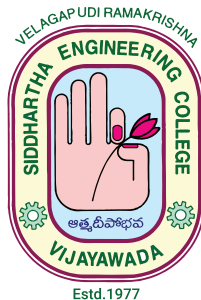




Department of  
**COMPUTER SCIENCE AND ENGINEERING**

# 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

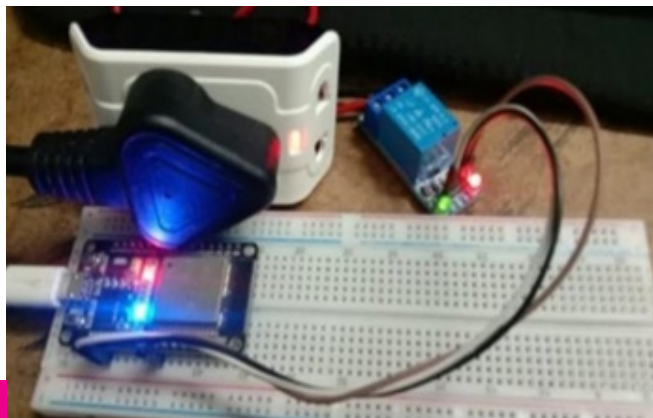
The Department of Computer Science and Engineering was established in the year 1985 with its cohesive team of faculty members, offers a sound program at the UG as well as the PG levels. The curriculum is a blend of the conventional and the radical. It is updated regularly to keep up with the growing 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 Power Management Model

R. Maheswari, B. Harsha, Shanmukha Sainadh G, K. Sai Teja,

**Mentor: Dr. Ch. Rupa**

Envision a day without electricity! Even a day in our life is hard to imagine without it. But are we concerned about it? Let's look into it. Many of us leave the mobile, laptop, or any other similar device for an excess amount of time to fully charge the device. But this results in loss of battery life and electricity wastage. In the long-term, it costs you even considerable amount of money. Efficient Energy Management plays a vital role in the improvement of power consumption and power measurement. To fulfil this problem, we have developed an intelligent smart socket. The system uses the IoT Power Socket as a bridge to control the power outlet over the Internet. With the integration of Blynk cloud technology, the user can use the customized Blynk project to send commands to switch off or on the IoT Power socket. It also comes with a timer feature. With the availability of the timer feature, the device can allow the power at a specified time intervals set by the user at any point of a day. The user is also provided with the control to stop the power supply before the end time. The advantage of this model is that it allows the power supply to the device (Mobile / Laptop) up to a threshold value specified by the user.



## Smart Irrigation Motor System

Shaik Ameer Baji, Jonnadula Prasanna, Bhukya Krupa Bai,  
Bharath Ratlavat, **Mentor: S Ravi Kishan**

It is an IOT based system which can communicate to irrigation motor from mobile phone, display the status at the motor through surveillance and identify power-cuts/power-ups at the motor.



## IOT based Smart Plant Monitoring System

Badri Deva Kumar, Nikhil Chalasani, DuvvuruJahnvi, Gopiseti Sridhar,  
**Mentor: Dr. M. Sobhana**

IOT facilitates the authorization of things and device activities that are connected across the cloud network interface remotely. It has a very significant contribution towards revolutionary farming methods. This paper describes about an autonomous crop irrigation system.



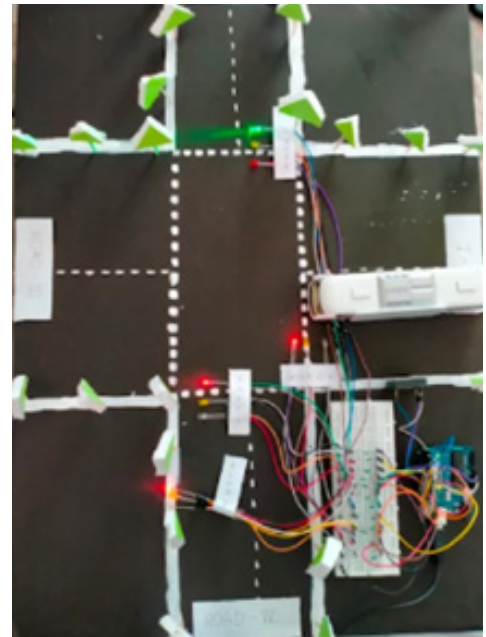
The ability to control and monitor irrigating plants that not only reduces the human intervention but also to sense and record the processing of the system status in real time makes our system more unique and simplified than any existing system.

