

**Airborne Internet**

There's a new type of service being developed that will take broadband into the air. The airborne Internet won't be completely wireless. There will be ground-based components to any type of airborne Internet network.

The consumers will have to install an antenna on their home or business in order to receive signals from the network hub overhead. The networks will also work with established Internet Service Providers (ISPs), who will provide their high-capacity terminals for use by the network. These ISPs have a fiber point of presence their fiber optics are already set up. What the airborne Internet will do is provide an infrastructure that can reach areas that don't have broadband cables and wires.

**Geeta Kaulwar (TYIF)****WORKSHOP**

- **Department has organized**
  1. One Week workshop on Microsoft Java and Database Certification Course in collaboration with **"Technowings Pvt. Ltd. Solapur"** for Second Year & Third Year Students. The main motive while arranging such workshop is to bridge gap between Academics and Industry.
  2. One week MSBTE Sponsored Faculty Development Training Program (FDTP) on **"Digitization Of India"**
  3. One day Soft Skill Training for SYIF
  4. One day Aptitude Examination Training Session for TYIF

**3-D Metal Printing:**

While 3-D printing has been around for decades, it has remained largely in the domain of hobbyists and designers producing one-off prototypes. And printing objects with anything other than plastics—in particular, metal—has been expensive and painfully slow. Now, however, it's becoming cheap and easy enough to be a potentially practical way of manufacturing parts. If widely adopted, it could change the way we mass-produce many products.

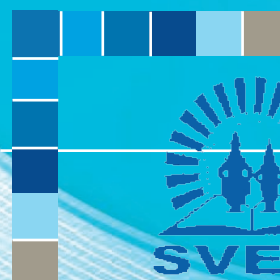
The technology can create lighter, stronger parts, and complex shapes that aren't possible with conventional metal fabrication methods. It can also provide more precise control of the microstructure of metals. In 2017, researchers from the Lawrence Livermore National Laboratory announced they had developed a 3-D-printing method for creating stainless-steel parts twice as strong as traditionally made ones.

The printing of metal parts is also getting easier. Desktop Metal now offers software that generates designs ready for 3-D printing. Users tell the program the specs of the object they want to print, and the software produces a computer model suitable for printing. GE, which has long been a proponent of using 3-D printing in its aviation products.

**Sakshi Uplap (TYIF)****Editorial**

It gives us great pleasure to present the second issue of our departmental newsletter **"TANTRA"**, which gives us the opportunity to see the achievements in our departments.

We are thankful for all the students and faculties who have contributed during the preparation of this news letter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this news letter.

**Mr. Pise K. B.**

26th January, 2019

SVERI's College of Engineering (Polytechnic), Pandharpur  
Department of Information Technology

Volume 06

Issue

02

**TANTRA**

Technology Awareness &amp; Knowledge to Rising Associates

**IN THIS ISSUE >>>**

BEACON TECHNOLOGY	P1
VIRTUAL REALITY	P2
QUANTUM COMPUTING	P2
MONEYPAD—THE FUTURE OF WALLET	P2
SIXTH SENSE TECHNOLOGY	P3
LEAP MOTION	P3
AIRBORNE INTERNET	P4
3D—METAL PRINTING	P4

**Department Vision**

To provide diploma education strengthened with basic knowledge and skill along with professional ethics enabling students to reach higher goals in the field of Information Technology

**Department Mission**

- To impart value based technical education in Information Technology.
- To support for technical knowledge of students in the field of Information Technology.
- To make the students efficient in various skill sets in Information Technology
- To encourage students for lifelong learning

**Beacon Technology**

Beacon technology has come a long way since its debut by Apple in 2013 and is expected to keep on growing. This year, Global Market Insights predicted that the beacon technology market is set to surpass \$25 billion by 2024. It's safe to say the technology has a lot of potential and is expected to contribute to the marketing landscape in the coming years. Beacons are small, wireless transmitters that use low-energy Bluetooth technology to send signals to other smart devices nearby. They are one of the latest developments in location technology



and proximity marketing. Put simply, they connect and transmit information to smart devices making location-based searching and interaction easier and more accurate. It's kind of like a lighthouse: it repeatedly transmits a single signal that other devices can see. Instead of emitting visible light, though, it broadcasts a radio signal that is made up of a combination of letters and numbers transmitted on a regular interval of approximately 1/10th of a second.

