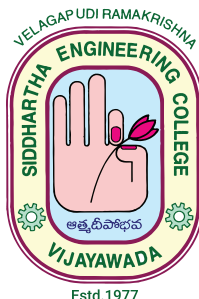




Department of
COMPUTER SCIENCE AND ENGINEERING

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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

Accredited by NAAC with 'A+' Grade | An ISO 9001:2015 Certified Institution

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INDEX

SL. NO.	TITLE OF THE PROJECT	PAGE NO.
01	Prediction Of Boat Accidents	03
02	Fetal Health Monitoring System	04
03	Monitoring Of Cow Calving Using IoT System	05
04	Density Based Traffic Signal With Emergency Override	06
05	IoT Based Smart Saline Bottle for Health Care	07
06	Smart Helmet	08
07	Development Of A Mobile App Using Android Studio, Digitizing The Queues At The Printing Machine.	09
08	Application Of Collection Of Eye Specific Data	10
09	Automatic Headlight Dipper Using IoT	11

About CSE Department

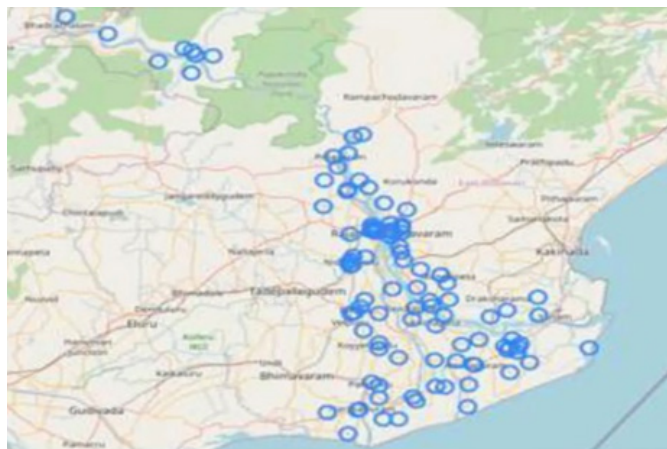
The Department of Computer Science and Engineering was established in the year 1985 with its cohesive team of faculty members, offers a sound program at the UG as well as the PG levels. The curriculum is a blend of the conventional and the radical. It is updated regularly to keep up with the growing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

Prediction Of Boat Accidents

Barmavath Vamsi, Gummadi Sowjanya, Lanka Chandana, Pemma Jayasurya :

Mentor: Dr. S. Vasavi

Major earth surface contains oceans, rivers, and canals. In several of states, transport through rivers could be a lifeline for many individuals. But, this vital mode of transport is ridden with tragic disasters and witness a large loss of human lives. Whenever any boat accident happens, overloading of passengers, accomplishment of unskilled crews, poor weather square measure pointed as a root cause. In a gift situation, there is no system to alert the boat masters regarding atmospheric conditions after the square measure in the middle of the stream. So, we tend to try to achieve the individuals by providing the knowledge of the natural calamities at a specific space and alerting the individuals so as to avoid tragic disasters. This requires a platform i.e., a webpage/Application to perform all the functions. Andhra Pradesh State Disaster Management Authority (APSDMA) is making an attempt to help the individuals by providing information about the natural disaster at a selected space and alerting the individuals at the particular space. Finding the threshold from the parameters like rainfall, water level, temperature, etc., (i.e., most worth for safety) that indicates boats to not enter such explicit areas when crossing the maximum limit. It gives a complete framework on the Early Warning System, forecasting, and Safety Standards. These tips give some way forward to reduce the accidents occurring due to poor atmospheric conditions.

