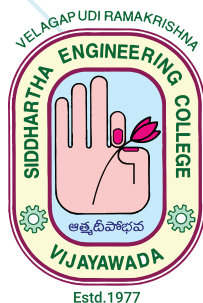




Department of
COMPUTER SCIENCE AND ENGINEERING

STUDENT TECHNICAL MAGAZINE

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VELAGAPUDI RAMAKRISHNA **SIDDHARTHA ENGINEERING COLLEGE** (AUTONOMOUS)

(Sponsored by Siddhartha Academy of General & Technical Education)

Approved by AICTE | Affiliated to JNTUK Kakinada

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About CSE Department

The Department of Computer Science and Engineering was established in the year 1985 with its cohesive team of faculty members, offers a sound program at the UG as well as the PG levels. The curriculum is a blend of the conventional and the radical. It is updated regularly to keep up with the growing demands and the changing trends of the software industry and research laboratories. Also Department has a thriving research environment with active research groups in the areas of Bioinformatics, Data and Web Mining, Information and System Security, Computer Networks, Digital Image Processing and Video Analytics.

Smart Stove System

B.H.V. Samba Siva Rao, K.Sudharsan, N.SomanadhReddy, N.Hari Prasad,
Mentor: V.Deepa

Our project detects the gas when there is any leakage and turns off the regulator of the gas cylinder or the stove knob and prevent any further damage. It also helps to detect the amount of gas present in the cylinder and alert the user beforehand. An additional feature is to turn off the gas after defined amount of time. Existing methods deals with sensing the gas and turning it off by some complex procedures like using turtlebot ,etc. There is no remote method to off the gas leakage or regulator knob. Existing methods highly deals with the industrial gas leakage issues. We are going to solve this problem by using IOT and mobile application, we provide remote method to off the gas cylinder's regulator knob. The scope of our project is limited to domestic purpose.



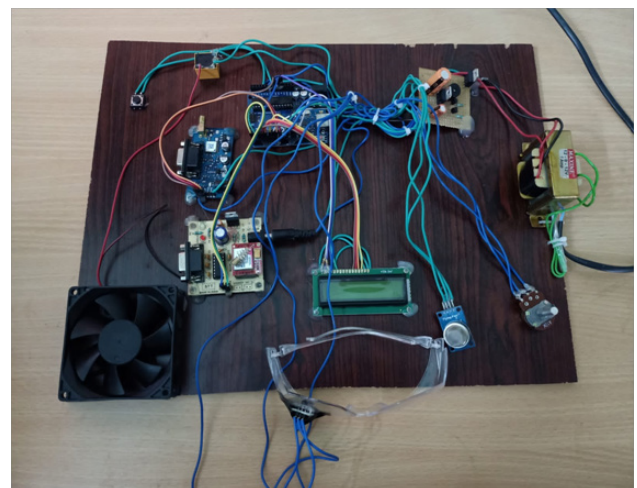
SMART DRIVER MONITORING SYSTEM

P.LakshmiKumari,P.Vasanthi, Y. Lahari,

Mentor: Dr.K.Praveen Kumar

Now a days the road accidents percentage is growing exponentially. One of the main causes of the road accidents are human errors such as alcohol consumption, drowsiness, over-speed, distraction, lack of knowledge and inattention. To avoid that human error in the causes of road accidents we are implementing a project named Smart Driver Monitoring System. There are some existing methods to solve this problem like manually detecting alcohol by the traffic police, drowsiness video sensors, alcohol detection system. The drawbacks of existing methods are the traffic police have to check each and every person manually, so the time is wasted and some persons may skip the traffic police and only alarming system is included in the previous methods. In our project we solved the human errors in accidents such as alcohol consumption, over-speed of the driver by using the sensors and we sent a message to the traffic police mobile phone about the vehicle details and the location of the vehicle using GPS and GSM technologies and we

checked the drowsiness of the driver and an alarm rang when the driver closed his eyes for 2 seconds and we added an emergency button which is very helpful in the emergency situations like break failure of the vehicle, loss of control of the vehicle or any fire accident occurs, So in that situations when the driver pressed the emergency button then immediately