## Smart Traffic Signal for Emergency Vehicles

Pragathi Tummala, V. Narasimha, P.Bhavishya, G. HarshaSri

**Mentor: Mr. VVNV Phani Kumar**

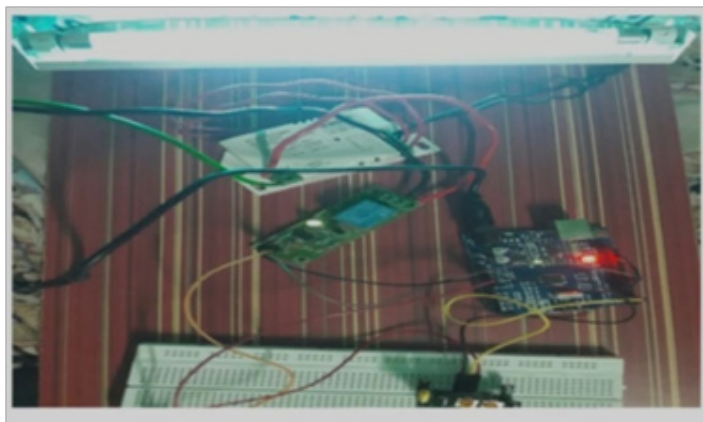
Traffic Monitoring and Management is one of the most difficult challenges being faced by many metro cities these days. In this project we will implement a method to dynamically schedule the traffic signals so as to dissolve the traffic jams and allow easy movement of emergency vehicles on the road. Existing ideas include controlling a traffic light using timers for each lane, employing electronic sensors for detecting vehicles. Another way is with the help of traffic police, when he notices the ambulance. In this project we will use An Arduino UNO Microcontroller, RFID reader module and RFID tag. RFID reader detects RFID tag in its proximity and updates the Arduino with the RFID tag number. The RFID tag comes along with a coil and a chip inside it. When this ID comes in good proximity to the reader, electricity is induced in the coil by the method of electromagnetic induction which powers up the chip. With the help of RFID tag the ambulance when required to pass through signals the signal becomes green by keeping all other signals at the junction red. This helps to pass the ambulance without waiting for green signal in thickly populated areas / traffic areas.



## U.V. Automobile Sanitization

Arvapalli Surya, TejaKalla, Hemanth Kumar, Sri Phani Charan, Tatineni Kanagala Prathyusha  
Mr. D. Suresh Babu, K. Kiran

There is a need for UV based sanitization in automobiles. In these pandemic automobiles are currently sanitized with alcohol-based sanitization. For automobiles conventional methods for sanitisation can't be used. Both vapour-based sanitization and alcohol-based sanitization are dangerous to use in automobiles. The main component of the alcohol sanitizer is ethanol. Ethanol is highly flammable in nature. There is a requirement for alternative method. The best method to kill the microorganisms in effective way is with the use of Ultraviolet light. UV-C is known for disinfection as it kills viruses, bacteria and other microorganisms. UVC have a wavelength of 200-280nm. This Energy is found naturally in sunlight. It is produced in strong intensity with the help of high intensity lamp. In this project an IOT device which uses UV-C light is used to produce UV light and motion detector is used to detect any motion near the light and immediately switching the light off in case of any motion. Thus, preventing any person contact with UV light. This helps to minimize the fire accidents caused by alcohol-based sanitization in automobiles.

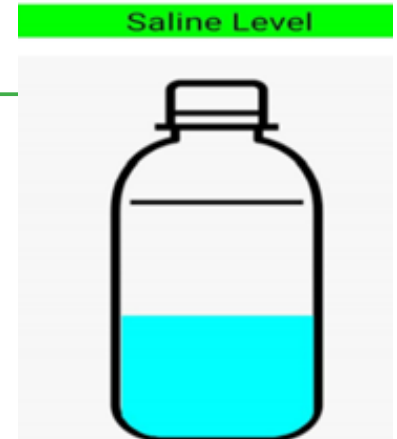




## IOT based Automatic Saline Monitoring System using Ultrasonic Sensor

M Pavan Sai, Ch. Roshini, K.Sudheer, Katikala Lakshmi sri,  
K. V. Hema Sai, **Mentor: Mr N Sunny**

An IOT based saline monitoring system that measures saline quantity frequently and sends the data to observer through cloud.

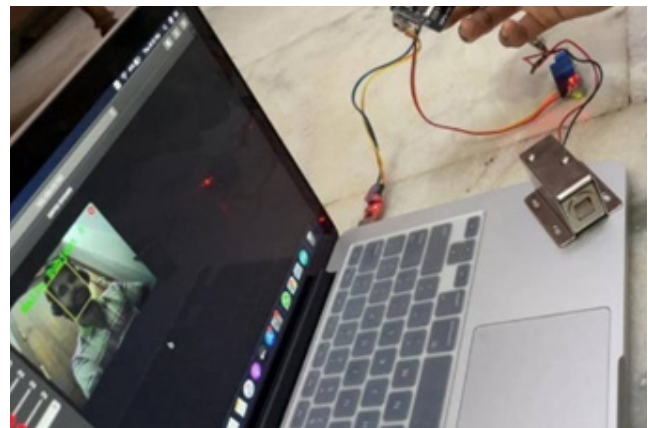


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## Smart Door unlock System using Face Recognition

Y. Lakshmi Venkata Naga Sree, B. Dharmika Neela Vineela, Gogineni Nithin Teja  
**Mentor: Dr. Ch. Rupa**

In today's era of automation and smart devices, there is crucial need to alter the security measures of system as privacy and security are notable issues in the information system. It is difficult to trust blindly on traditional and simple security measures of the system. In traditional system many of the doors are having mechanical lock, which were restricted on the number of keys. Our project Smart Door Unlock System based on Face



Recognition is used to enhance the security. In this system camera sensor is used to capture the face and image matching algorithm will be used to detect the authenticated faces. Only the person whose face is matched can be able to unlock the door. So, limitation of managing keys will be resolved. The security system is also made by means of maintaining into the eye of old age humans for whom it is hard to open the door manually. This system will not only enhance the security but also make the system keyless.

