Circuit Branches

Jeyaram Head - CSE

Solar Powered Tricycle:

One of the major problems the fish vending women in Kanyakumari district face is the transportation of fish. They are not generally allowed to use public transport citing discomfort for other passengers and it is not economically feasible for them to utilize private transportation facilities like rickshaws. These aspects have caused various hurdles for fish vending women. To overcome this problem, we have designed and fabricated a tricycle run by solar power which is used to transport fish. The vehicle primarily runs by means of solar power, saved using 300 watts panels. The solar energy is stored within a battery using charge controller and this energy is used to run the vehicle through a brushless DC Motor. The battery has an option for direct power supply charge so that the vehicle will be in operating condition even during rainy season when solar power is limited. This vehicle is primarily designed as a gearless vehicle so that it could be driven by women fish vendors. The vehicle is designed in such a way that one driver can drive the vehicle carrying 2-3 vessels of fish with three vendors on board. Thus they could make their own sales or bulk sales without any struggle.

HOD's Message:

The circuit branches of AVCE have been actively involved in improving the student skillsets apart from the regular engineering curriculum since 2008. I feel proud to state that our staff and students have together worked in developing socio-economic projects, organizing multiple seminars and skill development events.

These activities have contributed enormously in improving the competencies of both the staff and students. As a result of our departmental activities and skill development programmes, our students excel in both technical and behavioural skills. Some of our department projects and activities are mentioned below:

This project has won the 1ST Place at the prestigious Innovista 2016, a state level innovative project competition organized by TAFE and SAE.

Also this project, one among the 384 participants across the state, has won the first position in the state level **Dr. A.P.J. Abdul Kalam Project Competition** conducted by World Youth Federation on 08.10.2016.

Website Development and Training:

We take pride in saying that, the college website is developed by our students. Every year interested students are provided training in web-development technologies like HTML 5, CSS 3, Java script during their semester holidays and subsequently they develop useful websites in a web development competition. The winners of the competition are awarded with generous cash prizes. The best website is chosen as the college website for the year. This activity has been going on since 2012.

This year the different websites created by our students were evaluated by chief guests Mr. Andi Giri, CEO Softsquare Technologies and Dr. S. Selvam formerly Director, CUIC, Anna University Chennai. The best three projects were awarded with cash prizes worth Rs. 10000. The best website was launched by Mr. Andi Giri.

Software Development Coding Competition:

In addition to developing websites, our students also competed in an internal software development competition. For this event, 28 students underwent a rigorous training during the summer holidays in technologies like Java, J2EE, C programming, Android studio and PHP.

After the training, the students split into individual teams and developed multiple projects using technologies such as C/C++, J2EE and Android SDK over a period of two months. Mr. Arunagiri Karthick Regional Operation Manager TCS ION, Chennai evaluated the project and gave away the prizes to the winners. The details of the contestants and the prizes won by them are as follows.

Project Title	Prize	Participants Name	Year
C Project on College Vehicle Management which literally helps in managing all end to end activities of vehicle from service to maintenance	1st Prize Rs. 3000/-	Ms. Betsi & Ms. Anie pradeebha Ms. Bini sterbin Mr. Ajithkumar & Mr. Ranjith	IV
C Project on Visitor Entry Management which helps in tracking all visitors at one touch	2nd Prize Rs. 2000/-	Ms. Gayathri hari & Ms. Harsha Ms. Sona marium moncy Ms. Reshma prasad & Ms. Rejitha N.R.Raj	IV
C Project on Pharmaceutical Management system to organize and track medicine in pharmacy company	3rd Prize Rs. 1000/-	Mr. Venish & Mr. Manikandan Ms. Devibala & Ms. Manisha Ms. Rasathi	IV
Android app on CGPA calculator with advanced features	1st Prize Rs. 3000/-	Mr. Aneez Mr. Aravinth	III
Android app on area calculation	2nd Prize Rs. 2000/-	Ms. Rathika Ms. Monisha jerin & Ms. Binisha crystal	III
Web Design on customized website for blood donors in AVCE	1st Prize Rs. 3000/-	Ms. Vanalakshmi Ms. Nisha & Ms. Durga Mr. Rameshkumar	II
Web Design on customized job portal for AVCEians. The students of AVCE can find out the job vacancies across the globe through this website	2nd Prize Rs. 2000/-	Ms. Meenakamali Ms. Jancyrani & Ms. Pratheesha Ms. Reshma rajan	II
Web Design on customized website for organic food outlet which describes the importance and sale of organic food and customized website for civil engineers	3rd Prize Rs. 1000/- Each	Mr. Elavarasan Ms. Monisha & Ms. Ramya Ms. Princy Crystal Ms. Manju & Ms. Vinisha	II

1. Android Based Alcohol Detection System for Indian Traffic COPs.

Our students give top priority to social issues and contribute their mite to find solutions to these issues. Our students Mr. S. Jain and Mr. K. Venish of IV CSE involved themselves in the development of this project for social welfare under the guidance of Er. S. Rajeshkumar, Asst. Professor/CSE department.

