the deployment of a smarter and greener planet through the use of information acquired around us. The interconnection of smart objects embedded with sensors enables this interaction with the environment according to the concept of Internet of Things (IoT). These sensors communicate wirelessly forming a Wireless Sensor Network (WSN), which performs acquisition, collection and analysis of data such as temperature and soil moisture. The almost infinite capabilities of storage and processing, the rapid elasticity and pay-per-use characteristics makes Cloud Computing an attractive solution to the large amount of data generated by the WSN.**

IGTE20	**TITLE: Job Vacancy? Handicap, Drop your Resume Work Assistant for Handicap** **In today's world communication has become so easy due to integration of communication technologies with internet. However the visually challenged people find it very difficult to utilize this technology because of the fact that using them requires visual perception and in our country around 2.78% of peoples are not able to speak (dumb). Their communications with others are 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.**

	In order to overcome the complexity of the dumb and blind peoples this project has been proposed. This system is based on the motion sensor (accelerometer). Gesture based system is a large scale multi-microcontroller based system being designed to facilitate the communication among the dumb, deaf and blind communities and their communication with the normal people. This system can be dynamically reconfigured to work as a "smart device". **Gesture discussed is basically a data glove and a microcontroller based system. Data glove can detect almost all the movements of a hand and microcontroller based system converts some specified movements into human recognizable voice and generates email with predefined images and subject. The data glove is equipped with accelerometer sensor.**

IGTE21	**TITLE: MULTIPLE MOTION CONTROL SYSTEM OF ROBOTIC CAR BASED ON IOT TO PRODUCE CLOUD SERVICE** **The world of control is an exciting field that has exploded with new technologies where the Internet of Things (IoT) vision becomes reality. This paper proposes a multiple motion controlling mechanism of a robotic car using Raspberry Pi which works as master and Arduino UNO which works as slave. Each device is uniquely identifiable by the controlling software which is the core concept of IoT. Client manages the activities of the car from remote or distant places over the internet by voice commands and Universal Windows Application and also able to get data and feedback. The main contribution of this paper is that it leverages the efficiency of robot's motion controlling system because robotic car can receive direct commands at a time from multiple sources which make the maneuvering system more efficient. Both device and client do not need to be online at the same time. Commands and data are stored in cloud service which delivers them when the device is ready to receive. A GPS system is incorporated thus clients can trace the car. The system has ultrasonic distance sensor for avoiding obstacles coming in between its path. We present the architecture and design of the Raspberry Pi and Arduino communication software and illustrate how to control the car by means of commands and application.**

IGTE22	**TITLE: IMPLEMENTATION OF MAGIC MIRROR USING RASPBERRY PI** **This project describes the designing and implementation of an voice controlled wall mirror, called "Magic Mirror". It is a device that can function both as a mirror and an interactive display displaying multimedia content such as time, date, weather and news simultaneously. The user can interact with it using voice commands. The Magic Mirror consists of various functionalities like real time data and information updates, voice commands, face detection/recognition using LCD monitor, microphone and webcam. The user can interact with magic mirror using voice commands.** **TITLE: Smart Bin: An Intelligent Waste Alert and Prediction System Using Machine Learning Approach** **This work is about creating a smart waste-bin that alerts the authorities to gather the waste which has been piling up in the bins. It guides the garbage-trucks to collect the garbage only from those areas where the bin is critically filled. The 'machine-learning' concept has been used to gather information about the waste generation habits in that region and hence predict the amount of waste that will be generated in the near future. Apart from that, the analysis of the continuous data is also done that has been sent over the cloud in the form of graphs. The email alert and the text message have also been sent automatically to the concerned authorities once the level of waste in the dustbin crosses the threshold as set by the authorities. This would save time and money of the authorities considerably. This would also reduce air pollution in the area and prevent spreading of diseases caused by unpicked waste. Index Terms—Arduino, Raspberry Pi, Azure, Machine Learning.**

IGTE23	**TITLE: Robotic Arm Control in Space with Color Recognition Using a Raspberry PI** **In this project a robotic arm control, with color recognition, implemented on a Raspberry PI, will be presented. The Raspberry PI is a small super computer which is suitable for almost any embedded project. To the Raspberry PI is connected a Logitech C270 web camera or a TP-LINK TL-SC3230 IP camera and a USB to serial dongle which does the communication task. The camera pair**

	films the robotic arm and the USB to serial dongle controls the robotic arm. The color recognition is done with OpenCV installed on the Raspberry PI. The robotic arm has glued colored bottle stoppers on the joints which are recognized with color filtering. These joints are united with lines and other lines are drawn to be guide lines to some mathematical computations. Based on these lines a skeleton of the robotic arm is created, which is an info for the Raspberry PI about the position in space of the robotic arm. With further computations the robotic arm can be moved in the desired position

IGTE24	**TITLE: Next-Generation of Virtual Personal Assistants (Microsoft Cortana, Apple Siri, Amazon Alexa and Google Home)** **One of the goals of Artificial intelligence (AI) is the realization of natural dialogue between humans and machines. in recent years, the dialogue systems, also known as interactive conversational systems are the fastest growing area in AI. Many companies have used the dialogue systems technology to establish various kinds of Virtual Personal Assistants(VPAs) based on their applications and areas, such as Microsoft's Cortana, Apple's Siri, Amazon Alexa, Google Assistant, and Facebook's M. However, in this proposal, we have used the multi-modal dialogue systems which process two or more combined user input modes, such as speech, image, video, touch, manual gestures, gaze, and head and body movement in order to design the Next Generation of VPAs model. The new model of VPAs will be used to increase the interaction between humans and the machines by using different technologies, such as gesture recognition, image/video recognition, speech recognition, the vast dialogue and conversational knowledge base, and the general knowledge base. Moreover, the new VPAs system can be used in other different areas of applications, including education assistance, medical assistance, robotics and vehicles, disabilities systems, home automation, and security access control.**

IGTE25	**TITLE: Robot Assistant in Management of Diabetes in Children Based on the Internet of Things** **As the population increases, there is also an increase in the number of chronic and heart diseases. The current hospital centric healthcare system is becoming inefficient to treat conditions that demand immediate treatment such as heart strokes. So, the focus is now tilting from hospital centric treatment to patient centric treatment. This project proposes a health monitoring system which monitors vital parameters of the patient such as temperature and**

	heart rate using sensors as well as a fitbit which are connected to a raspberry pi board. The project involves alerting the doctor through SMS if any vital parameter of the patient deviates from the normal value. Apart from helping the doctor monitor the patient's basic health parameters this health monitoring system also ensures that the patient takes the prescribed medication at the right times. The raspberry pi acts as a personal server which logs the details of the patient's medication. The patient is sent reminders to take medicines through SMS according to his prescription.

IGTE26	**TITLE: SMART BIO SERVICES :AUTOMATIC ACCIDENT DETECTION AND AMBULANCE RESCUE SYSTEM** **Road accidents and traffic congestion are the major problems in urban areas. Currently there is no technology for accident detection. Also due to the delay in reaching of the ambulance to the accident location and the traffic congestion in between accident location and hospital increases the chances of the death of victim. There is a need of introducing a system to reduce the loss of life due to accidents and the time taken by the ambulance to reach the hospital. To overcome the drawback of existing system we will implement the new system in which there is an automatic detection of accident through sensors provided in the vehicle. A main server unit houses the database of all hospitals in the city. A GPS and GSM module in the concerned vehicle will send the location of the accident to the main server which will rush an ambulance from a nearest hospital to the accident spot. Along with this there would be control of traffic light signals in the path of the ambulance using RF communication. This will minimize the time of ambulance to reach the hospital. A patient monitoring system in the ambulance will send the vital parameters of the patient to the concerned hospital. This system is fully automated, thus it finds the accident spot and helping to reach the hospital in time.**

IGTE27	**TITLE: Raspberry PI Based Global Industrial Process Monitoring Through Wireless Communication** **In modern industrial field, the requirement for monitoring and controlling system is one of the most important criteria for minimizing the power consumption. In this paper, an effort is made to monitor and control the motor through salve rl78) and master (raspberry pi).**

	With the development of infrastructure such as high speed railways and smart cities, more and more safety infrastructure needs to be monitored. In the meantime, a lot of old infrastructure such as pipelines, bridges and building needs to be monitored for lifecycle assessment, improving safety and security. New infrastructure is required for low cost, reliable monitoring. **Here we are using the two controllers such as rl78 and raspberry pi, where they act like slave and master respectively, monitoring of temperature, over heat, over voltage and over load conditions are checked by rl78 controller always, whereas raspberry pi which is makes buzzer for respective conditions also it helps to make monitors for those parameters.**
IGTE28	**TITLE: Arduino Based Door Unlocking System with RealTime Control** **The system proposed is a door unlocking system containing multiple doors any of which can be used to access a certain zone e.g. a laboratory or library. The system is implemented using a central server which contains a central database gathering all the information about the authorized personnel. The hardware components required are RFID reader, passive RFID tags, wireless transmitter & receiver (433 MHz) and an Arduino microcontroller. Software assistance of Arduino IDE and Processing Development Environment (PDE) are required for control. There is also provision for real-time monitoring of users' activities i.e. entry and exit. This is made possible by automatic synchronization of the system with a secured webpage via internet.**

IGTE29	**TITLE: Raspberry Pi Based Deadly School Van Monitoring System with E-mail Alert** **Nowadays lot of problems regarding child safety arises. Parents can't always keep an eye on their children where ever they go. Students found missing on their way to catch their school bus or sometimes even the small kids were found missing in the school bus when they slept in it and carelessly if it was not noticed. In such situation we can ensure the child safety by monitoring the daily pick up/ drop off of the children. The system of implementation consists of a RFID reader, Raspberry Pi3, Pi camera, panic switches etc.**

IGTE30	**TITLE: IoT Based Smart Geyser Automation wrt Environment Condition to Save Electricity** **With advancement of Automation technology, life is getting simpler and easier in all aspects. In today's world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part and parcel of life, and IOT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities. Home Automation system (HAS) using IOT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. It is meant to save the electric power and human energy. The home automation system differs from other system by allowing the user to operate the system from anywhere around the world through internet connection.** **The main objectives of this project is to design and implement a home automation system using IoT that is capable of controlling and automating most of the house appliances through an easy manageable web interface. In this project a home automation system employs cloud networking, wireless communication, to provide the user with remote control of various lights, fans, and appliances within their home and storing the data in the database. This system uses PC based program to provide a means of user interface to the consumer.**