A Bluetooth-equipped device like a Smartphone can "see" a beacon once it's in range, much like sailors looking for a lighthouse to know where they are.

Beacon hardware is relatively simple, but the way it triggers actions can get a little complicated. Every system is a little different, but here's how a beacon communicates, in a nutshell: The beacon sends out its ID numbers about ten times every second (sometimes more, sometimes less, depending on its settings). A nearby Bluetooth-enabled device, like your phone, picks up that signal. When a dedicated app recognizes it, it links it to an action or piece of content stored in the cloud and displays it to the user. You can "teach" your app how to react to a beacon signal by developing using third-party tools. Ultimately, beacons will help you better understand your audience, supporting and complementing your other marketing activities.

**Akshara Londhe (TYIF)****Celebrating 70th Republic Day****Message of HOD**

It is our pleasure to present 2nd Issue of News Letter **"TANTRA"** of our department to all students. This News Letter is the one of the ways in which we can disseminate the information about department. It covers various technological articles, departmental activities, achievements of students and staff members.

**Mr. Bhise A. S.**

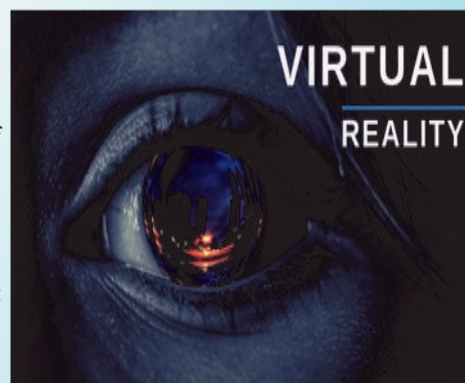


## FACULTY DEVELOPMENT TRAINING PROGRAM



### Virtual Reality

Virtual reality (VR) is an interactive computer-generated experience taking place within a simulated environment. It incorporates mainly auditory and visual feedback, but may also allow other types of sensory feedback like haptic. This immersive environment can be similar to the real world or it can be fantastical. Augmented reality systems may also be considered a form of VR that layers virtual information over a live camera feed into a headset or through a Smartphone or tablet device giving the user the ability to view three-dimensional images.



Current VR technology most commonly uses virtual reality headsets or multi-projected environments, sometimes in combination with physical environments or props, to generate realistic images, sounds and other sensations that simulate a user's physical presence in a virtual or imaginary environment. A person using virtual reality equipment is able to "look around" the artificial world, move around in it, and interact with virtual features or items. The effect is commonly created by VR headsets consisting of a head-mounted display with a small screen in front of the eyes, but can also be created through specially designed rooms with multiple large screens.

VR systems that include transmission of vibrations and other sensations to the user through a game controller or other devices are known as haptic systems. This tactile information is generally known as force feedback video gaming and training applications.

**Shubhangi Bhosale (TYIF)**

## SOFT SKILL TRAINING



### Quantum Computing

Quantum Computing is a new and exciting field at the intersection of mathematics, computer science and physics. It concerns a utilization of quantum mechanics to improve the efficiency of computation. Quantum computation was first thought by Richard Feynman who said that by using the quantum mechanical effects, faster computation can be achieved. The reason behind this emerging curiosity is because of its vast computational power. There are techniques that help in modelling quantum computation using a functional language. Quantum computers are the computers which work on the quantum mechanic laws. Which behaves on the particles at the sub-atomic level. In quantum computers we don't need to use transistors, transistors are replaced by new qubits. Many national, government and military funding support quantum computing research development, this development helps both civilian and national security purpose, such as cryptanalysis.

**Onkar Mali (TYIF)**

### Money Pad: The Future Wallet

Money Pad is an electronic equivalent of the regular wallet. The device uses a biometric system that recognizes the fingerprints of the user and has the capacity to determine whether the user is an authorized person or not. It is a bank card or intelligent card used to provide protected transactions. It consists of a touch sensor which is used to register the fingerprint of the user as well as a magnetic disk which has the read and write permission used to hold the verification details of the user. This electronic device is functional for any electronic banks and online transactions. It is useful for digital cash requests, digital cash transfer and can be utilized for filling order forms because all personal data are already stored there. No need to process via ATM or Automated Teller machines.

