



Vidya Vikas Education Trust's

Universal College of Engineering

Approved by AICTE, DTE, Maharashtra State Government and Affiliated to Mumbai University
Accredited with B+ Grade by NAAC | Recognised as Linguistic (Gujarati) Minority Institution



CURRENT

WAVES

An Initiative by EXTC Department

MAGAZINE

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Neelam Bhoi

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Electronix quotes



“The five essential entrepreneurial skills for success are concentration, discrimination, organization, innovation and communication.”

– Michael Faraday

“Genius is one percent inspiration and ninety-nine percent perspiration.”

– Thomas Edison

“We, in the semiconductor industry, know that only the paranoid survive.”

– Andy Grove

“The complexity for minimum component costs has increased at a rate of roughly a factor of two per year.”

– Gordon Moore

If ethics are poor at the top, that behaviour is copied down through the organisation.”

– Bob Noyce



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Departmental Activities

TWO DAYS WORKSHOP ON “DATA SCIENCE WITH PYTHON & R PROGRAMMING”

Date: 19/12/2019 & 20/12/2019

About the Workshop

Data Science is a concept of unify statistics, data analysis, machine learning and their related methods in order to understand and analyze actual phenomena with data.

The R language is widely used among statisticians and data miners for developing statistical software and data analysis.

Speakers

1. Sonal Borase
2. Kaveri Sawant
3. Sandeep Dubey

Topics Covered

Day 1: Sonal Borase

Data Science with Python

Basic Discussion on Subject:

- Whats python and its scope in Present and Future
- Why we need to go for python
- Internal Concept and Practical Implementation
- Use Python Interpreter and Compiler
- Basic Operations and Data Types.
- Go details in List, Tuple & Dictionary Usage
- Code Block and Indentation
- Conditions and Iteration
- Built own function and use built in def
- Manage and develop own modules
- Manage Exception Handling



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- File Handling and Operations.
- Network Program and Socket Implementation

Day 2: Kaveri Sawant

- Installation of R and R studio
- Regression and correlation of data
- Extraction of data files from excel
- To find the mean median of the data.

Day 2: Sandeep Dubey

- Image Processing using opencv and python



Organizing Committee form UCoE

Campus Director

Dr.Jitendra Patil

Head of Department

Mrs. Kaveri Sawant

Staff Coordinator

Mrs. Sonal Borase

Organizing committee

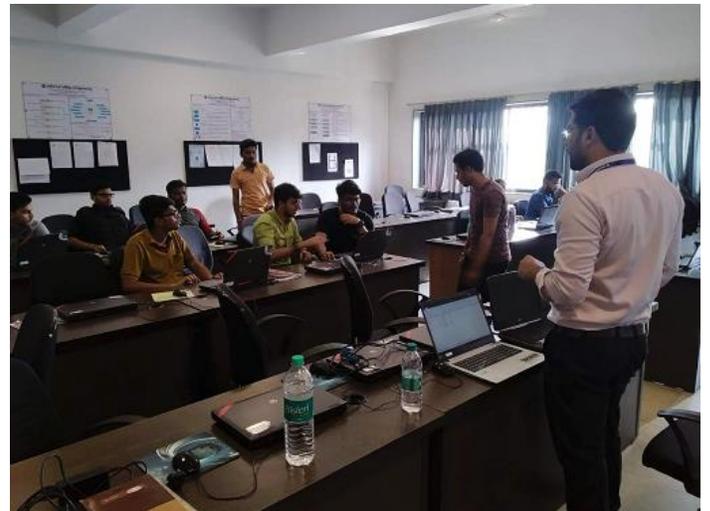
Mrs. Kaveri Sawant

Mr. Sandeep Dubey

Mr. Deepak Modi

Mr. Kapil Gavali

Mrs. Neelam Bhoi



Student Coordinator

Parag Dhanawade

Hardik Parmar

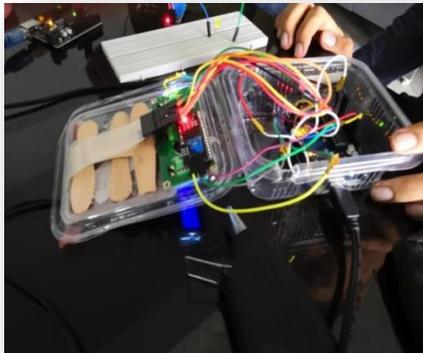


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STUDENTS INNOVATION



Students of Innovation cell invented Automatic College Exam Bell using RTC Time Module

