Li-Fi Technology

Li-Fi is a light-based Wi-Fi. That is, it uses light instead of radio waves to transmit information. And instead of Wi-Fi modems, Li-Fi would use transceiver-fitted LED lamps that can light a room as well as transmit and receive information. Since simple light bulbs are used, there can technically be any number of access points.

This technology uses a part of the electromagnetic spectrum that is still not greatly utilized- The Visible Spectrum. Light is in fact very much part of our lives for millions and millions of years and does not have any major ill effect. Moreover there is 10,000 times more space available in this spectrum and just counting on the bulbs in use, it also multiplies to 10,000 times more availability as an infrastructure, globally.

It is possible to encode data in the light by varying the rate at which the LEDs flicker on and off to give different strings of 1s and 0s. The LED intensity is modulated so rapidly that human eyes cannot notice, so the output appears constant.

More sophisticated techniques could dramatically increase VLC data rates. Teams at the University of Oxford and the University of Edinburgh are focusing on parallel data transmission using arrays of LEDs, where each LED transmits a different data stream. Other groups are using mixtures of red, green and blue LEDs to alter the light's frequency, with each frequency encoding a different data channel.

Li-Fi, as it has been dubbed, has already achieved blisteringly high speeds in the lab. Researchers at the Heinrich Hertz Institute in Berlin, Germany, have reached data rates of over 500 megabytes per second using a standard white-light LED. Haas has set up a spin-off firm to sell a consumer VLC transmitter that is due for launch next year. It is capable of transmitting data at 100 MB/s - faster than most UK broadband connections.

Rutuja Gaikwad (SYCO)

BLOCK-CHAIN

The Blockchain (or distributed ledger technology) is a hot topic for discussion - it has the potential to revolutionise domestic and international transactions - but of course also comes with its disadvantages.
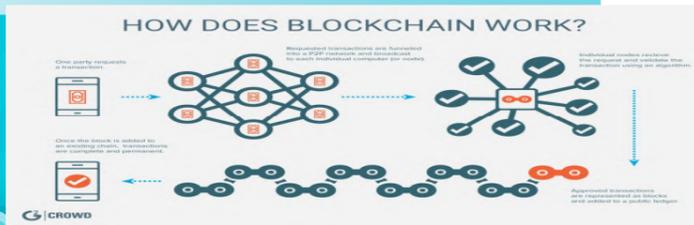
The Blockchain was invented in the context of the digital currency, Bitcoin (which by now, most people have heard of). The Blockchain is a public ledger of all the Bitcoin transactions, which continues to grow exponentially. Blockchain allows parties to transact securely in the absence of a third party intermediary and it is clear that some businesses recognise the potential savings connected to Blockchain or other distributed ledger technology.

UPCOMING ACTIVITIES

- A group of 5 students & staff members is working on Android app which will be used for Solapur District Police for maintaining discipline during Wari period.
- Industrial visit for second and third year students is arranged between 30-31 January.
- Parents Meet will be scheduled in the month of Feb. 2019.
- Workshop for Third year students is scheduled in the month of May 2019 on Android , .NET.
- Workshop for second year students is scheduled in the month of May 2019 on PHP.

IN THIS ISSUE >>>

Department Vision

To provide diploma education strengthened with basic knowledge and skills along with professional ethics enabling students to reach higher goals in the field of Computer Engineering.

Department Mission

1. To impart value based Technical Education in Computer Engineering.
2. To support for technical knowledge of students in the field of Computer Engineering.
3. To make the students efficient in various skill Sets in Computer Engineering.
4. To encourage students for lifelong learning.

Kotlin for Android Development

Kotlin is a great fit for developing Android applications, bringing all of the advantages of a modern language to the Android platform without introducing any new restrictions: Working on all platforms is an explicit goal for Kotlin, but we see it as a premise to a much more important goal. Sharing code between platforms. With support for JVM, Android, JavaScript, iOS, Linux, Windows, Mac and even embedded systems like STM32, Kotlin can handle any and all components of a modern application and this brings the invaluable beneDt of reuse for code and expertise, saving the eFort for tasks more challenging -ing than implemening everything twice or multiple times.

With Kotlin for Android-Developers you'll learn:
How to create an Android app

using Kotlin. All the basics you need to create an app.

How apply the language to Android. Exclusive features for Android and interaction with the framework.

How to use the development tools, integrate Kotlin into Android Studio and use it in your projects.

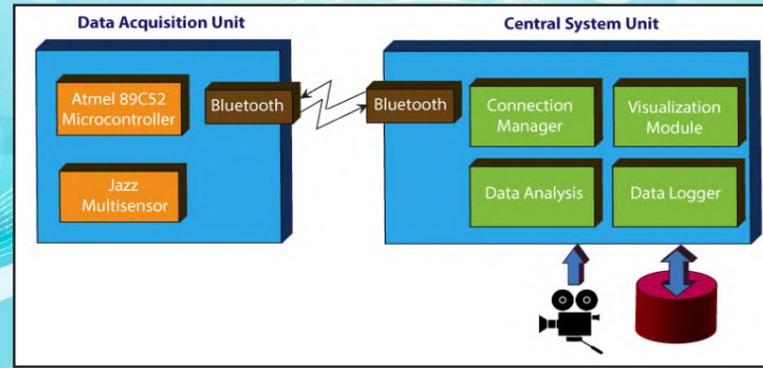**Tanmay Patil (SYCO)**

CELEBRATING 70TH REPUBLIC DAY

Message of HOD

It is our pleasure to present fourth issue of our News Letter **"CompLit"** of our department. This news letter is one of the ways in which we can disseminate the information about our department. The past semester was full of various activities by the students and faculty in Academic, Co-curricular and Extra-curricular activities. As you read through pages, you will realize that we have succeed in academics as well as in different co-curricular activities.