IGTE31	**TITLE: Automatic Detection and Notification of Potholes and Humps on Roads to Aid Drivers** **One of the major problems in developing countries is maintenance of roads. Well maintained roads contribute a major portion to the country's economy. Identification of pavement distress such as potholes and humps not only helps drivers to avoid accidents or vehicle damages but also helps authorities to maintain roads.** **This synopsis discusses previous pothole detection methods that have been developed and proposes a cost effective solution to identify potholes and humps on roads and provide timely alerts to drivers to avoid accidents or vehicle damages. Ultrasonic sensors are used to identify potholes and humps and also to measure their depth and height respectively. The proposed system captures the geographical location coordinates of potholes and humps using GPS receiver. The sensed-data includes pothole depth, height of hump and geographic location, which is stored in the database. This serves as a valuable source of information to the Government authorities and to vehicle drivers. An android application is used to alert drivers so that precautionary measures can be taken to evade accidents.**

IGTE32	**TITLE: IOT - Distributed Strategy for Emergency Ambulance Routing** **New communication technologies integrated into modern vehicles offer an opportunity for better assistance to people injured in traffic accidents. Recent studies show how communication capabilities should be supported by artificial intelligence systems capable of automating many of the decisions to be taken by emergency services, thereby adapting the rescue resources to the severity of the accident and reducing assistance time. To improve the overall rescue process, a fast and accurate estimation of the severity of the accident represent a key point to help emergency services better estimate the required resources. This paper proposes**

	a novel intelligent system which is able to automatically detect road accidents and notify them. **During the last decades, the total number of vehicles in our roads has experienced a remarkable growth, making traffic density higher and increasing the drivers' attention requirements. The immediate effect of this situation is the dramatic increase of traffic accidents on the road, representing a serious problem in most countries.**

IGTE33	**TITLE: Intelligent Accident Detection Classification using Mobile Phones** **Advancement in technology and increasing traffic, road accidents and traffic hazards have increased, causing more chances of loss of life due to lack of timely help facilities. This project is an attempt towards finding solutions for timely accident notification. The proposed project records the parameters of vehicle at regular intervals of time, through a smart device installed in the vehicle and sends these values onto the Android App, vehicle owner or a third party. The system will facilitate the users in a number of ways such as notification for immediate aid in case of accident, tracking the vehicle conditions in cases of accident and disabling the vehicle remotely and last but not the least. The hardware components include the smart device installed in the vehicle and a mobile phone for user interaction. The smart device installed in the vehicle does not interfere with the normal functioning of the vehicle or cause overheads.**

IGTE34	**TITLE: Innovation Strategy and Betterment Planning for Smart Village** **The environment monitoring, garbage collections and street light management are difficult and complex phenomena to overcome these problems this project has been proposed.With smart technologies it's easy to manage traffic, garbage, environment and we can ease environmental and climate impacts from the growth in mobility. In this project amazon cloud is developed to store the all information for this project through GPRS.**
IGTE35	**TITLE: Ambubot - ROBOTIC AMBULANCE FOR MEDICAL EMERGENCY USING SENSORS** **Time is an essential issue when relating to individuals who go over a prompt variance in the wellbeing. That may even happen sudden passing of a man, if legitimate emergency treatment isn't given until the arrangement of reasonable medicine through the specialist's remedy. Accordingly giving of prompt treatment i.e., emergency treatment is must to the casualty in the wake of falling. Step by step innovation is developing radically, among which mechanical autonomy is additionally one of such stream. Consequently in this paper we are proposing a help for the casualties, by giving expected means to protect from the sudden vacillation in the well being. Thus with the assistance of a mechanized framework a quick protect help is given.**
IGTE36	**TITLE: AndroIrrigator - A Farmer Friendly Irrigation System with Status Notification** **Agriculture plays vital role in the development of agricultural country. In India about 70% of population depends upon farming and**

	one third of the nation's capital comes from farming. Issues concerning agriculture have been always hindering the development of the country. The only solution to this problem is smart agriculture by modernizing the current traditional methods of agriculture. Hence the project aims at making agriculture smart using automation and IoT technologies. The highlighting features of this project include controlling of water pump with/without internet through GSM and status notification of the water pump.

IGTE37	**TITLE: Wildlife Monitoring and Antismuggling System for Trees in Forest with Deforestation Notifications** **Whenever we are thinking about any programmable devices then the embedded technology comes into fore front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology.** **In today's world, wildlife is an important factor in maintain natural balance of any nation's environment. One of the important and vital roles is played by the forest department. There are many concerns regarding the safety of wildlife Animals. So for their security is of main concern for this purpose instrument may be mounted on them to view their health status as well as present location. Bio-sensor systems comprise various types of small physiological sensors, transmission modules and processing capabilities, and can thus facilitate low-cost wearable unobtrusive solutions for health monitoring. GSM module can be used for High-speed, short-range wireless communications that will be required to relay information on situational awareness, and covert surveillance related data during special operations reconnaissance and other**

	missions. So by using this equipment's we are trying to implement the basic life- guarding system for wild life in low cost and high reliability. Every tree having one small electronics division which consists of Renesas controller, 3 Sensors and Solar power. There will be one area selected. The data of different tree units can be collected by this unit. The each tree unit will give the information to base station using GSM module.

IGTE38	**TITLE: A Novel Approach on Ceiling Fans Based on MEMS Technologies to avoid Suicide** **Suicide by hanging is very alarming in India. As per report of National Crime Records Bureau (NCRB), Government of India, quite good number of hanging cases is reported every year. Most of the hanging cases are commonly suicidal. Homicidal case subsequently creating a scene of hanging is extremely rare. In order to distinguish between suicidal/homicidal hangings, the examination of crime scene on various key points in undisturbed condition followed by autopsy study is necessary to discover the real fact. The objective of this study was to focus on various factors associated with suicide by hanging at India with a view to identify the areas of intervention.**

IGTE39	**TITLE: IOT - Design and development of System to prevent then Chain snatching** **The idea of our concept is based on the news related to chain snatching which we very oftenly read in the newspapers, the word that is rampant in newspaper, television channel and in all our lives is Chain Snatching. This is one of the crimes which are increasing as the river flows downstream. Back -to- back chain snatching in the city put the cops on their toes. Even as chain snatchers are doing**

	crime with the catch-me-if-you-can spirit, police are working over-time to dent that spirit, but to no avail. Observing that the robberies have increased over the years, there is also a raise in chain snatching incidents. Thus chain snatching has become an urban phenomenon. The aim of this approach is to develop a smart electronic gadget that is able to track the culprit and alert the police through the Real time transmission of video signals of the scene of crime which helps in solving the complicated cases. It also reduces many kinds of crimes taking place in society and hence provides security for public.

IGTE40	TITLE: Smart assistive caretaker robot for the elderly and sick using internet of things (IOT) Smart assistive caretaker robot for the elderly and sick using internet of things (IOT)' presents one of the possible mechanisms of care-taking, implementing two of the current trending technology: the Internet of Things and the Robotic Technology. The fundamental objective of this project is to provide constant care for the bed ridden patients by a care-taker robot. The robot is a part of an IOT network, created solely for this purpose. The network also includes the doctors treating that patient and other emergency services needed in healthcare. Hence, the robot acts under the instructions of the doctor only. The Robot performs basic check-up of the patient at regular intervals, monitors sleep activity, gives tablets as prescribed by doctors, asks pharmacy to refill tablets and the ambulance is contacted in case of emergency.

IGTE41	TITLE: A MULTI-FUNCTION ROBOT FOR MILITARY APPLICATION Most of the Defense organization now takes the help of robots to carry out many risky jobs that cannot be done by the soldier. These robots used in Defense are usually employed with the integrated system, including video screens, sensors, laser gun, metal detector and cameras. The Defense robots also have different shapes according to the purposes of each robot. Here the new system is proposed with the help of wireless camera through we can trace out the intruders (unknown persons) and the robot will be employed with

	integrated systems, including video camera, sensors, gripper and a weapon. Thus the proposed system, an Multi-functional defense Robot using wireless network GSM through we can update the data to web page server. This is specially designed robotic system to save human life and protect the country from enemies.

IGTE42	TITLE: PERFECTLY KEYLESS - SECURE KEY MANAGEMENT WITH FUEL THEFT AND VEHICLE ANTI-THEFT ALERT Recently vehicle tracking system is getting vast popularity because of the rising number of the stolen vehicles. Vehicle theft is happening on parking and sometimes driving inunsecured places. This research work explores how to avoid this kind of stealing and provides more security for the vehicles. The implemented system contains a single-board embedded system which is equipped with a global system for mobile (GSM) and global positioning system (GPS) along with a microcontroller installed in the vehicle. The use of GSM and GPS technologies allows the system to track the object and provides the most up-to-date information about on-going trips. The implemented system is very simple with greater security for vehicle anti-theft protection and low-cost technique compared to others.

IGTE43	TITLE: RoboChef – Android based Ingredient Mixture for Food Industry Whenever we are thinking about any programmable devices then the embedded technology comes into fore front. The embedded technology is now a day's very much popular and most of the products were developed with microcontroller or microprocessor based embedded technology. Our objective is to design a fully functional Cooking Robot that will automatically dispense the ingredients needed for a user input recipe. This design saves users' time when cooking and guarantees

	the correct composition of the dispensed mix of ingredients. Our project focuses both on functionality and endurance of the machine, aiming to approximate a real-life appliance.

IGTE44	**TITLE: Real-time Driver Advisory Model - Intelligent Transportation Systems** **Pedestrians safety refers to methods and measures for reducing the risk of a person using the road network for being killed or seriously injured. The users of a road include pesdestrians, cyclists, motorists, their passengers, and passengers of on-road public transport, mainly buses. Best-practice road safety strategies focus upon the prevention of serious injury and death crashes in spite of human fallibility. Safe road design is now about providing a road environment which ensures vehicle speeds will be within the human tolerances for serious injury and death wherever conflict points exist.**

IGTE45	**TITLE: Monthly Grossary Distribution System based on Family Members Count using RFID as Unique ID card** **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 paper, 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.

