

Webinar on
“Internet of Things (IoT)”
Date: 19th November 2022



"Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)
INTERNAL QUALITY ASSURANCE CELL
2022-23



Quality Initiatives/ Activities Report

1. **Name of Department:** ELECTRONICS AND COMPUTER SCIENCE ENTIRE
2. **Name of Organized Activity:** Webinar on " Internet of Things (IoT)"
3. **Date/ Duration:** Saturday, 19/11/2022 at 02:00pm to 03:00pm
4. **Aims and Objectives:**
 1. To know the architecture of IOT
 2. To know the application areas of IoT
5. **No. of beneficiaries:** Total 113 participants have been registered for this webinar, which includes students and teaching staff.
6. **Expenditure & funding agency:/collaborators:** Funding Amount is Rs. 1000/- provided by The Vivekanand College, Kolhapur.
7. **Brief description:** Department of Electronics and Department of B.Sc. Computer Science Entire has organized a Webinar on "Internet of Things (IoT)". The Chief Guest of this program was Dr. Mrs. Pooja A. Uchagaonkar, Technical Lead, TATA Consultancy Services, Pune. The President of webinar was Dr. R. R. Kumbhar, Honorable Principal of Vivekanand College, Kolhapur. Dr. C. B. Patil, Head Department of Electronics, gave a brief introduction about this webinar with schedule and contents to be covered in the webinar. Head of B.Sc. computer Science Entire gave special support for this webinar. In this Workshop, she explained the basic architecture of IoT. She focused the use of IoT by considering the case studies in Agriculture, Home automation and Industry.

Mr. P. R. Bagade, Assistant Professor proposed the vote of thanks to all dignitaries present, guests and participants. Mr. N.P. Mote coordinated the workshop.
8. **Outcomes:** Students gets knowledge about-
 1. What "the Internet of Things" means and how it relates to Cloud computing concepts
 2. How to send data through Internet to the Cloud
 3. Basic architecture of IoT
 4. uses of IoT in agriculture, home automation and Industry sectors



9. Photos:




Dr. Mrs. Pooja A. Uchagaonkar, Technical Lead, TATA Consultancy Services, Pune explaining the IoT architecture



Participants for Webinar on IoT

10. Signatures of coordinator/ organizer:


Head
Department of Electronics
Vivekanand College, Kolhapur.



Department of Electronics
Vivekanand College,
Kolhapur
Date: 16/11/2022

To,
The Principal,
Vivekanand College, Kolhapur (Autonomous)

Sub: Permission to organize webinar on "Internet of Things (IoT)"

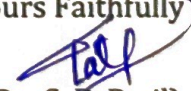
Respected Sir,

Department of Electronics and Computer Science Entire are going to organize a webinar on "Internet of Things (IoT)" on Saturday, 19th Nov. 2022 at 03:30 pm. at Room No. 14 of Vivekanand College, Kolhapur (Autonomous). The resource person is Dr. Pooja A. Uchagaonkar, Technical Lead, TATA Consultancy Services, Pune. So please give the permission for the same, also allow paying the resource person's remuneration of Rs1000/- (One Thousand Rupees).

Thanking You,

Allowed
P2
17-11-2022

Yours Faithfully)


(Dr. C. B. Patil)

Head
Department of Electronics
Vivekanand College, Kolhapur.



Vivekanand College, Kolhapur (Autonomous)

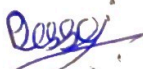
Department of Electronics

Date: 17/11/2022

Notice

All the electronics students of B.Sc. II, III & B.Sc. Computer Science Entire Part II are hereby informed that, the Department of Electronics and Department of B.Sc. Computer Science Entire has organized the one day webinar on "**Internet of Things (IoT)**" on **Saturday 19th November 2022** at **03:30 pm**. The resource person is, Dr. Pooja A. Uchagaonkar, Technical Lead, TATA Consultancy Services, Pune

So concerned students should remain present to this webinar at Room No. 14 of Vivekanand College, Kolhapur (Autonomous) before 5-10 minutes of given time.



(Mrs. P. M. Desai)

Dept. of B.Sc. Comp. Sci. (Entire)
Vivekanand College, Kolhapur.



(Dr. C. B. Patil)

Head
Department of Electronics
Vivekanand College, Kolhapur.



POOJA UCHAGAONKAR

[Ph:8999899298, 9552802626]

[pooja.uchagaonkar@gmail.com]

PROFESSIONAL SUMMARY

- **Embedded Professional**, result oriented 4.3 years of industrial experience in embedded and IoT based firmware development along with process. Good experience in design and develop SoC based optimized embedded solutions for Bluetooth Low Energy and other wireless connectivity solutions.
- 5 year's research experience focused on biomedical application
- Working experience with agile methodology.
- **Texas Instrument's Award winner** for innovative challenge design.

