



2-day workshop Pi with an Eye

Workshop report

The workshop ‘**Pi with and eye**’ 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.

- Amrita Vishwa Vidyapeetham (AVV), Coimbatore - 2, 3 January 2019
- Indian Institute of Information Technology and Management - Kerala (IIITM-K), Trivandrum - 5, 6 January 2019
- Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi - 9,10 January 2019
- Trident Academy of Technology (TAT), Bhubaneswar - 19, 20 January 2019
- Indian Institute of Technology (IIT[BHU]), Varanasi - 22, 23 January 2019

Session Plan

Day 1	Particular
09:30 - 11:00	Introduction to Raspberry Pi, Linux Terminal, and SSH. Basics of Python and GPIOs
	Interfacing sensors and actuators - IR, DHT, and soil moisture sensors. DC pump actuator. Serial communication using I2C - ADXL345 and OLED Display
11:00 - 12:00	Visualisation and control - Blynk and Cayenne
12:00 - 13:00	Communication between NodeMCU and RPi via MQTT
13:00 - 13:45	Break
13:45 - 14:00	Demo - Internet Speed Monitor using RPi
14:00 - 15:00	Sending an SMS
15:00 - 16:30	Introduction to VNC Viewer
	Using the RPi Camera to take image and video
	Streaming camera video on a webpage

Day 2	Particular
9:30 - 10:30	Using OpenCV for basic image processing
10:30 - 12:00	Face tracking using OpenCV
	Demo - Face recognition using OpenCV
12:00 - 13:00	Edge detection using OpenCV
13:00 - 13:45	Break
13:45 - 14:45	Shape and Color recognition using OpenCV
14:45 - 15:30	Consolidation and Discussion
15:30 - 16:30	Phase 2 presentation

The 2-day workshops on **Pi with an Eye** was conducted by Li2 Technologies Pvt. Ltd. The trainers that conducted the sessions during were as follows

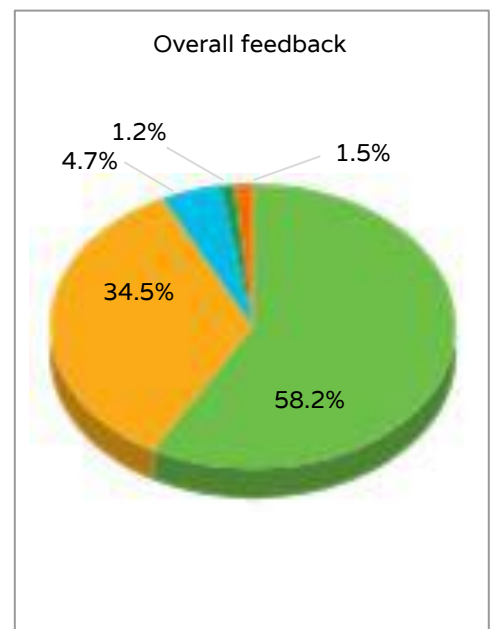
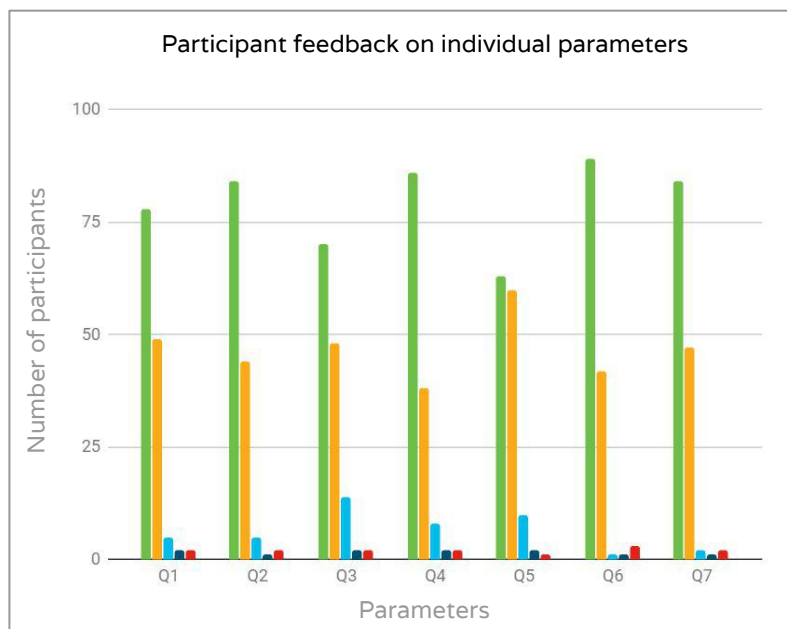
1. AVV, Coimbatore - Mahesh, Vijay Rao and Aditya Pai
2. IIITM-K, Kerala - Shreyas Hervatte and Sunil Elangovan
3. IGDTUW, Delhi - Vinay Sridhar and Shreyas Hervatte
4. TAT, Bhubaneswar - Vinay Sridhar and Shreyas Hervatte
5. IITBHU, Varanasi - Vinay Sridhar and Shreyas Hervatte