IGTE46	**TITLE: SMART MOVABLE ROAD DIVIDER USING IOT** **Road Divider is generically used for dividing the Road for ongoing and incoming traffic. This helps keeping the flow of traffic. Generally, there is equal number of lanes for both ongoing and incoming traffic. For example, in any city, there is industrial area or shopping area where the traffic generally flows in one direction in the morning or evening. The other side of Road divider is mostly either empty or under-utilized. This is true for peak morning and evening hours. This results in loss of time for the car owners, traffic jams as well as underutilization of available resources. Our idea is to formulate a mechanism of automated movable road divider that can shift lanes, so that we can have more number of lanes in the direction of the rush. The cumulative impact of the time and fuel that can be saved by adding even one extra lane to the direction of the rush will be significant. With the smart application proposed below, we will also eliminate the dependency on manual intervention and manual traffic coordination so that we can have a smarter traffic all over the city. An Automated movable road divider can provide a solution to the above-mentioned problem effectively. This is possible through IOT. IOT refers to Internet of Things where the actual digitalization comes into picture. Here sensors play a major role. We can achieve this using Arduino board. The sensors placed on the dividers sense the flow of traffic whether flow of traffic is smooth or not? If the flow is smooth on either side then there is nothing to worry but the lane which is having more traffic, the divider is moved to a certain distance to the smoother lane in order to smoothen the busy lane.**

IGTE47	**TITLE: Personal Assistant for Elderly Person with Android App** **This paper deals with the implementation of portable voice-based authentication system by using GSM with the help of Renesas micro controller. Existing methods are expensive and also speech recognition is available with different techniques but here we are using GSM and Monitor for speech recognition technology and Renesas for controlling Purpose. Smart home is regarded as an independent healthy living for elderly person. Advances in phone technology and new style of computing paradigm (i.e., cloud computing) permits real time acquisition, processing, and tracking of activities in smart home. In this paper, we develop android Smartphone application to assists elderly people for independent living in their own homes. It reduces the health expenditures and burden of health care professionals in care facility units. We assume smart home as an intelligent agent to perceive the environment and process the sensory data on cloud. Smartphone application communicates with cloud through web services and assists the elderly person to complete their daily life activities. It facilitates the care giver assistant by tracking the elderly persons in their own homes and avoids certain accidents. Furthermore, it also helps the family members to track the activities, when they are outside from homes.**

IGTE48	**TITLE: Bidirectional Visitor Counter in Library using Android** **With the development of android app, the concept of smart device has become more and more popular. Mobile phone is not only the common smart device. There are platform designed to connect sensor data with users daily life. Although electronic appliances are becoming more intelligent day by day. Not only manufacturers are**

	promoting new smart appliances; there are also many Smartphone oriented remote controller products. Current products are having some platform compatibility problems in addition to those problems user interaction in such systems are also becoming more and more complex. Here the work proposed is an approach to enhance old appliances and the controlling experience through an android app based visitor counter. Appliances are controlled using sensors. The sensor data are processed by single-board renesas microcontroller and Delivered to mobile applications through GSM module. The results of implementation and experimentation has shown the proposed system can provide more android application possibilities daily life.

IGTE49	**TITLE: Sensor Node Security for Home Gas Leakage and Theft Alert** **Home intrusion plays a role and requires a system to notify and activate homeowners to be alert and protect their home assets in time. Here this project is proposed for home intrusion detection and devised in three parts. First, sensor manager is composed of sensor manager acting as GSM coordinator communicating with sensors actuators. Three different sensor types are passive infrared for detecting motion, magnetic switch for opening/closing of door detection. Two actuators composing of pies alarm(Panic Switch) are activated by sensor manager. As a result, sensor and actuator modules can join the GSM network automatically. Sensor Manager sends updated sensors' and actuators' data to micro controller; consequently, home users can be notified intrusion events. Therefore, this system can enhance security and safety for home assets.**

IGTE50	**TITLE: SMART SOIL TESTING SYSTEM FOR FARMERS** **At present soil ingredients are being tested only at Soil Analysis Centre, where they use primitive method. At present Government survey department is tedious in surveying the farm lands. So that farmers are suffering much. Many toll-free Agri-call centers are there but without testing soil they simply advise to the farmers about the usage of fertilizers which is improper. To overcome these problems, the proposed project helps the farmers to test the soil themselves easily.**

IGTE51	**TITLE: Invisible Eye – An advanced Security System Using Web Camera** **The main agenda of this work is to design advanced security with affordable and less complex system referred as "Invisible Eye". In this modern era, property crimes are more predominant which necessitates developing an advanced security system. It is a single camera based security system which is used to protect the valuables kept in room. This system can be used when slew around the room and recorded when it is alerted by the presence of any intrusion. Manager can only view the footage which was alerted on the presence of intrusion. This type of system would lead to less time consuming and this will help to keep track of the intruder easily in less time. Once the intruder has been detected this information about intrusion will be directed to the cop through the message. Such a system would consist three components – sensors that detect intrusion; the camera that slews to the point of intrusion and takes pictures.**

IGTE52	**TITLE: Campus Navigator with Speech Assistance** **The article suggests a solution for students, their parents and visitors who receive user based dynamic information. They use their own smart phones and an embedded device for additional information. Campus navigator is a mobile application which is based on Blue Tooth. The data from Bluetooth gets transmitted and it can be monitored in Smartphone. Our project is more suited for campus environment of manufacture industries, software companies, college and universities, government campus etc. In this project we are**

	concentrating on visitor assistance and security for the campus. Both concepts are achieved successfully. Speech output is embedded in the project which provides better assistance for the visitor.

IGTE53	**TITLE: PATIENT INFUSION MONITORING USING WIRELESS SENSOR NETWORK** **With high patient-to-nurse ratio prevalence in India, conventional drip systems for intravenous infusion is a challenging and stressful task because of continuous monitoring by nurses or patients' companions. Any mistake or delays in monitoring in this regard can lead to various problems such as back flow of blood upon complete draining of bottle, overdose of drugs or excess infusion of electrolytes and saline. To overcome this problem this project will give prototype to monitor drip infusion of patient which makes easier to determine the condition of the infusion without the need to come regularly to find out the circumstances where it placed infusion.**

IGTE54	**TITLE: COTTON FLUCKER AND FABRIC FOR IRRIGATION AND FARM MONITORING** **Agriculture contributes to a major portion of India's GDP. Two major issues in modern agriculture are water scarcity and high labor costs. These issues can be resolved sing agriculture task automation, which encourages precision agriculture. Considering abundance of sunlight in India, this paper discusses the design and development of an cotton flucker and fabric for irrigation and farm monitoring that automates irrigation task and enables remote farm monitoring. The Agribot is developed using an Arm pucker. It harvests cotton when it is ready for harvesting. While executing the task of irrigation, it moves along a pre-determined path of a given farm, and senses soil moisture content and temperature at regular points. At each sensing point, data acquired from multiple sensors is processed locally to decide the necessity of irrigation and accordingly farm is watered. Further, at the remote server, raw data is processed using signal processing operations such as filtering, compression and prediction. Accordingly, the analyzed data statistics are displayed using an interactive interface, as per user request.**

IGTE55	**TITLE: Bluetooth embedded robotic with agriculture plowing seeding and grass cutting powered by solar energy** **In India, near about 70% people are dependent upon agriculture. So the agriculture system in India should be advanced to reduce the efforts of farmers. Various number of operations are performed in the agriculture field like seeding, weeding, waste planet cutting, plowing etc. Very basic and significant operation is seeding plowing, plant cutting. But the present methods of seeding, plowing and plant cutting are problematic. The equipments used for seed sowing are very difficult and inconvenient to handle. So there is a need to develop equipment which will reduce the efforts of farmers. This system introduces a control mechanism which aims to drop seeds at particular position with specified distance between two seeds and lines while sowing. The drawbacks of the existing system will be removed successfully in this automatic machine.**

IGTE56	**TITLE: SIGN LANGUAGE COACH** **In the United States, as elsewhere in the world, hearing families with deaf children often employ ad-hoc home sign, an idiosyncratic set of hand gestures, for simple communications. Today though, ASL classes are offered in many secondary and postsecondary schools. ASL is a language distinct from spoken English; while it borrows many elements of English (e.g., spelled words, "initialized" signs (for example the signs for group and team are the same motion but the hand are held with the sign for the letters "G" and "T" respectively to denote meaning), and direct translations of English idioms, it nonetheless possesses its own syntax and grammar and supports its own culture. The origin of modern ASL is ultimately tied to the**

	confluence of many events and circumstances. These include historical attempts at deaf education; the unique situation present on a small island in Massachusetts, Martha's Vineyard where a large percentage of the population was deaf; the attempts of a father named Dr. Mason Cogswell to enlist a local minister, Thomas Hopkins Gallaudet, to help educate his deaf daughter, Alice Cogswell; and the ingenuity and genius of people (in this case deaf people) for language itself.
IGTE57	**TITLE: PLANET ROVER USING RF** **As Earth's population grows the need for natural resources increases. The earth has a limited amount of natural resources .So other implications of planetary exploration are that we are ever curious about our own planet's evolution. Going to other planet/moons allows us to solve puzzles that exist here on Earth.**

IGTE58	**TITLE: DENSITY BASED TRAFFIC SIGNAL CONTROL & INTELLIGENT AMBULANCE FOR CITY TRAFFIC WITH ZIGBEE COMMUNICATION** **Normally, we will have the traffic signal lights programmed for a particular time intervals. But, here we will generate the traffic light signals based on the traffic, on the particular time. This type of traffic light signaling is now a day used in all the metropolitans.This particular project is designed for the cities with heavy traffic. Eg: In Bangalore the roads are full jammed every time. Most of the time the traffic will be at least for 100meters .In this distance the traffics police can't hear the siren form the ambulance. Then the ambulance has to wait till the traffic is cleared. Some times to free the traffic it takes at least 30 minutes .So by this time anything can happen to the patient .So this project avoid these disadvantages.**

