

MITE

Department of Master of Computer Applications

BULLETIN 2023-24



MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(A unit of Rajalaxmi Education Trust @, Mangalore)

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DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS



ACTIVITIES

2023-24



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DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

ACAS – Committee List

Name	Responsibility
• Dr. K G Madhwaraj	- Head of the Department
• Mrs. Shwetha V. Bhat	- Faculty Coordinator
• Mr. Nihal Ahmed Mohtesham	- President
• Ms. Syed Ansifa	- Vice President
• Ms. S K Bhargavi	- Secretary
• Ms. Priyanka Naik	- Joint Secretary
• Mr. Akashay Rao	- Treasurer
• Mr. Sukumar L N	- Cultural Secretary
• Mr. Nithish Shetty	- Sports Coordinator



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DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Preamble

The Department of MCA has been supporting its students by participating in Curricular and Co–Curricular activities. ACAS (Association of Computer Application Specialists), was established on 02nd March 2024. All the students of MCA department are the members of the ACAS Forum. ACAS was founded with a view of giving a new dimension to the present education system. This Forum provides ample opportunity for students to discover and exhibit technical skills, presentation skills, and communication skills in organizing various events. It gives wide exposure to the students to express and share technical knowledge and also gives a view of department activities, achievements of staff and students. Under ACAS forum, the Class Toppers and University rank holders are felicitated with certificates of appreciation and cash rewards.



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DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

ACAS 2023-24 ACTIVITIES LIST

Sl.No.	Date	Event	Page No
1.	18/05/2024	Unleash the potential of Web – Angular JS, React JS and MERN Stack	1-2
2.	10/05/2024	MITE-SAP Hackfest'24	3-4
3.	27/04/2024 29/04/2024 30/04/2024	3-day hands-on workshop on Object-Oriented Design using UML	5-7
4.	23/01/2024	Hands - on workshop on Data Analytics and Visualization	8-9
5.	23/12/2023	Hands-on workshop IoT with ESP32	10-12



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Activity - 1

- Title** : Unleash the potential of Web – Angular JS, React JS and MERN Stack
- Resource Person** : Mr. Ranjith K B Technical lead, MResults Technologies Ltd Mangaluru
- Date** : 18th May 2024
- Venue** : Auditorium II & Innovation Centre – MITE

Profile of the Speaker :

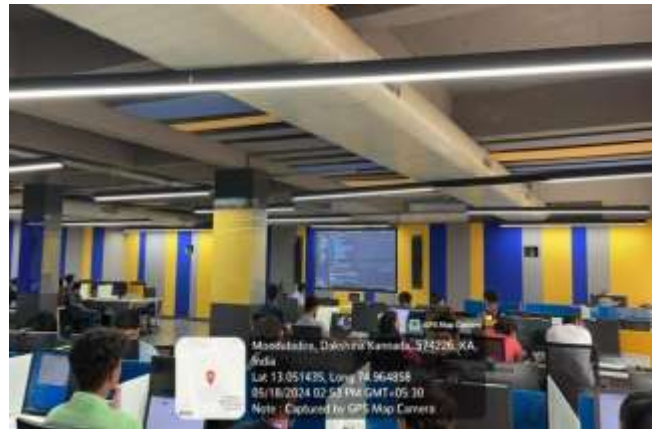
Ranjith K B is a highly skilled technical professional with expertise in Angular, NodeJS, PostgreSQL, React, DBEaver, and repository management. He is currently serving as a Technical Lead at MResult Technologies Ltd., where he demonstrates proficiency in Angular, Agile methodologies, and related skills. With a background as a Senior Software Development Engineer at the same company, Ranjith has extensive experience in tools like Sonarqube and Angular. His career journey also includes a role as a Technology Analyst. Prior to his tenure at MResult Technologies Ltd., Ranjith worked as a Full Stack developer at E-Soft Systems, Mangalore, where he honed his skills in Angular, RestAPIs, and C# with Entity Framework. Ranjith's educational background includes a Bachelor of Engineering in Computer Science from St. Joseph Engineering College, Vamanjoor, where he achieved a First-Class grade. He also holds a Diploma in Computer Science from SDM Polytechnic College, Ujire, with a First Class with Distinction grade. Passionate about learning new technologies and committed to improving quality in all aspects of life, Ranjith is driven by a love for sharing knowledge. His diverse experience and dedication make him a valuable resource in the realm of web development and technology.