Prof. A.S. Bhatlavande

BLUE-EYE TECHNOLOGY

Blue Eyes is a technology conducted by the research team of IBM at its Almaden Research Center (ARC) in San Jose, California since 1997. Blue eyes technology makes a computer to understand and sense human feelings and behavior and also enables the computer to react according to the sensed emotional levels. The aim of the blue eyes technology is to give human power or abilities to a computer, so that the machine can naturally interact with human beings as we interact with each other. All human beings have some perceptual capabilities, the ability to understand each other's emotional level or feelings from their facial expressions. Blue eyes technology aims at creating a computer that have the abilities to understand the perceptual powers of human being by recognizing their facial expressions and react accordingly to them. The operator's physiological condition is continually supervised by this Blue Eyes technology software. The software will respond in real time according to the operator's physiological condition. This software helps to transfer the data or information from managers to the data analyzers. Then it transfers the processed information from this data analyzers unit to the GUI controls and data analyzers. At last, the data visualization module supports a user supervisor interface section. The visualization module is in the off-line mode and it will continually fetch the information from database and also records the video, audio and physiological parameters. Thus 'Blue Eyes' software enables the supervisor to know about the physiological condition of the operators.

Yash Katkamwar (SYCO)

EDITORIAL

Its our pleasure to present this Second issue of COMPLIT with new design. We are thankful to all faculty members and student friends for their co-operation. We will continue the journey of learning and imementing technologies in future also. Thank you all…!

Mr. Khadake S.J.
Student Co-ordinator

Mrs. Bhosale S.S.
Staff Co-ordinator

WORKSHOPS

Department had organized 5 days workshop on **Java Programming** for Third Year Student and **Relational Database Management System** for Second Year Students in collaboration with **"TechnoWings International IT Solutions"**. The main motive while arranging such workshop is to bridge gap between Academics and Industry and make the student Industry skilled and ready for working. Also SYCO and TYCO students have completed **Microsoft Certification** in the subject RDBMS and Java Programming respectively.

DIGITAL TECHNIQUES

Sr. No.	Name of Student	Marks
1	Gaikwad Rutuja Yuvaraj	98
2	Pujari Mahananda Sidgonda	98

JAVA PROGRAMMINGS

Sr. No.	Name of Student	Marks
1	Shelake Arati Rajkumar	97

From our department, total 26 students secured above 90 % marks and 68 students secured above 80 % marks.

DEPARTMENTAL RESULT FOR A.Y. 2018-19

Sr. No.	Name of Student	Marks %	Class
1	Ms. Pawar Nupur Nilesh	93.86 %	1st Year
2	Ms. Barbole Prachi Prakash	93.43 %	1st Year
3	Ms. Pawale Akanksha Ganesh	93.14 %	1st Year
1	Mr. Katkamwar Yash Vivek	96.80 %	2nd Year
1	Ms. Koshti Pranoti Sukhadev	96.80 %	2nd Year
2	Ms. Pujari Mahananda Sidgonda	96.13 %	2nd Year
3	Ms. Gaikwad Rutuja Yuvaraj	95.73 %	2nd Year
1	Mr. Khadake Siddhesh Jagdish	92.63 %	3rd Year
2	Mr. Korade Rushikesh Shrikant	91.75 %	3rd Year
3	Ms. Vasekar Priti Ramesh	91.13 %	3rd Year

DATA STRUCTURE USING 'C'

Sr. No.	Name of Student	Marks
1	Gaikwad Rutuja Yuvaraj	100
2	Hingmire Sneha Kiran	100
3	Katkamwar Yash Vivek	100
4	Koshti Pranoti Sukhdev	100
5	Pujari Mahananda Sidgonda	100
6	Ranpise Priti Pandit	100
7	Gorave Purva Kerba	98
8	Mane Rutuja Parshuram	98
9	Patil Tanmay Santosh	98
10	Kumbhar Simantini Anil	97
11	Gund Pratiksha Pandit	97

RELATIONAL DATABASE MANAGEMENT SYSTEM

Sr. No.	Name of Student	Marks
1	Mane Rutuja Parshuram	98
2	Kumbhar Simantini Anil	98
3	Katkamwar Yash Vivek	97
4	Pujari Mahananda Sidgonda	97

Subject Wise Toppers

BASIC MATHEMATICS

Sr. No.	Name of Student	Marks
1	Barbole Prachi Prakash	100
2	Pawar Nupur Nilesh	99
3	Kambire Akanksh Siddheshwar	99
4	Metkari Shubhangi Mahadev	98
5	Shinde Poonam Navanath	98
6	Konde Rohan Rajshekhar	98
7	Ghodake Rajeshwari Dharmraj	98
8	Dhane PratikshaYalgonda	98
9	Yadav Amruta Bramhaji	97
10	Pilave Shrikant Mohan	97
11	Pawale Akanksha Ganesh	97
12	Mane Dinesh Digambar	97
13	Bandgar Chaitali Sanjay	97

OBJECT ORIENTED PROGRAMMING

Sr. No.	Name of Student	Marks
1	Katkamwar Yash Vivek	100
2	Koshti Pranoti Sukhdev	100
3	Ranpise Priti Pandit	100
4	Meher Ujwala Surykant	98
5	Gaikwad Rutuja Yuvaraj	97
6	Gund Pratiksha Pandit	97
7	Kumbhar Simantini Anil	97
8	Shinde Shubham Bharat	97