Details about the Project:-

This Project takes over the task of Ringing of the Bell in Colleges. It replaces the Manual Switching of the Bell in the College. It has an Inbuilt Real Time Clock (DS3231/DS 12c887) which tracks over the Real Time. When this time equals to the Bell Ringing time, then the Relay for the Bell is switched on. The Bell Ringing time can be edited at any Time, so that it can be used at Normal Class Timings as well as Exam Times. The Real Time Clock is displayed on 16x2 LCD display. The Microcontroller Arduino Uno is used to control all the Functions, it get the time through the keypad and store it in its Memory. And when the Real time and Bell time get equal then the Bell is switched on for a predetermined time.

Application

Digital circuit that is used for the purpose of automatic switching of bell is as per the given schedule without any human intervention. Generally, wherever we may go, it might be a school or an organization if start or stop of any process is to be conveyed to a large number of people, a bell is used over there which signals the start or stop of any process.

Students working on this projects

1. Jatin Gohil
2. Akshay Laddha
3. Ganesh Basyal
4. Santosh



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STUDENT'S ACHIEVEMENT



Final Year BE-EXTC students have participated in the EYIC competition on 28th October, 2019 and were selected for stage-2 Implementation.

What is EYIC?

The e-Yantra Ideas Competition solicits innovative projects from teams of eLSI colleges:

- To ensure sustained use of the robotics labs set up through the e-Yantra Lab Setup Initiative (eLSI).
- To encourage Interesting ideas from students in eLSI colleges across the country.
- To provide a platform for teams to showcase their projects.
- To nurture BE projects in embedded systems and robotics at the eLSI colleges

Project name:

Compact, portable, advance and automatic oil extraction machine for multipurpose application using arduinouno r3 board with 1602 lcd i2c module

Group Members: -

Piyush Bhavsar , Mit Mehta, Ambrish Singh

Mentor- Deepak Modi

Problem Statement

Keeping the current health consciousness of the masses, the proposed project will fulfill the target to keep a balance between the oil intake by an individual and its related effects over a certain period of time. The proposed model aims at extracting oil from various available oil-bearing seeds e.g. almond, peanut at household level, thereby nullifying the adulteration from the commercially available oil. Keeping into mind the current cholesterol level and other health parameters, the current generation needs to take care of their oil consumption along with the purity level. The proposed model gives the consumer the liberty to extract oil at their convenience at any given time with minimum usage of resources. Not only the purity will be under control, but also the odor and taste could be also be monitored. Key causes for adulteration are to gain good margin over a short period of time which finally leads to the compromises the health of the current generation. Primary stakeholders can be considered as the individuals whose cholesterol level has been increased with the increase age over a period of time. Not only the project would benefit the current society but also help maintain a healthy lifestyle for the generations to arrive.

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INTERNSHIP

Students doing internship in Robovr



About RoboVR

RoboVR is a championship where students / robot makers/tech enthusiasts build 1'- 2' sized robots and compete in 30+ human sports like archery, boxing, cricket, football, golf, swimming, tug of war & more played by robots against other robots. The game rewards teamwork and driving skill more than exotic materials and expensively built robots. The rules are a very simplified version of any human sport rules with additions for the nature of the robots as players. The addition of active devices on robots to shoot, kick or flip is encouraged. These devices make for a faster

more exciting game. A robot shall have a jersey with its jersey number & team name written on its T-shirt. This is how the robots shall be recognized like a player is recognized when representing a country for any sport. The Robot Makers and builders owe it to the world to make these sports exciting & pass it to our next generation. Participants have to build these robots as per the specifications mentioned in the rules on the website. All the sports arenas are reduced to robot size and shall grow with the growing skills of robots along the year to come. We aim that by the year 2050, robots shall be 6' tall, majorly humanoid and shall play sports in the actual human arenas. This shows the curve of possible innovations & experiments that can be conducted on robots and the result of the perfect mechanism achieved can be used further in research of solving real life problems.

