1. Project Title: *Android Based Wireless Notice Board*

Project Guide: Mr.Gurusandesh M

Project Team: Shravyashree Aiyanna A, Shwetha M R, Shwetha P, Sonika

Abstract:

The project is based on the development of simple and low cost Android based wireless notice board which is easy to use. Instead of manually changing the notices through paper, this system proposes a approach of displaying the notices by accepting the input commands from the user and displays it wirelessly. The wireless communication is based on Bluetooth. In the day to day life, smartphone is gaining a wide range of importance in its usage and is portable. Thus an android smartphone can be for the purpose. An android application is installed in the users smartphone which permits the transmission. PIC microcontroller is used at the receiver side for the interfacing with respect to LCD display and buzzer. The buzzer beeps indicating the arrival of information

2. Project Title: *Android Controlled Spy Robot*

Project Guide: Ms. Nisha G.R

Project Team: Vaishak Shetty K, Pragathi P, Tejaswini K N, Yashaswini A

Abstract:

The wireless communication technologies are rapidly spreading in many new areas. The Spy Robots can be very efficient tools to speed up search and research operations in remote areas and robots are also useful to do jobs in areas and in situations that are hazardous for human. They can go anywhere that is not reachable by humans and can go into gaps and move through small holes that are impossible for humans and even trained dogs.

Our preliminary aim in this project is to build an Android controlled robot which could be able to send the environmental status, temperature condition, and presence of obstacle in its path. It will be controlled by Bluetooth communication and the real-time videos will be captured using wireless camera. The GPS module is interfaced with arduino Mega 2560 to extract the longitude and latitude of the robot.

3. Project Title: *Automatic Irrigation System Using ATmega2560.*

Project Guide: Mr.Shrikanth Rao

Project Team: Shreevara K, Shankara Kumara D, Shreejith N, Rachana D

Abstract:

In our country, agriculture mainly depends on seasonal monsoons as the source of water. Since it is seasonal in nature, irrigation is very essential for agriculture. The main aim of this project is to provide automatic irrigation to mixed crop cultivated plantations and thus reduce the effort to distribute the water to different crops in different quantities. The entire system is controlled by the ATmega2560 microcontroller which is programmed to give the interrupt signals to the motor to water the field. A soil moisture detection sensor, Ultrasonic water level detection sensors are used to provide inputs to the microcontroller about real time parameters such as moisture content of the soil and water level in the tank. Whenever there is a change in any of these values, the Arduino performs the predefined tasks. The current status is sent to the user through a message using the GSM module. Also the graphical view of the parameter values over a period of time can be observed on the IoT website. The graphical analysis of the currently followed irrigation strategy with the agriculture output can be used to deduce suitable irrigation methodology for the efficient agriculture practice.

4. Project Title: *Bed Ridden Patient Management System*

Project Guide: Ms.Deepashree A P

Project Team: Rashmitha Rai B, Sushma, Sweekrithi K, Usha

Abstract:

In case of emergency and dangerous situations we have to alert the doctor immediately. For this we are using a GSM based network for doctor to patient communication in the hospital and even to communicate and indicate the status of the patient through SMS. This way of communication is actually done with GSM network topology. Each patient will be given this module and with the help of this module the patient health condition is monitored and if there is any change in the condition of the health then it immediately sends that changed data through GSM to the local system where the main module is connected to the computer to maintain the status of the patient.

The main processes involved in this type of control system are to monitor the patient's health status. GSM is a wireless technology can be operated from any distance to any point of control. This indeed is an easy, practical, inexpensive and yet very effective way for transmitting vital information to the healthcare staff and healthcare providers.

5. Project Title: *Fingerprint Vehicle Starter*
Project Guide: Ms. Prabha G.S
Project Team: Shwetha kumari, Suju Y S, Sushmitha. S, Swetha B
Abstract:

The main aim of the project is to design and implement the fingerprint based vehicle starter with a view of reducing the number of vehicle theft and to ward off unauthorized users. One more issue with vehicles is handling its keys, hence keys need to be carried and misplacing keys or losing them will cause serious issues. Here we propose a solution to this problem by using fingerprint based vehicle starter. It provides a secure way to start or stop the vehicle by using a combination of Embedded System and Biometrics. Unauthorized access is prohibited by storing the fingerprints of one or more authorized users. Fingerprint is sensed by sensor and is validated for authentication. This is achieved with the use of PIC Microcontroller, Liquid Crystal Display (LCD) module, GSM, DC Motor, Stepper motor.

