



Build Your Own IoT Enabled Smart Device

(Based upon target software platforms- Android/Linux/Windows & Hardware Platforms- Raspberry Pi, Intel Galileo Gen2, Intel Edison, Qualcomm Snapdragon)

Organized by Department of CSE, Indira Gandhi Delhi Technical University for Women (Formerly IGIT), Kashmere Gate Delhi-110006) in collaboration with Microsoft, Finland

From 06-06-16 to 15-07-16

ABOUT US

There has been tremendous growth in the field of mobile and handheld device technologies due to availability of various open source software tools and easy availability of hardware that drives these systems. It has been observed that most of the users are now accessing the mobile devices than desktop systems for their day to day activities that includes communication, game playing, sending mails, web browsing, social networking, m-commerce, entertainment and computing to name a few. These smart devices are becoming a vibrant and a very exciting platform for teaching, learning and application development for any individual student and develop end user project to meet the changelings of the present generation. However, the complete know how of such devices in terms of software or hardware usage is not very common.

The training will empower and enable the students, programmers and researchers to use the mobile device as an instrument for diversified applications like Agriculture, E-learning, Health Care, Games, Defence and Navigation to name a few. Especially the student community gets the familiarity in programming the on-device peripherals and thereby ended up with development of various applications for mobile and hand held devices more efficiently.

OBJECTIVES

Device Development and Programming for various application domains:-

- Entertainment
- Travel/Tour
- Emergency Needs
- Information Retrieval
- Social Media
- Education
- Product Development

Programming of on-device peripherals e.g. Camera, Audio/Video, GPS, GSM, Bluetooth, Accelerometer, Gyroscope, Microphone etc. based on

- Intel Galileo Gen-2
- Intel Edison
- Raspberry Pi
- Qualcomm Snapdragon
- ARM base Freedom Board.
- Customization and optimization of kernel.
- Interfacing the external embedded peripherals to the smart device for Remote Control.
- Programming the smart device to experiment the concepts of Database Management System and system Architecture
- Publishing the research papers and apps in various journals, conferences and different market places and building the real time projects.

- Take-Home Project: Design and development of Re-programmable embedded computing system and interfacing with any mobile device.

DEVICES:

- a) Real Mobile devices (Lumia 800/820 and Asha 305/311 and Nokia X Android) will be used for Application development purposes.
- b) Various SoC boards like Intel Edison, Intel Galileo Gen2, Raspberry Pi, Intel Atom Board, MBED and Panda Board etc. for practical and on-device testing in real environment for Application development.

TRAINING MATERIAL:

Training material and the software's required for developing the mobile applications and embedded system will be provided.

RESOURCE PERSONS:

Internal Staff from IGDTUW, external experts from IIT Delhi, SNU, NSIT and experts from industries like Microsoft, Intel, TI, ARM, ATMEL etc.

COURSE CONTENT: Topic wise detailed schedule is attached.

CERTIFICATE: All successfully completed participants will get the certificate **jointly from Indira Gandhi Delhi Technical University for Women and Microsoft University Relations.**

REGISTRATION & SELECTION PROCESS: Those candidates (Male or female candidates from any university or college are also eligible) who are willing to attend the program needs to apply through Registration form by paying a DD of Rs. 6,500/- on or before 31-05-2016. Only 50 seats are available. The selection will be based on first come first serve. 30 % of the seats are reserved for IGDTUW students. All selected participants will be informed on or before 03-06-2016 through E-mail.

REGISTRATION FORM

WHO CAN ATTEND THE PROGRAM:

Students studying or completed B.Tech preferably those who have completed three semesters)/ M.Tech (CSE, ECE, IT)/ MCA. Faculty members who are teaching (or planning to teach) Embedded Systems/ Device development and interfacing peripherals etc. can be benefited by this training.

CONTACT PERSON:

For any enquires you can contact course coordinator in the following address:

Dr. S. Ramanarayana Reddy

Head of Department, CSE
Electrical Block, Room No.E-107, IGDTUW,
Kashmere Gate, Delhi – 110 006
Tele: +91 9810101742, 011-23869784,
011-23900253

Email: rammallik@yahoo.com

Please visit www.mobileeducationkit.net or www.igdtuw.ac.in for further updates and correspondence.

