

BOTSON 5.0

BOSTON 5.0 was the flagship event of IET MPSTME on Campus. It was a 2-day workshop which gave the participants, the opportunity to build a bot by themselves. They got the best experience of handling the wires and tools. The motive of the lecture was to help enhance the skills of the students for their bright, young upcoming future.

The first day, i.e. 17th October was hosted by Mr. Yogendra. He introduced the students to the world of technology and exciting BOT making techniques. The students were taught the basics of Arduino, LED, basics of C language for the coding.

For the BOT to be built, every participant was given a bag which contained Arduino uno, Bluetooth sensor, ultraviolet sensor, tires, nuts and bolts, LED, etc. The LED and Arduino code setup were explained and the required apps and codes were installed.

On the second day i.e 18th October Mr Yogendra continued on the session with the same passion and the participants came even more excited than the first day!

With the commencement of the session, students were introduced to the items in the kit and how to connect them. They connected ultrasonic sensors, motor drivers and learned inquisitively about their mechanisms. One of the most interesting parts of the event was when they connected the IR sensors and learned how to logically code them.

Following this they were enlightened about HC05 Bluetooth module for connectivity and coding chip was introduced which were programmed by a laptop software. This helped them control the bot with their phones which was an important necessity for a 21st century bot.

Students were then finally told about the history of robot making, how it started with hand made ones and the theory behind it was explained. They then made the basic core mechanical body of the robot with various elements like nuts, bolts, screws and tape.

Students had a very interesting experience of BOT making and they enjoyed moving and doing new experiments with the BOT with their mobile phones.

Certificates were provided to each of the student and everyone was extremely glad with the event. The organizing committee of the IET worked hard, putting all the efforts towards making the event successful during this time of a pandemic.

The event enlightened the participants and was conducted smoothly and successfully.

INSTRUCTOR:

Mr Yogendrasingh Pawar

PARTICIPANTS:

Total participants- 81

Participants from team IET MPSTME- 13

Non-IET Participants- 68

Professionals - 1

DATE/TIME/VENUE: "BOTSON 5.0" was conducted on the 17th and 18th of September, 2020, from 4 pm to 7:25 pm on the 1st day and from 9 am to 7:30 pm on the 2nd day, online on MS teams.

EVENT TIMELINE:**Day 1- 17th October**

TIME	TOPIC	DESCRIPTION
4:30-4:40	Introduction	The speaker informed that the event will be starting shortly.
4:40-4:50	Introduction	The speaker introduced Ms. Archana Lakhe , the mentor of IET on campus. She talked about how we get to build the bot and keep it and congratulated us all for being a part of this event.

4:50-5:00	Introduction	The event was inaugurated by Ms. Archana Lakhe. Mr. Yogendra followed after Ms. Archana.
5:00-5:30	Presentation begins	Mr Yogendra introduced himself and told us the rules we had to follow. He expressed to the participants how considered them all his friends and that they can be informal with him. He followed up by talking about Arduino and how it is easy to use and can be used by both beginners and advanced programmers. He talked about the different parts used in a bot and explained how Autodesk tinkered can be used to simulate circuits.
5:30-6:10	Blinking LED Code	Mr Yogendra explained the working of digital I/O commands using the blinking LED Code on pin 13. Followed by an assignment to the participants to write the same code for pin 10. Mr Yogendra solved doubts and helped all participants blink an LED using the program they wrote.
6:10-6:20	Break	
6:20-7:20	PWM Theory	Mr Yogendra explained the theory of PWM used in analog commands of Arduino. He then demonstrated the use of analog I/O commands by lighting an LED at various brightness. Mr Yogendra addressed doubts regarding PWM theory and analog commands.
7:20-7:25	Closing Announcements	Announcements Made for Day 2 of the event.