TECHNICAL AND SKILLS

- Embedded System
- Embedded C
- Microcontrollers
- MSP430, MSP432 (ARM)
- 8051, PIC, AVR
- Nordic Semiconductor, ST Microelectronics
- Communication Protocols & Drivers, UART RS232
- ADC, Timer, PWM, I2C, SPI
- MCAL, HAL
- Wireless Protocols
- IoT
- BLE, Sub 1 GHz, WiFi
- Integration
- CCS, IAR Workbench, Keil, SES, ST Cube IDE
- Debug & system test
- OTA firmware update
- Zoho sprints

EXPERIENCE

TCS – Tech Lead (Embedded Development)

Video Overlay System Development

[May 2022 to till date]

- This is a system development for surgical video processing needs to create real time video overlay with some analytical data with capability of 4K resolution video processing and stored this video with remote control feature
- Role:
 - Support in architecture development and requirement analysis
 - Responsible to study and find out best design methodology, and to develop the software accordingly using c++ and open cv python libraries

Design and develop Monarch Simulator Adaptor Box

[July 2022 to till date]

- This Bluetooth enabled gateway device receives the existing Monarch pendant controller events/signals and streams them over a Bluetooth communication channel to a software application running on an iOS platform. The Bluetooth adapter exposes a set of interface APIs to be used by the external software application developers to receive the Monarch pendant events/signals as inputs for their software application.
- Role:
 - Responsible to support team for develop Bluetooth low energy based software part at pendant controller side to send the data from monarch adaptor to iOS device.
 - Responsible to provide optimum solutions to operate the Bluetooth at best throughput to achieve real time data stream rate without packet loss.

Alpha ICT LLP – Sr. Embedded Developer

[July 2019 to April 2022]

Browning Sensored Torque Arm & Load bearing Sensor – Smart Sensor Devices

- This device collects the load data and saves it to external flash memory periodically. Data get sent to the cloud when requested by central device gateway. All parameters are user configurable.



- **Role:**

- Requirement analysis
- Complete firmware design & development along with process (documentation)
 - o Responsible for develop customize services & characteristics of Bluetooth
 - o Responsible for Application code for **I2C** (SDK library) for fuel gauge, external **RTC PCF85063** and **SPI** (device driver development as well) for **ADS1230 ADC IC & flash memory**
 - o Responsible for **OTA DFU** development with **Secure key**
 - o Responsible for **power optimization** for system along with **Bluetooth 5 (nRF52840 SoC)**
- System integration testing between node & gateway
- Involved in architecture development with client
- Review test result & test plans as a system integrator

Electronic Padlock system for Goods in Transit Application [Team Size: 2]

- This system consists of 2 parts, HHD & ePadlock. Bluetooth based, system user configurable ePadlock unlocks or locks compartment of trucks securely, when requested & validated by HHD. HHD collects different information from ePadlock and upload to cloud when connected to PC and vice versa.

- **Role:**

- Requirement analysis & Protocol development
- Architectural support for protocol between ePadlock & HHD and system level User Interface design
- Board bring up & port configurations as per schematic
- Complete firmware design & development for ePadlock along with process (documentation)
 - o Responsible for Application code of data logger for 2000 logs using I2C (SDK library) EEPROM
 - o Responsible for IR pulse with measurements using timer input capture method
 - o Responsible for motor current measurement using **ADC** in case of IR pulse missed.
 - o Provided innovative solutions to overcome mechanical flaws in design.
 - o Review test result & test plans as a system integrator
- Firmware design & development for HHD along with process (documentation)
 - o Responsible for Bluetooth reception and initial development of LCD 16*4 display screens

Visulon Technologies – Sr. Electronics Engineer

[Aug 2017 to Sept 2018]

- **Embedded jewelry for SOS application**
 - Feasibility and Requirement analysis along with power optimized solution
 - Complete firmware design and development along with documentation.
- **Product design : Wireless Mobile Charger**
 - Design of specifications against available market products
 - Vendor feasibility on technical aspects over the globe

EDUCATION

Ph.D. in electronics (Embedded System)

[2011 to 2016]

- Successfully completed Ph.D. in biomedical application entitled as, “**Design and development of embedded wearable system for hydration measurement using bio-impedance analysis**”, from Shivaji University, Kolhapur, India
- This portable system measure bio-electric impedance of the human body and compute the present level of TBW, FM, FFM and BMI and dehydration stage of the body. Consequently system notifies and gives early indications to user through display and warning mechanism.
- 5 research papers are published in International Journal Publications and 10 papers presented in International-National conferences. For more details (Click on the link)



Master of Science in electronics

[June 2009 to March 2011]

- From Shivaji University, Kolhapur, India with First Class with embedded system specialization

