VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY
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NAAC Accredited with 'A' Grade, ISO 9001:2015 Certified,
NBA Accredited: B. Tech Programs– CE | CSE | ECE | EEE | ME | IT
DEPARTMENT OF INFORMATION TECHNOLOGY

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Contents

The World of Internet of Things

The Internet of Things exists in day-to-day objects. This is a vision to connect all appliances with the power of the Internet. In today's world, it becomes possible to convert everything to a part of the Internet of Things, such as adding a level of digital intelligence to devices. As they are intelligent, these improvements in the interplay between the environment and our work.

It has enabled communication between individuals, processes and things. The IoT devices are all around us and they are constantly transmitting data with other IoT devices. In everyday life, we encounter virtual assistants, smart electronics and portable health monitoring devices. That allows people to work smarter and plays a vital role in business. Today, it is being expanded to lessen the burden on humans.

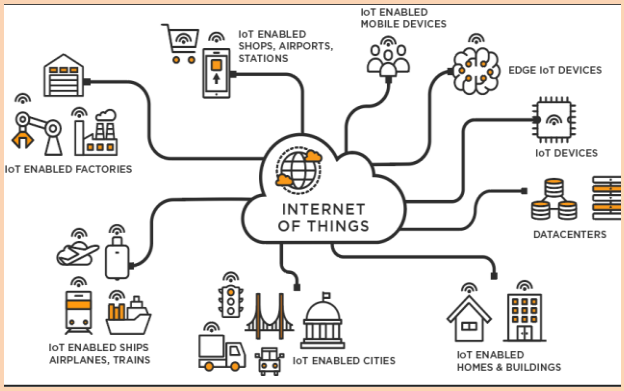
History of IoT Technologies

First IoT application took place in 1969 when the first ATM withdrawal bank was unveiled.

The concept of adding sensors and intelligence to physical objects was first discussed in the 1980s, when some university students decided to modify coco-cola vending machine to track its content remotely.

Technologies that made IoT possible are?

This has been possible mainly because of the development of other service technologies such as connectivity, sensor technologies, machine learning and analysis, cloud computing platforms and conversational artificial intelligence. The main integral part of IoT is connectivity because it is easier to connect the sensors. The main reasons that have contributed to the growth of the IoT concept are the development of cloud-based platforms. Cloud storage is also a key component of IoT and houses vast amounts of data.



Essential stages of IoT

Some of the key stages in this field are:

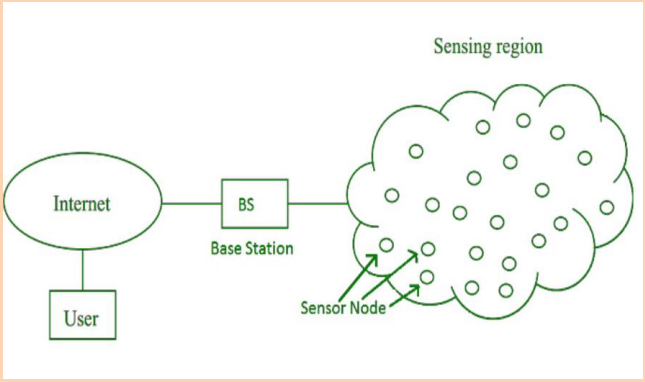
Connectivity configuration is an IoT application that would not be available without a good connection. The development of a prototype makes it possible to determine the feasibility of the data. Visualizing the product and analyzing the data from it is a key step in IoT software development. Additional milestones include data management, security and compliance. IoT Product Development Services. A variety of IoT services are now available to help companies achieve their targets. Various services include hardware and firmware development, fabrication support, design and engineering.

Article by:
M. Rajya Lakshmi
Assoc Professor

Wireless Sensor Networks

A WSN consists of spatially distributed sensors, and one or more sink nodes (also called base stations). **Wireless Sensor Network (WSN)** is an infrastructure-less wireless network that is deployed in a large number of wireless sensors in an ad-hoc manner that is used to monitor the system, physical or environmental conditions.

Sensor nodes are used in WSN with the onboard processor that manages and monitors the environment in a particular area. They are connected to the Base Station which acts as a processing unit in the WSN System. Base Station in a WSN System is connected through the Internet to share data.

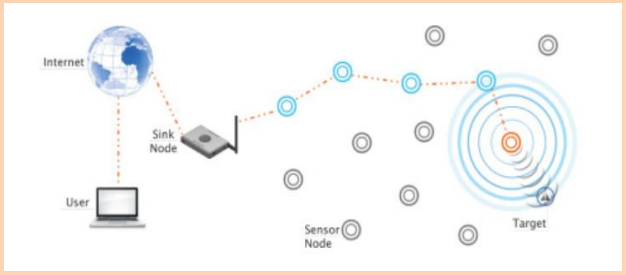


Sensors monitor, in real-time, physical conditions, such as temperature, vibration, or motion, and produce sensory data. A sensor node could behave both as data originator and data router. A sink, on the other hand, collects data from sensors. For example, in an event monitoring application, sensors are required to send data to the sink(s) when they detect the occurrence of events of interest. The sink may communicate with the end-user via direct connections, the Internet, satellite, or any type of wireless links.

