



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (GSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUR, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

ISTE STUDENT CHAPTER



REPORT ON IoT Project and Poster Expo

- Event Type : IoT Project and Poster Expo 2024
- Date / Duration : 22.11.2024, One Day
- Name of Judges : Dr. Krishna Prasad Satamraju, Associate Professor, VVIT, Guntur,A.P.
Mr. A. Karuna Kumar, Assistant Professor, DVR & Dr. HS MIC College
- Name of Coordinator : Dr. P. Venkat Rao, Associate Professor, ECE Dept , LBRCE
Dr. P. Poornaiah, Professor, ECE Dept, Department,LBRCE
Ms. G. Asha, Assistant Professor, ECE Dept, LBRCE
- Target Audience : Final year students
- Total no of Participants : 41 Teams, (123 students)

Objective of the event: To encourage the students to present their innovative ideas and projects in the field of IoT .

Outcome of event : By attending this event, the students can be able to improve their presentation skills, idea generation and implementation and advances in Internet of Things in addressing the real time issues and enhance their skills in doing Final Year Major projects, as part of the curriculum. Further, the students will gain knowledge on hardware design related issues that enables them to face. Knowledge about interfacing sensors with Arduino, Raspberry Pi for solving real time problems is gained.

Description / Report on Event:

The event on IoT Project and Poster Expo is conducted for 1 day to IV year B. Tech. students with registrations as a team. The event began with inaugural address by Dr. G. Srinivasulu, Head Department of ECE, who highlighted the significance of the training. It was mentioned that with the technology evolving faster, the students should always update themselves with the current trends irrespective of running behind non-core jobs, students need to strengthen their core concepts and opt for a better carrier. Dr. P. Venkat Rao, Coordinator, ISTE, and Dr. B. Poornaiah, professor, ECE Dept. have informed the students about initiatives taken by the department to enhance the learning, product development and presentation skills of the students. It was mentioned that the current trend towards IoT enabled applications; all should effectively present their ideas and gain knowledge. Dr. P. Venkat Rao, Dr. B. Poornaiah and Ms. G. Asha have coordinated the event. On that day, students as a team presented their projects and posters in presence of the judges Dr. Krishna Prasad Satamraju , & Mr. A. Karuna Kumar. The students responded to the queries asked by the judges and each project is thoroughly reviewed and best three projects are rewarded with prize money.

Event Banner:

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)
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Approved by AICTE, New Delhi. and Affiliated to JNTUK, Kakinada
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Project and Poster Expo on IoT

Organized by ISTE student chapter & Department of ECE

Date 22-11-2024

Coordinators:
Dr. P. Venkat Rao
Dr. P. Poornaiah,
Ms. G. Asha

Fig. 1 IoT Project and Poster Event Banner

Sample Poster of winners:

Development of an energy-efficient smart iron box with automated temperature control
Puppala Uday Kiran(21761A04B5), V. Venkat(22765A0414), B. Karthik Reddy(21761A0468)
Mentor name: Dr. P. Venkat Rao

Abstract: The Smart Iron Box offers several unique features that set it apart. It incorporates an automatic tilting mechanism that shifts the iron when no human contact is detected, preventing the hot surface from touching fabrics or surfaces, thereby reducing fire hazards. The temperature monitoring system constantly checks the heat level, tilting the iron and sounding an alert if overheating occurs, ensuring safety. Additionally, the smart energy consumption meter tracks and optimizes energy use, providing real-time data to help users save power and reduce their carbon footprint. The steam provision adjusts steam output based on fabric type, enhancing wrinkle removal and fabric care. Finally, the touch-based activation ensures the iron operates only when safely handled, preventing accidents when left unattended. These features combine to provide a safer, more energy-efficient, and user-friendly ironing experience.

Methodology/Implementation details:
When the touch sensor detects someone handling the iron, it signals the Arduino to activate the heating element, allowing the iron to heat only when in use. The temperature sensor continuously monitors the iron's heat level, and the Arduino adjusts the heating intensity via the servo motor, keeping the temperature within a safe, consistent range. For additional safety, if the iron is left untouched for a set period, the Arduino automatically powers down the heating element, preventing overheating and potential accidents.

Figure 1. Architecture of the Proposed mode

In conclusion, the smart iron box project effectively demonstrates how integrating Arduino with servo motors, touch and temperature sensors, and a buzzer can elevate a standard household iron into a safer, more efficient, and user-friendly device. By monitoring and controlling temperature, the iron reduces overheating risks, promoting safety and conserving energy.

