



A Flagship Event

Tech-Fusion 2K26

The Tech-Fusion 2K26 was organized to provide a platform for students to demonstrate their knowledge and creativity in robotics, automation, sensors, controllers, and IoT. This event allowed participants to showcase various projects they developed based on the skills and knowledge acquired from the previous workshops, which were conducted by Electronics and Communication Engineering Department. These workshops covered a wide range of topics, including Microcontrollers (Arduino), Wireless Communication (ESP8266), Relays, Sensors, and Automation Systems.

Details

- Date & Duration: : 30th April 2026
- Participants: All Student's from SRIIT & Outside
- Total 98 Students Participated
- 35 Students from outside
- 63 Students from College

1. Objectives

The main objectives of the Tech-Fusion 2K26 were to:

- Encourage innovation and creative problem-solving among students.
- Provide a platform for students to demonstrate practical applications of concepts learned in workshops.
- Foster a collaborative environment for exchanging ideas on Robotics, IoT, and Automation.
- Recognize and reward outstanding projects.

2. Techfest Overview

The Tech-Fusion 2K26 featured various projects developed by the students that highlighted the application of sensors, controllers, IoT, robotics, and automation technologies. The event was structured to allow students to present their projects, explain their working principles, and demonstrate their functionality.

3. Categories of Projects

Sensor-Based Projects:

- Objective: Utilize different types of sensors for real-time data collection and automation.

Example Projects:

- **Smart Irrigation System:** Using soil moisture sensors to automatically control water flow to crops based on real-time soil moisture levels.
- **Temperature and Humidity Monitoring:** Projects involving DHT11 sensors to monitor environmental conditions and trigger responses such as turning on a fan or alerting users via an app.
- **Human Following Robot Using IR Sensor:** Using IR sensor the robotic car will follow the human path.
- **Driver anti-Slept Alarm System:** This projects aims to solve the real life situation in which driver slept while driving.
- **Outcomes:** These projects demonstrated the practical application of sensors in daily life, from smart farming to home automation. Students showcased how sensors can provide real-time feedback and control systems effectively.

Controller-Based Projects:

- **Objective:** Implement projects using microcontrollers like Arduino to control various devices and processes.

Example Projects:

- **Automated Door Lock System:** Using an Arduino and a keypad or RFID module to control door locks based on user input.
- **Home Lighting Automation:** A system that controls lights using motion sensors or smartphone commands through the Arduino platform.
- **Outcomes:** Students demonstrated their understanding of how to integrate Arduino controllers with sensors and relays to automate tasks, showcasing how controllers can manage real-world applications.

IoT Projects:

- **Objective:** Design and implement Internet of Things (IoT)-based projects using ESP8266/ESP32 modules for wireless communication.

Example Projects:

- **Smart Home Control System:** A project that allows users to control home appliances like fans, lights, and air conditioners via a smartphone app, using Wi-Fi-enabled microcontrollers.
- **IoT-Based Health Monitoring System:** A system that collects health data like temperature and heart rate using sensors and transmits it over the internet for remote monitoring.
- **Outcomes:** These projects demonstrated the integration of IoT technologies to enable remote monitoring and control, highlighting the potential for smart homes, healthcare, and other industries.

Robotics Projects:

- **Objective:** Build functional robots that can perform tasks autonomously or through manual control.
- Example Projects:
- **Line-Following Robot:** A robot that uses infrared sensors to detect and follow a line, showcasing the use of sensor-driven navigation.
- **Obstacle-Avoiding Robot:** A robot equipped with ultrasonic sensors that can detect and avoid obstacles while navigating its environment.
- **Outcomes:** Students applied robotics concepts such as sensor-based navigation, demonstrating their skills in programming, mechanics, and control systems.

Automation Projects:

- **Objective:** Implement projects that automate tasks in various domains like home automation, industrial automation, and agriculture.
- Example Projects:
- **Automated Greenhouse System:** A project that automates the control of temperature, humidity, and lighting conditions in a greenhouse based on sensor feedback.
- **Voice-Controlled Home Automation:** A system that uses voice commands to control household appliances like lights, fans, and door locks.
- **Outcomes:** Automation projects demonstrated how students could create intelligent systems that automatically respond to environmental changes or user inputs, showing the practical applications of robotics and IoT in daily life.

