News Letter

ece SYNCOM

A VOICE OF ELECTRONICS AND COMMUNICATION ENGINEERING

OUTCOME-BASED EDUCATION

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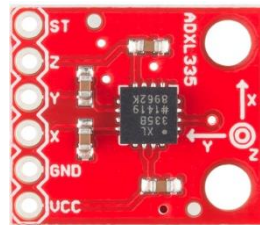**Student Coordinators :**
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NBA
NATIONAL BOARD OF ACCREDITATION

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(Approved by AICTE New Delhi, Affiliated to JNTU Kakinada, Accredited by NAAC with "A" Grade)
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Department Vision

Developing highly Qualitative, Technically Competent and Socially Responsible Engineers.

Department Mission

To provide quality education in the domain of Electronics and Communication Engineering through

- Enriched curriculum for addressing the needs of Industry.
- Effective teaching learning processes through congenial environment.
- Gaining contemporary knowledge through research, development, curricular, co and extra-curricular.

ECE Program Educational Objectives

Graduates of Electronics & Communication Engineering Shall

PEO1: Develop a strong background in basic science and mathematics and ability to use these tools in their chosen fields of specialization.

PEO2: Have the ability to demonstrate technical competence in the fields of electronics and communication engineering and develop solutions to the problems.

PEO3: Attain professional competence through life-long learning such as advanced degrees, professional registration, and other professional activities.

PEO4: Function effectively in a multi-disciplinary environment and individually, within a global, societal, and environmental context.

PEO5: Take individual responsibility and to work as a part of a team towards the fulfillment of both individual and organizational goals.

OUTCOME BASED EDUCATION

On 1st Febrarury **Dr. M.Siva Ganga Prasad , HOD** of ECE Department gave the awareness on the Outcome based education . He explained the following topics to gave the awareness on Outcome Based Education .

- What is outcome based education?
- Differences from traditional education methods
- Benefits of OBE
- OBE in INDIA

Benefits of OBE

Clarity,Flexibility,Comparison and Involvement

OBE in INDIA

India has become the permanent signatory member of the Washington Accord on 13 June 2014. India has started implementing OBE in higher technical education like diploma and undergraduate programmes. The National Board of Accreditation, a body for promoting international quality standards for technical education in India has started accrediting only the programmes running with OBE from 2013.

The National Board of Accreditation mandates establishing a culture of outcomes-based education in institutions that offer Engineering, Pharmacy, Management programs. Outcomes analysis and using the analytical reports to find gaps and carry out continuous improvement is essential cultural shift from how the above programs are run when OBE culture is not embraced. Outcomes analysis requires huge amount of data to be churned and made available at anytime, anywhere. Such an access to scalable, accurate, automated and real-time data analysis is possible only if the institute adopts either excel sheet based measurement system or some kind of home-grown or commercial software system. It is observed that excel sheet based measurement and analysis system doesn't scale when the stakeholders want to analyze longitudinal data. There are products like inpods which are available in India for implementing a culture of outcomes based education for Engineering, Pharmacy, Management programs.

Faculty Article:
Microcontroller Based Colour Identification System

A Microcontroller based system using P89V51RD2 microcontroller for colour identification system is designed and developed. It is based on the principle that the analog voltages of the sensor converted to RGB colours. The sensor OPT 301 is an opto-electronic integrated circuit containing a photodiode
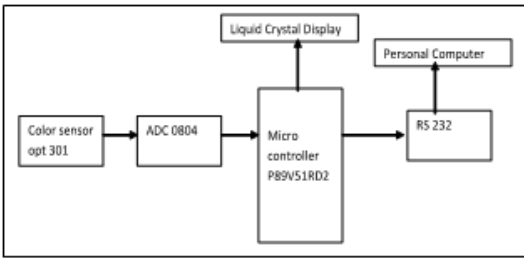
and transimpedance amplifier on a single dielectrically isolated chip. This sensor provides an analog input depending upon the colour sensed by it. This analog voltage may then convert into digital form using ADC (analog to digital converter) interfaced with the microcontroller. Digital output varies depending upon the variation in the colours sensed. The P89V51RD2 is a low-power, high-performance CMOS 8-bit microcontroller used in the present study. Further, an LCD module is interfaced with the microcontroller in 4-bit mode, which reduces the hardware complexity. Software is developed in C using Keil's C-cross compiler. The data stored in the microcontroller along with the name of the colour.