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1. Name of the applicant:
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2. Branch/ Semester/ College:.....
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4. Mailing address:
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5. Mobile No:
6. Email:
7. Details of DD: Amount: 6500/- (DD should be drawn in favour of “Registrar, IGDTUW”, payable at Delhi and mailed it to **Dr. S. Ramanarayana Reddy, HoD, CSE Department, Room No E-107, Electrical Block, IGDTUW, Kashmere Gate, Delhi – 110006** either by post or by person on or before 31-05-2016).
8. DD No.: _____ Drawn on : _____

9. Please write a statement of purpose about “**why you would like to attend this course**”:

Signature of the Applicant

Date:

Place:

**7th Summer Training Program on "Build your own IoT Enabled Smart Device"
organised by Indira Gandhi Delhi Technical University for Women(Formerly IGIT) in collaboration with Microsoft"
From 06-06-2016 to 15-07-2016**

Tentative Training Schedule for month of June-July 2016

Day & Date		Training Topic
06 June 2016	9:00 AM - 5:00 PM IST	Inauguration of 7th STP and Introduction to MAP
07 June 2016	9:00 AM - 5:00 PM IST	Introduction to On Chip component and their access: Software component of the mobile and its role.
08 June 2016	9:00 AM - 5:00 PM IST	Introduction to OMAP architecture/ Qualcomm Snapdragon: OMAP Application, Introduction to Raspberry Pi.
09 June 2016	9:00 AM - 5:00 PM IST	Windows Phone Architecture and Programming Mobile Architecture Vs Computer Architecture Tool Chain for Windows Phone Development
10 June 2016	9:00 AM - 5:00 PM IST	Installation of OS, formatting of Mobile, Language files, Flashing etc Demo with Nokia Phone
11 June 2016	9:00 AM - 5:00 PM IST	Raspberry Pi & Its Interfaces- Introduction
12 June 2016	9:00 AM - 5:00 PM IST	Raspberry Pi & Display Interfacing with hands on session
13 June 2016	9:00 AM - 5:00 PM IST	Raspberry Pi & Communication modules with hands on session
14 June 2016	9:00 AM - 5:00 PM IST	Raspberry Pi & Sensor Interfacing with hands on session
15 June 2016	9:00 AM - 5:00 PM IST	Raspberry Pi & Multimedia with hands on session
16 June 2016	9:00 AM - 5:00 PM IST	Mobile Database -I Mobile Database –II, Telephone Module (SMS, Calling, Email), Memory Management in WP (Isolated Storage)
17 June 2016	9:00 AM - 5:00 PM IST	Introduction to Android and App Development & accessing the ON Device peripherals such as Camera, Audio, Images, Sensors etc
18 June 2016	9:00 AM - 5:00 PM IST	UI controls and Data Binding -I and Data Binding –II
19 June 2016	9:00 AM - 5:00 PM IST	Communication Services (REST services, SOAP via services, TCP, WCF and many more)
20 June 2016	9:00 AM - 5:00 PM IST	File Streaming and File Handling with real life examples
21 June 2016	9:00 AM - 5:00 PM IST	Intel Galileo Gen 2 & Its Interfaces- Introduction
22 June 2016	9:00 AM - 5:00 PM IST	Intel Galileo Gen 2 & Communication Modules with hands on session
23 June 2016	9:00 AM - 5:00 PM IST	Intel Galileo Gen 2 & Sensor Interfacing with hands on session
24 June 2016	9:00 AM - 5:00 PM IST	Intel Galileo Gen 2 & Display Interfacing with hands on session
25 June 2016	9:00 AM - 5:00 PM IST	Intel Edison & Its Interfaces- Introduction
26 June 2016	9:00 AM - 5:00 PM IST	Intel Edison & Communication Modules with hands on session
27 June 2016	9:00 AM - 5:00 PM IST	Intel Edison & Sensor Interfacing with hands on session
28 June 2016	9:00 AM - 5:00 PM IST	Intel Real Sense Camera Introduction with hands on session
29 June 2016	9:00 AM - 5:00 PM IST	Qualcomm Snapdragon - Introduction
30 June 2016	9:00 AM - 5:00 PM IST	Product Design
01 July 2016		Starts Mini project including Abstract, SRS and Technical Paper writing project implementation and document generation One Week Project Break
02 July 2016		
03 July 2016		
04 July 2016		
05 July 2016		
06 July 2016		
07 July 2016		
08 July 2016		Cloud Computing, platforms, issues and future
09 July 2016		Mobile Security Issues, challenges & future
10 July 2016		Designing your “My Mobile Device” & Customizing the Mobile Operating System: Linux and Android for “MyDevice”
11 July 2016		Project Completion
12 July 2016		Expert Lecture on Product Packaging
13 July 2016		Project Packaging
14 July 2016		Project Presentation & Future Directions and R&D
15 July 2016		Further project Assignment (To continue with practice and for their final year project), Feed Back and Discussion, Valedictory(Award and Certificate Distribution, formation of “Indian Mobile Architecture and Programming Chapter”)