Article by:
G Kavya Siri
20BQ1A1254

Wireless Multimedia Sensor Networks

The emergence of integrated complementary metal–oxide–semiconductor camera sensors and integrated microphones, with low power consumption and even low cost, has allowed the development of a subfield in WSN research that is called wireless multimedia sensor networks (WMSNs). WMSNs are characterized by their capability of collecting multimedia, mainly video and audio streams, as well as still images, from the environment. Based on collected streams, both advanced monitoring and tracking applications are possible.



Applications of WSN:

Internet of Things (IOT), Surveillance and Monitoring for security, threat detection, Environmental temperature, humidity, and air pressure.

Challenges of WSN:

Quality of Service, Security Issue, Energy Efficiency, Network Throughput, Performance, Ability to cope with node failure, Cross layer optimisation, Scalability to large scale of deployment.

Components:

1. **Sensors:** Sensors in WSN are used to capture the environmental variables and which is used for data acquisition. Sensor signals are converted into electrical signals.

2. Radio Nodes: It is used to receive the data produced by the Sensors and sends it to the WLAN access point. It consists of a microcontroller, transceiver, external memory, and power source.

5-day Online FDP on "Cyber Security" concludes at VVIT on 02-07-2021

The 5-day online Faculty development program for all aspiring engineering educators, on "Cyber Security" organized by Vasireddy Venkatadri Institute of Technology, Nambur during 28th June to 2nd July 2021, under the aegis of Information Technology and Computer Science & Engineering Departments of VVIT, concluded today.

Sri Vasireddy Vidya Sagar, Chairman of VIVA-VVIT Institutions, informed that Mr. Santhosh Chaluvadi, CEO & Founder of Supraja Technologies, Vijayawada, acted as the expert resource person, for this faculty development program. Sri Sagar opined that this kind of FDPs will empower the faculty with latest technological facets and there by the students at their institutes after a mirroring of the same.

The Chief Guest and Resource Person Mr. Santhosh Chaluvadi, during his 5-day FDP, informed that the faculty members were catered with basics to advanced features related to Cyber Security. He emphasized on Cyber Security challenges that can be addressed by educating oneself with adequate knowledge, via this kind of FDPs, Workshops and seminars that explore solutions using the emerging technologies. He lauded the participants for being very swift and inquisitive in learning the objectives of this FDP. Mr. Santhosh also thanked the organizers of VVIT for providing a conducive platform for smooth delivery of content.

The Guest of Honor, Dr. Mallikarjuna Reddy, Principal of the host institute, VVIT,in this regard, informed that this kind of training programs will help the faculty to update and fulfill their thirst for advanced technology. He emphasized that VVIT is always ready to organize this kind of events to all the aspiring teaching community. Regarding Cyber Security, he stated that its most important to foresee the future cyber security challenges posed by emerging technologies like Cloud storage, AI and IoT and due to the escalating e-commerce operations after demonetization. Dr. Reddy stated that a scrupulous tuning of emerging technologies such as Blockchain, AI/Machine Learning, IoT Security Framework, Quantum Computing and leveraging Cloud and Bigdata into a security posture, can be used to combat the future Cyber Security Challenges.

Dr. Reddy also congratulated all the participants for utilizing their time wisely during the FDP to imbibe the cutting-edge technological aspects in Cyber Security domain and advised them to disseminate the same to their students at respective institutes.