6. Project Title: ***GSM Based Smart LPG Leakage Detection and Automatic Protection***
Project Guide: Ms. Rashmi A.V
Project Team: Raksha Y S, Sujna Rai K, Rashmitha V, Savitha K T
Abstract:

LPG plays a vital role in households and industries. The risk of usage is mainly because of LPG leakage, which may result in explosion causing severe damages and even deaths. This project aims at designing a system that can be a boon to mankind. The system detects LPG leakage and alerts the authorized person by sending warning messages. This smart system automatically turns off the gas valve to prevent explosion. An additional safety feature of this system is to switch off the main power supply, thus preventing hazards due to accumulated gas. As an additional benefit for the user, weight monitoring feature is also included.

7. Project Title: *IOT Based health monitoring system*

Project Guide: Ms. Rashmi A.V

Project Team: Namratha, Vishak, Saurab, Raghavendra Bhandary

Abstract:

The increased use of mobile technologies and smart devices in the area of health has caused great impact on the world. Health experts are increasingly taking advantage of the benefits these technologies bring, thus generating a significant improvement in health care in clinical settings and out of them. Likewise, countless ordinary users are being served from the advantages of the M Health (Mobile Health) applications and E-Health (health care supported by ICT) to improve, help and assist their health. Applications that have had a major refuge for these users, so intuitive environment. The Internet of things is increasingly allowing to integrate devices capable of connecting to the Internet and provide information on the state of health of patients and provide information in real time to doctors who assist. It is clear that chronic diseases such as diabetes, heart and pressure among others, are remarkable in the world economic and social level problem. The aim of this article is to develop an architecture based on an ontology capable of monitoring the health and workout routine recommendations to patients with chronic diseases.

8. Project Title: *Monitoring and Controlling of Bank Security System*

Project Guide: Ms. Velloree K

Project Team: Sowmya Pai, Shivaraj N Juvekar, Sumit Khot

Abstract:

In the modern world security system plays a vital role. This bank security system is mainly designed to meet the requisite of the security of the money and valuable things which are hard earned. It mainly consists of iris system together with digital code locks which will open the door automatically whenever the series of the authentication is verified and gives alert sounds when any mismatch occurs. In this system micro-controller continuously monitors the output of the iris system, unique password (through keypad) and registered identification (QR code). Based on this output alarm or buzzer will be raised. When any new user wants to open a bank locker, they are supposed to get their iris scan done. They are also given a unique password and another password is any registered proof like the driving license number, passport number, voter id number or any other government authorized ID proof is also made.

9. Project Title: *Optical character Recognition System for Kannada*

Project Guide: Dr.Roshan Joy Martis

Project Team: Vishnu Prasada S, Rajalakshmi S, Spoorthi K

Abstract:

The optical character recognition system (OCR) is the process of converting textual scanned image into a computer editable format. OCR systems are developed for the recognition of character in printed and handwritten documents of various languages of the world. In this project, the input text images are subjected to preprocessing which consists of binarization and noise removal. The recognition of basic Kannada characters is based on shape features such as curves and lines. After preprocessing, the features are compared with those existing in the database and the character is displayed using Kannada software.

10. Project Title: *Smart School Van Safety System*

Project Guide: Mr. Naveena C

Project Team: Yathiraj N, Puneeth Kumar A S, Samhitha B, samatha Rai

Abstract:

School buses transfer millions of children daily in various countries around the world. While there are many issues that might disturb parents regarding the travel safety of school going children, moreover in the modern world all are busy in their works/business activities. No one has time to spend with their families. In such situations taking care of their school going children is a big headache for the parents. The paper 'Smart School Van Safety System intends to look into introducing access safety in respect of school buses that will help the school children's transportation in a secure and safer way.

