



EVENT REPORT

→ **Activity Name: “Roboton - Robotics Symposium”**

→ **Conducted on:** 15th October 2021 to 17th October 2021

→ **Total Number of Participants:** 200+

→ **Funding Utilization Breakdown:**

Received: 10,000 INR

Expenditure: 6000 INR (2000 INR each Gift Vouchers for 3 Speakers)

Balance: 4000 INR

2000 INR distributed among IEEE SIES GST & IEEE DBIT

→ **Outcomes of the Activity:**

The symposium strongly focused on the development of interest in the field of Robotics and Automation. Since this was a workshop-centric symposium, students were able to understand the process and efforts that went into the projects that they

would work on. It presented a scenario for the learners and experts alike on the fundamentals of robotics. Our symposium accomplished its objective of being an advocate in instilling curiosity and determination to pursue this technological advancement.

→ **Challenges Faced during the execution of planned activity:**

These sessions were surely one of their kind, credits of the generous speakers, although being held virtually it was difficult to mediate among the participants and the doubts they faced throughout the symposium. We tried our best to solve them with the help of the speaker of the session and experts present in the session.

→ **Event Details:**

Day1:

Speaker: Mr. Saptarshi Mukherjee

Host: Netra Mudaliar (IEEE SIES GST)

IEEE-DBIT with IEEE SIESGST organized a session on “Roboton: Introduction to Robotics and Automation” on 15th, 16th & 17th October 2021 from 4:00 pm-6:00 pm. The session commenced with Ms. Netra Mudaliar, Public Relations head of IEEE SIESGST, addressing the participants and welcoming the speaker Mr. Saptarshi Mukherjee to deliver the talk. who is currently working as Software Engineer at Google and also his area of interest are cryptography, blockchain, Software development, and many more. Following the introduction, the speaker began the session by giving a brief introduction to robotics. He explained to us how robots might be better than humans with examples such as accuracy as per the training, Diligence, no complaint or excuses, no stealing, and many more. He gave us a detailed explanation of the pin diagram of Arduino Uno and various parameters like ports, digital pins, USB connectors, and so on. The speaker also gave us an

example of the blink program in Arduino Uno. He explained to us the latest examples such as Smart House using Arduino Uno, Automated Vehicles using Arduino Uno. These two examples can be used in IoT projects and we can gain information about various technologies. The speaker also emphasized the recent trends/categories of applications like AI + sensors to master difficult tasks, adopting robots in manufacturing sectors, and autonomous mobile robots designed for human-robot collaboration. At last, he explained to us how robots explore another part of the world. The Token of Gratitude was presented by Netra Mudaliar (Public Relations head of IEEE SIESGST) on behalf of IEEE SIES GST and IEEE DBIT.

Day 2:

Speaker: Mr. Lentin Joseph

Host: Prathamesh Yerekar (IEEE DBIT)

The Day 2 session 'Getting started with Rviz and Gazebo' commenced with Mr. Prathamesh Yerekar (IEEE-DBIT-Publicity Head) addressing the participants and welcoming the speaker, Mr. Lentin Joseph, an author, roboticist, and robotics entrepreneur. He has experience of 11 years working in the robotics domain. Following an introduction, the speaker began the session with a brief explanation of the robot development cycle. He gave us a practical implementation using Rviz and Gazebo. The robotic operating system is an open-source robotic software framework, Robotics Middleware, and needs a host operating software to run. We can install ROS on the Ubuntu version 20.04 LTS 64 bit system. The speaker explained the 10 features using the camera in a block diagram format which included camera, computer, program, and motors. He also gave live visualization of the working ROS capabilities. He told us about ROS-supported sensors which have a ROS interface, in which data can be accessed from all ROS programs and sensor data can be visualized by RVIZ. ROS is used by Intel, Aira, Fetch, Sick, and so on. The

session was followed by a Q & A wherein the speaker answered all the queries of participants. The session was concluded with a proposal of a vote of thanks and a token of gratitude by Mr. Prathamesh Yerekar (Publicity head of IEEE DBIT) on behalf of IEEE SIES GST and IEEE DBIT.