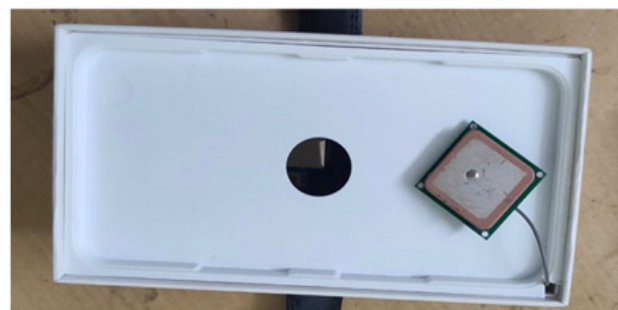
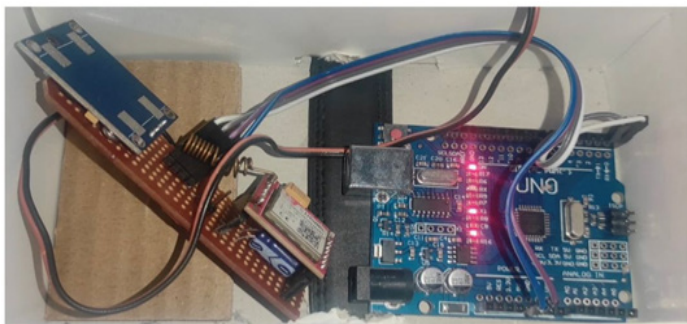
a message along with the location and an alert was sent to the traffic police as well as the monitoring department at bus stand as Emergency Detected.

Contiguous Cattle Tracking Device for protection against larceny and enigmatic animal behaviour

B.MaheshBabu, J.V RaviTeja, K.VenkataNageswar Rao, K.Tejasri,

Mentor: S.Rajeswari

The number of cattle that are missing is increasing day by day. The reason behind this might be due to cattle theft, or due to animals forgot the directions to their owner's place or some other problem. Currently to identify the owner of the lost cattle, the radio-frequency enabled ear-tag (RFID) with a 12-digit unique identification number is used, like the Aadhaar, affixed as a yellow tamper-proof tag inside the ear of animals like cows and buffaloes. But there is no existing solution to find the Geo-location of the lost cattle in forest areas, hills, drowned in water bodies, or stuck in some places of surrounding places. This problem can be solved if we have a method that could keep track of the animals based on its location, more precisely Geo-location. We implemented a small device like a GPS tracking unit along with GSM technology with the help of IOT concepts implemented into a tracking collar that can be used for cattle, and a mobile application that could keep track of the cattle's Geo-location that were tagged. The animals that are to be tagged are well known to owner of the cattle than us because of his knowledge on his cattle.