Results:

Fig-1: When the touch sensor detects input, the servo motors move to the normal stage, performing their intended function.
Fig-2: When the touch sensor does not detect input, the servo motors rotate to 90 degrees, signaling an inactive or off state.
Fig-3: The temperature is set to a moderate level for regular ironing tasks, suitable for most fabrics.
Fig-4: When the temperature reaches the desired high level, the system automatically turns on the servo motors for

Fig. 2 IoT Project Sample Poster

Event Photographs:



Fig. 3 Dr. B. Poornaiah, Professoor, ECE Dept, addressing students about the event



Fig. 4 Dr. S. Krishna Prasad and Mr. A. Karuna Kumar, interacting and asking queries to the students



Fig. 5 Prize and Certificate distribution (1st prize) to the student's team from Dr. G.L.N. Murthy, In-charge HOD, ECE Dept., and resource person Dr. S. Krishna Prasad

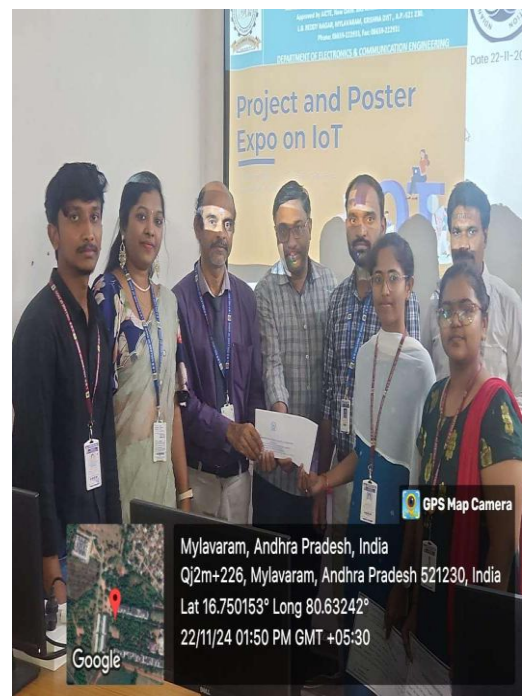


Fig. 6 Prize & Certificate distribution (2nd prize) to the student's team from Dr. G.L.N. Murthy, In-charge HOD, ECE Dept., and resource person Dr. S. Krishna Prasad

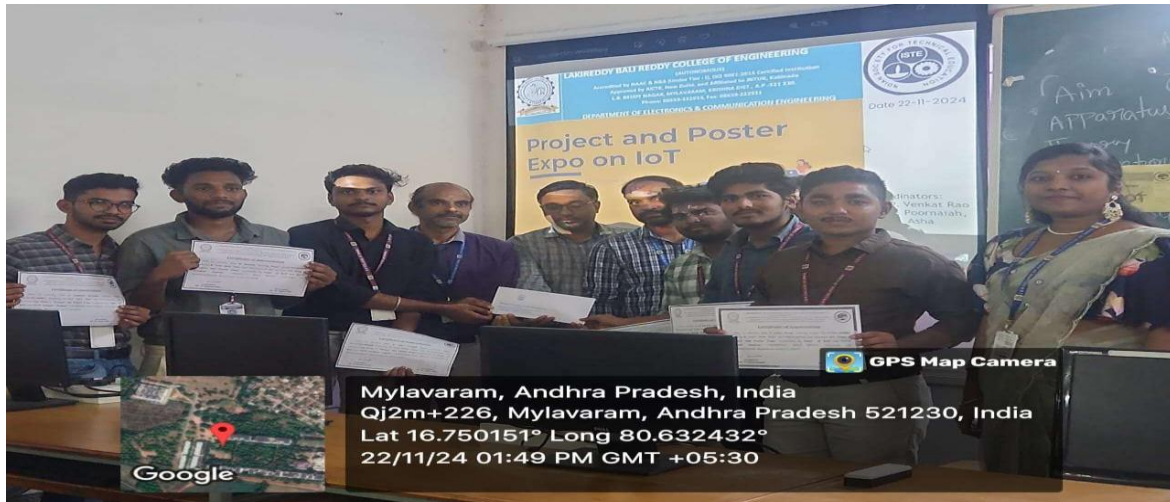


Fig. 7 Prize and Certificate distribution (3rd prize) to the student's team from Dr. G.L.N. Murthy, In-charge HOD, ECE Dept., and resource person Dr. S. Krishna Prasad

Feedback from the Participants:

The feedback from the students regarding the "IoT Project and Poster Expo" was extremely positive and motivating for the organizers. Students shared that they gained valuable insights into IoT technologies and enjoyed presenting their projects, which enhanced their practical knowledge. They expressed appreciation for the well-structured event, where they had the opportunity to interact with experts and receive constructive feedback from the judges. The students were thrilled by the recognition given to the top 3 projects through certificates and prizes, and they appreciated the efforts made by the organizers to ensure a smooth and impactful experience. All students acknowledged the department's commitment to organizing such an event that aligns with industry trends and nurtures innovation.



Fig 8. Certificate presented to one of the winners