IGTE59	**TITLE: GSM based Irrigation with auto control of pump & SMS alert** **In the field of agriculture it is very important to maintain the level of water or moisture in the soil where crops are planted. Excess or deficiency in water may harm the growth of plants which results in loss of farmers as well it is difficult to control water pumps manually since in many countries where electricity is main issues, villagers usually don't have facility of electricity. To solve above problem this project have been proposed.** **The system keeps information about moisture level in land and keeps moisture to permissible limit. Sensors continuously sense the water content and give the message to the farmer. Without visiting the fields, farmers can get the information about the Moisture content and farmer can control the pump set by sending a message from his cellular phone even from a remote place where network is available. However, if the Moisture level reaches to the low level the motor will automatically start without intimation to farmer and to ensure the proper water level in the site.**

IGTE60	**TITLE: MEMS Accelerometer sensors based semi-automated rash driving** **Now a day accidents is a common feature of deaths. The common feature of accidents will be rash driving, signal jumping, drunk and driving, due to minor drivers etc. Rash driving and signal jumping is a nature of driver which causes panic in the traffic and finally leads to accidents. These are critical things to control so here we coming up with a concept to reduce rash driving and signal jumping. Some points will be given to driver and if he is a victim of either rash driving or signal jumping then a point will be deducted from his quota. When**

	the points become nil then he'll be charged. So this system reduces rash driving as well as signal jumping. **Micro-Electro-Mechanical Systems, or MEMS, is a technology that in its most general form can be defined as miniaturized mechanical and electro-mechanical elements (i.e., devices and structures) that are made using the techniques of micro fabrication. The critical physical dimensions of MEMS devices can vary from well below one micron on the lower end of the dimensional spectrum, all the way to several millimeters. Likewise, the types of MEMS devices can vary, from relatively simple structures having no moving elements, to extremely complex electromechanical systems with multiple moving elements under the control of integrated microelectronics. The one main criterion of MEMS is that there are at least some elements having some sort of mechanical functionality whether or not these elements can move.**

IGTE61	**TITLE: Real time communication between dumb, deaf and blind people using voice & gesture with Android** **This project is mainly used to achieve the Real Time Communication between Deaf Dumb and Blind. The problems that occur Deaf dumb & blind are overcome. The communication between Deaf Dumb has been designed to provide more comfort to disables. Sign language is the way through which deaf and dumb people can communicate with each other. It has been observed that, impaired people find it very difficult to interact with the society. Normal individuals can't able to understand their sign language. To bridge this gap, the proposed system acts as the mediator between impaired and normal people. This System uses Accelerometer Sensor to capture the signs. Accelerometer Sensors are connected to the Renesas Board. The Accelerometer Sensor captures dynamic**

	gesture. Thus the method is proposed for feature extraction of dynamic gesture of American Sign Language (ASL). The propose method extracts feature from the sign through Accelerometer Sensor and then transmit that sign signals through GSM to the Android Mobile. This integrated feature improves the performance of the system; the system serves as an aid to disabled people. Its application includes hospitals, government sectors and some multinational companies. android phone and accordingly the android phone will speak the corresponding character which has been sensed.

IGTE62	**TITLE: ROBOTIC AID FOR SURVILENCE OF HUMAN BEINGS USING ZIGBEE** **The existing methods of missile detection detects the missile and after detecting it informs the control room about the missile. Further action of destroying the missile is decided by the control room. Thus there is a delay in detection and action.** **So the proposed system does not wait for orders from the control room and automatically immediate action is taken of destroying the missile then and there itself.**

IGTE63	**TITLE: Women Anti-Rape Belt** **Rape is fourth most common and frequently happening crime against women in India. Among metro cities, has more number of rape cases and compare to developed countries like Latin America developing countries like India has less number of such incidences, where very good security facilities are provided by government and ratio of education is higher. So it proves that illiteracy or security is not major reason behind such assaults but the unawareness about self-**

	protection and inefficient self-protection weapons currently available like Ninja key chain , pepper spray, handgun etc. It is also revealed that in 98% rape cases, culprit is someone close to victim like neighbour or relative, where bureaucrats can't do much to control as it is not possible to keep watch on each house every time. This project summarizes current safety weapons available for women self-protection in situations like rape, assaults and adds new perspective of using GPS system and android smartphones for women safety. By implementing and using our proposed system, not only safety of women but also of valuable things will be just a click away at very cheap price and that don't need to be carried separately.

IGTE64	**TITLE: ANY TIME MEDICINE** **In INDIA, too many people die due to lack of diagnosis at the required time, non- availability of medicines at the right time and non-affordable rates of those medicines. When there is urgent need of drugs, especially at night times, the drug stores might not be open or drugs might be out of stock. This increases the vulnerability of the situation. So, to overcome this, medicines must be made available 24x7, at affordable rates. Improvements in technology of embedded systems make this possible. In this paper, a machine which provides both OTC and Schedule H & X drugs, 24x7 is proposed. It makes us possible to access first aid requirements in public places. Security check is also provided in case of access to Schedule X & H drugs. These machines, further helps in avoidance of drop-outs from vigilance squads, rush in medical stores in hospitals and ensure continuity of off-the-bed treatment. This can be implemented in real time and installed in places like railway stations, NH roads, malls and most essentially in areas where access to drug stores are**

	limited. This reduces the death rate due to non-availability of medicines at the right time.

IGTE65	**TITLE: GREEN CHARGE: MANAGING RENEWABLE ENERGY IN SMART BUILDINGS** **The application of solar energy is more universal in daily now. In general, the solar power generation and solar illumination system are more popular for people. With regard to solar illumination system, which can be built while combined the charger and converter structure. It can charge the battery during the day, while lighting the LED module at night. In recent year, many charge methods have been widely used and discussed. For example constant current charging, constant voltage charging and reflex charging, etc. Reflex charging needs large input power, constant current charging is easily overcharge and constant voltage charging is unable to determine the charge current during initial charge stage. So there are still some disadvantages and insufficient while use unique charge method. In other sides, common linear dimming methods include constant voltage dimming scheme and constant current dimming scheme. Among the existing power batteries, lithium batteries possess higher energy density, lighter weight, and compact size. However, the lithium battery is still suitable for lower power applications due to high cost, temperature rise, and lower output current at instant.** **In this paper we propose a system architecture and optimization algorithm, called Green Charge, to efficiently manage the renewable energy and storage to reduce a building's electric bill.**

IGTE66	**TITLE: Swachh Abhiyan - Door-to-Door Pickup of Household Hazardous Waste** **The world today faces major garbage crisis- the product of rapid economic growth, overcrowding, poor urban planning, corrosive corruption and political dysfunction. The present tried and tested methods of garbage collection have so far been proven ineffective. And the world today is looking at smarter ways of overcoming the garbage collection problem. This project presents the autonomous robot for garbage collection. The robot is designed to move door to door in a street and collect garbage giving voice output in regional language and It also disposes the garbage to a pre-specified place. If the trash bin is filled, it will be detected and the garbage will be disposed.**

IGTE67	**TITLE: ULTRASONIC HAPTIC VISION SYSTEM** **The ultrasonic haptic vision system enables a person to navigate hallways and around large objects without sight, through the use of an ultrasonic rangefinder that haptically interfaces with the user via tiny vibrating motors mounted on the user's head. The idea behind this project was to construct a sixth sensory system that interacts with the body in an intuitive and user friendly fashion and enables the user to navigate without vision. We will also implement RF (Radio Frequency) transmission in order to provide feedback to a program running on the computer to keep track of the sensory data obtained from the mobile user mounted sensor system. This enables the person sitting at the computer to observe all the distances between the surrounding obstacles and the user wearing the hat. The rangefinder rotated on a motor atop the hardhat in order to take the sensory data at discrete points around the user. The hat and required hardware is all battery powered so that it is totally mobile and can be used as intended, so that movement is not restricted by the length of wires.**

IGTE68	**TITLE: Robotic Fire Detector, Extinguisher and Emergency Alert** **This paper presents the design and development off a robotic vehicle which is used to find fire and take the action to control the fire remotely through RF application in an Event of any major fire hazard particularly in industries like petroleum Refineries, gas tanks, nuclear power plants and large scale shaping complex resulting in quite serious consequences. This project is enhanced to control fire through a robotic vehicle and perform other operation like switch on water motor. The fire and rescue crew also get notified in real-time with location information using GSM This technical improvement together with the need for high performance robots created faster, more accurate and more intelligent robots To address this problem, fire detection robot alert system was implemented using an Renesas micro controller with inputs from an MQ2 smoke sensor With the invention of such a device, people and property can be saved at a much higher rate with relatively minimal damage caused by the fire. Our main objective was to design and build a prototype system that could autonomously detect and extinguish fire.**

IGTE69	**TITLE: Integrating Radio Frequency Identification Technology (RFID) in Academic Management System (AMS)** **The purpose of this study is building a web and windows based intelligent system using web technologies, biometric and Radio Frequency Identification technologies (RFID) to strengthen an Academic Management System (AMS) in a campus for monitoring and improving academic performance of teachers and students. A campus mobile phone application will allow guardians to monitor student's movement history at campus, e-payments and food choices at canteen, class attendance, exam attendance and academic performance on daily basis. Mobile application for students will allow students to view their class schedules, teacher appointments, e-payment statement, warnings or announcements, locate their exam halls and search for classrooms.**

IGTE70	**TITLE: Design and Implementation of Automated Blood Bank using Embedded Systems** **A blood bank is a bank of blood or blood components, gathered as a result of blood donation or collection, stored and preserved for later use in blood transfusion. Automated Blood Bank is an associate work that brings voluntary blood donors and those in need of blood on to a common platform. The term "blood bank" is a division of a hospital where the storage of blood product occurs and where proper testing is performed. Automated Blood Bank tries to assist victims/patients/those in want of blood. The mission is to fulfill every blood request as well as in the rural areas with a promising SMS application and motivated individuals who are willing to donate blood.** **In this project, the proposed work aims to overcome this communication barrier by providing a direct link between the donor and the recipient by using low cost and low power controller. Entire communication takes place via SMS (Short Messaging Service) which is compatible among all mobile types. This project brings voluntary blood donors and those in need of blood on to a common platform. This project explores to find blood donors by using GSM based Smart Card.**

IGTE71	**TITLE: Terrian Mapping - Towards Automated Map Updating for Mobile Robot Localization** **The Terrain Mapping Robot (TMR) is a solution to create a contour map of the terrain without putting a human life in danger. Terrain Mapping robotics is nowadays a stake to solve different problems in a complex environment (autonomous vehicle transportation systems in industrial sites, whether outdoor, in-door, or both, new production systems involving autonomous robots**

	evolving in free indoor manned environment to name a few). In order for a robot to evolve in such a complex environment, it is mandatory that autonomous-robot/vehicle localization be robust, warns if possibly incorrect, and manages environment changes. Robustness itself is only related to the degree of available localization time to total operation time and it is certain that this figure will never be 100%. In localization system outages or failure, in order to prevent problems, it is therefore mandatory to be able to assess the degree of confidence on the localization results. TMR's objective is not to be confused with that of navigational robots (robots that direct your path such as GPS navigation for automobiles), its objective is to be placed into a hazardous area where it will collect terrain information for the path the robot has taken. It will simply travels along its chosen path with help of ultrasonic sensor and relay them back to the receiver where a human can make his own evaluation of the terrain.The main aim of the project is to design a Terrain Mapping Robot using low cost sensor and non-GPS based navigations system.