In the proposed system parents can access all the information about the current status of the bus at any time instance using their smart phones. The safety measures include detection of alcohol consumption by the driver, wheel dislocation detection, over speed monitoring system etc. Also the system is having a built in GPS navigation system which will help the students to know accurately about the arrival time of the bus in advance. Considering all this advantages this smart school van safety system is a very promising project in favor of students and parents in the feature.

11. Project Title: *Tactical Border Surveillance System to detect, classify and Track Enemy*
Project Guide: Mr. Ramachandra B
Project Team: Venkat Suraj K, Prabhakar R H, Shwetha Kumara A G, Rajesh

Abstract:

The intension of this project is to build a object detection system that is mounted on a arduino based Bluetooth controlled car. By designing this system which involves wireless camera, we can examine object field. The vehicle can enter into enemy area and send information via wireless camera. It can act as a live telecast of audio and video information from the surrounding and can be sent to remote station. It is also able to access information when surrounding has darkness. One of the major applications of this project can be analyzed using android based Smartphone, which can be used to control the movement of the Bluetooth controlled car. The object detection system detects the object in the object field, and transmits the data into receiver side using RF Transmitter, the transmitted signals are received by the RF receiver, this system will be the replacement for surveillance system.

12. Project Title: *Vehicle Accident Detection and Reporting System Using GPS and GSM*
Project Guide: Ms.Aparna Nair
Project Team: Meghana Salyan, Akshatha P, Hithaishi
Abstract:

Security in travelling is a primary concern for everyone. Rising demand for automobile has increased the traffic, thereby causing more accidents on the road. People often lose their lives because of poor emergency facilities in the case of unattended accidents. Many lives could have been saved if emergency service could get accident information and reach in time. Pre-emption of the accidents taking place on the roads is not possible but at least the after effects can be minimized. The proposed system ensures making emergency facilities available to accident victims as early as possible by letting relatives, hospital or a rescue team know the accident spot with the help of this module embedded in the vehicle.
When an accident occurs immediately the vibration sensor detects the impact and sends it to microcontroller. The microcontroller turns on the buzzer to notify the people around and initiates GPS, traces the accident location and sends an alert SMS using GSM to the police or medical rescue team or concerned relatives. If the impact of the accident is minor and no one

is injured then the alert SMS would not be sent since the system is deactivated by the user pressing a switch.

13. Project Title: Vehicle Theft Control and Tracking System Using Android Application.
Project Guide: Mr. Vinay P
Project Team: Swathi A B, Yashwitha K M, Sushmitha M, Vinyas C S
Abstract:

As the crime rate is going up, security system for vehicles is extremely essential. Nowadays, vehicle thefts are on the rise, and therefore, demand urgent security measures to ensure proper security to vehicles and other transportation systems. Currently central locking system and also theft detection system is available in the vehicle these can alert Vehicle owner for theft detection. But major problem with all these system having a major limitation that it can alert local user. Even if they come to know about the condition, it is difficult to track .to overcome this type of problem we are trying to implement a system which can used to interact with the system remotely. In this proposed system is installed the rate can be reduced. 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. And the owner can find the exact location of vehicle using GPS.

14. Project Title: *A Novel Performance Analysis of Patch Antenna Based on its Shape*
Project Guide: Ms. Nandini Rao
Project Team: Jayashama, Pooja Bhat, Dhanushree K S, Madhura
Abstract:

The project targets on performance analysis of patch antenna based on their shape. The performance of the antenna will change with the change in patch shape. There will be an increase in the output factors like gain, directivity and the cost will reduce due to the smaller size of the patch. The design and optimization is carried out with the help of a GUI antenna analysis tool FEKO. The requirement of a more low profile antenna is ever increasing. Here we are using four different shapes of the patch to analysis the performance factors of each. Each antenna is designed and optimized. The optimized design of antenna is used in

simulation for the outputs. The obtained outputs are tabulated and compared with the existing design with few common parameters

15. Project Title: *Air Pollution Monitoring Using Smart Phones*
Project Guide: Mr.Shivaprasad
Project Team: Naveen Kumar D
Abstract:

Air pollution monitoring is extremely important as air pollution has a direct impact on human health and environment. The level of pollution has increased with time by lot of factors like the increase in population, increased vehicle use, industrialization and urbanization which results in harmful effects on human wellbeing by directly affecting health of population exposed to it. The parameters of the environment to be monitored are chosen as temperature, humidity, volume of CO, volume of ammonia, detection of leakage of gases like - smoke, alcohol and LPG. The additional advantage of the system is that it continuously monitors the level of the gases if the gas level reaches below the threshold limit of gas then alerts the consumer about the leak by sending SMS to the authorized person through the GSM and an alarm is generated immediately.

16. Project Title: *Android Mobile Based Home Automation and Theft Detection*
Project Guide: Mr. Vyasaraj
Project Team: Deekshitha R Rai, Ashwitha D, Dhanyatha, Niharika K N
Abstract:

Android Mobile Based Home Automation and Theft Detection System is designed with low cost and wireless remote control to assist and provide support to elderly and physically challenged people and also to improve the standard of living. Home Automation System (HAS) has been designed for mobile phones having Android platform using Bluetooth module as transmitter for indoor applications and GSM for outdoor applications. Bluetooth is the most famous and efficient technology for short range wireless communication and GSM (Global system for Mobile Communication) is an efficient technology for higher range of wireless communication. These two modules automate micro controller which controls a number of home appliances like lights, fans, televisions and many more using on/off relay. This technique is an automated approach of controlling the devices in household that could

ease the task of using the traditional method of switching without modifying the existing system to greater extend. Home Security is also a matter of concern. In theft detection process, PIR Sensor is used to detect moving objects. If motion is detected, the camera turns on and captures the image. The Viola-Jones Algorithm is applied to the captured image to detect human face. Then the image containing human face will be sent to owners' email.

17. Project Title: *Automated Rubber Tappering machine*

Project Guide: Ms. Sangeetha B.L

Project Team: Nandana Shyama P, Athul Sanker N, Vinayaka nayak N, Madhuraj M N

Abstract:

Rubber tapping is the process of extraction of latex from rubber trees. Rubber tree tapping is considered to be a skill oriented job. During the tapping process, the taper has to make a downward half spiral incision on the tree bark to extract the white milky liquid called latex. On a typical day, a rubber tapper has to tap about 500 to 800 rubber trees manually with a tapping tool within a specified time of the day. Availability of skilled laborers who could accomplish this mammoth task is getting scarce as days pass by. Even though cheap unskilled labor is available, without appropriate time and training they would end up damaging the tree.

The automated rubber tapering machine designed here would replace the manual labor required for the tapping process. Also with a clock feature to control the timing of the tapping process, higher yield of rubber latex could be obtained.

18. Project Title: *Hour Meter Using GSM Module*

Project Guide: Ms. Jovita Lasrado

Project Team: Chethan Kumar A, Kulal Shreya Satishbhai, Nakshathra S, Namitha Bhat K

Abstract:

Hour meter is a gauge or instrument which holds the records of the time duration of the device to which it is connected. Hour meters are used in an application where time is the main focus. To make a process more efficient, effective or safe, hour meter are used to determine how long a device has been running in order to schedule device maintenance. It keeps count of the elapsed time of the device.

The main objective of this project is to keep track of working condition of a device using hour meter and information about the working condition of a device is sent to a user with the help of GSM module. For every 10 minute, the user receives the details about the device through SMS in user's cell phone. This GSM communication helps the user to gather the information of a particular device anywhere in world.

19. **Project Title:** *Long Range Spy Robot With Live Video Capturing*
Project Guide: Mr. Praveen U
Project Team: Adarsha A, Akshay S P, Anantheshwara Bhat P, Kiran B N
Abstract:

The aim of developing an advanced technology that serves high speed and method of controlling the robot, some technical improvement along with the need of high performance robot is required to create a faster, reliable, accurate and more intelligent robot which can be devised by advanced control algorithm, robot control devices and new drivers are need to be designed. Hence we have developed a long range robot which works in long distances to help in spy operations.