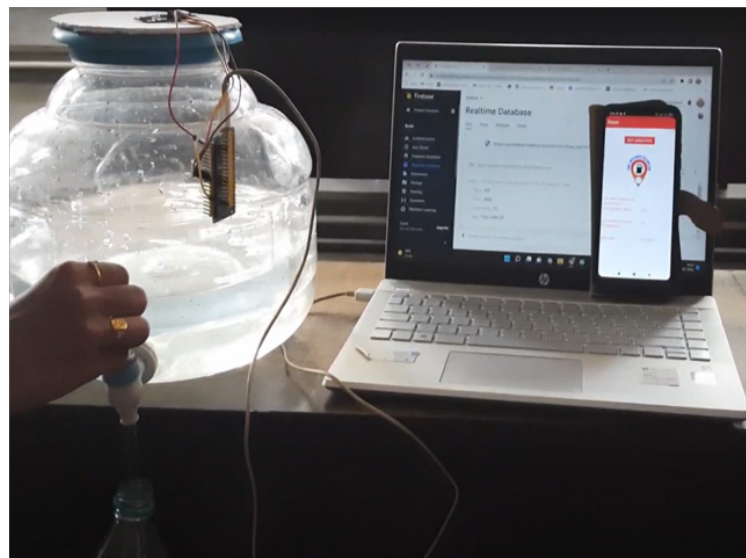


Fuel Distance Estimator

K.saiHaritha, M.L manogna, S.Prathyusha, G.divya,

Mentor: J.V.D Prasad

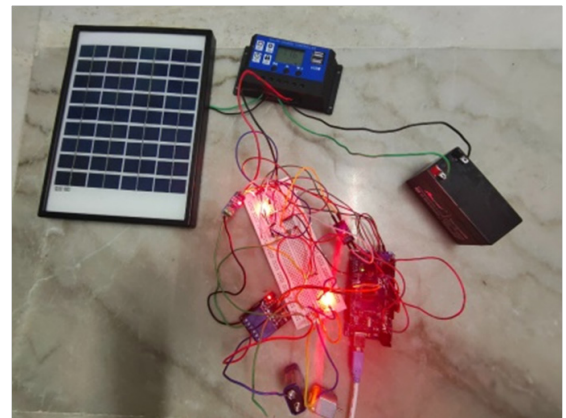
Many motorists are facing sudden stoppage of their vehicles due to the inaccurate measures of fuel-by-fuel gauge. Most vehicles have fuel gauges with bars or pointers thus the accurate value of fuel is not known. For accurate fuel monitoring there exist some proposed models to display fuel levels using the digital Liquid Crystal Display screens. It is difficult to fit Liquid Crystal Display screens into vehicles. Thus we want to provide a mobile application that displays fuel levels instantaneously. This app also provides an estimated distance that can be covered using the fuel level displayed and the mileage of the vehicle. It also displays the nearest fuel station, and the distance to reach it. Fuel level is measured by ultrasonic sensor and Node MCU ESP32 and stored in Firebase. The mobile application is developed using Android Studio connecting to firebase. Mileage of vehicle is predicted using Machine Learning concepts.



Efficient Smart Micro Scale Solar Power Management System for Rechargeable Nodes

Saran TejaMallela, G.Satya Dinesh Kumar, Y. Tejaswi, **Mentor: Dr.Ch. Rupa**

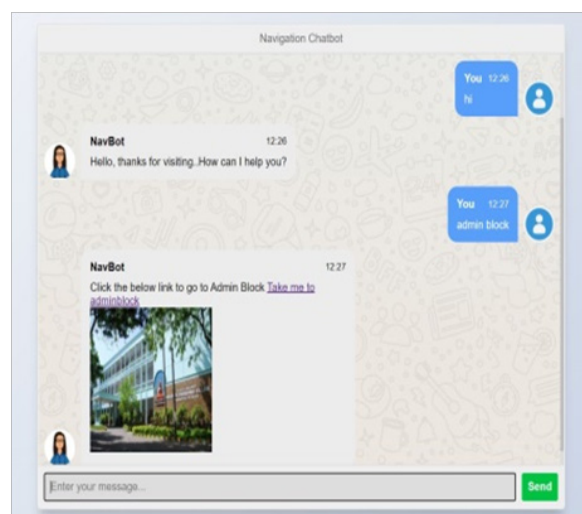
An IoT based model that can divert the excess solar power produced from the solar panel based on the solar battery percentage. This type of diverting solar power to the neighbours will save us a lot of energy by avoiding stepping up in transformers and uses the solar panels to their full extent.



Navbot-College Navigation Chatbot using Deep Neural Network

A.Yamini, K.Hindu, Y.Lakshmi Narayana, **Mentor: Dr.M.Sobhana**

The proposed Chabot will search the processed query in the knowledge base and respond with the corresponding answer using a sequential DNN model with five hidden layers. User interface of the Chabot is developed using Hyper Text Mark-up Language (HTML), Cascading Style Sheets(CSS) and Java Script. The proposed model will help in navigating people inside the college to different blocks through google map links and inside the blocks through textual directions. The model works with an accuracy of 98%.