About the Event:

This workshop provided an extensive learning journey focusing on constructing web applications using AngularJS and ReactJS. Through a series of guided exercises and hands-on labs, participants delve into the process of crafting interactive user interfaces with these powerful frameworks. The workshop didn't stop at frontend development; it also delved into the backend aspects by introducing the MERN Stack concept. This stack comprises MongoDB, Express.js, AngularJS (or ReactJS), and Node.js, offering a holistic view of full-stack application development. The program's hands-on approach ensures that participants don't just learn theoretically but also apply their knowledge in practical scenarios. This practical experience is invaluable for transitioning from a beginner to a proficient web developer. By the workshop's conclusion, participants were equipped to create dynamic, responsive and feature-rich web applications, making them ready to tackle real-world development challenges with confidence and competence.



Mr. Ranjith K B delivering the workshop



Involvement of students in the hands-on session

Web Workshop Brochure :

RESOURCE PERSON



Mr. RANJITH K. B.
Technical Lead
MResult Technologies Ltd, Mangaluru

Ranjith K. B. is a highly skilled technical professional with expertise in Angular, Node.js, PostgreSQL, React, DevOps, and reporting management. He is currently working as a Technical Lead at MResult Technologies Ltd, where he demonstrates proficiency in Angular, Agile methodologies, and related skills with a background as a Senior Software Development Engineer at the same company. Ranjith has extensive experience in tools like SonarQube and Angular. His career journey also includes a role as a Technology Analyst.

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CHIEF PATRON

Mr. Rajesh Chouta
Chairman, MITE

PATRON

Dr. Prashanth C M
Principal, MITE

HEAD OF THE DEPARTMENT

Dr. Madhwaraj K G
HOD, Dept of MCA, MITE

COORDINATOR

Dr. Anushree Raj
Senior Asst. Professor, Dept of MCA, MITE

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**Department of
Master of Computer Applications
Design and Coding Club Presents**



**Unleash the potential of
Web:
AngularJS, ReactJS, and
the MEAN Stack**

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MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

ABOUT MITE

Mangalore Institute of Technology & Engineering, Moodlabadi is a leading Engineering and Management Institution in the region, established in the year 2007 by Rajalaxmi Education Trust under the leadership of Visionary Mr. Rajesh Chouta. The institute accredited by NAAC with A+ Grade, offers 10 Under-Graduate (6 NBA accredited programs), 3 Post-Graduate and 7 research programs in its beautiful serene green campus. The institute is placed in the highest category platinum ranking in the AICTE CR survey 2020 of industry-linked technical institutes in India and ranked in Band Excellent in the private institute category under Atal Ranking of Institutions on Innovation Achievements (ARIIA) during the year 2020 and 2021 respectively. The institute known for its high academic standards has registered 23 University Bands over the last 4 years as a reference to the quality teaching learning pedagogy. MITE has collaborations with industries of repute.

The industry-standard incubation Centre is supported by the Government of Karnataka and MSME, Government of India to support budding entrepreneurs. MITE was awarded as the "Best Performing College of the Year 2019/20" by KSCRT and the students have received several top awards at National and State level events. With an intent to shape globally competent graduates, MITE has established a campus that would aid students to manifest their true selves by promoting effective learning and creativity to ensure that they become formidable individuals to "INVENT SOLUTIONS". We are honored to announce that the Mangalore Institute of Technology & Engineering has been conferred the Autonomous Status for a tenure of Ten years by the prestigious University Grants Commission (UGC). This landmark achievement has been further notified and endorsed by the Government of Karnataka and the Vice-Chancellor, Technical University (VTU).