Day 3:

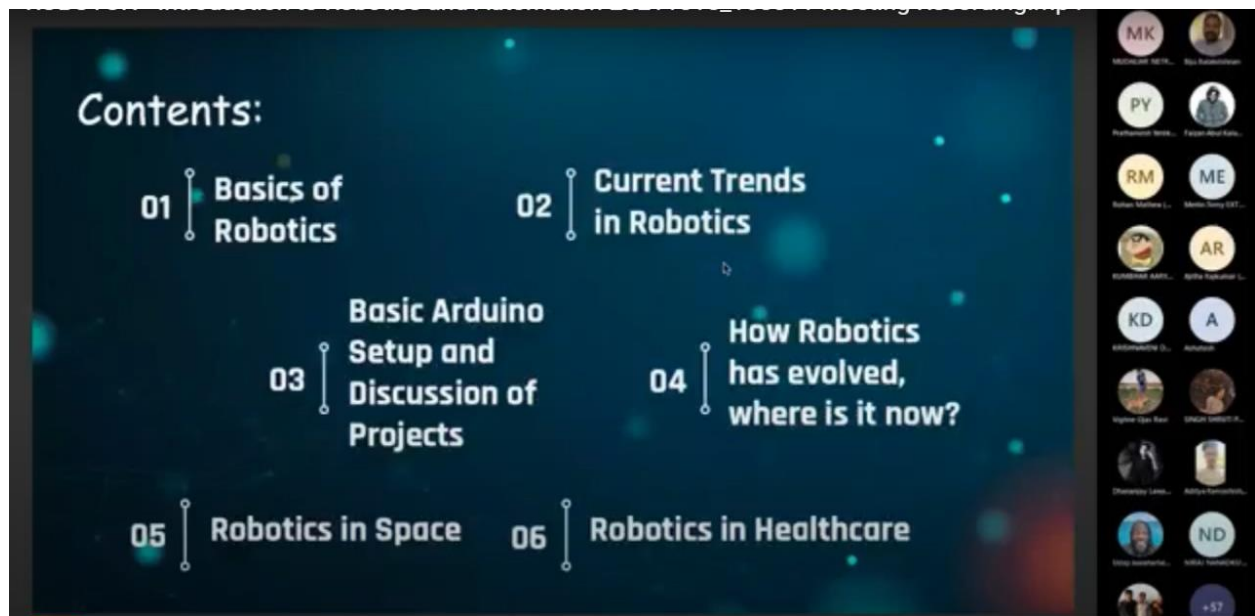
Speaker: Mr. Salmon Joy

Hosts: Anamika Nevasepatil and Sakshi Sakare (IEEE SIES GST)

IEEE-DBIT with IEEE SIESGST organized a session on “Roboton: Introduction to Robotics and Automation” on 15th,16th &17th October 2021 from 4:00 pm-6:00 pm. The Day 3 session focused on the project implementation using Rviz and Gazebo. The session was hosted by Ms. Anamika Nevasepatil, IEEE SIES GST Volunteer, and she greeted Mr. Salmon Joy with esteemed regards. Mr. Salmon Joy enthusiastically carried out the session and engaged the students for active participation. Before starting the session, the speaker stated the applications of the software and provided the difficulties which will be faced during the implementation. Gazebo software works in a Linux environment, the speaker guides the students through detailed installation steps along with the code required to do the same. After downloading all the packages and the initial configuration, he taught the basic code structure meant to be used and the languages required. The session continued step by step building the visualization and programming for robotics which is essential in every project. Avid students also participated by asking questions and sharing their difficulties. Ms. Sakshi Sakare presented the QnA round followed by a vote of thanks by the end of the session. Mr. Salmon Joy was presented with a token of appreciation on the behalf of IEEE SIES GST and IEEE DBIT.

