

Event Report: Robotics and Python Workshop - Day 3

Date: 17th September 2024

Venue: American Center

Organizer: Varsity for Empowering STEAM

Day 3 of the Robotics and Python Workshop was a highly engaging and practical experience that brought together sensors and robotics. Participants were introduced to advanced components like the ultrasonic sensor, light sensor, and touch sensor in LEGO robots. The day was filled with hands-on challenges that tested their skills in programming and problem-solving.

Day 3 Highlights



Sensor Integration and Obstacle Detection

The session began with a detailed introduction to the sensors integrated into the LEGO robots. Participants learned how to use the ultrasonic sensor to detect obstacles. Teams programmed their robots to avoid obstacles by using real-time data from the sensors. This exercise gave participants practical insights into how sensors are used in robotics for navigation and automation.

Line Following Challenge

One of the day's major challenges was to create a line follower robot that could track a yellow-colored path using the light sensor. This task required precision in both sensor calibration and Python programming. The participants' robots successfully followed the yellow path, showcasing their ability to work with complex inputs and outputs in real-time environments.



Team Challenges and Achievements

Throughout the day, teams faced 3-4 additional challenges, all of which they accomplished with great enthusiasm. These tasks reinforced the participants' understanding of sensor-based navigation and encouraged creative problem-solving. The collaborative nature of these challenges promoted teamwork and sharpened their programming skills.



Conclusion

Day 3 was a great success, combining theory with practical application through the use of sensors and robotics. Participants demonstrated growing confidence in using Python to control robots and navigate obstacles. The teamwork and hands-on learning made for an exciting and rewarding experience, as each group achieved their goals with persistence and creativity.

Event Report: Robotics and Python Workshop - Day 4

Date: 24th September 2024

Venue: American Center

Organizer: Varsity for Empowering STEAM

The final day of the Robotics and Python Workshop shifted focus from hands-on robotics to the broader concepts of innovation, problem-solving, and teamwork. Participants were introduced to the process of ideation, empathy, and how to approach problem-solving creatively as a group.

Day 4 Highlights



Ideation and Problem-Solving Workshop

Unlike the previous days, Day 4 did not involve programming or working with robots. Instead, it was dedicated to understanding the process of idea generation and how to tackle real-world problems. The participants were divided into three teams of five members each. They were

provided with chart papers and began by watching a series of videos on empathy, which set the stage for the day's activities.

Empathy and Identifying Pain Points

The first step was for each participant to identify pain points — problems they faced or observed in their daily lives. The idea was to look at these problems through the lens of empathy, understanding the impact of these issues on others. Teams listed their pain points on chart paper, which was the starting point for the ideation process.



Ideation and Problem-Solving

The next step involved brainstorming solutions to the problems identified. Participants worked together to ideate, suggesting creative and innovative ways to solve the issues. This collaborative process demonstrated how teamwork can lead to diverse ideas and solutions. Each team then chose one or more problems and developed detailed solutions, exploring how to approach them through STEAM principles.

Presentation of Ideas

At the end of the session, each team presented their ideas with enthusiasm. This exercise not only allowed participants to showcase their creativity but also highlighted the importance of collaboration and innovative thinking in problem-solving.



Certificates and Conclusion

The day concluded with a certificate ceremony, where all participants were recognized for their involvement in the workshop. It was a proud moment for everyone, as they celebrated their achievements and the knowledge gained over the four days. The workshop ended on a high note, with participants feeling empowered and inspired by the STEAM approach.

WE ARE STEAMERS!

The final words resonated as everyone left with a sense of accomplishment and excitement for future STEAM endeavors.