VISION

"To attain perfection in providing Globally Competitive Quality Education to all our Students and also benefit the global community by using our strength in Research and Development"

Mission

To establish world class educational institutions in their respective domains, which shall be centers of excellence in their Stated and implied sense. To achieve this objective we dedicate ourselves to meet the Challenges of becoming Visionary and Realistic, Sensitive and Demanding, Innovative and Practical and Theoretical and Pragmatic; All at the same time"

ABOUT THE DEPARTMENT

Master of Computer Applications (MCA) is a Two Year Post Graduate Program aimed at providing modern, industry-oriented education in applied computer science. The Course has a blend of Computer Science, Computer Engineering, Computer Technology, and Management-oriented subjects with special focus on design and innovation based mini projects. The Program focuses on prosing software skills and strengthen the computer application aspect of students. MCA courses are more focused on implementation of Programming Languages, IT Skills and concepts. The emphasis is on providing industrial training/ internship and projects towards preparing the students for the industry requirements and corporate IT Sector. It aims at producing trained professionals who can successfully meet the demands of the information technology industry.

ABOUT THE WORKSHOP

This workshop provides an extensive learning journey focusing on constructing web applications using AngularJS and ReactJS. Through a series of guided exercises and hands-on labs, participants delve into the process of crafting interactive user interfaces with these powerful frameworks. The workshop doesn't stop at frontend development; it also delves into the backend aspects by introducing the MEAN Stack concept. This stack comprises MongoDB, Express.js, AngularJS (or ReactJS), and Node.js, offering a holistic view of full-stack application development.

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DATE & TIME

**18 MAY 2024
9:30 AM**

VENUE

**INNOVATION CENTRE
II FLOOR
ACADEMIC BLOCK I**



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Activity - 2

- Title** : MITE-SAP Hackfest'24
- Chief Guest** : Mr. Venkat Raman L, Development Expert at SAP Labs India.
- Guest of Honour** : Mr. Sayed Taha, App Engineer, SAP Labs India.
- Date** : 10th May 2024
- Venue** : Audi 4, PG Block.

Profile of the Speaker :

Mr. Venkata Ramana L, a Development Architect at SAP Labs India, holds a substantial 19 years of experience. Armed with a Masters in Computers, he initially contributed to a pricing engine for enterprises at JamCracker before transitioning to SAP Labs India, specializing in Authentication and Authorization within By Design. Notably, he has played a crucial role in developing key products at SAP, including BRF+ and pioneering HANA applications. Venkat prioritizes customer relationships and is dedicated to fostering strong client connections. Currently, Venkat spearheads the Global Architect Workshop at SAP, where he facilitates solutions for real customer challenges, showcasing his leadership and problem-solving capabilities.

About the Event:

The Department of MCA at Mangalore Institute of Technology organized a prestigious national-level hackathon in association with SAP on May 10th, 2024. The event aimed to foster innovation and collaboration among students from various colleges across Karnataka, addressing three main themes: "Green Credit Management," "Crowdsource Disaster Management," and "Harnessing the Source of Renewable Energy." The hackathon took place at Audi 4 of the PG Block, commencing at 9:30 AM. The event was graced by distinguished guests, including the Chief Guest Mr. Venkat Raman L, Development Expert at SAP Academy for Engineering, and Guest of Honor Mr. Sayed Taha, App Engineer. Dr. Prashanth C M, the Principal MITE, presided over the event, accompanied by Dr. Madhwaraj K G, the HOD of the MCA Department, who escorted the guests to the dais.

A total of 141 teams had registered from various colleges across Karnataka, highlighting the widespread interest and participation in the hackathon. The event organizers provided food and accommodation facilities for all participants to ensure a comfortable and conducive environment for ideation and collaboration.



Dr. Madhwaraj K G, HOD, Department of MCA, welcoming the gathering



Mr. Venkata Ramana L, Chief guest, addressing the participants



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Activity - 3

- Title** : 3-day hands-on workshop on Object-Oriented Design using UML
- Resource Person** : Prof. Geeta Santhosh, Prof. & Head FCA Dept, Acropolis Institute of Technology & Research Indore
Dr Madhwaraj K G, HOD-Dept of MCA, MITE, Moodabidri
- Date** : 27, 29 & 30 April 2024
- Venue** : Innovation Centre, Second Floor, Main block

Profile of the Speaker :

Ms. Geeta Santhosh, Prof & Head of the Faculty of Computer Application dept at Acropolis Institute of Technology & Research Indore. In her 33 years of career in academia and industry, she has worked in institutions namely Bharkatullah University Bhopal, as a Scientist at Inter-University Consortium (DAE Concern) Indore, Prestige Institute of Management Indore, Asan Memorial College, Chennai where she served as the Head of Department MCA and SSN College of Engineering Chennai. She is presently Prof and Head, Faculty of Computer Applications Dept at Acropolis Institute of Research & Technology Indore, a premier college of Central India. She is heading the MCA, Integrated MCA and BCA program.