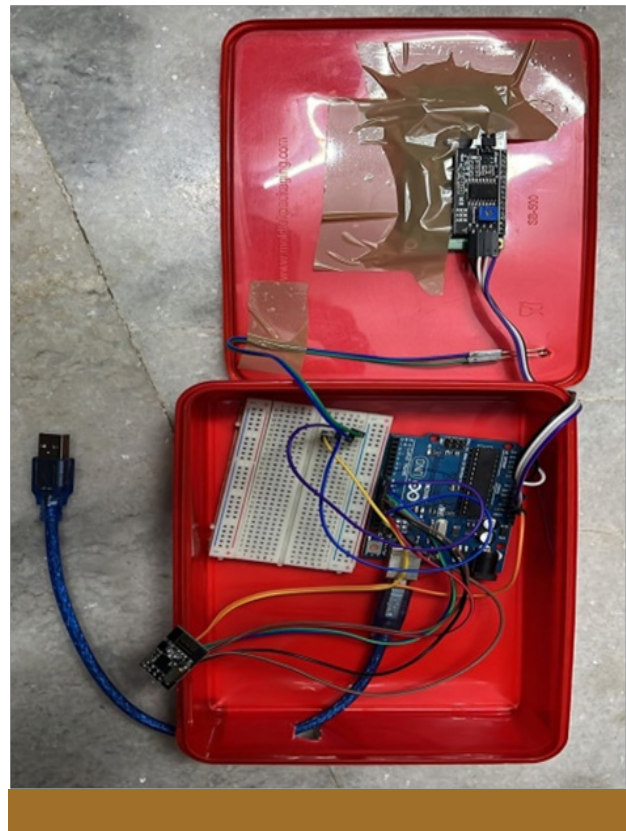


Agile Helmet- A Smart Secure System for Motorbike

N. Raja Reddy, Ch. Ganesh Karthik, K. Gayathri,

Mentor: Ch. Raga Madhuri

Agile helmet is basically a smart helmet. The core concept of an agile helmet reduces the risk of riding a motorcycle. The most important objective is to keep bike drivers safe. The engine will turn off deliberately if the motorist wears no helmet. Using this helmet whenever an accident occurs, GPS and GSM modules send the location information to the respective families. This is done by introducing the IR and vibratory sensor to the helmet. These sensors are set to certain threshold values. This project aims to save the lives of drivers and reduce the number of people killed in road accidents. It is one of the most advanced road safety systems projects ever undertaken.