4. Key Highlights of the Event

- **Innovation and Creativity:** Students showcased a wide variety of projects that addressed real-world problems, demonstrating their ability to apply the knowledge gained from previous workshops to build practical solutions.
- **Collaborative Learning:** The Techfest fostered an environment of collaboration, with students exchanging ideas and learning from each other's projects.
- **Real-World Applications:** The projects presented showcased real-world applications of IoT, sensors, and automation, from smart home systems to healthcare monitoring solutions.
- **Diversity of Projects:** Projects ranged from simple sensor-based systems to more complex IoT and robotics applications, demonstrating the diversity of the students' technical skills.

5. Conclusion

The Tech-Fusion 2K26 was a resounding success, providing a platform for students to exhibit their knowledge and skills in robotics, automation, and IoT. The projects showcased at the event highlighted the students' ability to apply theoretical knowledge from the workshops to practical and innovative solutions. The event also encouraged further interest in technology and problem-solving among the participants, preparing them for future endeavors in the field of robotics and automation.

This event was a testament to the effectiveness of the workshops, enabling students to take their skills to the next level and apply them in real-world scenarios.

Impact of Tech-Fusion

The impact of technical workshops on students is multidimensional, enhancing both their technical and soft skills. By providing practical exposure to sensors, controllers, IoT, robotics, and automation, workshops not only foster innovation and creativity but also prepare students for the challenges of modern industry. The confidence and motivation gained through such experiences often lead students to further exploration and success in STEM-related fields.

Outcomes of Workshops

- **Problem-Solving Skills:** Students are exposed to real-world challenges, learning how to approach problems systematically and find creative solutions.
- **Technical Proficiency:** Exposure to microcontrollers (like Arduino), sensors, and IoT technology builds core technical skills that are crucial for modern industries such as automation, robotics, and smart technologies.
- **Project-Based Learning:** Developing projects during workshops helps students retain knowledge and apply it in practical contexts, solidifying their learning.

Success

With the great enthusiasm we will be able to conduct the best technical fest and also many students' rewards and recognition. Also, these technical trainings strengthened the institution's technical community.

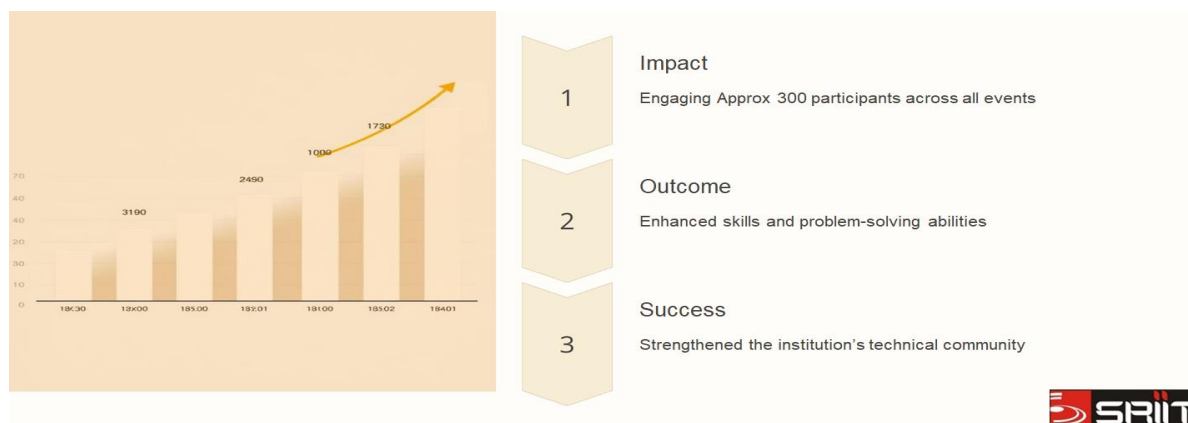


Photo Gallery:





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