## VYAYAM -Artificial Intelligence based Bicep Curl Workout Tracking System

Gadamsetty Samhitha, Regalla Jaswanthi, YellaEkshitha, Darsi Srinivasa Rao,

**Mentor: Dr. Ch. Rupa**

Fitness is a trend today in present situation it is not possible to hire a fitness trainer or to go for a gym. So, we came up with an AI Model Which uses Human pose Estimation. Human pose estimation is a popular solution that AI has to offer, it is used to determine the position and orientation of the human body where person live video is taken. When a patient uses our model, the camera captures the moments during exercise and records the video. Now, the human pose estimation model detects key points on users' body and forms a virtual "skeleton" in 2D or 3D dimensions. The patient needs to exercise up to measured limit indicated by a meter beside the person video. The user also receives the description of mistakes made and recommendations on how to correct them. We use OpenCV for implementing human pose estimation. We will use the pose estimation running on the CPU to find the correct points and using these points we will get the desired angles. Then based on these angles we find many gestures including the number of biceps curls. We will write the code in a way that you will be able to find angles between any 3 points.





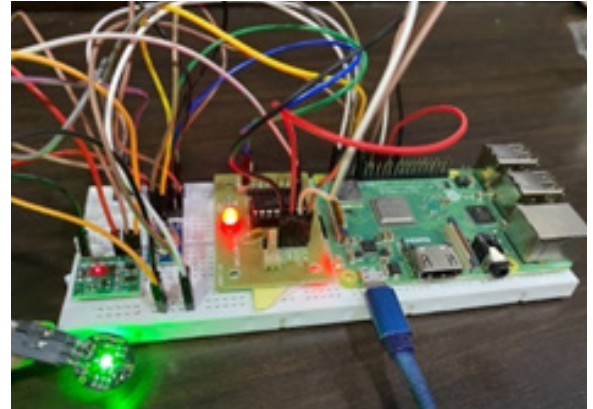


## Covid Support System

Vallabhaneni Raga Sindhuja, Javvaji Srinivasulu, M. Sai Subhash Emmanuel

**Mentor: Mr. M M. Meera Durga**

A Covid Support System (CSS) is proposed for monitoring patient's health status and to provide the prescription remotely. Besides the doctor can also analyze and diagnose from the data collected from the user using IOT. A web-based application is implemented for efficient data analysis. With the proposed system patients can be remotely monitored from their homes and doctor can suggest prescription.



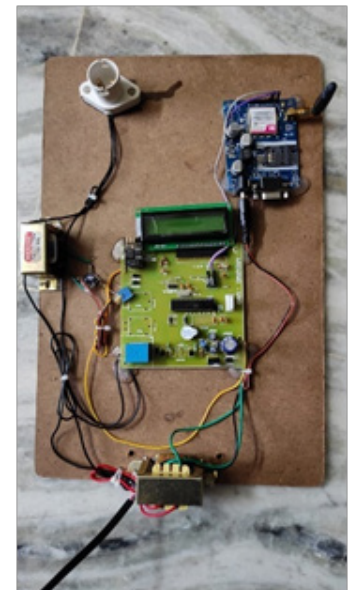
## VIDYUSH SAMRAKSH – Energy Consumption Alert System

Dodla Navya Shree, Veerla Charani, Sri Medepalli Kalyan Maganti, Sai Sathya

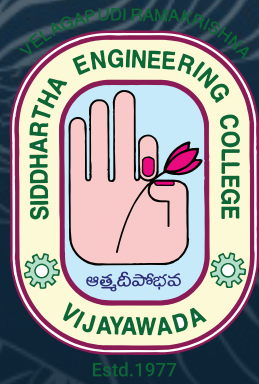
**Mentor: Dr. K. Srinivas**

Now-a-days lot of people are losing Government Grants like Ammavadi, Ration Card, Pension, etc. According to these schemes, if the total power consumption of the

house exceeds particular units per month, then the applicant for the scheme will fail to receive the benefits from them. The main problem behind this is, people are unaware of the cost of energy that is being consumed by various appliances, which is resulting in higher energy consumption, and higher electricity bills. In present existing system the main drawback is, a person has to go area by area and take the readings from the energy meter in every house and generate the bill. It is often



for errors like extra bill amount, late billing, and notifications from Electricity Department even though the bills are paid. Apart from that people will get to know their usage only after the person comes and takes the reading from the energy meter.



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