



2-day workshop
Advanced Embedded Devices for IoT

Workshop report

The workshop ‘**Advanced Embedded Devices for IoT**’ was conducted by Li2 Technologies at Cisco thingQbator makerspaces in 5 universities as part of Cisco thingQbator program. The Cisco thingQbator program is part of Cisco’s CSR commitments in 2018.

- Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi - 13, 14 February 2019
- Trident Academy of Technology (TAT), Bhubaneswar - 26, 27 February 2019
- Indian Institute of Technology (IIT[BHU]), Varanasi - 1, 2 March 2019
- Indian Institute of Information Technology and Management - Kerala (IIITM-K), Trivandrum - 8, 9 March 2019
- Amrita Vishwa Vidyapeetham (AVV), Coimbatore - 16, 17 March 2019

Session Plan

Day 1	Connected Agri-Tech	Connected Healthcare	Connected Home
10:00 - 11:00	Introduction – NodeMCU and Connected Devices		
	Potential of connected devices in Agri-Tech, Healthcare and Home Automation		
11:00 - 11:45	Project 0 – blinking an LED		
	Interfacing IR sensor to ESP8266		
11:45 - 12:30	Reading a Datasheet		
	Interfacing of soil Moisture sensor, DHT sensor and water pump	Interfacing of heartbeat sensor, coin motor and ADXL345	-
12:30 - 13:15	Break		
13:15 - 14:15	-	Processing Medical signals	Interfacing of LDR, DHT sensor and BO Motor
14:15 - 15:00	NodeMCU and WiFi		
15:00 - 16:00	Some cool demonstrations		
	Discussion in groups for hackathon and project ideation		

Day 2	Particular
10:00 - 11:00	Setting up a network of Connected Devices
	Introduction to IFTTT, MQTT and GATT services
11:00 - 11:30	Updating the NodeMCU using OTA (Over the Air)
11:30 - 12:30	Introduction to network protocols with NodeMCU
12:30 - 13:15	Break
13:15 - 15:30	Open project session and idea implementation (groups)
15:30 - 16:00	Review and discussions

The 2-day workshops on **Developing IoT Applications** was conducted by Li2 Technologies Pvt. Ltd. The trainers that conducted the sessions during were as follows

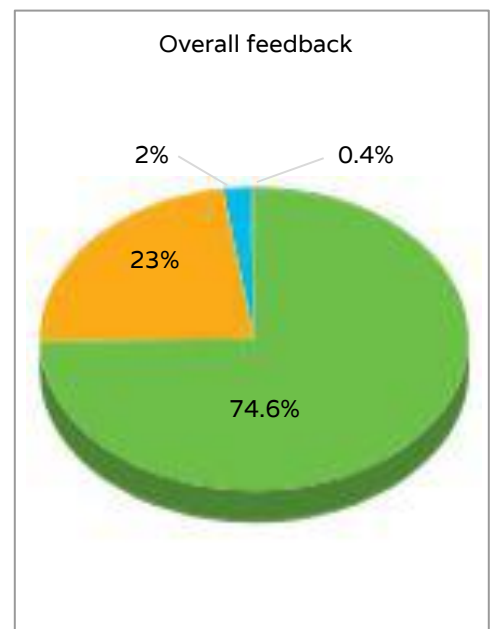
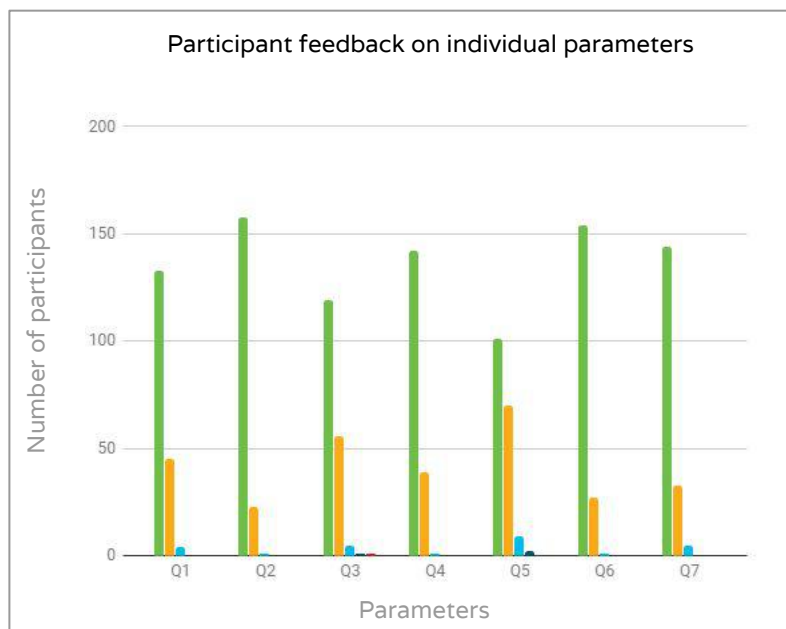
1. IGDTUW, Delhi - Shreyas Hervatte and Sunil Elangovan
2. TAT, Bhubaneswar - Shreyas Hervatte and Sunil Elangovan
3. IITBHU, Varanasi - Vinay Sridhar and Shreyas Hervatte
4. IIITM-K, Kerala - Shreyas Hervatte and Sunil Elangovan
5. AVV, Coimbatore - Shreyas Hervatte and Sunil Elangovan