Drunken driving, or driving under the influence of alcohol, has been a major cause of road accidents throughout the world. Statistics reveals that atleast 3 people get killed every 2 hours due to drunken driving cases, thus leading to thousands of death every year.

This project, proposes a competent system to detect the alcohol consumption of the drivers hygienically and alert the traffic cops about the condition of the drivers. The system requires a smart mobile phone handed over to traffic police, and specially designed handheld hardware expansion (ABADS) consisting of sensors which can be easily integrated in a smart mobile device. A program is installed on the hardware device as well as the smart mobile phone. Computations will be made based on sensor readings, and compared with typical drunk driving values extracted from real driving tests. Once it is found that the driver is under the influence of alcohol, an alert will be automatically generated in the ABADS and this enables the filing of FIR on smartphone. This system mainly aims to automate the complaint system of indian traffic police and bring down the percentage of death due to drunken drive considerably.

2. Utilizing Hadoop Based Distributed File System for Relational Database

A student's successful carrier to a great extent depends on his exposure to recent technologies. Department of CSE continuously motivates students to do their academic in-house projects in latest technologies. In such a way Mr. Muthu, Ms. Arron Messi, Ms. Gopika Vijayan, Mr. Libinrose from IV CSE completed their projects in BIGDATA under the guidance of Mrs. Hema, Asst. Professor/CSE.

Now a days, there is exponential growth of information and data in fields such as industry, social networking, business etc... This project describes the effective storage methodology to handle big volume of data and it also deals with the effective utilization of files stored in the distributed file system for performing analysis of data using specialized tools. In this project, HDFS is used to store the large data sets rather than the relational data base. HIVE is used to process those large data sets effectively.

The Hadoop Distributed File System (HDFS) is designed to store very large data sets reliably, and to stream those data sets at high bandwidth to user applications. In a large cluster, thousands of servers both host directly attached storage and execute user application tasks. By distributing storage and computation across many servers, the resource can grow with demand while remaining economical at every size. The files in the database are stored in HDFS as it is fault tolerant and the files are easily available for the user. To process the data from HDFS we use a processing technique and program model called map reduce. In order to make the processing easier queries are written to process the data and stored in the HDFS. HIVEQL is used for writing queries and this is equivalent to the program written in map reduce. HIVE is a platform used to develop SQL type scripts to do map reduce operations. The HIVE Query Language (HIVEQL) is a query language for HIVE to process and analyse structured data in a metastore. HIVE is a data warehouse infrastructure tool to process structured data in Hadoop. It resides on top of Hadoop to summarize Bigdata, and makes querying and analysing easy.

3. Breakout Monitoring System with Data Visualization for Tamilnadu Health Department

Health monitoring system provides a scientific and factual database essential to make decisions and appropriate public health actions. The main objective of this monitoring system is to provide a clear-cut understanding of the disease affected locality. Moreover, to prevent the spread of infectious diseases, such as dengue, malaria or chickungunya, the personnel in the Healthcare Department need to intervene quickly to stop the spread of disease by providing quick alert messages to safeguard the public. In order to quickly enhance it, they need a monitoring system that could provide rapid early warning information from clinics and laboratories.

The principle is that different public health objectives and the actions required to save the public from disease requires different and authentic information systems. The type of action that can be taken, when or how often that action needs to be taken, what information is needed to monitor the action, and when or how frequently the information is needed is determined based on the health monitoring system.

The proposed system reduces the manual work in the Health Department. The system also aims at providing a clear-cut visualization so that details can be collected without much effort. The system also helps the health department to generate effective and customized reports. The information can be passed on the needed community quickly and precautions can be initiated immediately. The system also provides good authentication so that the system will not be misused by any sort of people.

Advantages of the project in e-governance services:

- Web based application for breakout monitoring system in Healthcare Department.
- Updation and live visualization of data.
- Access can be made from anywhere.