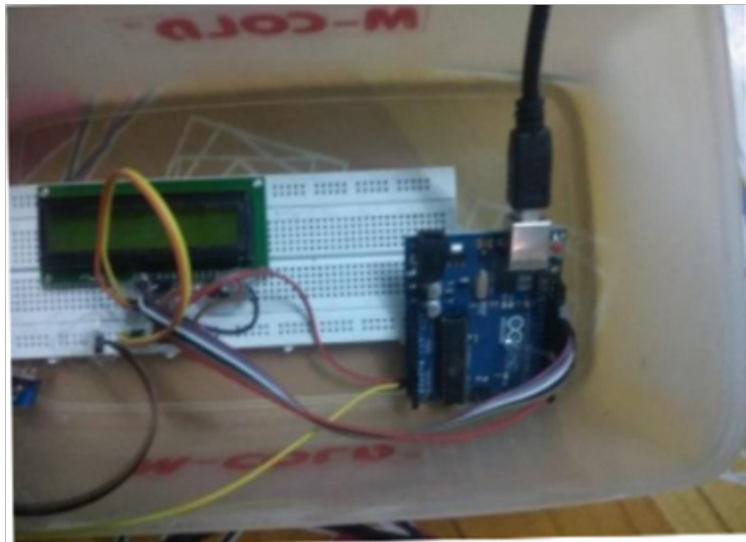


Fetal Health Monitoring System

Kalidindi Puneeth, Kanikicharla Tarun, Pasam Joha, Uppaluri Sahith

Mentor: Dr. P. Ramesh Kumar

The Fetal Heart Rate Monitoring device is a cost-efficient way to check the heart rate of pregnant women. Fetal heart rate is an important indicator or biological index to know the condition of fetal well-being. The goal of the project is to develop a fetal heart rate monitor that can be used by a pregnant mother in home environment. At present in rural areas most of the pregnant women still undergo check-up at the weekly camps set up by ASHA workers. According to Mrs. Syamala, the chief ASHA worker at Penamaluru Govt. Hospitals the doctor-to-patient ratio in rural areas is about 1:200. In this case giving special care to each patient would be very difficult. In the present scenario, providing specialized and proper treatment to every patient is not possible. Though there are devices to measure the fetal heart rate in the market, most of them are too expensive and are difficult to operate by people who don't have proper knowledge of how to use them. The solution to the problem is to design a device which is easy to operate and at the same time cost efficient. The device follows the following phases to produce the readings: 1) data acquisition; 2) data pre-processing; 3) feeding into microcontroller; 4) post-processing and 5) display. The prototype of the device will be tested multiple times to confirm accuracy of the device.



Monitoring Of Cow Calving Using IoT System

Kongara Snehith, usireddy Sai Teja, Vemula Sowmya

Mentor: Dr. G. Arun Kumar

Continuous monitoring of cow during calving is an important activity of the farmer. Careful monitoring is required to identify the calving time and to provide the required arrangements to the cow. As monitoring the cow requires many hours of continuous attention we developed a sensor-based IoT system that senses the calving time based on the changes observed in the behavioral pattern of the Cow. The device measures specific movements of the tail triggered by labor contractions to accurately predict the timing of the calving cow. This data is relayed to farmers mobile through the cellular network as an audible alert when contractions reach a certain level of intensity. The device decreases the mortality rate of calves and significantly improves calf and cow survival rates. In market, there are many devices that predict calving time but they are harmful as they are injected in the cow's body which may trouble them and devices cannot be reused again. But this device is placed on cow's tail which does not create any trouble for the cow and can be reused again.

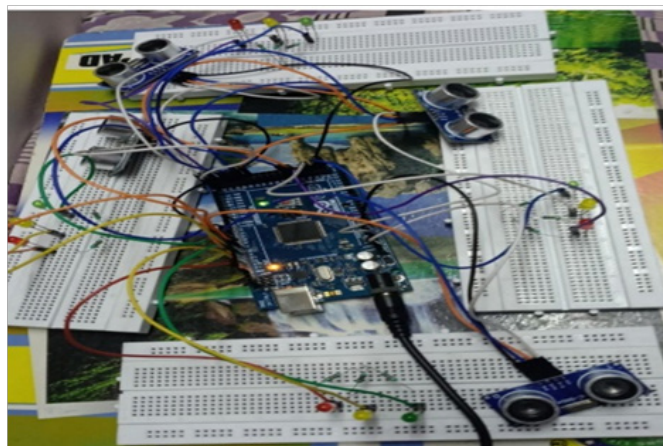


Density Based Traffic Signal With Emergency Override

Dubba Sandeepa, Katragadda Nanditha, Vemulapalli Manish Chowdary:

Mentor: Mr S Ravi Kishan

This proposed system is used to build a smart city with less traffic jams. The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. Traffic congestion is a severe problem in many major cities across the world and it has become a nightmare for the commuters in these cities. Conventional traffic light system is based on fixed time concept allotted to each side of the junction which cannot be varied as per varying traffic density. Junction timings allotted are fixed. Sometimes higher traffic density at one side of the junction demands longer green time as compared to standard allotted time. To reduce human efforts we are introducing smart traffic signal system. Smart traffic signal based on the Arduino mega 2560 & Ultrasonic sensor, in which ultrasonicsensors are placed at one side of road in such a way so as to cover particular necessary area of road from where the vehicles are restricted to pass.





IoT Based Smart Saline Bottle for Health Care

Gummadi Venkata Prasanth Kumar, Maddala Karthik

Mentor: Mr. B. Jaynag

During recent years, due to technological advancements many sophisticated techniques has been evolved for assuring fast recovery of patients in hospitals. Need for good patient care in hospitals, assessment, and management of fluid and electrolyte is the most fundamental thing required. All most in all hospital, and nurse is responsible for monitoring the electrolyte's bottle level. But unfortunately, most of the time, the observer may forget to change the bottle at correct time due to their busy schedule. To overcome this critical situation, a IoT based automatic alerting and indicating device is proposed where the sensor is used as a level sensor or weight sensor. It is based on the principle that the sensor output changes when fluid level/weight is below certain limit. When Fluid level/weight is low, will alerts the observer through the display or/and mobile phone at the control room to indicate the room number of the patient for quick recovery Hospital uses simple electrolytes bottles with no indication, it may create a problem to the patient because the reverse flow will start, blood starts to flow from the body towards bottle. Hospital staff, the constant need to manually monitor the level of bottles is avoided. This is of high advantage to the patients, especially during the night times. This system also avoids the fatal risk of air bubbles entering the patient's bloodstream, which is a serious threat as air bubbles in the blood can cause immediate death. Such a device will create assurity of non-harm conditions to patients.



Smart Helmet

K VSatya Sridhar, M Kavya, Thasneem Rafath Shaik, VSai Pavan Kalyan:

Mentor: Mrs M V Pujitha

A helmet system that is smart enough to detect whether the person is wore a helmet or not, whether he is drunk and also a message is sent when the person is met with an accident. This system checks the two above necessary conditions before the engine of the motorcycle is turned ON. The system implements an alcohol sensor and a switch. A switch is used to determine whether the biker wore the helmet. An alcohol MQ3 sensor is implemented to detect whether the biker was in drunk condition, the output is given to the Arduino. Both the button and the alcohol MQ3 sensor are included in the helmet. If any one of the above two conditions is not met the engine will not start. To detect that accident has taken place vibration sensor is used. GSM module will send a message in the form of an SMS about the accident and the location of where the accident took place to the ambulance and family members.

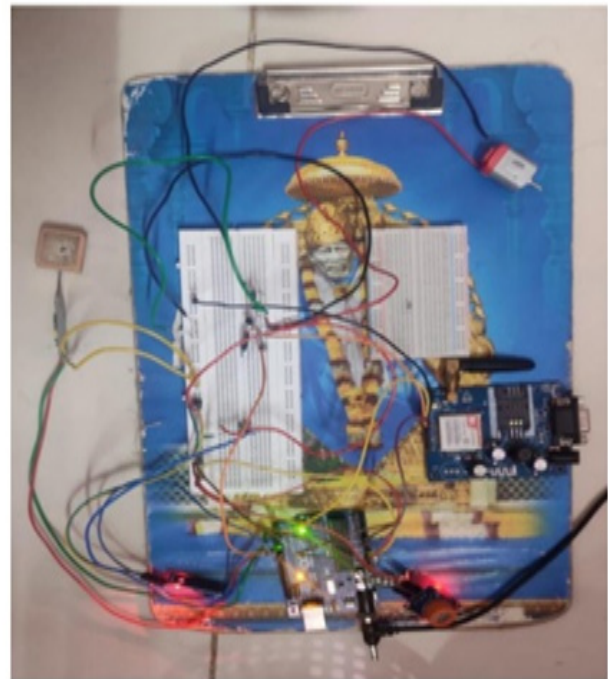
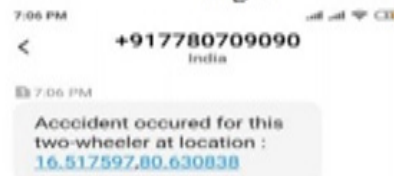