Total number of participants - 136

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 ■ 4 - Agree ■ 3 - Neutral ■ 2 - Disagree ■ 1 - Strongly Disagree ■
Q2	The presenter responded to questions in an informative, appropriate and satisfactory manner	
Q3	The workshop content was relevant and it met my expectations	
Q4	The portal www.tqb.li2.in was very helpful in understanding the concepts and experiments	
Q5	The session was conducted in a fun filled learning environment	
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 will be a great opportunity for us, if you will provide a session of three days so that we can learn a lot.

What could have been done better? How would you like to take this workshop experience further?
Working with Raspberry Pi was awesome.

What could have been done better? How would you like to take this workshop experience further?
It was a good even and had great experience working with RPI

What could have been done better? How would you like to take this workshop experience further?
I had a great experience learning about R-pi I wish I get to learn in depth about it next time

What could have been done better? How would you like to take this workshop experience further?
The workshop would be better if it would be of 3 days

What could have been done better? How would you like to take this workshop experience further?
Awesome workshop. Really enjoyed the session. Gave us a nice kickstart in image processing. Feeling confident now.

What could have been done better? How would you like to take this workshop experience further?
Nothing, ^(no change required) everything is cool!

What could have been done better? How would you like to take this workshop experience further?
The workshop was organized and conducted nicely. It was a nice learning experience.

What could have been done better? How would you like to take this workshop experience further?
I want these workshops to happen more often.

What could have been done better? How would you like to take this workshop experience further?
I would like to take the workshop experience for my upcoming projects using Raspberry Pi.

What could have been done better? How would you like to take this workshop experience further?
There is no any need to change. It is very helpful to understand the new concepts.

What could have been done better? How would you like to take this workshop experience further?
Workshop was organised and conducted nicely. It was a good learning experience

What could have been done better? How would you like to take this workshop experience further?
Next workshop can be about software based solutions for common iot device issues, case studies & solutions.

What could have been done better? How would you like to take this workshop experience further?
It was very good, we learnt about Raspberry pi much more than before.

What could have been done better? How would you like to take this workshop experience further?
It was a very good session. We would like to work more on Raspberry Pi

What could have been done better? How would you like to take this workshop experience further?
Had a great experience and would like to attend more workshops in future.

What could have been done better? How would you like to take this workshop experience further?
It was a nice experience, we could have done some more projects related to it, I can take this experience to develop my further projects.

What could have been done better? How would you like to take this workshop experience further?
Overall experience of the workshop was excellent, it was a guiding & helpful session

What could have been done better? How would you like to take this workshop experience further?
The sessions are ~~so~~ extremely, extremely wonderful & learned a lot.

What could have been done better? How would you like to take this workshop experience further?
Workshop was very helpful, I learned new things which will be helpful in future.

What could have been done better? How would you like to take this workshop experience further?
It was the good experiences

What could have been done better? How would you like to take this workshop experience further?
There is no any need to do better. It is very helpful to learn new things.

What could have been done better? How would you like to take this workshop experience further?
The kits that are provided to us during the workshop should be given to us for a day so that we can do the practice at home (if it is a two day workshop). I want these workshops to happen more often.

What could have been done better? How would you like to take this workshop experience further?
Thank you for giving an opportunity. Hope I will get more chances to attend & even more workshops. Expecting the programming side as well.

What could have been done better? How would you like to take this workshop experience further?
I'm interested in Motor Control, Aerodynamics Controller with Raspberry pi

Participant interest in future workshop topics as per feedback

1. Project ideation and Product build
2. Virtual reality and basics of game development
3. Machine Learning and Artificial Intelligence
4. Raspberry Pi and Python
5. App development
6. Ethical hacking