Bachelor of Science in electronics

[June 2006 to March 2009]

- From Shivaji University, Kolhapur, India with First Class

PROJECTS ACCOMPLISHED

- Implemented low power low footprint MEMS accelerometer-based system which can be useful in Automotive, Civil engineering and Military applications.
- Designed and developed low power ECG analog front end and plotting software using VB to plot the ECG.
- Flash and Delta-Sigma ADC Design Using FPGA

AWARDS & ACHIEVEMENTS

1. Top 10 finalist in Texas Instruments innovation challenge "TI-IDC 2015"– in Indian continent Successfully achieved rank in top 10 positions through participating 1206 entries for project, "Bluetooth Enabled Capacitive touch sense switch board with inbuilt power monitoring and logging".
2. Technology transfer offer for research work - Noble Innovations, Inc, product development company specializing in patient monitoring, approached for the commercializing the product of research work.
3. Honored and awarded with UGC Meritorious Fellow & DST research fellow
4. Third Prize, Avishkar project competition – Awarded for university level research student category for project, "Low power proficient plant watering embedded system for hardscrabble land development".

OTHER SKILLS

- Work experience as a committee member of organizing body of National Electronics conferences, 'LATEST-2014', 'ETECS-2015', 'ETE-2016', held at Shivaji University Kolhapur.
- Good experience of writing project reports, proposals, applications and documentation.
- Skilled in develop product brochures, flyers and product advertisement video.

INTEREST & ACTIVITIES

Actively participate in Plantation, Watering of Plants, Swachha Bharat Abhiyan, Shramadan Activity programs along with friends and social groups.





"ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार"
-शिक्षणमहर्षी डॉ. बापूजी साळुंखे



Shri Swami Vivekanand Shikshan Sanstha's
Vivekananda College, Kolhapur (Autonomous)

One Day Webinar on

"Internet of Things (IoT)"

Organized by

Department of Electronics & B.Sc. Comp. Sci. Entire

PROGRAM MAGAZINE

- **Welcome & Introduction** : Dr. C. B. Patil (Head of Dept.)
- **Resource Person** : Dr. Pooja A. Uchagaonkar
- **Topic** : Internet of Things (IoT)
- **Anchoring** : Mr. N. P. Mote
- **Vote of Thanks** : Mr. P. R. Bagade

**Venue: Room No. 14, Vivekanand College,
Kolhapur**

Date: Saturday 19/11/2022

Time: 03:30 pm to 04:30 pm





" Education for Knowledge, Science and Culture."
- Shikshanmaharshi Dr. Bapuji Salunkhe



SHRI SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

A Webinar on
"Internet of Things (IoT)"

Organized by
Department of Electronics & B.Sc. Comp. Sci. Entire

Resource person: Dr. Pooja Uchagaonkar
Technical Lead, TATA Consultancy Services,
Pune .

Coordinators:

Dr. C. B. Patil (HOD)
Mrs. P. M. Desai (HOD BCS)
Mr. P. R. Bagade

Organizing

Committee:
Mr. N. P. Mote
Dr. P. S. Jadhav
Dr. M. S. Patil
Mr. G. B. Jirage

Invitees:

Dr. R. R. Kumbhar
Principal,
Vivekanand College,
Kolhapur (Autonomus)

Date : Saturday, 19/11/2022

Time : 03:30 PM- 04:30 PM



Vivekanand College, Kolhapur (Autonomous)
Department of Electronics & B.Sc. Computer Sci. Entire
Webinar on "Internet of Things (IoT)" Date: 19/11/2022

Participants Presenty

Sr. No.	Roll No	Name of the Students	Class	Sign
1	8365	Muskan Krupashankar Maurya	T.Y	<u>Muskan</u>
2	8359	Prajakta Sunil Bidre.	T.Y.	<u>Prajakta</u>
3	8374	Bhagyashri Bhonut Yadav	T.Y	<u>Bhagyashri</u>
4	8362	Ankita Balaso Khot	T.Y	<u>ABKhot</u>
5	8373	Shivani Dipak Todakar	T.Y	<u>Shivani</u>
6	8372	Prezana Pradeep Shirke	T.Y	<u>Prezana</u>
7	8358	Sakshi Tushar Bhopale	T.Y	<u>Sakshi</u>
8	7777	Bhaikh Adnan	S.Y	<u>Bhaikh</u>
9	7733	Sudarshan R. Patil	S.Y	<u>Sudarshan</u>
10	7735	Samir Pendhari	S.Y.	<u>Samir</u>
11	7734	Shubham S. Pawar	S.Y	<u>Shubham</u>
12	9271	Swaraj Laxman Patil	S.Y	<u>Swaraj</u>
13	9281	Sahil B. Sutar	S.Y	<u>Sahil</u>
14	9244	Vaibhav Mangale	S.Y.	<u>Vaibhav</u>
15	9285	Omkar P. Waghmare	S.Y	<u>Omkar</u>
16	9220	Tanaji Navnath Ingole	S.Y	<u>Tanaji</u>
17	9212	Prajwal Shashikant Dongare	S.Y	<u>Prajwal</u>
18	9293	Krunal D. Patil	S.Y	<u>Krunal</u>
19	9292	Aditya A. Patil	S.Y	<u>Aditya</u>
20	9217	Aakash B. Gojare	S.Y	<u>Aakash</u>