Fig.3



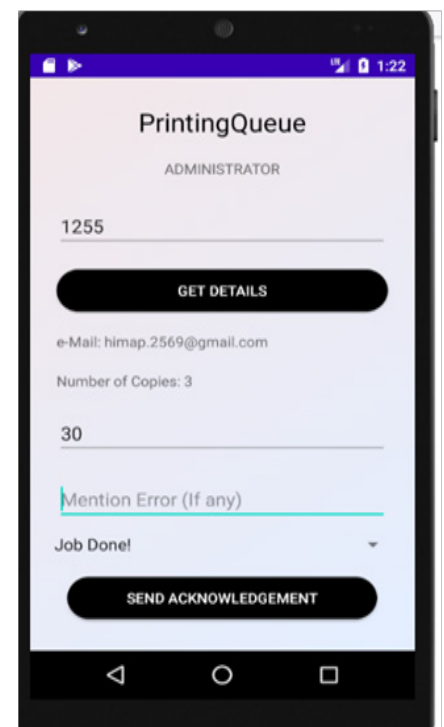


Development Of A Mobile App Using Android Studio, Digitizing The Queues At The Printing Machine.

Parasa Hima Varshini, P Lakshmi Charitha, Vallurupalli Sai Nagini

Mentor: Mrs. K. S. Vijaya Lakshmi

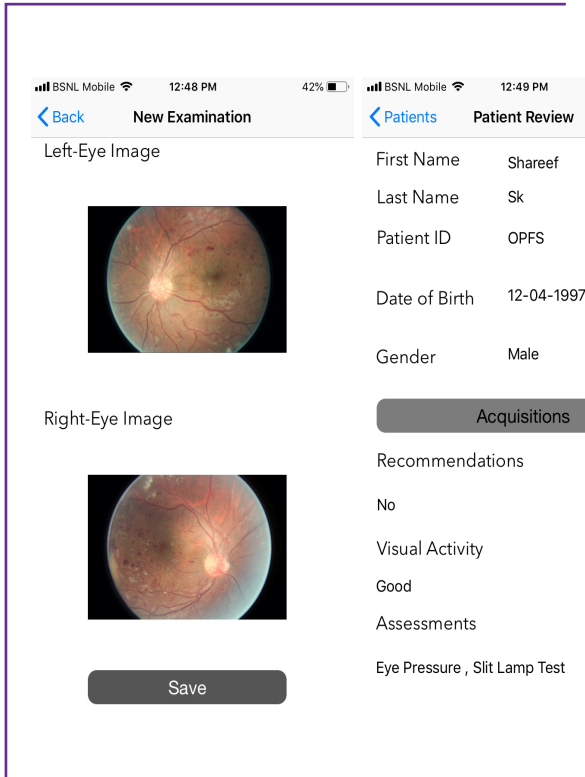
Printing a piece of paper hardly takes a minute and for that single minute, people generally wait in long never-ending queues at the printer stations for their turn to get a printout. The majority of these people include students and employees from professional fields trying to make it out of the rush hour as soon as possible. Though there are printing stations available in colleges, especially for students, they exhibit the same rush hour since all of the students tend to get their printouts at the same time, generally before or after the college hours or in between, during breaks, resulting in taking up a huge amount of time out of the students' precious time. "printing Queue", a mobile application developed in an attempt to eliminate the never-ending queue hogging up daily schedules for a job that could be done in a minute. The application allows the users to register/login, to upload their PDF files on the go, guided by the simple UI in the app, further leading to storage of the file at the server-side (the printing station) database which is developed using Firebase tool provided in Android Studio. As soon as the file is uploaded, the employee at the printing station prints it out and keeps it aside, labelled with a token that is generated while the file was being uploaded, for the user to pick it up, thus eliminating the annoying queue and having an effective impact on the student's productivity throughout the day.