Purpose of Internship

The Purpose of Internship at RoboVR was to embrace the Robot Technology and design various Sports playing Robots that provide an idea to the audience about the Benefits of Automation and RPA.

Our students Akshay Laddha & Jatin Gohil did Internship from RoboVR.



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FACULTY ACHIEVEMENT

Mr. Sandeep Dubey:

Subject: IMAGE PROCESING: AFFINE TRANSFORMATIONS

The question bank and Lab experiments has been accepted form e-Yantra



WHY DO WE CELEBRATE NEW YEAR'S IN JANUARY?

Though the date of New Year's Day is obvious to us now, the holiday wasn't always celebrated in January. Throughout time, different cultures and civilizations typically welcomed the new year during a significant astronomical or agricultural event — like the Romans who celebrated in March, following their lunar cycle — until 46 B.C., when the emperor Julius Caesar introduced the Julian calendar. Honoring the month's namesake Janus — the Roman god of beginnings whose two faces allowed him to look simultaneously into the past and the future — Caesar instituted January 1 as the first day of the year. On this newly-dated holiday, the Romans celebrated not only by offering sacrifices to Janus, but also by exchanging gifts, attending parties, and decorating their homes with laurel branches.

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THE TOP TWENTY BUSINESS TRENDS IN 2020 MIGHT BE:

1) Robots taking our jobs

Probably the biggest change that is affecting our businesses is how machines are taking over tasks ranging from window cleaning to inventory management. Anyone with a transaction based job or business will be having a forced career change before the end of the decade.

2) The Internet of machines

Those robots and computers are talking to each other which speeds up business decisions and will strip layers of management from organisations.

3) Flatter organisations

A consequence of those faster decisions is the need for less management. Organisations need to be flatter in order to process information faster unless they want to risk nimble competitors seizing business opportunities.

4) 3D printing

One of the most exciting, and business changing, technologies is 3D printing which allows you to print a coffee cup at your desk, help robots construct new buildings and a give a little boy a set of fingers.

5) Nano-technology

The 3D printing is happening alongside biological engineering. By the end of the decade, we'll be able to print our own skin. By 2030, we'll be printing replacement body parts like heart valves.

6) Mobile apps redefining service industries

The mobile phone app is currently booming but the real effects of these mobile services will be felt on industries as diverse as the taxi industry to the mining and agricultural sectors.

7) The fight for control of the mobile payments system

An upshot of the app economy is the question of who processes, and makes money, from online payments. The battle between banks, credit card companies, telcos and software companies is going to be a major business story of the decade.

8) Reinventing entertainment

Apps and connected machines are going to change consumer behaviour and nowhere is this more notable in the entertainment industries which are being revolutionised by tools like Google Glasses and social media.

9) The fall and rise of social media

Like many innovations social media was greatly hyped and now we're seeing the backlash of it being oversold. Over the rest of the decade organisations are going to figure out how to use social media services effectively and profitably without hype.

10) Newspapers cease to exist

One of the effects of social media, mobile phone apps and the pervasive internet is the end of newspapers by 2020 as futurist Ross Dawson has predicted.



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11) Data rights become an issue

As the amount of data companies and governments collect explodes, the question of who owns that information and what they do with it becomes more pressing. This is a major issue for 2020.

12) The DIY economy continues to rise

Easy to use internet tools have already changed industries like media, travel and retail. This is a continuing disruption where many more sectors are going to find the role of gatekeepers change or are eliminated.