→ **Photographs:**

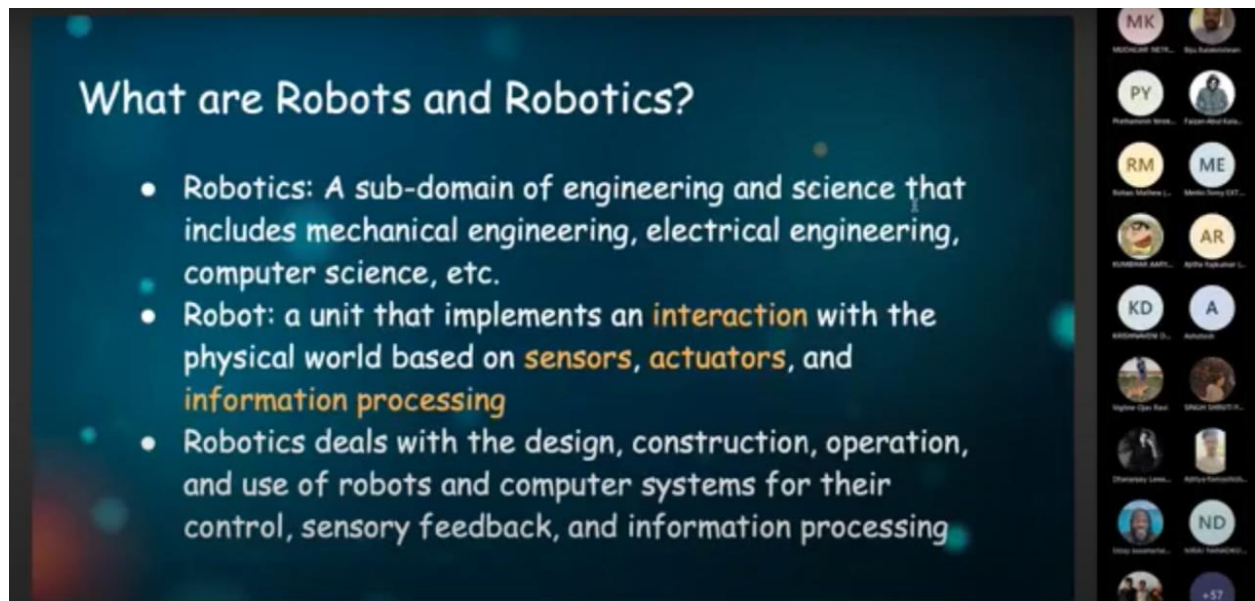
Day 1:



Contents:

- 01 | Basics of Robotics
- 02 | Current Trends in Robotics
- 03 | Basic Arduino Setup and Discussion of Projects
- 04 | How Robotics has evolved, where is it now?
- 05 | Robotics in Space
- 06 | Robotics in Healthcare

Participant list on the right includes: MK, PY, RM, ME, AR, KD, A, ND, and others.



What are Robots and Robotics?

- Robotics: A sub-domain of engineering and science that includes mechanical engineering, electrical engineering, computer science, etc.
- Robot: a unit that implements an **interaction** with the physical world based on **sensors**, **actuators**, and **information processing**
- Robotics deals with the design, construction, operation, and use of robots and computer systems for their control, sensory feedback, and information processing

Participant list on the right is identical to the first slide.

Arduino Uno:

- USB connector
- Power port
- Microcontroller
- Analog input pins
- Digital pins
- Reset switch
- Crystal oscillator
- USB interface chip
- TX RX LEDs



[Link](#)

