



Sriehyde Educational Trust (R) Dharmasamudra

GM INSTITUTE OF TECHNOLOGY, DAVANGERE

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**Report
on
3-days Workshop
on
“Internet of Things”**



from

15/06/23 to 17/06/23

Resource Persons

**Mr. Harish N CTO & Mr. Mahesh Deginal MD & CEO
Karunadu Technologies Pvt. Ltd., Bengaluru**

Event Coordinators

Dr. Kavitha K J
Mr. Suprith P G

Verified by
Dr. Praveen J
Head of the Department

Checked by
Dr. Praveen J
IQAC-Director

Davangere - 577 006.

Checked by
Dr. Sunil Kumar B S
Dean Academics

DEAN ACADEMICS
G.M. Institute Of Technology
DAVANGERE-577006.

Approved by
Dr. Sanjay Pande M B
Principal

PRINCIPAL
GM Institute of Technology
Davangere - 577 006.

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Resource Persons Details



Mr. Harish. N B.E, M.Tech, (Ph.D) CTO Mr. Harish currently serving as a CTO at Karunadu Technologies Pvt Ltd. He has a Teaching experience of decades in various Engineering colleges in various positions and Technical Consultant, Technical advisor to different embedded industries. He worked in various domains like IoT Systems, RF Communications, Micro strip Patch

Antenna, and Machine Learning. He has published various IEEE papers and other journals. He has worked on many industrial projects to provide sustainable design and expertise. Currently he works on python, Raspberry-Pi, Artificial Intelligence, Texas Instruments Boards, Advanced controllers, Image, Video Processing and Mat lab. His Vision is to Empower Unskilled Individual with knowledge, skills and technical competencies in the field of Information Technology and Embedded engineering which assist them to escalate as integrated individuals contributing to company's and Nation's growth. His vast expertise and Innovative thought process made to nurture a company along with Mr Mahesh Deginal in the year 2017.

Mr. Mahesh Deginal, B.E, M.Tech (VLSI Design and Embedded system) Managing Director Mr. Mahesh Deginal currently

working as a Managing Director at Karunadu Technologies Pvt. Ltd. He served in both Industries and Educational Institutions.

He worked as a Assistant Professor and Senior Embedded engineer and various roles in industries. He has 7 plus year experience and he is expertise in domains such as Data Science, Embedded System, IoT, Robotic engineering, Machine Learning

etc.. He has worked on many industrial projects and upgraded older systems to newer technologies. Currently he works on python, Machine Learning raspberry pi, Texas Instruments Boards, Advanced controllers and Matlab. His Vision is to Empower Unskilled Individual with knowledge, skills and technical competencies in the field of Information Technology and Embedded engineering which assist them to escalate as integrated individuals contributing to company's and Nation's growth. His Innovative and creative thinking made to nurtured a company in the year 2017.





DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Report of 3-Days hands-on workshop on “Internet of Things”

“If there is no struggle, there is no progress.”

The Department of Electronics & Communication Engineering, GM Institute of Technology, Davangere organized “3-Days hands-on Workshop on **“INTERNET OF THINGS”** on **15/06/2023 to 17/06/2023** in association with **Karunadu Technologies Private Limited, Bengaluru** under **ISTE student Chapter, GMIT, Davangere.**

Workshop Background Information:

The Department of ECE has always believed in a practical learning-based approach entrenched with ethical values. The department is persistently dedicated to provide a technical knowledge with high employability skills to the students. To fulfill the gap between industry and academia and meet our commitments, the department has planned in a pipe line of programs such as STTPs, Workshops, Webinars, remote hand on sessions in collaboration with Industries.

The Department of ECE has identified recent key areas based on current market trends in the core field such as embedded system, Networking, VLSI and IOT for the students to look into in terms of future-proofing.

In the list of many more to come with one such effort, the department has pulled its resources for three-day hands on workshop on Internet of Things.

Today, **Internet application development demand is very high.** So **IoT is a major technology** by which we can produce various useful internet applications.

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Basically, **IoT is a network in which all physical objects are connected to the internet** through network devices or routers and exchange data. IoT allows objects to be controlled remotely across existing network infrastructure. IoT is a very good and intelligent technique which reduces human effort as well as easy access to physical devices. This technique also has autonomous control feature by which any device can control without any human interaction.

“Things” in the IoT sense, is the mixture of hardware, software, data, and services. “Things” can refer to a wide variety of devices such as DNA analysis devices for environmental monitoring, electric clamps in coastal waters, Arduino chips in home automation and many others. **These devices gather useful data with the help of various existing technologies and share that data between other devices.** Examples include Home Automation System which uses Wi-Fi or Bluetooth for exchange data between various devices of home.

Workshop Objective:

The workshop has been designed with the following objective:

1. Learn the concept and architecture of IoT
2. Understanding IoT components
3. IoT related protocols
4. Wireless technologies used in IoT enabled systems
5. Explanation on IoT domain related to Hardware, Sensors and connectivity protocols.
6. Walking through various connectivity methodologies.
7. Importance of various IoT cloud platforms.
8. Creating social awareness with demonstrating various real-time applications



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Summary of Workshop:

The workshop was inaugurated on 15th June 2023 at 9:00AM. The resource persons, **Mr. Harish. N**, CTO, and Mr. Mahesh Deginal, Managing Director, **Karunadu Technologies Private Limited, Bengaluru**, **Dr. Sanjay Pande M B**, Principal, GMIT, **Dr. Praveen J**, HOD, ECE Department, the Event Coordinators **Dr. Kavitha K J** and **Prof. Suprith P G**, faculties and registered students of workshop were present in the function.