Day 2- 18th October

TIME	TOPIC	DESCRIPTION
10:30-11:00	Doubt solving	Riveting doubt session with enthusiastic participants who couldn't wait to get their hands dirty and work again.
11:00-11:30	Attendance	Participants joined until 11:09 a.m. Comparing by Saakshi Kushe and Awadhi Jain began. Events of the previous day were recapped.
11:20-12:00	Tinkercad	Introduction and explanation of the working principle of the Ultrasonic Sensor HC-SR04 by Mr. Yogendra. Connection of Arduino and Ultrasonic Sensor HC-SR04 on Tinkercad. Writing C program on Tinkercad to activate the Ultrasonic Sensor HC-SR04. Writing C program on Tinkercad to activate the Ultrasonic Sensor HC-SR04. – Explanation of the construction and the working of the Ultrasonic Sensor HC-SR04 (i.e. explanation of the different pins of the SR04 Module). Learning to use the Serial Monitor on Tinkercad

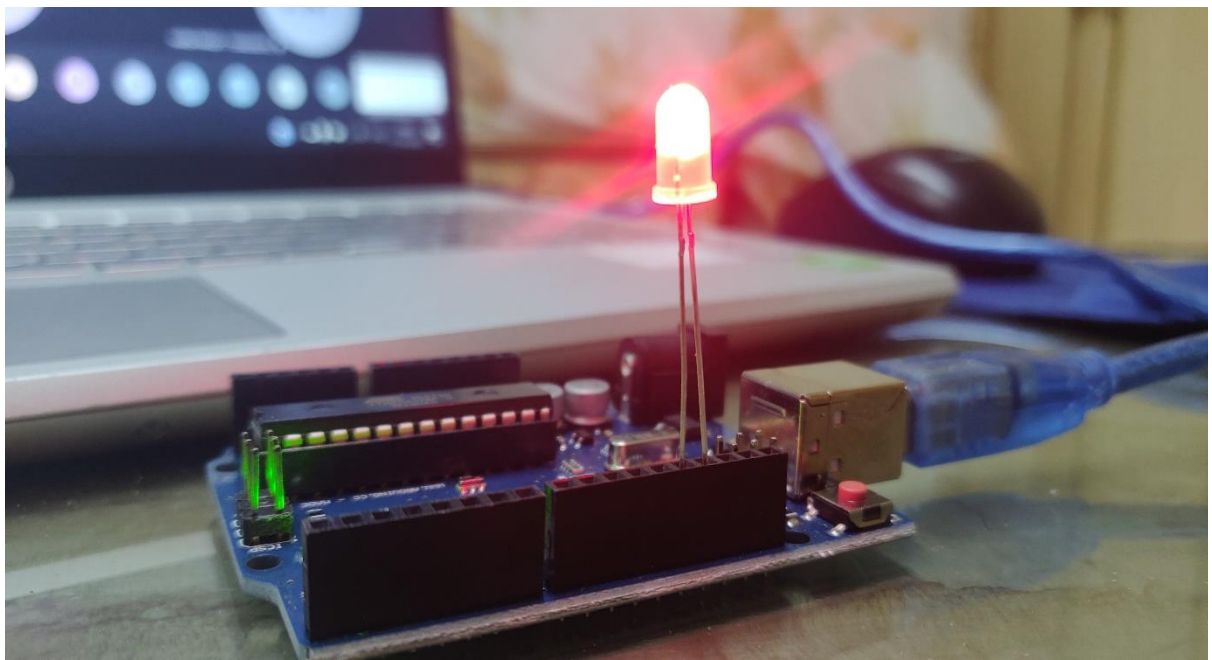
12:00-12:30	Explanation of serial protocol	Participants physically connected the actual parts i.e. the Ultrasonic Sensor HC-SR04 and the Arduino. Doubts and problems on how to set the sensor and how to measure distances with the help of serial monitor.
12:30-1:00	Bluetooth	Participants started working in Bluetooth working. There was discussion about different types of pins. Participants were told to make connections using the figure shown on the screen. The link was shared on the WhatsApp group for codes and apps needed. There was discussion about some terms related to the codes. Mr. Yogendra taught participants how to turn ON and turn OFF the LEDs. He shared the link of another app which was also finally used in operating the robot. Mr. Yogendra taught participants how to make the Bluetooth module detectable and how to connect it.
1:00-2:15	Bluetooth connections	Mr. Yogendra showed the participants how to connect the Bluetooth module to the Arduino. He shared a slide show about different connections and also explained them, showed how to connect mobile phones with the Bluetooth module (HC-05) for android users. Mr. Yogendra solved the doubts of some participants related to connections and helped some with the Bluetooth connection. He also taught how to connect Bluetooth module to laptops and computers. Some problems still persisted for the iPhone and Mac users.
2:15-2:40	Solving of problems	Mr. Yogendra helped a few students having problems which were very difficult to solve.
2:40-3:00	Break	