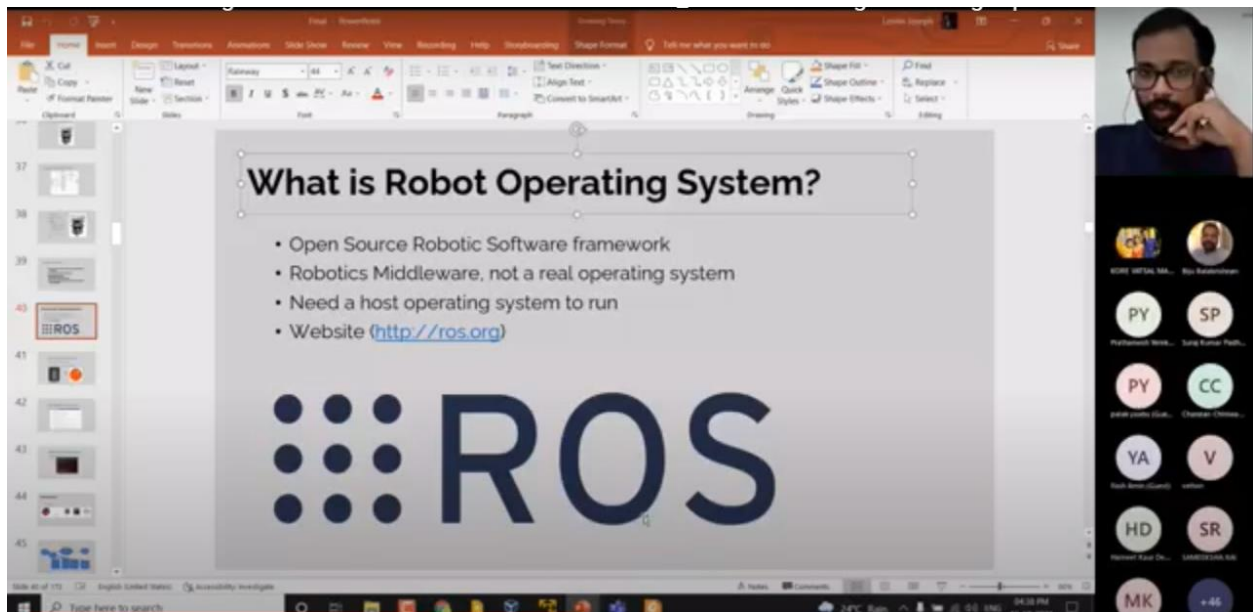
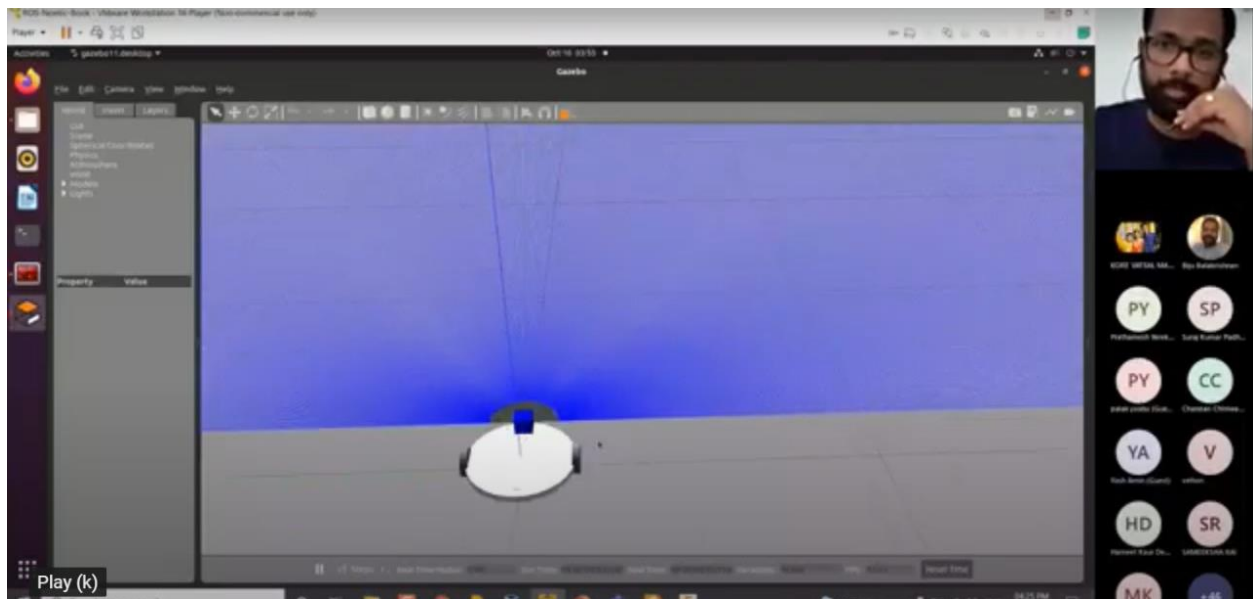
48:04