Total number of participants - 182

Participant feedback summary

The workshop participants were asked to rate the workshop on various parameters on a scale of 1 to 5

Q1	The workshop material was presented in a clear and organized manner	5 - Strongly Agree	■
Q2	The presenter responded to questions in an informative, appropriate and satisfactory manner	4 - Agree	■
Q3	The workshop content was relevant and it met my expectations	3 - Neutral	■
Q4	The portal www.tqb.li2.in was very helpful in understanding the concepts and experiments	2 - Disagree	■
Q5	The session was conducted in a fun filled learning environment	1 - Strongly Disagree	■
Q6	I would like to attend more workshops of Cisco thingQbator		
Q7	Overall, I had a wonderful learning experience in the workshop and I enjoyed it		



Cisco thing**Q**bator

The Cisco thing**Q**bator program is part of
Cisco's CSR commitments in 2018

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Feedback

What could have been done better? How would you like to take this workshop experience further?

It was a nice experience. I got a hands-on experience on NodeMCU.

They were very patient and explained everything in the simplest manner.

What could have been done better? How would you like to take this workshop experience further?

It could have been extended for a day or two. Definitely going to use these knowledge in my further projects. :)

The content was well-organised and extremely helpful. We had a lot of fun.

What could have been done better? How would you like to take this workshop experience further?

It was a good experience and I learned a lot.

What could have been done better? How would you like to take this workshop experience further?

Using these devices, we can make new useful project, like the one we are trying to do is "Plant Monitoring System".

What could have been done better? How would you like to take this workshop experience further?

The workshop was really informative for beginners and intermediates as well. And I enjoyed knowing on various sensors. I hope this would help me to build my own project. Thank you.

What could have been done better? How would you like to take this workshop experience further?

It was one of the best workshop experience I have ever had.

What could have been done better? How would you like to take this workshop experience further?

I enjoyed the whole experience. As I knew about Arduino earlier, it was quite easy for me to understand concepts. Hence I'd like to make use of the knowledge gained to make our project more efficient.

What could have been done better? How would you like to take this workshop experience further?

I would like to take more classes like this because the trainers were very helpful.

What could have been done better? How would you like to take this workshop experience further?

It was a very informative session. Ample information was provided. I learned a lot.

What could have been done better? How would you like to take this workshop experience further?

It was very good & informative, specially the topic WIFI-MESH.

What could have been done better? How would you like to take this workshop experience further?

I would use today's knowledge (got by attending workshop) for making some useful projects.

What could have been done better? How would you like to take this workshop experience further?

I got to learn many new things and I am planning to join Cisco and be a part of the makers-space and look forward to Thank you. if.

What could have been done better? How would you like to take this workshop experience further?

The workshop was good & cherishing experience.

What could have been done better? How would you like to take this workshop experience further?

If workshops ^{would be} conducted more frequently, it would be better.

What could have been done better? How would you like to take this workshop experience further?

Interesting workshop. Really would like to attend these type of workshops in future.

What could have been done better? How would you like to take this workshop experience further?

The experience & the amount of knowledge obtained was absolutely outstanding & I am sure this experience will be a lot of use for my further development of our project.

What could have been done better? How would you like to take this workshop experience further?

It is really a good workshop. Basic idea to connect to phone to NODEMCU was understood and done.

What could have been done better? How would you like to take this workshop experience further?

It was a good experience, would be good if we can be in contact with the trainers to use the things we've learnt.

What could have been done better? How would you like to take this workshop experience further?

Such an Good Experience here at this Workshop, Need more clarifications and Guidance in IoT and Embedded devices.

What could have been done better? How would you like to take this workshop experience further?

Everything was perfect, Had a great experience!

Participant interest in future workshop topics as per feedback

1. Raspberry Pi and Image processing
2. Security through IoT
3. Machine Learning and Artificial Intelligence
4. Database management on cloud
5. Biometric and advanced sensors
6. Virtual reality and Augmented reality