Geeta has been associated with many industrial collaborations undertaken by SSN, her previous employer. This included the training of Entry Level Training recruits (ELT) of Cognizant Technology Solutions (CTS) Ltd and HCL Technologies Ltd in the VSAT and face-to-face mode. She was also involved in the development of training material i.e. the Learning Assets Development Project for CTS. She developed a curriculum for Globe University USA – a consultancy assignment taken up by SSN. She has also handled consultancy assignments for the Chennai Business School for curriculum design and implementation for the Unified Modeling Knowledge Course.

Prof. Geeta was appointed as the Member of Board of Studies and Governing Council at the GR Govindrajulu School of Advanced Computer Technology Coimbatore (a sister concern of PSG Tech) as a Bharathiar University Nominee at Acropolis she has been at the forefront of many important assignments. She has undertaken the entire project management of Robot at Indore Airport for which she has been felicitated by the Airport Indore Director and Acropolis Institutions.



About the Event:

The session began with the coordinator Mr Ragesh Raju, welcoming the gathering and introducing the speaker of the day Dr Madhwaraj K G, HOD-MCA post the session was handed over to the speaker.

Day 1 : Session 1: Introduction to Object-Oriented Design and UML

In the first session, participants were introduced to Object-Oriented Design (OOD) principles and Unified Modeling Language (UML) basics. The session aimed to provide a foundational understanding of OOD concepts and how UML serves as a visual representation tool for designing software systems. Core building blocks of UML, which are essential for creating meaningful diagrams to represent different aspects of software systems.

Key Topics Covered:

Object-Oriented Design Principles, Introduction to UML, Importance of UML in Software Design, UML Building Blocks Overview, Classes and Objects, Relationships (Association, Aggregation, Composition), Inheritance, Interfaces

Day 1: Session 2: UML Modeling Types

Participants explored various types of UML modeling techniques used to depict different aspects of software systems.

Key Topics Covered:

Structural Modeling, Basic Notations, Standard Diagrams (Class Diagrams)

Day 1: Session 3: Case Study & Practice Session:

A case study on an ecommerce platform was taken up during the session and the topics discussed in the morning session were to be practiced hands-on during this session.

Day 2: Session 1: Basic Notations and Standard Diagrams

Dr Madhwaraj K G, HOD-MCA welcomed the gathering and introduced the speaker of the day Prof. Geeta Santhosh, Professor & Head, Faculty of Computer Applications Dept, Acropolis Institute of Technology & Research, Indore. This session focused on understanding basic UML notations and how they are used in creating standard diagrams, behavioral modeling, interaction modeling.

Key Topics Covered:

Basic UML Notations, Standard Diagrams Overview, Class Diagrams: Elements and Relationships Behavioral Modeling, Object Diagrams, Use Case Diagrams, State chart Diagrams, Interaction Modeling, Activity Diagrams, Sequence Diagrams.

Day 2: Session 2: Object Diagrams and Use Case Diagrams

Participants learned about Object Diagrams and Use Case Diagrams, which are crucial in depicting instances of classes and system functionalities, respectively.

Key Topics Covered:

Object Diagrams: Instance Representations, Use Case Diagrams: Actors, Use Cases, Relationships
Q&A Session

Day 2: Session 3: Case Study & Practice Session:

A case study on a House Cleaning service platform was taken up during the session and the topics discussed in the morning session were to be practiced hands-on during this session.

Day 3: Session 1: Statechart Diagrams and Activity Diagrams

The focus of this session was on Statechart Diagrams, which model the dynamic behavior of a system, and Activity Diagrams, used to depict workflows and processes.

Key Topics Covered:

Statechart Diagrams: States, Transitions, Events, Activity Diagrams: Activities, Transitions, Control Flows

Day 3: Session 2: Sequence Diagrams

This session covered Sequence Diagrams, an important UML diagram used to visualize the flow of messages and interactions between objects in a system.

