



NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY

NBA Accredited *NAAC Accredited with "A+" grade
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Affiliated to Visvesvaraya Technological University (VTU)
Recognized by Govt. of Karnataka & Approved by A.I.C.T.E. New Delhi
**DEPARTMENT OF ELECTRONICS & COMMUNICATION
ENGINEERING**



A Report on

Five Days Hands-on Workshop on "IoT and its Applications using TI Microcontroller"

Dates: 15th to 19th November 2022

Time: 9:00AM to 4:00 PM

Venue: Language Lab, Main Block

Resource person: **Mr. Samarth Kulkarni, Embedded System Engineer, EdGate Technologies Pvt. Ltd., Bengaluru.**

Overview

A Five day hands-on workshop on "**IoT and its Applications using TI Microcontroller**" was conducted for 5th semester ECE students by resource person **Mr. Samarth Kulkarni**, Embedded System Engineer, EdGate Technologies, Bengaluru. The session gave an insight on Internet of Things and is based on the advanced development tools from Texas Instruments. The Tiva TM4C123GXL Development Kit and CC3100 offers a complete IoT solution while integrated with Energia with the IoT platform which simplifies the IoT application development.

About EdGate Technologies

EdGate Technologies Pvt Ltd is a technology development company and training provider in embedded system design domain. They provide cost effective and innovative embedded system solutions to business, including both hardware design and software development, with expertise covering many processors (especially ARM microcontrollers) and real time operating systems. EdGate provides high-performance ARM, DSP, FPGA processor boards and I/O modules in support of high performance, parallel processing applications in a variety of fields including Multimedia, Imaging, Networking, Industrial control and Military. EdGate offers rapid, reliable software, firmware and hardware solutions for prototyping, business applications and the development environment.

Resource Person

Mr. Samarth Kulkarni is working as an Embedded System Engineer in EdGate Technologies Pvt Ltd, Bangalore, since 2021. He is having experience with Embedded Software, Hardware, Microcontrollers and Texas Instruments software's. He is working on Texas Instruments 16- and 32-bit Microcontrollers and ARM Architecture and experienced with Texas Instruments Code Composer Studio and Energia IDE. He has conducted various webinars and training sessions in the field of Embedded System, Communication protocols and Internet of Things.

Workshop Schedule

DEPARTMENT OF ELECTRONICS COMMUNICATION ENGINEERING						
Five Days Hands-On Workshop						
On						
Internet of Things and it's application using TI-Microcontroller						
From: 15/11/2022 to 19/11/2022						
Date	Session 1		Session 2		Session 3	Session 4
Time	09.00AM-10.45AM		11.00AM - 01.00PM		02.00PM - 03.00PM	03:00PM – 04:00PM
15/11/2022	Overview of Tiva C Series Architecture		Introduction to Tiva Launchpad, Installation of Energia IDE		GPIO Concept, Configuration of Tiva Launch Pad to use onboard RGB LED	Assignments on on-board RGB LED
16/11/2022	GPIO Concept (Switch) Configure Tiva Launchpad to use onboard Switch	T	Assignments on-board Switch	L	Introduction to ADC, Concept, and working of SAR ADC	configure ADC for potentiometer Interfacing and Assignment
17/11/2022	PWM Concept and Program	E	Assignments on PWM	U	UART Concept and Program	Introduction to Internet of Things (IoT), Architecture of IoT, How IoT Works, It's Applications
18/11/2022	Introduction to CC3100 Wi-Fi Module, Implementation of Wi-Fi Application	A	Understanding the OSI Model	N	Introduction to Wi-Fi libraries, IP Addressing, implementation of the same	Understanding sockets and ports, Client Server Communication, client and server APIs
19/11/2022	Establishing Client-Server Communication between two Launchpads using TCP Protocol	B	Introduction to HTML Programming, elements of HTTP message, serving web pages that respond to user input	H	Designing an Embedded web server to display the web page and sensor monitoring	Demonstration on BLYNK Cloud using CC3200 Launchpad
		R		B		
		E		R		
		A		E		
		K		A		
				K		

Glimpses of Workshop



The banner features a dark blue background with a network of white dots and lines. At the top left are the logos for the Institution's Innovation Council and the University of Visvesvaraya. At the top right is the EdGate Technologies logo. In the center is the Nagarjuna College of Engineering & Technology logo, which depicts a tree growing from an open book. Below the logo, the text reads: "NAGARJUNA COLLEGE OF ENGINEERING & TECHNOLOGY", "NAAC Accredited with A+ grade", and "(An Autonomous Institution Under VTU) Bengaluru-562164". The main text of the banner is: "Department of Electronics and Communication Engineering In association with EdGate Technologies Pvt. Ltd. Organises Five-Day Workshop on IOT and It's Applications using TI Microcontroller". The word "IOT" is written in large, glowing, colorful letters. At the bottom left, a white box contains the text "From 15th to 19th November 2022". On the right side, there is a graphic of a city skyline with the word "IOT" integrated into it.

INSTITUTION'S INNOVATION COUNCIL

UNIVERSITY OF VISVESVARAYA

EdGate[®] TECHNOLOGIES

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Department of Electronics and Communication Engineering
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Organises Five-Day Workshop on
IOT and It's Applications
using TI Microcontroller

From 15th to 19th November 2022



Glimpse Of the Workshop





Students actively participating in the workshop

A total of 53 Students from V Semester participated in the five-day workshop, which was co-ordinated by **Dr. Rohith S, Associate professor, Dept. of ECE** and other faculty members.

We thank our Management, beloved principal Dr. B V Ravishankar and our Head of the department, Dr. Nagesh K N for their support and guidance.

Sample Certificate



Co-Ordinator
Dr. Rohith S

HOD
Dr. Nagesh KN