Vivekanand College, Kolhapur (Autonomous)
Department of Electronics & B.Sc. Computer Sci. Entire
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Participants Presenty

Sr. No.	Roll No	Name of the Students	Class	Sign
21	9231	Sanika Mahesh Kesarikar	BCS-II	
22	9252	Akanksha Vidhydhar Patil	BCS-II	
23	9229	Dakshata Chandar Kamble	BCS-II	
24	9249	Sakshi Sanjay Naik	BCS-II	
25	9268	Shital Santosh Patil	BCS-II	
26	9263	Sakshi Tanaji Patil	BCS-II	
27	9239	Tejaswini Mohan Mali	BCS-II	
28	9236	Akanksha Sanjiv Kulkarni	BCS-II	
29	9267	Shamvori Prakash Patil	BCS-II	
30	9279	Pradnya Irappa Sutar	BCS-II	
31	7789	Akshata Ashok Patil	BSC-II	
32	7795	Sanika Ananda Patil	BSC-II	
33	7805	Shraddha Nagesh Sutar	BSC-II	
34	7796	Sayali Sampat Patil	BSC-II	
35	7799	Vaishnavi Krishnat Patil	B.Sc-II	
36	7794	Sakshi Rangrao Patil	B.Sc-II	
37	7732	Dipti Dilip Patil	B.S.C-II	
38	7725	Snehal Bhikaji Chavan	BSC-II	
39	7730	Ananya Netaji Jadhav	B.Sc-II	
40	7731	Tejvi Nevind Kumbhar	B.Sc-II	
41	7784	Ruluja Sunil Jadhav	BSC-II	
42	7801	Vaishnavi Subhosh Pawar	BSC-II	
43)	9223	Vidumukhi Vinay Jadhav	Bcs.II	



Vivekanand College, Kolhapur (Autonomous)
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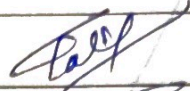

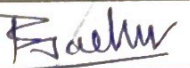
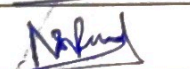


Participants Presenty

Sr. No.	Roll No	Name of the Students	Class	Sign
41	8368	Sandeep Jaysing Patil	Bsc III	
42	8367	Nikhil Sunil Patil	Bsc III	
43	9265	Sambhaji Vitthal Patil	BCS II	
44	9260	omkar Janba Patil	BCS II	
45	9258	Mayur Luxman Patil	BCS II	
46	9235	Pankaj Baburav Kolsundkar	BCS II	
47	9290	Aoudumbar Bhamu More	BCS II	
48	9294	Patil shubham keshav	BCS II	
49	9215	Shreyash Kiran Ghospade	BCS II	
50	9210	Suraj Ravindra Dhodave	BCS II	
51	7788	Mussaddique F. Modak	BSC II	
52	7779	Sai S. Bharkar	Bsc II	
53	—	Sanket Dattatray Pansalkar	BSC II	
54	7783	Rajdeep U. Jadhav	Bsc II	
55	9242	Siddhesh Balaso Mane	BCS II	
56	9274	Abhishek. Amarendra Sah	BCS II	
57	9203	Harsh .M. Biranje	BCS II	
58	9286	Haasharaj Anil Wakase	BCS II	
59	9275	NITIN BONDU SALUNKHE	BCS II	
60	8984	Pratik Mahesh Desai	BSC II	
61	7729	Sourov Shorad Cradkasi	BSC II	
62	7778	Rohit B. Bersad	BSC II	
63	7785	Prem Babasaheb kadam	BSC II	
64	7790	Atharv Shahaji Patil	BSC II	
65	7804	Aay Anil Shinde	BSCI	



Vivekanand College, Kolhapur (Autonomous)
Department of Electronics & B.Sc. Computer Sci. Entire
Webinar on "Internet of Things (IoT)" Date: 19/11/2022

Participants Presenty

Sr. No.	Name of the Teachers	Sign
1	Dr. C. B. Patil	
2	Mr N. P. Mote	
3	Dr. P. S. Jadhav	
4	Dr. M. S. Patil	
5	Mr. P. R. Bagade	
6	Mr. G. B. Jirage	
7		
8		
9		
10		