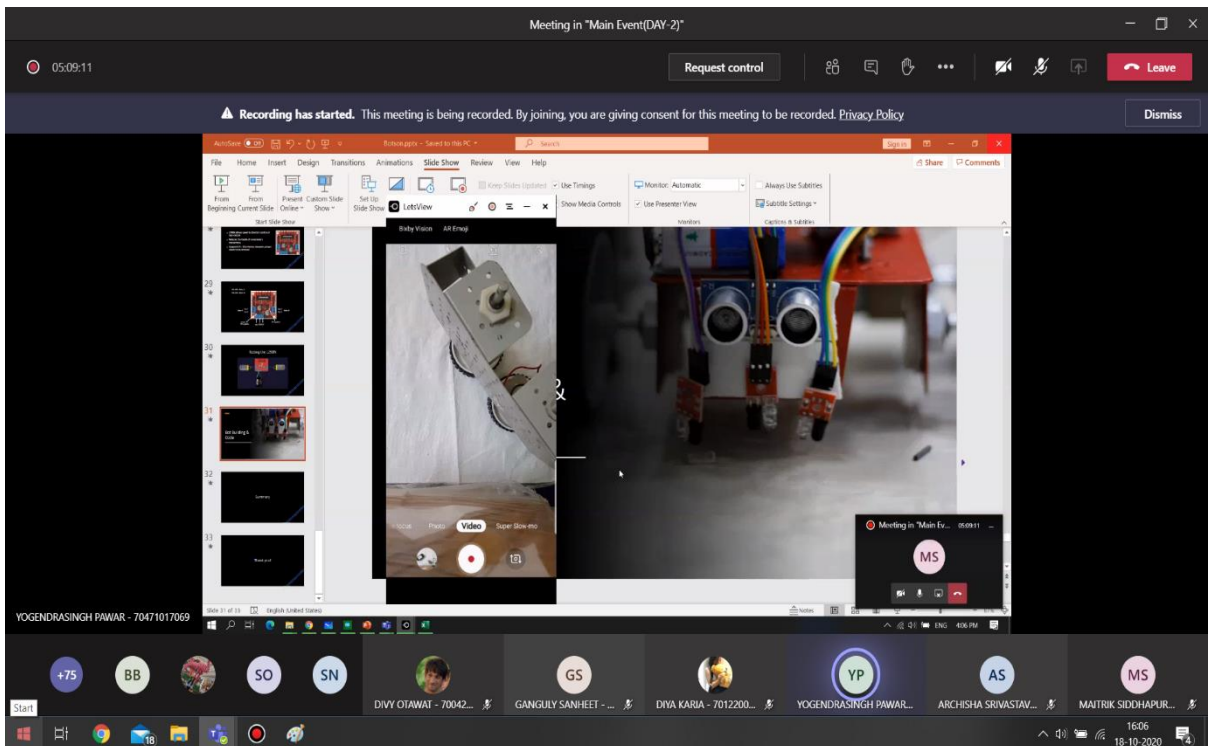
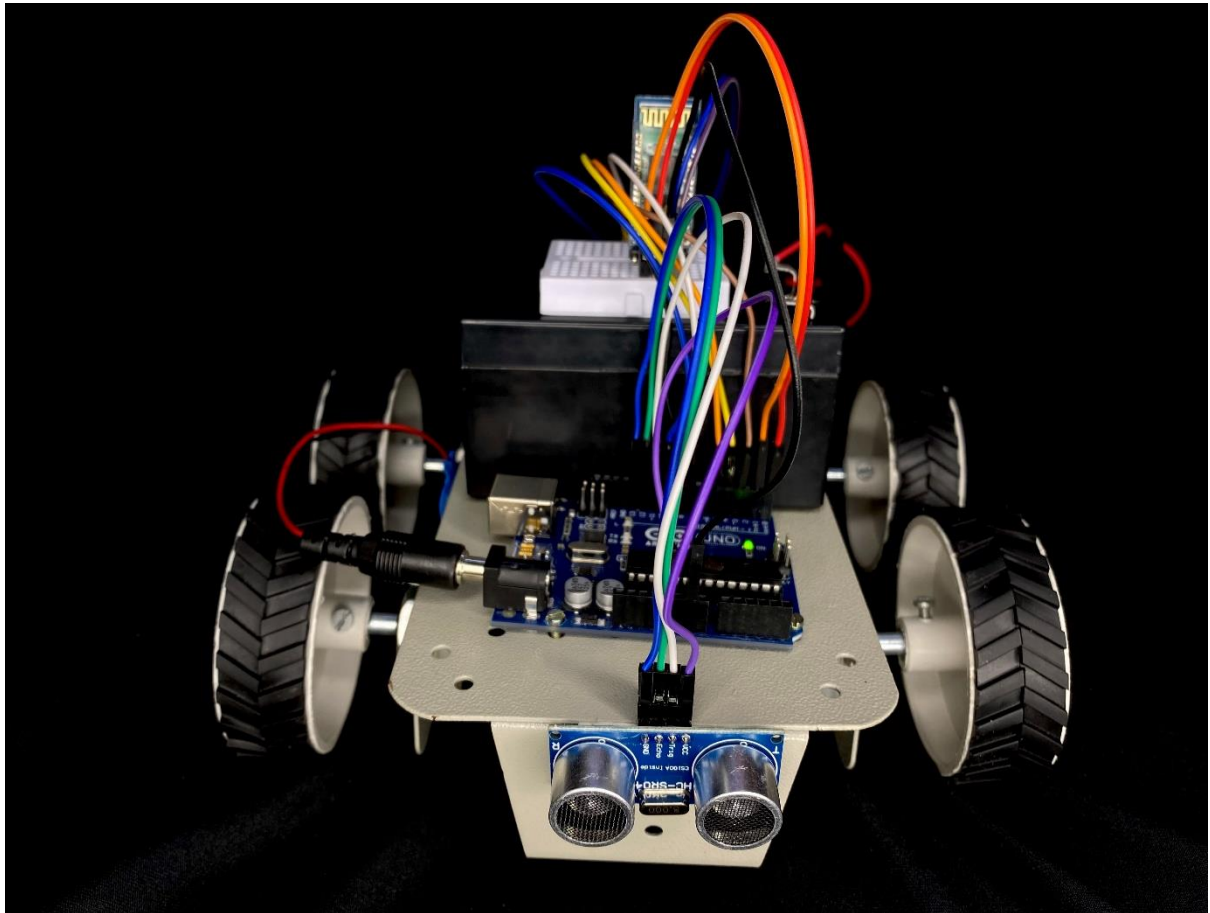
3:00-4:00	Motor driver	Students were taught the basics of Motor driver L298N. Mr Yogendra cleared the participants queries regarding the same. Stepwise instructions were given on how to make the connections and precautions to be taken. Circuit schematics were taught.
4:00-4:15	Break	
4:15-6:00	Assembly	Students added the wheels to the project, inserted the wires and put them in a loop, fixed the Arduino, added the Breadboard and fixed the jumper. Connection of 4 wires of Bluetooth and other required wires. Attachment of the 9V and 12V. Participants shared their codes.
6:00-7:00	Detailed Explanation	Explanation of the C-code written on Tinkercad, line-by-line by Mr.Yogendra. Explanation of the working of Motor i.e. how the motor would interpret the C-code and move the bot left and right. Mr.Yogendra mentions pointers to debug the C-code written on Tinkercad. Connection of the Bot to Bluetooth. Setting of the speed on the Serial Monitor. Debug the FORWARD, STOP outputs on the Bluetooth RC Controller App.
7:00-7:30	Doubt Solving	Mr.Yogendra made an Excel sheet wherein participants facing problems in making the bot work can write their names and the problems they are facing so that he can solve them later. Mr. Yogendra cleared each participant's doubts who faced difficulty.