Smart Home using Arduino Uno:

- "Internet of Things"
- Sensors: Temperature Sensor, Humidity Sensor, Ultrasonic/Infrared/Proximity sensors, Light sensor, and many more
- Actuators: Motors, LEDs
- All these peripherals have libraries in Arduino, that makes tasks easier


```
void setup() {  
  lcd.begin(16, 2);  
  Serial.begin(9600);  
  pinMode(p, OUTPUT);  
  // put your setup code here, to run once!  
}  
  
void loop() {  
  digitalWrite(p, LOW);  
  int Temp = analogRead(tmp);  
  float volts = (Temp / 965.0) * 5;  
  float c = (volts - .5) * 100;  
  float f = (c * 9 / 5 + 32);  
  Serial.println(f);  
  lcd.setCursor(5, 0);  
  lcd.print(f);  
  delay(3000);  
  // put your main code here, to run repeatedly:  
}
```

Day 2:




List of ROS Distributions

- 2018 – **ROS Noetic Ninjemys**: Thirteenth ROS distribution
- Ubuntu support: 20.04
- Status: May, 2025 (EOL), Latest
- List of ROS1 distributions
- <http://wiki.ros.org/Distributions>










Who all using ROS?

Platinum Sponsor



Gold Sponsors

Day 3:

Meeting | Microsoft Teams

teams.microsoft.com/_/pre-join-calling/19:meeting_N2QwZmU0N2U0NTJjZC00ZDk5LWE1ZjItMTRjNDUyYmQwYzU2@thread.v2

Apps Gmail YouTube DBIT Moodle MIS-moodle Sign In - Zoom GitHub Home - Carva WhatsApp Proj2- RCC Segment... Learn R, Python &... My Drive - Google... AWS Reading list

People

Share invite

Presenters (3)

- AR Akshaya Reghu
- SR SAMEEKSHA RAI Organizer
- SR SUVARNA DHIRUV RAMESH

Attendees (24)

- AR Ajitha Rajkumar (Guest)
- A Alliah (Guest)
- AN Anamika Dasharath Nevase
- AG ANUSHA GANAPATHY
- AE Anushka Engavle (Guest)
- A Ashutosh (Guest)
- A ATMANAND (Guest)
- BN Baliraja Nemade

Windows taskbar: Type here to search, 31°C Haze, 15:57 17-10-2021

Meeting | Microsoft Teams

teams.microsoft.com/_/pre-join-calling/19:meeting_N2QwZmU0N2U0NTJjZC00ZDk5LWE1ZjItMTRjNDUyYmQwYzU2@thread.v2

Apps Gmail YouTube DBIT Moodle MIS-moodle Sign In - Zoom GitHub Home - Carva WhatsApp Proj2- RCC Segment... Learn R, Python &... My Drive - Google... AWS Reading list

Transcription has stopped You're now only recording this meeting. Dismiss

People

Share invite

Presenters (4)

- AR Akshaya Reghu
- S Salmon (Guest)
- SR SAMEEKSHA RAI Organizer
- SR SUVARNA DHIRUV RAMESH

Attendees (47)

- AR Ajitha Rajkumar (Guest)
- O 09_Snehal (Guest)
- 2K 25 bhakti Kshatriya (Guest)
- A Alliah (Guest)
- AN Anamika Dasharath Nevase
- AG ANUSHA GANAPATHY

Windows taskbar: Type here to search, 31°C Haze, 16:03 17-10-2021