13) A new education revolution

One of those gatekeeper industries is education. The role of universities, training colleges and schools is changing as online learning is revolutionising how students learn.

14) Reskilling the workforce

With all the new technologies entering business, our existing workers need the skills to use them properly. Coupled with online learning, there's no excuse not to develop the skills to compete in the new economy.

15) Older workers re-entering the workforce

Most of the world is going over the demographic cliff as the baby boomer generation retires. Unfortunately they're finding out that retirement isn't all it's cracked up to be and they are looking at re-entering the workforce.

16) Dealing with a society at retirement age

With an aging population comes a range of issues that could be ignored while the workforce was

young, now businesses and communities have to deal with the economic and social consequences of this

17) China moving up the value chain

A nation that is being deeply affected by their aging population is China and to deal with this, the PRC is moving their industries up the value chain. This has big ramifications for consumers and business owners across the remainder of the decade.

18) Rising incomes in South Asia and Africa

The Twentieth Century model of using immigrants to address labour shortages relies on countries having an excess of skilled, young workers. The countries which have those this century in South Asia and Africa are growing themselves and the 2020s will see trade patterns beginning to change.

19) The great deleveraging

One of the most important factors affecting businesses and communities this decade is the end of the fifty-year post World War II credit boom. Businesses have to learn to make do with less.

20) Taming the Big Data tsunami

The greatest commercial challenge of this decade is dealing with the sheer flood of data streaming into organisations.

Managing and *using this information effectively* will separate business winners from losers. All of these trends point to one thing – business as usual as we knew it in the Twentieth Century is *over*.



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SOLAR ECLIPS - 2019



An annular **solar eclipse** occurred on December 26, **2019**. A **solar eclipse** occurs when the Moon passes between Earth and the Sun, thereby totally or partly obscuring the Sun for a viewer on Earth.

Greatest eclipse: 5:18:53

Nature: Annular

Magnitude: 0.9701

Duration: 220 sec (3 m 40 s)

When the Eclipse Happened Worldwide — Timeline

The eclipse started at one location and ended at another. The times below are actual times (in UTC) when the eclipse occurred.

Event	UTC Time	Time in Mumbai*
First location to see the partial eclipse begin	26 Dec, 02:29:53	26 Dec, 07:59:53
First location to see the full eclipse begin	26 Dec, 03:34:33	26 Dec, 09:04:33
Maximum Eclipse	26 Dec, 05:17:46	26 Dec, 10:47:46
Last location to see the full eclipse end	26 Dec, 07:00:55	26 Dec, 12:30:55
Last location to see the partial eclipse end	26 Dec, 08:05:40	26 Dec, 13:35:40

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Amazing Facts

1	The Internet is the fastest-growing communications tool ever. It took radio broadcasters 38 years to reach an audience of 50 million, television 13 years, and the Internet just 4 years.
2	According to Moore's Law, microchips double in power every 18 to 24 months.
3	Marie Curie was the first person to win two Nobel Prizes for Science
4	On 11 July 1962, France received the first transatlantic transmission of a TV signal from a twin station in Andover, Maine, USA via the TELSTAR satellite.
5	On 9 June 1906 the Winnipeg Electric Railway Co. transmitted electric power from the Pinawa generating station on the Winnipeg River to the city of Winnipeg at 60,000 volts. It was the first year-round hydroelectric plant in Manitoba and one of the first to be developed in such a cold climate anywhere in the world.
6	Telecommunications satellites, and other satellites that need to maintain their position above a specific place on the earth, must orbit at 35,786 kilometers and travel in the same direction as the earth's rotation.
7	The circumference of the earth is about 25,000 miles. Its surface area is about 200,000,000 square miles and it weighs 6,588,000,000,000,000,000 tons.
8	The first laser was made in California in 1960.
9	There have been 113 space shuttle flights since the program began in 1981.
10	Tim Berners-Lee coined the phrase "World Wide Web" in 1990.



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