

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REPORT ON WORKSHOP CONDUCTED

TITLE: Workshop on “Embedded Systems and IoT Design”.

DATES: 07-03-2024 to 08-03-2024 (2 Days)

Duration of Training: Two Days

Venue for Training: ECE Seminar Hall & Embedded Laboratory

Resource Person: Mr. M. Marudhupandi
Project Engineer
Vi Microsystem Pvt Ltd,
Plot No: 75, Electronic Estate,
Perungudi, Chennai – 600 0096.

Convenor: Dr.N.Ameena Bibi, HOD/ECE

Coordinator: Prof.M.Vijayakumar, AP/ECE

No.of Participants: 54

Mode: Offline

Objective:

To provide participants with practical insights into the fundamentals of IoT and embedded systems. Through hands-on activities, attendees will learn how to design, develop, and deploy IoT solutions using embedded systems. The workshop aims to enhance participants' understanding of sensor integration, data processing, and connectivity protocols crucial for IoT applications. Additionally, participants will gain proficiency in programming microcontrollers and utilizing IoT platforms for real-world implementations. Ultimately, the workshop seeks to empower participants with the skills and knowledge necessary to innovate and create IoT-enabled devices and systems.

Description about the Program:

A two days workshop on Embedded Systems and IoT Design has been conducted on 07th March 2024 & 8th March 2024 at Department of Electronics and Communication Engineering, Government College of Engineering, Dharmapuri. During this training Third year students (54) and Faculties able to know about the Embedded systems & IoT Designing and Hands on Training was provided. Introduction to the Resource person was given by Prof.A.Vinod, Assisstant Professor/ECE.

The Resource person covered the topics in Day 1 Program such as Structure of a real time Embedded system, Task Assignment and Scheduling, Multiple Tasks and Multiple Processes, Multirate Systems, Pre emptive real time Operating systems, Priority based scheduling, Interprocess Communication Mechanisms, Distributed Embedded Systems, MPSoCs and Shared Memory Multiprocessors, Design Example – Audio Player, Engine Control Unit and Video Accelerator. The entire session was interactive session and the Resource person answered many queries raised by the students.

Day 2 Program began with the student's hands on Training on. Through this day students had in depth knowledge of IOT and NODE MCU, MQTT Protocol, webpage creation and upload data on cloud and its retrieval.

Following Topic were considered during second day of workshop

- The basic usage of the Arduino & Node MCU environment for creating your own embedded project at low cost.
- Use of Arduino in IoT
- How to sent data to the internet and talk to the cloud. • How to update sensor reading on Social networking sites.
- How to control any devices from anywhere across the cloud.
- How to connect to cloud ready IoT server using MQTT
- How to do the mini Projects by using IOT like Garbage segregator and bin level indicator, Colour based Product sorting, Image processing based fire detection, Vehicle number plate detection and Smart lock system

The Resource person gave suggestions to design the mini Project.

The workshop ended with vote of thanks given by Prof.M.Vijayakumar, AP/ECE.

At the end of the workshop feedback was received from the students. On the whole the program was well appreciated by the participants.

The entire Program was Co-ordinated with the support of HOD, Principal, faculties of the department of ECE, GCE, Dharmapuri.