**Dhanisha Pandhare (TYIF)**

## DEPARTMENTAL RESULT FOR WINTER-2018

SR. NO.	NAME OF STUDENT	MARKS %	CLASS
1	MS. CHIKANE MAYURI MAHADEV	92.29 %	1st Year
2	MR. KHISTE MAKARAND SATISH	91.71%	1st Year
3	MR. SURWASE VASUDEV EKANATH	91.29%	1st Year
1	MS. SAYYAD GAUSIYA AYUB	89.00%	2nd Year
2	MR. BAHIRAT AJINKYA ATUL	85.12%	2nd Year
3	MS. ANKUSHRAO SONAM NANASAHEB	81.37%	2nd Year
1	MS. LONDHE AKSHARA SHASHIKANT	90.67%	3rd Year
2	MS. PATIL UJJWALA UTTAM	89.56%	3rd Year
3	MR. LIGADE ATHARV RAJESHWAR	86.56%	3rd Year

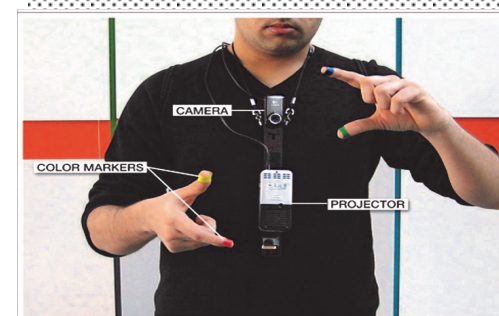
### TRAINING ATTENDED BY FACULTIES :

**Mr. Bhise A. S.**  
(Attended Workshop on Machine Learning organized at PICT, Pune)

**Mr. Pise K. B.**  
(Attended FDTP organized at SVERI Pandharpur and Shivaji Polytechnic Sangola)

**Mr. Khole S. R.**  
(Attended FDTP organized at SVERI Pandharpur and Nanded University)

### Sixth Sense Technology



Sixth Sense Technology integrates digital information into the physical world and its objects, making the entire world your computer. It can turn any surface into a touch-screen for computing, controlled by simple hand gestures. It is not a technology which is aimed at changing human habits but causing computers and other machines to adapt to human needs. It also supports multi user and multi touch provisions. Sixth Sense device is a mini-projector coupled with a camera and a cell phone-which acts as the computer and your connection to the Cloud, all the information stored on the web. The current prototype costs around \$350. The Sixth Sense prototype is used to implement several applications that have shown the usefulness, viability and flexibility of the system.

'Sixth Sense' is a wearable gestural interface that augments the physical world around us with digital information and lets us use natural hand gestures to interact with that information. The hardware components are coupled in a pendant like mobile wearable device. The Sixth Sense prototype is comprised of a pocket projector, a mirror, colored marker and a camera. The camera, mirror and projector is connected wirelessly to a blue tooth smart phone device that can easily fit into the user's pocket. It is a technology which is aimed at interpreting human gestures with the help of mathematical algorithms. Gesture recognition technique basically focuses on the emotion recognition from the face and hand gesture recognition. Gender recognition technique enables humans to interact with computers in a more direct way without using any external interfacing devices. It can provide a much better alternative to text user interfaces and graphical user interface which requires the need of a keyboard or mouse to interact with the computer.

**Nayan Patil (TYIF)**

### Leap Motion

The Leap Motion Controller was developed in San Francisco California by the Leap Motion Incorporation. Their software is open to developers who want to create new programs that use their technology in creative ways. As of early 2014 the Leap Motion Controller costs \$79.99.7.

The Leap Motion Controller is a small device that connects with a PC or Mac and enables users to manipulate digital objects with hand motions. Working with other hardware the Leap Motion controller adds a new way to interact with the digital world. Programs designed to interpret gesture based computing allow the user to play games, create designs, and learn in a 'hands on' way. The Leap Motion Controller uses an infrared scanner and sensor to map and track the human hand. This information is used to create, in real time, a digital version of the hand that can manipulate digital objects.

Because Leap Motion Controllers allow users to manipulate 3D objects in an instinctual way they can be used to familiarize students with complex structures. Currently anatomy students with Leap can use software like Cyber Science 3D14 to dissect a body and chemistry students can examine molecules from the RCSB protein bank15 using the Molecules program.16 Both are just a few examples of the educational benefits of gesture based computing.

**Atharv Ligade (TYIF)**