Drawing and painting skills

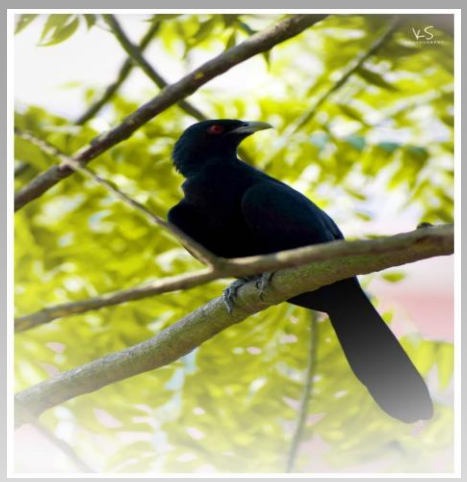
Art by:
V. Uday Kiran
20BQ1A12H5

Art by:
A.V.L. Narasimha
20BQ1A1207

Art by:
Ch. Saranya
20BQ1A1243

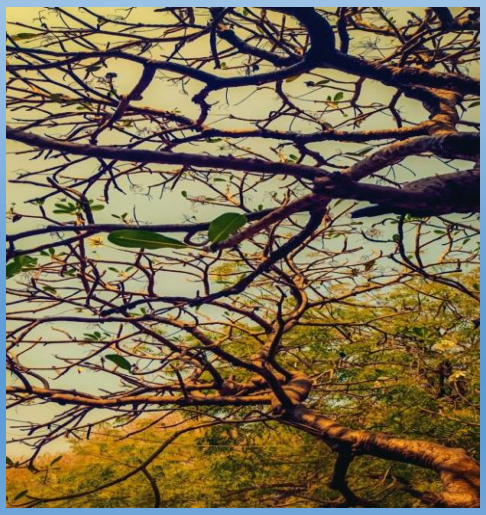
Art by:
Ch. Sai Sindhu
20BQ1A1242

Photography Skills



Art by:
G. Hima Sri
18BQ1A1246

Art by:
B. Jagadeesh
20BQ1A1217



Art by:
T. Sri Poojitha
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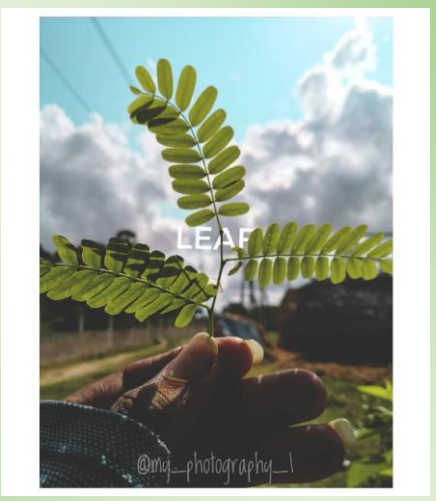

Art by:
D Giridhar Praveen
20BQ1A1245

ALUMNI SPEAK

I J.Tejaswi, student of our esteemed organization of the batch 2015-2019. Present i am working as S/W engineer in Infosys Company, Hyderabad. I feel great and fortunate to join in the organization and elated a part of it. The organization is very supportive in all the facilities like infrastructure, placements, faculty, extra-curricular and co-curricular activities. Our batch was blessed to be placed in a good no of companies with decent packages. I really thank the placement department for all their efforts to see placements to the students and also respective department faculties for their support to students morally and knowledge wise. I wish to give my support in the development of the organization in future.

Ms. J Tejaswi
15BQ1A1218
S/W Engineer
Infosys, HYD

The day I was joined in VVIT, decided that it is going to be my place forever. Firstly Infrastructure took my heart.It took me little time to settle but when i started paricipating in Friday clubs it was easy to me.

Technical events helped me lot to enhance my skills in coding. I would definitely recommend this institute to my friends and family as an amazing institute.

I'm gratefully thank to my institute for their guidance and support all the way. And here i am with no regrets to be apart in our college. This great experience reminds me forever.

Mr.M. Abhishek
15BQ1A1235
Consultant
Extra Mark

I am G Bharath had a good experience with VVIT. College helped me in doing Nano degree in Android. I have hosted the activities In and Out side of the campus through "ACM STUDENT CHAPTER". I feel grateful to contribute to the college as a ACM-Chair Person. It meant be a lot to me with a great experience and good memories. I personally developed my abilities and skills to present me in every aspect. I have lot of emotions, love, enjoyment, egos and many more. I never forget my friends who supported me.

I have spent good quality time at VVIT due to well organized library and events like ACM that allowed for exploring my interests. I am member of ACM where we conduct some technical events on every Friday as we gave clubs time on that day. Being a member I had interacted with different branch students. We also have completed some of courses on NPTEL but as a young student, I may not fully appreciate the value of those courses at that time. Later, when i want to build my resume it just put as good weight age and that helped me to be get placed.

The four years of my life spent at VVIT have shaped my life. Most importantly, the feeling of belonging to this place which constantly aspires me for grateness. I don't think there can be any other experience like this.

Department Vision:

To produce IT professionals who can develop globally competitive and socially useful information technology enabled solutions and products that offer cost effective solutions, for organizations, in particular and society in general, through their innovative ideas, and to create a knowledge pool through research in this field.

Department Mission:

1. Producing information technology professionals for the Global IT industry.
2. Developing student centric and qualitative teaching-learning practices.
3. Establishing infrastructure that endows cutting edge technology requirements of the industry.
4. To extend service to the public, the state and the nation at large by building quality engineers.
5. To carve disciplined and socially, technologically better responsible citizens.
6. To make the students pursuing information technology the technological ambassadors of VVIT in whatever part of the world they find themselves in their future careers.

Program Educational Objectives (PEO'S):

PEO-1: Solid Foundation and Core Competence

To provide the graduates with concrete base in Information Technology, to pursue higher studies and to succeed in industry / technical profession with global competence by imparting acute technical skills like designing, modelling, analyzing and problem-solving on top of solid foundation in mathematical, scientific, computing and engineering fundamentals.

PEO-2: Employability & Research Spur

To train the graduates for a higher degree of employability in both public and private sector industries at national and international level by imparting ability to Re-learn and innovate in ever-changing global economic and technological environments and to contribute effectively in research and development.

PEO-3: Professional Skills and Societal Contribution

To inculcate the graduates to have basic interpersonal skills, effective communication skills to teamwork/ lead in multidisciplinary approach, under diverse professional environments by handling critical situations through lifelong learning with an ethical attitude (administrative acumen) and an ability to relate engineering issues to broader social context.

PEO-4: Real World Competency & Innovation

To enable students with good scientific and engineering breadth and technology skills so as to comprehend, analyze, design, and create novel products and solutions for the real-life problems to emerge as researchers, experts, educators & entrepreneurs.