By /- Mr. B. Brahmaiah & Mr. R .Rama Mohan, Asst. Prof

Stduent article :
Artificial intelligence (AI)

Artificial intelligence (AI) is an important technology that supports daily social life and economic activities. It contributes greatly to the sustainable growth of Japan's economy and solves various social problems. In recent years, AI has attracted attention as a key for growth in developed countries such as Europe and the United States and developing countries such as China and India. The attention has been focused mainly on developing new artificial intelligence information communication technology (ICT) and robot technology (RT). Although recently developed AI technology certainly excels in extracting certain patterns, there are many limitations. Most ICT models are overly dependent on big data, lack a self-idea function, and are complicated. In this paper, rather than merely developing nextgeneration artificial intelligence technology, we aim to develop a new concept of general-purpose intelligence cognition technology called "Beyond AI". Specifically, we plan to develop an intelligent learning model called "Brain Intelligence (BI)" that generates new

ideas about events without having experienced them by using artificial life with an imagine function. We will also conduct demonstrations of the developed BI intelligence learning model on automatic driving, precision medical care, and industrial robots.

In recent years, artificial intelligence technologies have developed dramatically due to improvement in the processing capacity of computers and the accumulation of big data. However, the results of current artificial intelligence technologies remain limited to specific intellectual areas, such as image recognition, speech recognition, and dialogue response. That is, current AI is a specialized type of artificial intelligence acting intellectually in a so-called individual area (see Figure 1). Examples include techniques such as Convolutional Neural Networks (CNN) or Deep Residual Learning (ResNet) for visual recognition, Recurrent Neural Networks (RNN) or Deep Neural Networks (DNN) for speech recognition, and Represent Learning (RL) for dialogue understanding. All of these are a part of the intellectual work carried out by each area of the human brain; they are only a substitute and do not perform all of the functions of the human brain. In other words, AI has not been able to cooperate with whole-brain functions such as self-understanding, self-control, self-consciousness and self-motivation.

By/-Ms.B.Sai Anjani (III ECE-I)

Faculty Activities:

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	Mr. B. Brahmaiah published a paper entitled " **Microcontroller Based Colour Identification System"** in the *IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676,p-ISSN: 2320-3331, Volume 13, Issue 1 Ver. II (Jan. – Feb. 2018), PP 77-80* .
Ms. P.Jwalitha published a paper entitled " **Design and analysis of Spherical inverted –F Antenna Cavity Model"** Lecture Notes in Electrical Engineering, vol 471. **Springer, Singapore**	
	Mr. R .Rama Mohan published a paper entitled **"Microcontroller Based Colour Identification System"** in the *IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676,p-ISSN: 2320-3331, Volume 13, Issue 1 Ver. II (Jan. – Feb. 2018), PP 77-80* .