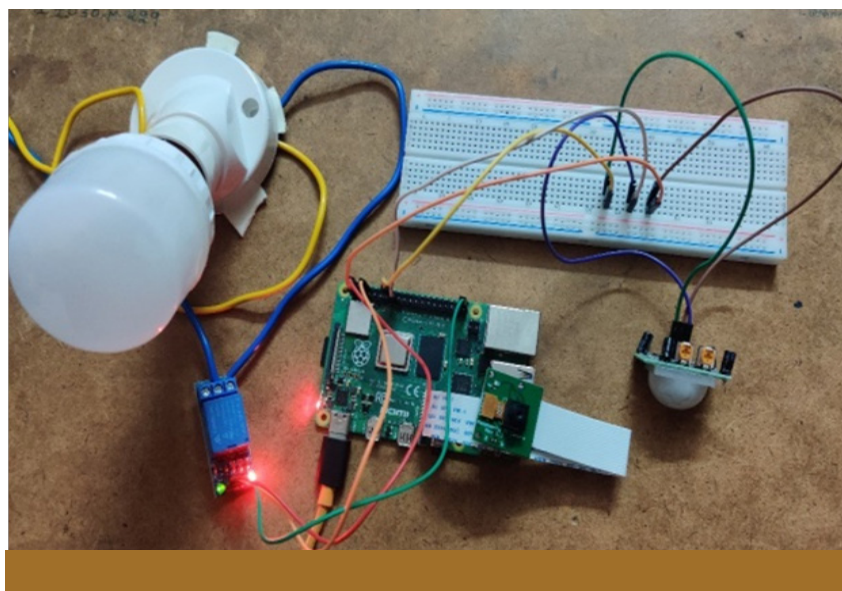


Auto-Monitor for Smart Classrooms

P.Pavithra,P. Baby Likitha,Y. Venkayya

Mentor: Mr. Ch. Mukesh

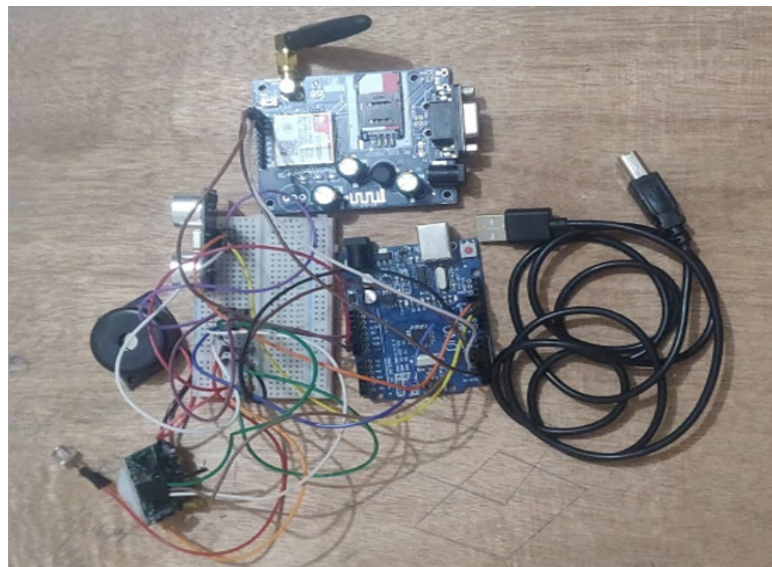
Reduction in Power wastage has been a primary concern for large academic institutions and business organizations alike. Unoccupied classrooms might still have electrical appliances running leading to unnecessary consumption of power and wastage of resources. Our aim is to reduce the wastage of that amount of energy. So our project proposes a Wireless Sensor based Power Management System that monitors and controls the functionality of electrical equipment inside the classroom to automatically turn off without human intervention when the room is unoccupied. Motion detection is used with the help of motion sensors and camera to detect human presence inside the room. If the room is unoccupied, our system automatically switches off all the equipment inside. This a cost effective system because expenditure involved in implementing the system is very less compared to the power costs incurred.



Crop Protection From Animal Attacks Using IOT

M.V Sai Lakshmi Jahnvi, V.Mythili, D.Krishna Reddy, Gv.Vanetha,
Mentor: Mr. S. Rajesh

Wild animal attacks on crops are reducing crop yields in the agricultural sector. The most important issue is to prevent animals from migrating from the forest to agricultural land, which has become a growing factor affecting agriculture. Our project's purpose is to protect crops from animal damage and to divert animals without harming them. An animal identify system job is to identify the staying of animals and deliver a message. In our project, we are using a camera module and ultrasonic sensors for the detection of animal movement and transmit a signal to the controller. It distracts the animal by emitting a sound and signal, which is then transmitted to GSM, immediately notifying farmers right away. An Internet of Things based animal identification system is used to send a message to the farmer when an animal enters the farm. In this project, we use a camera-based identification system to detect an animal and a GSM module to contact or send a message to the farmer.



A Smart Watch for Women Safety and Protection Against Paedophiles

P. VenkataUday Kiran, Ch. Lokesh, K. Naga Vivek

Mentor: Dr. Ch. Rupa

Developed a smart wearable watch that acts as a location tracker. When women or children are in a tough situation, they just need to press the button provided on a smart watch, then the location of that smart watch will be sent to their family member's mobile number. So that they can reach out to the place quickly. No one can find out this as a location tracker, as it looks like a real watch. GPS technology is used to trace the location and Twilio is an API that helps to send SMS to the family member's mobile phone. This is a small-sized, low-cost, simple-to-use smart watch. So that even children can use it.





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