The Principal and HOD addressed all the students and informed to benefit from the workshop and use in real time applications.

A total of **67 students from 6th semester A section** registered and participated in the workshop.

Topics covered in this Workshop:

Day 1

1. Introduction to Embedded System
2. Introduction to 8051 family
3. Arduino programming
4. Interfacing of seven segment Display with Arduino
5. Interfacing of sensors like LDR with Arduino

Day 2

1. Introduction to IOT
2. Introduction to Rajberry pi
3. Rajberry pi Board Explanation
4. Formatting SD card and Installing operating System
5. Controlling of GPIO Pins and Control LEDs with buttons on GPIO Pins

Day 3

1. Interfacing of Sensors(ultrasonic and Humidity Sensors) with Raspberry pi
2. Interfacing of wire and wireless connectivity (RFID, Bluetooth, Humidity Sensors) with Raspberry Pi
3. Mini Project



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Skills Gained:

- Current scenario/job opportunities of embedded industries.
- Understanding the skill set required in a new employee in embedded industry.
- Understanding the robotics future and scope Understanding the different microcontroller available in the industry & their use.

Outcomes of attending the workshop:

- What “the Internet of Things” means and how it relates to Cloud computing concepts
- How open platforms allow you to store your sensor data in the Cloud
- The basic usage of the Arduino environment for creating your own embedded projects at low cost
- How to connect your Arduino with your Android phone.
- How to send data to the Internet and talk to the Cloud.





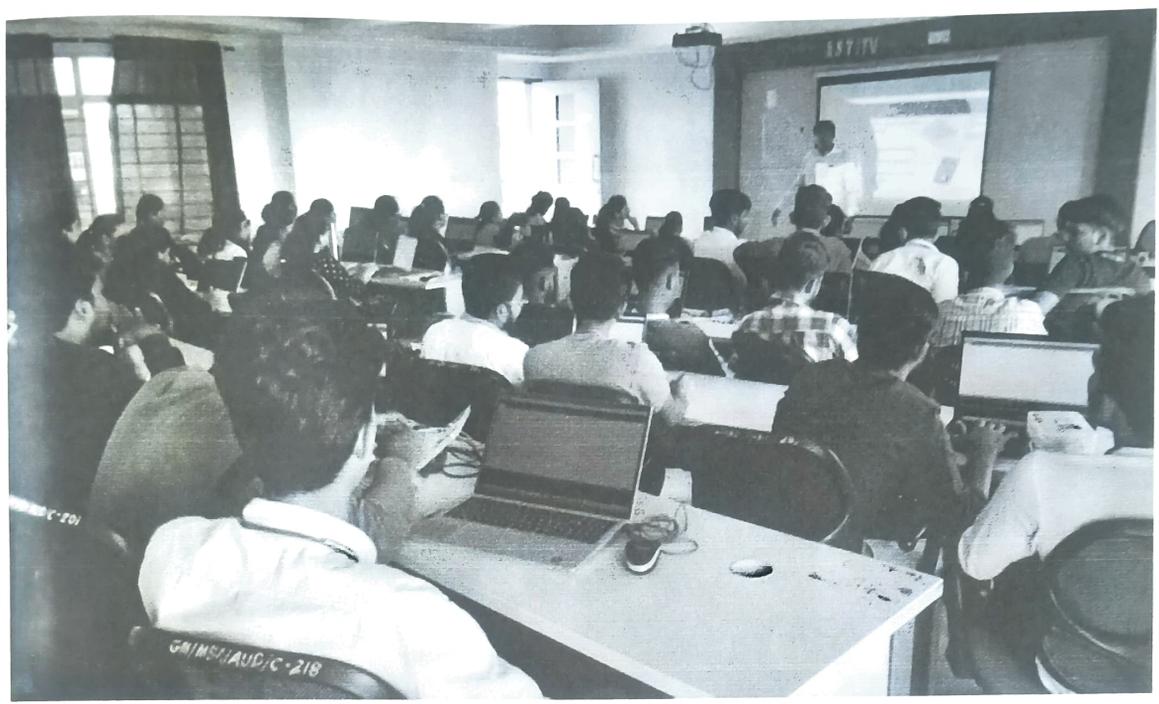
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CERTIFICATE



3 Days WORKSHOP
On
Internet of Things (IOT)

This is to certify that Mr./Ms.....CHIRAG S PAWAR.... bearing USN4GM20EC024.....has participated in the three days hands-on workshop on Internet of Things(IOT) organized by the Department of Electronics and Communication Engineering From 16/06/2023 to 18/06/2023 in association with Karunadu Technologies Private Limited, Bengaluru under student ISTE Chapter, GMIT, Davangere

Mr. Mahesh Deginall
MD and CEO
Karunadu Technologies Pvt. Ltd.

Dr. Praveen J
HOD ECE
GMIT, Davangere

Dr. Sanjay Pande M B
Principal
GMIT, Davangere