Student Activity:
EARTHQUAKE DETECTOR USING AURDINO UNO

An earthquake (also known as a tremor or temblor) is the result of a sudden release of energy in the Earth's crust that creates seismic waves. Earthquakes are recorded with a seismometer, also known as a seismograph. The moment magnitude of an earthquake is conventionally reported, or the related and mostly obsolete Richter magnitude, with magnitude 3 or lower earthquakes being mostly imperceptible and magnitude 7 causing serious damage over large areas. Intensity of shaking is measured on the modified Mercalli scale. Here we are presenting aurdino uno based An Earthquake Detection using Sensing Element to reduce its destructive losses.that sensing element is adxl335 sensor. ADXL335 works like a critical sensor in detecting vibrations and predict earthquake. The device **"Earthquake Detector using Arduino"** can sense vibrations and knocks along the three physical dimensions or axes, which make it more sensitive. Once it identifies vibration, it is applied with acceleration and ADXL335 produces an analogue voltage equivalent to acceleration imposed on it by the vibration. The device **"Earthquake Detector using Arduino"** supplies three outputs along three axes- X-, Y- and Z- axes. These output pins are connected to ADC pins of Arduino Uno. For any acceleration production or vibrations detected, analog outputs are produced by the accelerometer and then the ADC detects it.
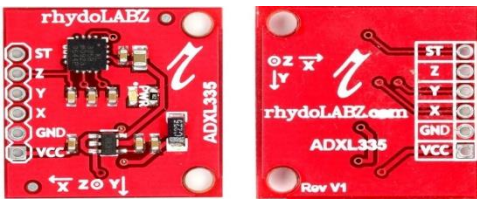
The working principle is based on aurdino code which we have pre-defined as per circuit diagram.when we apply any vibrations or any shakes to adxl335 sensor it will detect vibrations in all x,y,z directions the corresponding analod data is send to respective anlog pins of aurdino uno which is shown in above circuit diadram. this is data is coverted to digital data and send to 16x2 lcd display .when sensor value reaches above some threshold value . lcd displays earth quake alert on screen ,the corresponding led(red) light will glow & buzzer will sound.thats all

By
D. Narayanarao (*16JR1A0443) and team*

Mr. K. Nishanth Chowdary participate in **NIRULOTSAV 2K18** in Vignan Nirula Institue of technology and sciences and got **Second Prize** in project expo with the project **Security System with mail alert usig IOT .**

NBA visit

The National Board of Accreditation (NBA), India was initially established by AICTE (All India Council of Technical Education) under section 10(u) of AICTE act, in the year 1994, for periodic evaluations of technical institutions & programs basis according to specified norms and standards as recommended by AICTE council.

NBA in its present form came into existence as an autonomous body with effect from 7th January 2010, with the objective of Assurance of Quality and Relevance of Education, especially of the programs in professional and technical disciplines, i.e., Engineering and Technology, Management, Architecture, Pharmacy and Hospitality, through the mechanism of accreditation of programs offered by technical institutions.

NBA has introduced a new process, parameters and criteria for accreditation. These are in line with the best international practices and oriented to assess the outcomes of the programme.

NBA peer team visited the college and the department for the verification on 16th , 17th and 18th of February 2018. They observed very keenly and aptly each and every lab in the ECE department. They have interacted with the students and faculty very well, by asking them various questions. They full fledgedly   got satisfied with the verification of labs. They have given some valuable suggestions in order to improvise the department.

Upcoming Event

NCKITS 2K18

ABOUT CONFERENCE

The Improvements in communication and signal processing are affecting many aspect of our life style in the present scenario. The conference focusing on the recent improvement, future developments and latest trends in the field of communications, signal processing, embedded systems, instrumentation and VLSI technology. The objective of this conference is to achieve progress in the direction of the theoretical and practical aspects of the innovative technologies of communication and signal processing. It will also serve as a forum to present the results of research work on topics ranging from the protocols to developed models used for next generation communication systems and signal processing applications. At the same time, the papers are invited in the areas of current and emerging technologies of embedded systems, VLSI etc. Selected and presented papers will be published in special issues of Scopus indexed Journals.

Papers on

Original Research papers are invited for this conference in the following areas, but not limited to

- Advanced Communication systems
- Antennas
- Bio-medical electronics
- Big data analysis for communications
- Data analytics for communications
- Embedded Systems
- Fuzzy Logic and Neural Network.
- Image and Video Processing
- Instrumentation
- Internet of Things
- Optical fiber communications system & Networks.
- Sensor Networks
- Signal and Speech Processing
- Very large scale integration
- Wireless technologies