IGTE72	**TITLE: Ad world – Useless Space, Endless Opportunity - Analysis and Prediction of Visitors** **Human's behaviours and experiences in social spaces are believed to be the result of the processes of the mind that are influenced by the different features of these spaces. By observing humans behaviours and experiences, it can be feasible to read their level of interests, preferences in any social environments. However, making manual large scale observation of human behaviours using paper-and-pencil based method is a very difficult and complicated task. In this study, an attractive solution to this complicated task is discussed. Here, to improve the consumer marketing designation by counting the number of visitors visited particular ads published by**

	consumers by developing embedded system. The system captures the visitor face angle using pi camera to calculate number of visitors looking into their ads using Matlab image processing and raspberry pi is used to control the system.

IGTE73	TITLE: Blister Testing in Drug Industry Medicines have helped to make our lives easy. Drug industry is developing industry in terms of production as well as consumption. Medication has become very important in everyone's life as we are affected by so many diseases. But there may be missing tablet in a strip. This project shows a method to count and display the number of tablets in a strip while moving on conveyer. We can check for roundness of the tablet to find broken tablets. If the total number of tablets in a strip is fixed, missing or empty tablets can be identified.

IGTE74	TITLE: Android based Sign Board Detection with Image & Voice Alert System Automatic road sign detection and tracking is an important task in a driver assistance system. Its importance lies mainly on the vast amount of car accidents that happen each year all over the world, caused by the driver's inability to process all the visual information they receive while driving. Road signs characterized by color and shape are primarily for guiding, warning, and regulating car drivers. Each color and shape of the road signs conveys a particular meaning. Accidents occur frequently in highways, which will create a heavy loss for the victim's families as well as for the society. Mainly accidents occur due to the unawareness of the driver about the obstacles that may be present on the highway routes. This project is

	developed in the vision of preventing accidents in the highways. A prior intimation is given to the driver about the obstacles present in the highways such as steep curve, bends, bridges, temporary work on progress etc. to avoid mishaps.

IGTE75	**TITLE: Application of RF technology to solve traffic signal scheduling by monitoring the vehicle intensity in the particular road** **Automatic road sign detection and tracking is an important task in a driver assistance system. Its importance lies mainly on the vast amount of car accidents that happen each year all over the world, caused by the driver's inability to process all the visual information they receive while driving. Road signs characterized by color and shape are primarily for guiding, warning, and regulating car drivers. Each color and shape of the road signs conveys a particular meaning. Accidents occur frequently in highways, which will create a heavy loss for the victim's families as well as for the society. Mainly accidents occur due to the unawareness of the driver about the obstacles that may be present on the highway routes This project is developed in the vision of preventing accidents in the highways. A prior intimation is given to the driver about the obstacles present in the highways such as steep curve, bends, bridges, temporary work on progress etc. to avoid mishaps.**

IGTE76	**TITLE: Gesture and Speech based wheel chair control for physically challenged person using Android Bluetooth technology** **Here is implemented a home navigation system, which comprises of a wheelchair which works on the inputs such as gesture and voice commands via an android phone and navigates according to command. It can be used by an elderly or physically challenged person to move inside the home without any difficulty.**

	It's common that the elders and the physically challenged people find it hard to move the wheel chair without external aid. By making use gesture, elderly and the physically challenged can move to different locations in the particular house just by pronouncing the direction name or by making the movement of the android phone they will be provided with. It is also equipped with obstacle avoidance technique, where the person may not be able to provide proper command at the right time.

IGTE77	**TITLE: Speech based wheel chair control for physically challenged person using Android Bluetooth technology** **The idea of using voice activated technology for controlling the motion of the wheelchair is to prove that it can be a unique concept that would stand apart from the rest of the average projects. The use of this new technology in conjunction with a mechanical system in order to simplify everyday life and it would spark interest in an ever growing modern society. Many people with disabilities do not have the dexterity necessary to control a switch on an electrical wheelchair. This can be a great for the quadriplegics who is permanently unable to move any of the arms or legs. They can use their wheelchair easier only using voice commands. The aim of this project is to implement an interesting application using small vocabulary word recognition system. The methodology adopted is based on grouping a microcontroller with a speech recognize development kit for isolated word from a dependent speaker. The resulting design is used to control a wheelchair. For handicapped person based on the vocal command. In order to gain in time design, tests have shown that it would be better to choose a speech recognition kit and to adapt it to the application.**

IGTE78	**TITLE: Student attendance management system** **In all aspects of our life, we encounter event recording applications very often. Recording of any entity be it sound, pictures, events etc. is very useful as it enables us to manipulate data to our requirements. One can exploit the full potential of the recorded information for specific user defined purposes. Keeping in mind the significance of event recorders in today's world the student attendance management system have been proposed.** **The major problem faced by organizations is time consumption in taking attendance and maintaining records of student attendance. This project eliminates the problem in maintaining the attendance of each student in schools, colleges or universities. Each student will be provided with rfid tags with unique number as student enters the class room rfid reader reads the number and student attendance with date time name and ID is updated to data base via Zigbee.**
IGTE79	**TITLE: Bluetooth robotic lawn mover powered by solar energy** **In olden days technology was not developed that much. So the lawnmower by hand. But nowadays technology is developed. So now it's not necessary to cutting by hand in sunlight. By using robot technology one can sit in a cool place and can grass cutting by the robot motion.**
IGTE80	**TITLE: Seed Sowing Plowing and Waste Grass Cutting Robot with Android Application** **In India, near about 70% people are dependent upon agriculture. So the agriculture system in India should be advanced to reduce the efforts of farmers. Various number of operations are performed in the agriculture field like seeding, weeding, waste planet cutting, plowing etc. Very basic and significant operation is seeding plowing, plant cutting. But the present methods of seeding, plowing and plant cutting are problematic. The equipments used for seed sowing are very difficult and inconvenient to handle. So there is a need to develop equipment which will reduce the efforts of farmers. This system introduces a control mechanism which aims to drop seeds at**

	particular position with specified distance between two seeds and lines while sowing. The drawbacks of the existing system will be removed successfully in this automatic machine.

IGTE81	**TITLE: AUTOMATIC RAILWAY GATE CONTROLLER DEPENDS ON TRAIN SPEED** In our country everyday we are hearing about the accidents in the level crossing. That may end the human's life. To prevent the accident we plan to go for the automatic railway gate controller for the unmanned level crossing. The train, which is coming in either way, will be calculating the train speed in the following method, by sensing the Proximity sensors. But we are going to develop the model by using the toy trains. Proximity sensor is suitable for these types of trains. **Methodology:** This project is designed by following blocks, ➢ Microcontroller. ➢ Proximity sensor. ➢ Gate model. We are planning to go for two pairs of Proximity sensors, one is at the one end of the gate on track, and the other one is other side. We have to install the sensor at least 0.5KM from the gate. When a train crossed the first Proximity sensor of any side, it will be sensed and given to the microcontroller. When the microcontroller receives the signal from Proximity sensor, it will be taking a decision to close the railway gate. And also it will wait for the train to cross the second sensor. With the time taken to travel from the fist to second, we will be calculating the speed of the train. After calculating the speed the microcontroller will calculate the time for the train to reach the gate and it will display the downtime. Also it will open the gate when the train leaves that will also sense with the help of Proximity sensor,

	and it wll be given to the controller and then it will open the gate. The gate opening and closing can be done with the help of DC motor. There will be three LEDs to guide the passengers across the road as the indicator for train as well as the traffic signals.

IGTE82	**TITLE: Android - Electronic Stick and Android Smartphones to the Aid of Blindly Disabled Individuals** **In today's lifestyle, technology has become very dependable in many ways thereby simplifying day-to-day life. As age of human beings increase most of the people lose their eye sight nowadays, they face more problems in their daily routine life. One such example are persons with low visibility, who can't operate mobiles in the emergency conditions whenever they need help from required persons, (requirement of doctor). Aged peoples with blindness find problem while walking, such as unable to view obstacle at a close distance in front of them which may inflict injuries to one-self.** **To overcome these such problems faced by low sight by old aged people, we have come up with a solution which helps them to walk freely and fulfill their requirements using speech reorganization and intimate to the person by text message with the area where the patient is, and calling to specified persons. This project informs the user through voice about the distance of a particular object ahead them through voice output. Along with this another feature is also added such as sensing the lighting condition in the room and illuminating an LED lamp automatically.**

IGTE83	**TITLE: Head movement based wireless communication with speech alert** **In some cases due to spinal cord injury human can lose controller over all his body parts except head. In such cases for the help of the**

	patient there is a requirement for a helper at every time. For example if the patient requires fan then he should inform to his helper like this are many instances where he requires helper like in switching fan, lights, TV.. Etc. These purposes can be served without the need of another human help. **This project serves the purpose of controlling the home appliances by physically handicapped patients without the need of a helper. Here accelerometer sensors are attached to a head mask of the patient. Just by the movement of the head the patient can control the home appliances.**
IGTE84	**TITLE: Robotic automated food service provider is hotel with android based individual menu system** **Investment in development of food service technology is considered a luxury as the sector comprises predominantly by small and medium size businesses tht may not be able to afford the heavy costs involved. However rapid innovative products or service. Such hardware or software development enables food and beverage outlets to increase quality of product, productivity and profitability. Often these products may seem existing developments from industries leading the technological advancement arena such as airlines and retail, but this paper reveals that this is no longer the case. Technology is developing at an ever increasing pace and dramatically changes business models in the hotel. The paper aims to illustrate that investment in technological advancement within the food servive sector is happening in a number od areas and highlights benefits in the areas of quality, cost, speed, dependency, flexibility and employee training.**