Key Topics Covered:

Sequence Diagram Overview, Actors and Lifelines, Messages and Interactions, Control Flows and Conditional Statements, Loops and Parallelism in Sequence Diagrams

Day 3: Session 3: Case Study & Q&A Session

A complete application development scenario was discussed, and the workshop concluded with an interactive Q&A session where participants had the opportunity to clarify doubts and further discuss the topics covered throughout the workshop.

Key Discussion Points:

Clarifications on UML Concepts, Practical Application Scenarios, Best Practices in UML Diagramming.





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Activity - 4

- Title** : Hands - on workshop on Data Analytics and Visualization
- Resource Person** : Mr. Harish Neermarga, Founder & CEO, Accolade Tech Solutions Mangaluru
- Date** : 23rd January 2024
- Venue** : Computer Applications Lab, Ground Floor, PG Block

Profile of the Speaker :

Mr. Harish Neermarga, Founder & CEO of Accolade Tech Solutions, Mangaluru, is an MCA from Manipal Institute of Technology, he brings exceptional leadership to his role, managing a team of 25+ across two locations. His strategic prowess is evident in the development of ambitious business strategies and setting both short-term and long-term goals. Beyond his professional achievements, Mr. Harish actively engages in community and industry organizations, being a proud member of the Indian Red Cross Society and the Kanara Chamber of Commerce & Industry. His commitment to fostering entrepreneurship is showcased through roles such as the Coordinator of the Entrepreneurship Program at MIT, Manipal, and as a Jury member for the Smart India Hackathon. Furthermore, he has contributed to education and innovation by serving as a Judge for Youth Talk Karnataka 2018 and conducting over 50 technical talks and 15+ hands-on workshops for UG and PG Computer Science students in Dakshina Kannada District Colleges

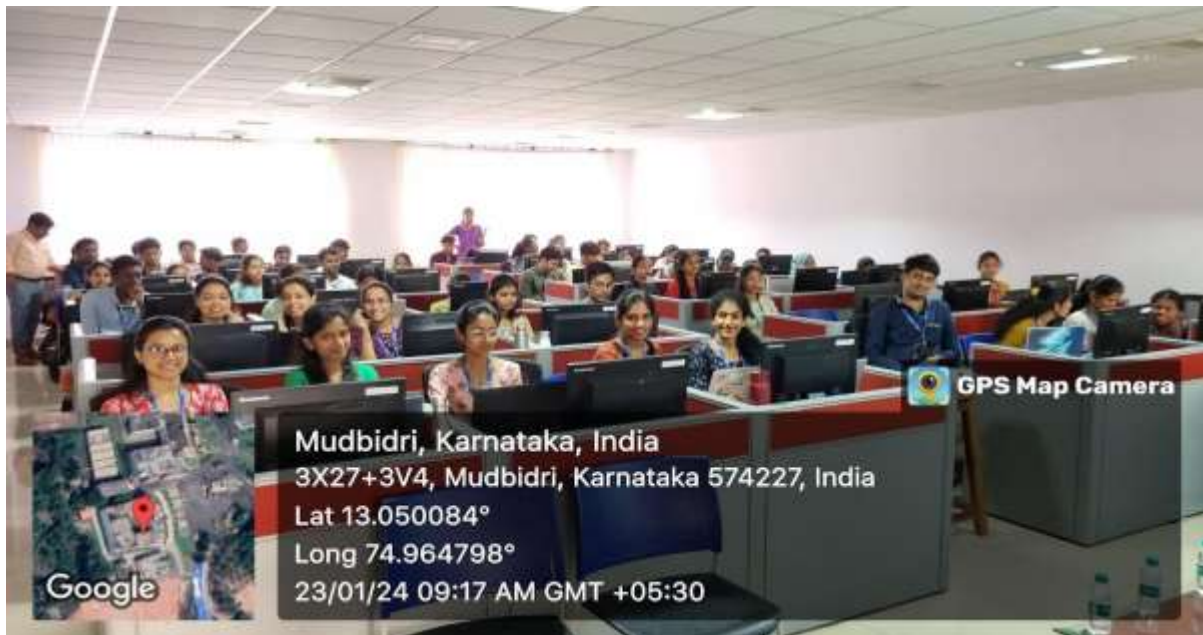
About the Event:

The workshop covered various technical topics related to Data Analytics and Visualization in Data Science. Some of them are listed below: 1. Analysing Dataset in Jupyter 2. Zomato Data Pre-processing (pandas and numpy) 3. Image-processing (seaborn and matplotlib) 4. Creating Web-Application (streamlit). A brief explanation regarding analyzing a dataset in Jupyter using Python involves exploring and manipulating data within a Jupyter Notebook environment. Users can load the dataset, examine its structure, perform exploratory data analysis (EDA), and visualize patterns or trends using libraries like Pandas and Matplotlib/Seaborn. Data pre-processing with Pandas and NumPy involves preparing raw data for analysis. Pandas is used for data manipulation, and NumPy for numerical operations. Tasks include handling missing values, removing duplicates, transforming data types, and scaling. These processes ensure data quality and consistency before further analysis or modeling, contributing to more accurate and meaningful results. Students were trained to do a small Streamlit web application for BMI calculation by accepting users inputs height and weight through sliders. The application computes the Body Mass Index (BMI) and interprets the result to determine if

the user is within a healthy range. Streamlit's simplicity streamlines the development process, enabling a user-friendly interface. This application integrates seamlessly with the underlying BMI logic, providing an interactive tool for health assessment.



Mr. Harish Neermarga delivering the lecture



Involvement of students in the hands-on session



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Activity - 5

- Title** : Hands-on workshop IoT with ESP32
- Resource Person** : Dr. Sreenivasa Setty, Chief Technical Officer, SST Technologies, Bangalore.
- Date** : 23rd December 2023
- Venue** : Computer Applications Lab, Ground Floor, PG Block.

Profile of the Speaker :

Dr. Sreenivasa Setty pursued his Bachelors (B.E) in Electronics and Communication Engineering from Mysore University in 1990, M.S in Software Systems from BITS Pilani in 1999 and Ph.D (CSE) in Visweshwaraya Technological University (VTU),Belagavi. He has rendered his teaching service with practical hands on experience with a great devotion for over 32 long years in Top-notch technical institutes in Karnataka viz., MVJ College of Engineering, PES Mandya, Don Bosco Institute of Technology, AMC College of Engineering, Dayananda Sagar College of Engineering and R.V.College of Engineering, Bengaluru. He has authored one book and 15 technical articles in refereed journals and proceedings such as IEEE, Springer. His research interests include Microprocessor and Microcontroller, embedded system, IoT and image processing algorithms. He has hosted workshops in diverse domains of Technology in institutes like RVCE, DBIT, MSRIT, BGSIT, EWIT, DSCE, BGSIT, BMSIT, BNMIT, RRIT etc. As a result, he is a very likeable, student friendly and a popular teacher among the student community. He has addressed more than 3 lakh students. He has also founded a technical start up lately named SST Technologies in 2016. Presently Dr. Sreenivasa Setty is the Founder and the CTO of this company. SST Technologies has been established in with a vision to be one of the top company for IoT, Arduino, Raspberry Pi, Android Development Training, C, C++, Java, Python, Android App Development, Microprocessors, IoT, Dot.net & PHP, Embedded development, Web Designing and hosting, Robotics, Software Testing solutions etc.

About the Event:

In this workshop various technical topics related to IoT were discussed in which some are listed below:

1. Sensors and Actuators
2. Gateways and Data Acquisition Systems
3. Edge IT Data Processing
4. Data centre and Cloud

The differences between embedded systems and Internet of Things [IoT] were explained. The embedded system is a combination of Software and hardware it ranges in size from portable personal

devices such as digital watches and MP3 players to bigger machines like home appliances, where as IoT is a combination of Software, Hardware and Internet. A brief explanation regarding the installation of ESP32 was given to the students. He provided information about ESP32 kit such as, it provides many GPIO pins that facilitate connection with and control of external devices and sensors. When it comes to IoT, the ESP32 is a chip that packs a powerful punch. It provides Wi-Fi and (in some models) Bluetooth connectivity for embedded devices. One advantage is its versatility, as it includes features such as Wi-Fi, Bluetooth, timers, ADCs, DACs, touch sensors, and a Hall Effect sensor. It also has two 240MHz cores, making it powerful for various applications. Lab experiments were done with the help of practical examples. He suggested many sites which are very helpful in doing IoT projects. Example: Random tutorials.



Dr. Sreenivasa Setty delivering a lecture



Involvement of students in the session