Application Of Collection Of Eye Specific Data

D Sri Harsha, Geethika Nimmagadda, Hanumanthu Sai Bhavana:
Mentor: Dr K Suvarna Vani

Medical health systems have been concentrating on new techniques for speedy diagnosis. As the amount of image data in imaging center of ophthalmology is increasing, analyzing and processing these data is in need. The aim of this study is to develop a general User Interface for recording diagnostic data to facilitate auto-prediction of eye diseases. It is to ensure error-free data entry by developing a user-friendly interface. Furthermore, Machine Learning algorithms were used to analyze patient data based on multiple parameters and clinical observations. This data will be structured according to hierarchies designed by medical experts. Furthermore, the system is designed to evolve by adding new features and classifications for both symptoms and diagnosis. As many of individuals doesn't care much about their vision for this reason, there is a need for a system thereby digitize the examination by capturing images of an eye on regular basis and to facilitate auto-prediction of eye diseases so there by redirecting to the corresponding specialized and localized doctors there by preventing the misdiagnosis up to some extent.

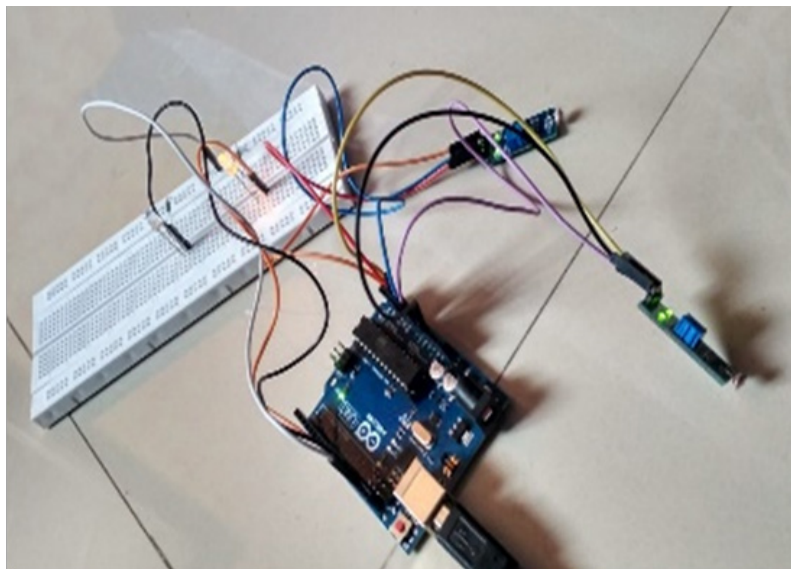


Automatic Headlight Dipper Using IoT

M. Bhanu Prasad, Naga Varun Bathina, S Venkatesh

Mr. V V N V Phani Kumar

Headlights with High beams are often dazzling and extremely dangerous for other vehicles on the road. It creates a glaring and over-illumination issue. This paper addresses the answer to the problems stated on top of by controlling the brightness of headlights using sensors that notice a high beam and switch it to a low beam automatically. At present, in most of the vehicles, there are two steps for the light beam switch. One is for high beam other is for low beam. The driver must manually turn the switch whenever he needs to alter the beam of the light. Automatic dimmers are used to switch the brightness from high beam to low beam. These dimmers holds the sensors which have the capacity to switch between the high beam and low beam and vice-versa automatically, thereby it diminishes the light intensity by identifying the nearing vehicle. It additionally eliminates the human interaction of switching between high and low beams, which is automated.





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