IGTE85	**TITLE: MICROCONTROLLER BASED AUTO COLLEGE BELL WITH SPEAKER ANNOUNCEMENT** **The purpose of this project work is to design and develop the automatic college bell ringing with announcement system to be used in the university or college campus for announcing the information on special events and regular sessions of the classes' and their timings. With this we will be able to automate the information / alarm system to broadcast the information within the college campus.** **In this project a real time clock is used to keep track of the current time, based on the current time user can be able to set the time for bell ringing for the period of one week or month. A customized keypad is provided to the user to enter the scheduled time for bell ringing. Reading the current time and comparing the set time and controlling the bell or announcement system is solely done by the microcontroller. The Bell and announcement system are connected to the microcontroller through relay.** **The main function of this project is to ring the bell according to time set by the user and also announce the event or any voice data stored by the user.**

IGTE86	**TITLE: REAL TIME AUTOMATION IN PADDY FIELD WITH SECURITY** **Agriculture is the main part of all the work that man does. Agriculture produces food grains, which is the essential and basic need of all living beings. As the agriculture plays an important role in human growth so security and automation is much needed in agriculture to produce quality food grains with much efficiency. This project overcomes some of the problems which occur due to nature like heavy down pour. Some grains in the field require minimum level of water excess of that and deficiency of the minimum level leads to**

	destruction of the grains. This project provides the automation which is much needed in the absence of a man. **This project also informs the entry of other animals when there is no one to look after the field so that the next precautions can be under taken to preserve the grains from animal attacks.**

IGTE87	**TITLE: AUTOMATED BOOK PICKING ROBOT FOR LIBRARIES** **Library has many connotations. A library is a collection of information resources and services, organized for use, and maintained by a public body, institution, or private individual. In the more traditional sense, it means a collection of books. Typically we need a librarian to pick the books and hand it over to the person to whom the books are being issued. This might be an easy task incase the library floor area is small. Also, to search for the books by humans takes a lot of time as many a times the books gets overlooked by the human eye. To automate this process of book finding and picking we suggest a robot with an arm with some degrees of freedom which will be able to find out the book with the required tag and then pick it and place it on the table.**
IGTE88	**TITLE: An Automatic Embedded Toll Plaza with Document Verification and Speed Detection System.** **Automated toll collection system performs the collection of toll taxes electronically in addition by sending a message of the deduction of toll to the respective motor owner. Automated toll collection system was implemented around the world by dedicated short range communication technology. The system also includes the verification of documents such as driving license whose validity is checked in the data base and the deduction is done based on the given condition. All these communication between the motor owner and the system takes place through RFID technology. In addition to these features it also includes the detection of speed in the speed limiting zones using IR sensor.**

IGTE89	**TITLE: WIRELESS INTELLIGENT BILLING TROLLEY FOR SHOPPING MALLS USING ZIGBEE** **Purchasing and Shopping at big malls is becoming daily activity in metro cities. We can see big rush at these malls on holidays and weekends. This crowd becomes huge when there are special offers and discount. People purchase different items and put them in trolley. After total purchase one need to go to billing counter for payments. At billing counter the cashier prepare the bill using bar code reader which is very time consuming process and results in long queue at billing counter. Our aim is to develop the system which can be used in shopping malls to solve the problem mentioned above.**

IGTE90	**TITLE: Train Collision Avoidance Using Sensors & Micro-Controller** **There is an increasing with the number of accidents at railroad railings. Collisions with train are generally catastrophic, in that the destructive forces of a train usually no match for any other type of vehicle. Train collisions form a major catastrophe, as they cause severe damage to life and property. Train collisions occur frequently eluding all the latest technology. This paper deals about one of the efficient methods to avoid Train Collisions. This approach uses the Vibration sensor, Gap detector, LDR and a Ultra pulse. To communicate the Critical Details about the Train to the Control Room.**

IGTE91	**TITLE: Satellite and RF based submarine navigation** **In any country's Coast line, fishing is one of the most important occupations of the people. When the fishermen go out to sea for fishing, they cannot visually distinguish between their country's**

	border, the international water boundary and the other country's border. When they tread into the other country's border unknowingly, they get arrested for trespassing and are thus jailed. This is a major issue existing till date. **Hence this project provides border alerting for the fisherman at sea. The system gives alert when fisher man about to reach other countries boundary through RF transmitter and RF receiver, alert is provided through MP3 module and fisher man will be provided with rfid tags so that system can acknowledge which fisher man is out at sea. At emergency conditions the location of ship is fetched through GPS and sent to base station via GSM and any changes in weather is also informed to fisher man from base station through audio alert.**

IGTE92	**TITLE: Speech based high alert building automation and security alert through android with earthquake alert** **The main goal of this system is to monitor the building by using voice commands. The proposed system gets the voice commands through android, based on the voice input the system monitors the building. Based on the received data at the wireless receiver associated with the appliances desired switching operations are performed. In additional security alert like emergency and fire in the building is intimated by voice output through android. Android application has been used for the voice system. On the other hand, Bluetooth wireless modules have been used to implement the wireless system.A wireless sensor network is proposed for monitoring buildings to assess earthquake damage. The accelerometers are mounted at every floor of the building to measure the seismic response of the building during an earthquake.** **When earthquake is detected respective alert is sent through android and buzzer will beep continuously.**

IGTE93	**TITLE: COIN BASED UNIVERSAL MOBILE BATTERY CHARGER USING SOLAR PANEL** **The coin-based mobile battery charger developed for providing a unique service to the rural public where grid power is not available for partial/full daytime and a source of revenue for site providers. The coin-based mobile battery charger can be quickly and easily installed outside any business premises. The mobile phone market is a vast industry, and has spread into rural areas as a essential means of communication. While the urban population use more sophisticated mobiles with good power batteries lasting for several days, the rural population buy the pre owned mobile phones that require charging frequently. Many times battery becomes flat in the middle of conversation particularly at inconvenient times when access to a standard charger isn't possible. The coin-based mobile battery chargers are designed to solve this problem.**

IGTE94	**TITLE: IMAGE BASED PASSWORD AUTHENTICATION FOR ILLITERATES WITH TOUCHSCREEN** **Image based password authentication for illiterates with touch screen interfacing provides an image based security system, which can be installed in poultry forms, houses and all kinds of domestic and industrial applications. The main aim of this paper is to provide a security system for illiterates. This system provides user-friendly environment for the users with a kind of image interaction. Here the password need not be a string of characters it can use few images, this may be easy for the illiterates to remember.** **This device makes use of a touch screen sensor based graphical LCD which makes the things still easier. Using a touch interface can effectively increase operator accuracy, reduce training**

	time, and improve overall operational efficiencies, thus keeping costs down, a properly designed touch interface can improve each operator's accuracy.

IGTE95	**TITLE: Innovative Graphical Passwords using Sequencing and Shuffling Together** **Image based password authentication for industrial security system with touch screen interfacing provides an image based security system, which can be installed in poultry forms, houses, industrial security system and all kinds of domestic and industrial applications. The main aim of this paper is to provide a security system for illiterates. This system provides user-friendly environment for the users with a kind of image interaction. Here the password need not be a string of characters it can use few images, this may be easy to remember.** **This device makes use of a touch screen sensor based graphical LCD which makes the things still easier. Using a touch interface can effectively increase operator accuracy, reduce training time, and improve overall operational efficiencies, thus keeping costs down, a properly designed touch interface can improve each operator's accuracy.**

IGTE96	**TITLE: Unusual Event Detection in Low Resolution Video for enhancing ATM security** **In real world applications, tracking target in low resolution video is a challenging task because there is loss of discriminative detail in the visual appearance of moving object. The existing methods are mostly based on the enhancement of LR (low resolution) video by super resolution techniques. But these methods require high computational cost. This cost further increases if we are dealing with events detection. In this paper we present an algorithm which is able to detect unusual events without such type of conversion and**

	well suited for enhancement of security of ATMs where conventional low resolution cameras are generally used due to their low cost. Proposed algorithm only uses close morphological operation with disk like structuring element in the preprocessing steps to cope up with low resolution video. It further uses rolling average background subtraction technique to detect foreground object from dynamic background in a scene. Our proposed algorithm is able to recognize the occurrence of uncommon events such as overcrowding or fight in the low resolution video simply by using statistical property, standard deviation of moving objects. It is fast enough because it process low resolution frames and could be helpful in surveillance system for enhancing the security of ATMs where conventional camera of low resolution are still used. It does not use any classifier and avoids the requirement of training the system initially.

IGTE97	**TITLE: Eye-Blink Control to Navigate a Wheel Chair of a Paralyzed Individual** **This project is designed to capture the movement of eye-ball of a paralyzed patient, especially those who cannot use their limbs. Through the movements of the eye-ball, a paralyzed or physically handicapped individual can make navigate the wheel chair in which he/she is sitting.Establishing an alternative means of communication, without speaking or any hand movement, plays an important part in improving the quality of life of a handicapped/paralyzed person.Electro- oculography is a process of tracking the ocular movement of the eye. Based on the movement of the eye-ball, voltages are generated through the use of sensor. These voltages provide very useful information and when utilized with proper equipment, can come to the aid of a paralyzed patient.**

IGTE98	**TITLE: Rash Driving Detection and Collision (Accident) Avoidance System with Steering Controlled Headlight Mechanism Of Vehicles** **Rash driving is most dangerous for people. Risky driving primarily includes heavy either rudely or driving under the power of alcohol, is a major grounds of traffic accidents throughout the world.**

	They provide an early detection to alert the dangerous vehicle maneuvers related to rash driving. There are lots of sensors used in various techniques to detect the rash driving. Such techniques and sensors are being discussed a in this survey. Rash driving is a major cause of traffic accidents throughout the world. We intend to design a system aimed at early detection and alert of dangerous vehicle driving patterns related to rash driving. The entire implementation requires only a mobile phone placed in vehicle and with accelerometer. In this paper we intend to design a system aimed at early detection and alert of dangerous vehicle driving patterns related to rash driving. And also we develop a "Steering Controlled Headlight Mechanism" which acts as directional headlights. This is done by connecting headlights and steering. Present day automobiles don't have effective lighting system. Due to this many accidents are taking place during night times especially in ghat sections. The accidents can be avoided by incorporating Steering Control Headlight Mechanism. The rack and pinion steering gear mechanism is used for this project. When the steering wheel is rotated and rotary motion is converted to translatory motion through the rack and pinion mechanism. When the front wheels are steered, the headlights follows the same path and the light is focused on more divergent area. In the present project, it is planned to design "Steering Controlled Headlight Mechanism" and a live model unit is fabricated.

