

Three days Faculty Development Program on “IoT Application Design” AY 2018-19

Resource Persons:

1. Mr. Rather Sajad, Application Development and R&D Engineer, EdGate Technologies Pvt. Ltd. (TEXAS Instruments University Program)
2. Mr. Javad Baig D Application Engineer, Edgate Technologies Pvt. Ltd.

Program Coordinator:

1. Mr. Selvin Furtado
2. Ms. Veena Gawade
3. Mr. Mahesh C. Pawaskar

About Program: Texas Instrument Innovation centre is established at A. P. Shah institute of Technology, Thane College under “TI University Program” in July 2018. TI University program aimed at establishing a collaborative bridge between corporate and colleges with the objective of making students in the Engineering Colleges have a greater hand on experience in technologies related to embedded system, Analog system design and Internet of Thing.

Department of Electronics & Telecommunication Engineering, in association with Texas Instruments University Program conducted three days faculty development program on “IoT Application Design”. Main objective of this FDP is to make faculty comfortable dealing with MSP430, Tiva C, Design of Embedded server along with Internet of Things. It was organised in such way that, faculties could get hands-on experience on current industry standard technologies, thus enabling people from various levels to participate, interact and share their expertise.

Program was design in a such way that, participant would spend more 80% time for laboratory session. Participant gained valuable hands on experience with the help of relevant software and development boards. Faculties from various institute had participated and benefited from this workshop.

Duration: It was three days faculty Development program conducted from 26th December to 28th December 2018.

Software Tools:

1. Code Composer Studio v6.1 (CCS)
2. Energia v17

Program Schedule:

Sr. No.	9:30 am to 11:00 am	11:15 am to 12:45 pm	1:30 pm to 3:00 pm	3:15pm to 4:30 pm
1	<ul style="list-style-type: none"> • Introduction to MSP430 • Architecture, Functional Block Diagram • Clock system overview 	Getting started with Code Composer Studio v6 GPIO Configuration <ul style="list-style-type: none"> • Lab: Configure GPIO to blink LEDs and • GPIO interrupts configure button 	Pulse Width Modulation Introduction to MSP430 Timers & its configuration to generate PWM signal <ul style="list-style-type: none"> • Lab: Generate PWM signals using Timer 	Getting started with 10-bit ADC Understand single channel ADC Conversion <ul style="list-style-type: none"> • Lab: Speed control of DC motor using potentiometer
2	ARM Cortex M4 <ul style="list-style-type: none"> • Introduction • Architecture • Launch Pad features 	Energia Framework Overview of Energia and its API usage Lab: Led, switch, UART, ADC, PWM Labs using Energia	Internet of Things <ul style="list-style-type: none"> • What is IOT? • TCP/IP, • CC3100 Booster-Pack • overview 	Overview of Energia Wi-Fi Libraries <ul style="list-style-type: none"> • Lab: Wi-Fi connection • acquiring IP Address, Gateway IP, • Static and Dynamic IP Address
3	Design of Embedded server <ul style="list-style-type: none"> • Overview of HTTP protocol • Lab: IO manipulation on • Launch Pad using Web browser 	MQTT Protocol Basic elements of MQTT protocol. <ul style="list-style-type: none"> • Lab: Configure IoT bundle as publisher and subscriber MQTT 	Introduction to TI EZRF430 <ul style="list-style-type: none"> • Lab: Temperature sensor Network based on EZRF430 • Lab: TI RSLK Demo 	Simulation & Quick Start on ASLK Pro Board <ul style="list-style-type: none"> • Lab: Negative feedback Op-Amp • Lab: VCO Design



Figure 3:Principal Dr. U. D. Kolekar welcomes Mr. Rather Sajad (EdGate Technologies Pvt. Ltd)



Figure 4:Principal Dr. U. D. Kolekar welcomes Mr. Javad Baig D (EdGate Technologies Pvt. Ltd)



Figure 5: From Left to Right, Prof. Vishal Gaikwad, SIES; Prof. Anush Gund, Bharti Vidyapeeth's College of Engineering.



Figure 6: From Left to Right, Prof. Shaista Khan and Prof. Trupti Shah from Vidyavardhini's College of Engineering and Technology, Vasai.