7:30-7:40	Vote of Thanks	A Vote of Thanks delivered by Saakshi Kushe and Awadhi Jain thanking Yogendrasingh Pawar (Technical Advisor); Sanskriti Sharma, Yash Hajare, Hemit Shah and faculty mentors – Archana Bhise, Avani Lakhe.
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IMAGES







Meeting in "Main Event"

01:08:42

Request control

thinksocad.com/things/g0Qz4ZDW1H-daring-snicket/edat/Pnanti-circuits

Daring Snicket

Arduino Uno R3

Name 1

Components Basic

led

LED LED RGB

Other Components

NeoPixel NeoPixel Jewel

Participants

Type a name

- RONAN RAIKAR - 700420000...
- RUCHA DONDE - 70102000086
- RUDRANSH RANDE... - 700...
- Sachit Patankar
- SAHARSH BAGRODIA - 70022...
- SAM SELVARAJ - 70022000026
- SANSKRUTI CHAURASIA - 70...
- SARANSH BHATNAGAR - 701...
- SARVESH NAIR - 70042000067
- SHRESTH AGRAWAL - 700220...
- SHRIYA RANE - 70032000102
- SIDDARTH BANGERA - 70042...

YOGENDRASINGH PAWAR - 70471017069

+89 NG SN AD YP GS AL RN

YOGENDRASINGH PAWAR... GANGULY SANHEET... AMMAR LOKHANDW... RISHAB NAIK - 70462...

17:39 17-10-2020

Bolson5.0

18:49

Participants

DHRUMIL BURAD ... AVANI LAKHE2 - 7... ANANYA AGRAW... PRIYANSH AGAR... MADHAVI THANVL... PUSHKAR R TIWA... SHRUSHTI MARD...

ANANYA GILYAL ... YASH HAJARE - 70... SHAIWI BANSAL ... ADNAN AMIR - 70... NIMESH SHETTY ... VAISHAKH JOSHI ... HEMIN MARU - 70...

NORAH SHAJI - 7... HARSH SINGH - 7... TRIAKSH MITRA - ... RUCHA DONDE ... VINAY PUROHIT ... NEHA PARAB - 70... SAAKSHI KUSHE ...

HERSH KENKRE - ... RATHIN NAIR - 70... ANJANA GUPTA ... DIVYATA SHAH - 7... SAAKAR CHAUDH... SANSKRITI SHAR... SOUMYA VAIDYA ...

AWADHI JAIN - 7... SHRESTH AGRAW... ARUSHI SHAH - 70... PREET JHA - 7002... VASU SETIA - 7001... ADITYA TRIVEDI ... PRANAV MANOJ ...

SIDDHARTH SADA... SHIVANGI SHARM... ARUSHI RAI - 7010... ANUSHKA MIRAJ... ANISH NAIR - 701... HEMIT SHAH - 70... NIKITA HUKUMAT...

+38 TM SS SS AR SS HK AL

SHIVANGI SHARMA ... HEMIT SHAH - 70471... ARUSHI RAI - 701020... SIDDHARTH SADASH... HERSH KENKRE - 700... AVANI LAKHE2 - 7002...

20:12 18-10-2020