IGTE99	**TITLE: CENTRALIZED LPG CYLINDERS THEFT DETECTION SYSTEM WITH SECURITY ALERTS** **Growing rate of Indian population has increased the rate of LPG consumption, due to which Multiple LPG connections have increased & facing booking issue. Increased in greediness will divert the people to sell their own LPG cylinders to others for higher rate or to the people those who use commercial cylinders. So to overcome all these problems we have come up with this project.**

IGTE100	**TITLE: HEALTH @ HOME – Remote monitoring of vital signs** **The H@H platform aims at connecting in-hospital care of the acute syndrome with out-of-hospital follow-up by patient/family caregiver, being directly integrated with the health care components. Patients'**

	signs, symptoms and raised alarms can be received by healthcare providers, and aggravations can be quickly detected and acted upon.

IGTE101	**TITLE: Remote Control System of High Efficiency and Intelligent Street Lighting using Android Server** **The proposed project of controlling street light system can optimize management and efficiency of street lighting systems. It uses micro controller and GSM based wireless devices which enable more efficient street lamp-system management. Lighting systems, especially in the public sector, are still designed according to the old standards of reliability and they often do not take advantage of the latest technological developments. Here in this project controls the whole operation by controller, GSM and some sensors. This project allows significant cost savings and a greater respect for the environment.**

IGTE102	**TITLE: Real time communication between dumb, deaf and blind people using voice & gesture with Android** **This project is mainly used to achieve the Real Time Communication between Deaf Dumb and Blind. The problems that occur Deaf dumb & blind are overcome. The communication between Deaf Dumb has been designed to provide more comfort to disables. Sign language is the way through which deaf and dumb people can communicate with each other. It has been observed that, impaired people find it very difficult to interact with the society. Normal individuals can't able to understand their sign language. To bridge this gap, the proposed system acts as the mediator between impaired and normal people. This System uses Accelerometer Sensor to capture the signs. Accelerometer Sensors are connected to the Renesas Board. The**

	Accelerometer Sensor captures dynamic gesture. Thus the method is proposed for feature extraction of dynamic gesture of American Sign Language (ASL). The propose method extracts feature from the sign through Accelerometer Sensor and then transmit that sign signals through GSM to the Android Mobile. This integrated feature improves the performance of the system; the system serves as an aid to disabled people. Its application includes hospitals, government sectors and some multinational companies. android phone and accordingly the android phone will speak the corresponding character which has been sensed.

IGTE103	**TITLE: PASSANGER BUS ALERT SYSTEM FOR EASY NAVIGATION OF BLIND** **This paper targets the use of RFID in assisting the visually challenged using voice assistance and also employing an Ultrasonic sensor design aiding in improved navigation. It explores the current ability and potential uses for this emerging technology. Of the 7 billion people that populate the world (UN, 2012), 285 million are visually impaired (WHO, 2012). Each visually impaired individual faces a unique and different set of challenges based on their specific level of vision. RFID has the potential to be a useful aid with further standardization of RFID tags and improvement of current RFID readers. To overcome the drawbacks of currently available assistive devices, we propose a RFID technology with Android. Mainly here the RFID READER it reads the bus information (TAG) then process to the controller. When the blind person is giving the voice input in android or making use of switches (i.e. they may ask help from others) then they will get intimation about buses as voice output to blind person.**

IGTE104	**TITLE: DESIGN AND DEVELOPMENT OF FALL DETECTOR USING FALL ACCELERATION** **Fall of patients and aged people may become fatal if unnoticed in time. The concept is to have a fall detection system which sends alarm to the concerned people or to the doctor, at the time of eventuality. To minimize fall and its related injuries continuous surveillance of subjects who are diseased and prone to fall is necessary. The article discusses the design and development of a prototype of an electronic gadget which is used to detect fall among elderly and the patients who are prone to it. In this article, the body posture is derived from change of acceleration in three axes, which is measured using tri-axial accelerometer (adxl335).** **The sensor is placed on the lumbar region to study the tilt angle. The acceleration values in each axis are compared twice with threshold and also a delay of 20 sec between two comparisons, to reduce the false alarms. Values of the threshold voltage are selected by experimental methods. The algorithm is executed by microcontroller (PIC16F877A). The location of fall is determined by GPS receiver, which is programmed to track the subject continuously. On detection of fall, the device sends a text message through GSM modem, and communicates it to computer through ZigBee transceivers. The device can also be switched to only alarm if text message is not required. The prototype developed is tested on many subjects and also on volunteers who simulated fall. Out of 50 trials 96% of accuracy is achieved with zero false alarms for daily activities like jogging, skipping, walking on stairs, and picking up objects.**

IGTE105	**TITLE: Android based Monitoring Human Insole Movement Using Wearable Computing** **In today's fast moving lifestyle, incidents regarding health issues are surfacing every day. One of the issues relating to medical concern is, monitoring, gait analysis, post-stroke rehabilitation, body weight measurements and energy expenditure studies. Medical applications are various and the most common is physical therapy and rehabilitation. Some other examples of medical applications are dynamic measuring of lumbar curvature, dynamic monitoring of finger joints, monitoring of limbs and many others.** **. In this project we present a system implementing accelerometer sensor, pressure sensor and temperature sensor which is placed around the foot in order to detect the walking at a natural pace, walking at a fast pace, running, and walking up and down the stairs and temperature inside the shoe. There by providing the correct information to an individual's family physician.**

IGTE106	**TITLE: Light Fidelity (Li-Fi) – The Future Technology in Wireless Communication.** **Whether you are using wireless internet in a coffee shop, stealing it from the guy next door, or competing for bandwidth at a conference, you have probably gotten frustrated at the slow speeds you face when more than one device is tapped into the network. As more and more people and their many devices access wireless internet, clogged airwaves are going to make it. One German phycist, Harald Haas had come up with a solution he calls "data through illumination" – taking the fibber out of fiber optic by sending**

	data through an LED light bulb that varies in intensity faster than the human eye can follow. It's the same idea band behind infrared remote controls but far more powerful. Haas says his invention, which he calls D-LIGHT, can produce data rates faster than 10 megabits per second, which is speedier than your average broadband connection. He envisions a future where data for laptops, smart phones, and tablets is transmitted through the light in a room. And security would be snap – if you can't see the light, you can't access the data.

IGTE107	**TITLE: Automatic Ration Material Distributions Based on GSM and Finger Print Scanner Technology** **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 paper, proposed an Automatic Ration Materials Distribution Based on GSM (Global System for Mobile) and Finger Print Scanner technology instead of ration cards. To get the materials in ration shops need to press the finger print scanner, then controller check the customer codes and details of amounts in the card. After verification, these systems show the amount details, 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.**

IGTE108	**TITLE: E-Cradle for Infant Care with Android Speech alert for dangerous conditions** **There is a need to develop a new low cost indigenous electronic cradle because the existing cradles are imported and costly. This**

	paper presents the design and implementation of a new indigenous low cost E-Baby Cradle that swings automatically when baby cries, for this it has a cry analyzing system which detects the baby cry voice and accordingly the cradle swings till the baby stops crying. The speed of the cradle can be controlled as per the user need. The system has inbuilt alarm that indicates two conditions – first when the mattress is wet, which is an important parameter to keep the baby in hygienic condition, second when baby does not stop crying with in a stipulated time, which intimated that baby needs attention. This system helps parents and nurses to take care of babies without physical attention.RFID tags are also attached to baby's wrist or leg which helps in tracking baby's movements.

IGTE109	**TITLE: Robust Railway Crack Detection Scheme (RRCDS) Using LED-LDR Assembly** **Most of the commercial transport is being carried out by the railway network and therefore, any problems in the same has the capacity to induce major damage to the economy-notwithstanding the societal impact of loss of life or limb. This project is developed to overcome the problem of railway crack, the cracks is detected through Ldr, the current location is sent through Gps and to receive the information Gsm is utilized, 4 wheel robot is used in the place of train.**

IGTE110	**TITLE: CCTV Server Theft/damage email alert and auto video saving to save data retrieval time and manpower** **CCTV is installed at many areas for security purpose due to high crime rates but there are chances that the camera itself may be tampered or stolen. The very purpose of installing**

	CCTV is lost then. This project is aimed to track CCTV theft. Assuming an office or Laboratory environment where each employee is provided with a TAG(RFID), unauthorized entry of intruders is also detected here. Video data acquisition of each authorized employee is recorded for few seconds on an Android handset so that during dubious situations the recorded video of each employee can be observed.

IGTE111	**TITLE: SOLAR POWERED ELECTRIC VEHICLE CHARGING STATION** **While electric vehicles are generally seen as clean vehicles, they are not completely clean because the production of electricity might generate emissions as well. This paper on a solar powered electric vehicle charging station is a working solution to close the gap in achieving a truly renewable and clean vehicle. The current scenario of today's solar energy ecosystem is that, it is highly unstructured and localized. There are about 50 solar power plants in India but none of them are connected in a manner that there would be a method to perform analytical analysis of the solar energy produced. Today, with the advancements in sensor technology it is a very viable option to connect the solar energy systems to the GSM. Once these systems are connected to the user can receive the message, the analysis of the performance, productivity and efficiency can be calculated very easily. This paper aims at finding a possible and viable method to connect the solar powered electric vehicle charging station and perform analytical operations to increase efficiency of Solar Energy**

IGTE112	**TITLE: Android Based Deadly School Van Monitoring System with Speech Alert** **Nowadays lot of problems regarding child safety arises. Parents can't always keep an eye on their children where ever they go. Students found missing on their way to catch their school bus or sometimes even the small kids were found missing in the school bus when they slept in it and carelessly**

	if it was not noticed. In such situation we can ensure the child safety by monitoring the daily pick up/ drop off of the children. The system of implementation consists of a RFID reader, Renesas microcontroller, GSM, Acelerometer, panic switches etc.