In this project we are using DTMF technology to control the Robot. This spy robot holding some technologies together, they are Night Vision Wireless Camera, Human Motion Detection using Passive Infrared Sensor. PIR sensor detects the changes in the IR levels emitted by the humans. It can detect the levels of Infrared Radiations. The night vision camera is used to capture the video by streaming live to the computer. Robot motion is controlled by DTMF Technology. The system uses two mobile phones, one to control the robot that sends DTMF commands via call. Here we are using a GSM module to send the message when the PIR detects the motion. A DTMF decoder, motor driver, PIR sensor, GSM module is interfaced with the microcontroller of 8051 family.

20. Project Title: *Smart Water Management and Device Control Using IoT*
Project Guide: Mr. Mahabaleshwara Bhat P
Project Team: Jayarama N, Karthik P Naik
Abstract:

Internet of Things (IoT) is the sensors and actuators embedded in physical objects that are linked through wired and wireless network often using the same internet protocol that

connects the internet.IoT is the emerging internet technology with the quick increase in the number of internet users. From industrial appliances to user, IoT is a developing network of everyday object which can share data and complete responsibilities when the user is busy with other events. The idea is that not only to communicate between computer and smartphones but also all the things around us. The data collected from connected home appliances and sensors in the field can be used for new kind of service such as water management and device control. The proposed project is purely based on IoT and it helps to control the device from remote area by authorized users.

Life has become very simpler and easier in all phases with the improvement of automation technology. Today automatic methods are chosen over manual method. The water management is considered for the efficient use of water resources. Smart water management system consists of two parts, one is automatic filling of water to the tank and the other is irrigation system. In automatic filling of water the data communication is wireless using nRF module. In irrigation system initially the soil moisture detector gives moisture content data to the controller and based on the weather report the controller decides whether to supply water to the field or not. This system gives real data values to the user and thus reduces human effort. The user can control the devices from any part of the world using internet.

21. **Project Title:** *Multi Purpose Embedded Kit*

Project Guide: Ms. Nirupama

Project Team: Abhishek A, Ashik C H, Chandanprasad B C, Naman U

Abstract:

The Multipurpose embedded kit is the computing system with a dedicated function within a large electronics system. It is embedded as a part of complete device including hardware and software parts. The properties of embedded kit when compared with module system are low power consumption, small size, rugged operating range and low per unit cost.

The multipurpose embedded kit is usually contains a core controller or processor like microcontroller which does all the control and task completion activities and the peripherals connected to it does the task as per the commands given by the core. The core system will always have a greater speed in completion of task. The greater the speed of doing task the greater will be the demand of the kit and in the industries the task should be completed within a dead line and if the speed of activities is faster the task would complete within that

deadline. The kit is a single entity which contains many modules within it for the purpose of different task completion.

22. **Project Title:** *Raspberry Pi and Zigbee based remote area communication*
Project Guide: Mr.Suhandas
Project Team: Aruna K, Anupama A, Aparna T
Abstract:

In the recent developments the field of wireless power transfer has been developed significantly. In the future transport area, electric vehicles are considered as replacement of oil powered internal combustion engine driven vehicles. Electric Vehicles (EV) have been proposed to achieve environmental friendly transportation. Even though the EV usage is currently increasing, a technology breakthrough would be required to overcome battery related drawbacks. To address battery related limitations, the concept of Wireless Power Transfer (WPT) enabled EVs have been proposed in which EV is being charged while it is in motion or stationary.

Wireless Power Transfer (WPT) is achieved using the method of inductive coupling. WPT is the transfer of electrical power from the power source to a load without the use of physical connectors. WPT circuitry is placed inside the vehicle which gets activated when the vehicle reaches the charging area. The primary coil is supplied from the charging station. Flux is radiated out of the primary coil and gets induced with secondary coil present in the EV. The induced voltage from secondary coil is then regulated, rectified and used to charge the EV battery. Electric Vehicle is charged in an effective way without using cables and other plug-in technology. Efficient wireless power transmission is done and control over electromagnetic induction and effective charging of battery will be achieved. In addition to power transfer, data related to battery status, or emergency messages can be simultaneously transferred between the grid and vehicle.