IGTE113	**TITLE: Design and Development of an Authentication Device for Examination using Fingerprints** **Security is a major concern in all areas, in order to prevent unauthorized access of an unknown or a blacklisted individual. Biometrics is a rapidly evolving technology that has been widely used in forensics, such as criminal identification and prison security, and has the potential to be widely adopted in a very broad range of civilian applications. In a biometric, there are many ways to authenticate an individual like face detection, eye detection, fingerprint identification. Fingerprint identification is an important technique to identify an individual. Examination centre is one of the main premises where authentication is required. In this project to avoid the fraudant in examination, wireless fingerprint authentication using GSM technology is proposed. Using GSM technology message is sent to the android which consist of student details, from android a email is sent to the lecturers. If the student getting out of examination hall in less time that message will sent to parents.**

IGTE114	**TITLE: Design And Implementation Of Driverless Car To Recognize Traffic Signs Using MATLAB And Android Device IP Camera** **Traffic Sign recognition system is a part of driverless car to automatically recognize and change the direction of the driverless car automatically based on the traffic signs. In this project an efficient real time sign detection system is proposed for Indian traffic signs. Images are captured using android device IP camera and are processed by MATLAB directly. Image frames may be blurred and corrupted by Gaussian noise due to motion of vehicle and atmospheric turbulence. Hence Image enhancement is done using median filter and nonlinear Lucy-Richardson for de-convolution. Color segmentation using YcBcR color space along with shape filtering through template matching of color detected candidates are used to detect sign from images as color and shape easily distinguishes a sign from its background. The classification module determines the type of detected road signs. Based on the detected road sign the movement of driverless car is changed.**

IGTE115	**TITLE: Zig-Bee Based Irrigation System for Home Gardens** **Single-chip microcontrollers equipped with wireless transceivers are gaining popularity in smart home automation because of their built-in resources, low power consumption, size, afford ability and durability. Research and development professionals are seizing the opportunity to design and integrate more functions and services for smart home monitoring and control systems utilizing such microcontrollers.This project presents a wireless irrigation system for a smart home garden that can be integrated with existing smart home control systems. The system consists of slave nodes and a master station each of which is equipped with a wireless microcontroller. Each slave node is equipped**

	with a temperature sensor, a soil-moister sensor, a water valve, a microcontroller and a zigbee transceiver. The slave microcontroller reads and frames the surrounding temperature of the garden's grass and trees along with soil moisture. Then, the frame is forwarded to the master station via a zigbee ad-hoc network. The master station has an embedded fuzzy logic irrigation algorithm to water the grass and trees based on a set of rules. **A home web-server is interfaced with the master station for remote access monitoring and operation. The proposed system can be operated as a stand-alone unit or can be integrated with existing home automation systems.**

IGTE116	**TITLE: Smart Parking for College using RFID Technology** **In this study, a solution has been provided for the problems encountered in parking-lot management systems via RFID technology. RFID readers, RFID Tag are used as a main components of the RFID technology. The software has been handled for the management, controlling, transaction reporting and operation tasks for parking lots located on various parts of the college. Check-ins and check-outs of the parking-lots will be under control with RFID readers and RFID tag. It will be possible to see unmanned, secure, automated parking lots functioning with RFID technology in the future. Check-ins and check-outs will be handled in a fast manner without having to stop the cars so that traffic jam problem will be avoided during these processes. Drivers will not have to stop at the circulation points and parking tickets will be out of usage during check-ins and check-outs. Vehicle owners will not have to make any payments at each check-out thus a faster traffic flow will be possible. Since there will not be any waiting during check-ins and check-outs the formation of emission gas as a result of such waiting will be avoided.**

IGTE117	**TITLE:SMART CITY AND MANAGEMENT SYSTEM** **Solid waste management is a challenge for the cities' authorities in developing countries mainly due to the increasing generation of waste, the burden posed on the municipal budget as a result of the high costs associated to its management, the lack of understanding over a diversity of factors that affect the different stages of waste management and linkages necessary to enable the entire handling system functioning.** **An analysis of literature on the work done and reported mainly in publications from 2005 to 2011, related to waste management in developing countries, showed that few articles give quantitative information. The analysis was conducted in two of the major scientific journals, Waste Management Journal and Waste Management and Research.The objective of this research was to determine the stakeholders' action/behavior that have a role in the waste management process and to analyze influential factors on the system, in more than thirty urban areas in 22 developing countries in 4 continents. A combination of methods was used in this study in order to assess the stakeholders and the factors influencing the performance of waste management in the cities. Data was collected from scientific literature, existing data bases, observations made during visits to urban areas, structured interviews with relevant professionals, exercises provided to participants in workshops and a questionnaire applied to stakeholders.**

IGTE118	**TITLE: Voice based e-mail System for Blinds** **In today's world communication has become so easy due to integration of communication technologies with internet. However the visually challenged people find it very difficult to utilize this technology because of the fact that using them requires visual perception and in our country around 2.78% of peoples are not able to speak (dumb). Their communications with others are 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.** **In order to overcome the complexity of the dumb and blind peoples this project has been proposed. This system is based on the motion sensor (accelerometer). Gesture based system is a large scale multi-microcontroller based system being designed to facilitate the communication among the dumb, deaf and blind communities and their communication with the normal people. This system can be dynamically reconfigured to work as a "smart device". Gesture discussed is basically a data glove and a microcontroller based system. Data glove can detect almost all the movements of a hand and microcontroller based system converts some specified movements into human recognizable voice and generates email with predefined images and subject. The data glove is equipped with accelerometer sensor.**

IGTE119	**TITLE: THEFT INTIMATION OF VEHICLE OVER SMS TO OWNER WHO CAN STOP THE ENGINE REMOTELY** **The aim of this project is to use wireless technology to intimate the owner of the vehicle about any unauthorized entry. This is done by sending an auto-generated SMS to the owner. An added advantage of this project is that the owner can send back the SMS which will disable the ignition of the vehicle. As the crime rate is going up, security system for vehicles is extremely essential. In this proposed system if someone tries to drive the car without giving authentication, the microcontroller consider that person as thief and commands the GSM modem to send an SMS to the owner. The owner receives the SMS that his car is stolen. He can then send back an SMS to the GSM modem to 'stop the engine'. The GSM modem interfaced to the microcontroller, receives the message, the output of which activates a mechanism that disables the ignition of the vehicle resulting in stopping the vehicle. The project uses a dc motor to indicate the engine ON/OFF condition.Thus, owner of the vehicle from anywhere can switch off ignition of his car. This project can be further enhanced by integrating a GPS system, which will give exact position of the vehicle in terms of its latitude and longitude. Further this data can be sent to the owner via SMS who can**

	enter this value on Google maps to get the exact location of the vehicle.

IGTE120	**TITLE: WAR FIELD SPYING ROBOT WITH WIRELESS NIGHT VISION CAMERA** **The enemy intrusion into border sectors is becoming a major problem. Soldiers need be equipped and be alert all the time. To aid them and to avoid the soldiers losing their precious lives, automated spying robots are developed. The aim of this project is to develop a low cost and user friendly spy robot with night vision camera.**

IGTE121	**TITLE: MULTI PURPOSE ROBOTIC AGRICULTURAL VEHICLE** **This robotic vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled through RF medium using a Controller. The whole process calculation, processing, monitoring are designed with motors & sensor interfaced with microcontroller.**

IGTE122	**TITLE:HUMAN DETECTION IN NATURAL DISASTER WITH ANDROID** **Natural calamities like Earthquakes, Tsunami and man-made disasters bomb explosion, building Collapse often**

	occurs and they cannot be stopped. Humans are getting increased knowledge in the concept of intelligent rescue operations in such calamities so as to save precious life and material, however calamities cannot be stopped. Still there are many natural and man-made disasters that occur all of a sudden. They produce a devastating effect and find no difference among human and material. Therefore many a time's humans are buried among the detritus and it becomes impossible to detect them. Only a timely rescue can only save people those have been buried and wounded. Detection by rescue workers like policeman, fire fighters and medical services is time consuming because of the vast area that gets affected. Human rescuers must make quick decisions under stress and try to get victims to safety at their own risk. They need to gather and find the location, status of victims and the stability of the structures as fast and early as possible so that medics and fire fighters can enter the disaster area and save the victims. Mostly trained dogs and humans, perform all these tasks. This project proposes a mobile robotic vehicle that moves in the disaster prone area for detecting alive humans in such devasting environments and helps to identify the live people and rescue operations. In this project Passive Infra-Red (PIR) sensor has been used.

IGeekS Technologies

Bridging Technology.

Projects

IGeekS Technologies
No:19, MN Complex, 2nd Cross,
Sampige Main Road, Malleswaram,
Bangalore Karnataka (560003) India.
Above HOP Salon,
Opp. Joyalukkas, Malleswaram, Land mark : Near to Mantri Mall,
Malleswaram Bangalore.
Email: nanduigeeks2010@gmail.com ,
nandu@igeekstechnologies.com
Office Phone:
9590544567 / 7019280372 / 9739066172
Contact Person:
Mr. Nandu Y,
Director-Projects,
Mobile: 9590544567,7019280372
E-mail: nandu@igeekstechnologies.com
nanduigeeks2010@gmail.com

RAJAJINAGAR:

#531, 63rd Cross,
12th Main, after sevabhai hospital,
5th Block, Rajajinagar,
Bangalore-10.
Landmark: Near Bashyam circle.

JAYANAGAR:

#65, 'Bhagyadeep', 8th 'B' Main,
27th Cross, Jayanagar 3rd Block
(Next to Pizza Hut),Bangalore 560011.