



Geethanjali College of Engineering and Technology (Autonomous)

Accredited by NAAC with A⁺ Grade; B.Tech. CSE, EEE, ECE accredited by NBA

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Memorandum of Understanding (MoU) Between the Department of Computer Science and Engineering, Geethanjali College of Engineering and Technology, and Silicon Labs Innovation Centre

Date: November 4, 2024

As part of this collaboration, 12 workstations have been allocated in the Robotics Laboratory. Silicon Labs has provided five development boards (BRD2605A – SiWx917 Dev Kit), with an additional five kits planned for future allocation. Initially, 15 students from the Department of Computer Science and Engineering (CSE) and 15 students from the Department of Electronics and Communication Engineering (ECE) were selected for participation in this initiative.

Activities Conducted

1. **Workshop by Silicon Labs Trainers (November 4, 2025):**
 - o A technical workshop was conducted by trainers from Silicon Labs, where students learned how to establish connectivity between a mobile device and the BRD2605A (SiWx917 Dev Kit).
2. **Online Doubt Clarification and Problem Statement Discussions:**
 - o Two virtual sessions were held on December 7, 2024, and February 6, 2025, to address students' queries and discuss problem statements.
3. **Project Development:**
 - o As of now, students have initiated four projects based on their learnings and research.
4. **Current Student Participation:**
 - o The initiative currently includes 18 students: nine from CSE, eight from ECE, and one from the Internet of Things (IoT) domain.
 - o Plans are in place to develop six projects, with each project team comprising three students.
 - o Due to scheduling constraints, project development sessions are conducted outside regular class hours, every Thursday from 3:40 PM to 6:00 PM.

Project Titles and Descriptions

1. **Drinking Water Quality Monitoring System**
 - o This IoT-based system utilizes ESP32 to assess the quality, safety, and purity of drinking water in real-time. By measuring key parameters such as pH, turbidity, Total Dissolved Solids (TDS), and contaminants, the system

provides instant feedback on water quality. Additionally, it offers insights into the mineral content of water, highlighting both beneficial and potentially harmful elements.

2. **Smart Home Automation System**

- o This project aims to develop a centralized IoT-based solution that integrates smart home devices for remote control, voice activation, and automated scheduling of household electronics. The system enhances energy efficiency, improves security through real-time surveillance, and provides seamless control via a smartphone application or voice assistant.

3. **Smart Braille System**

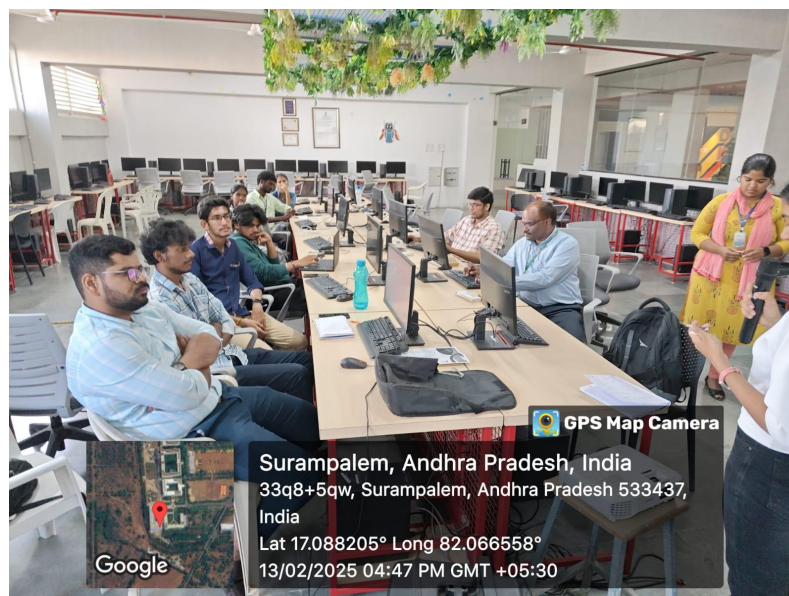
- o Designed to assist visually impaired individuals, this system converts digital text into Braille in real time using the BRD2605A development board. The wireless, cost-effective solution enhances literacy and ensures privacy by enabling independent reading through a refreshable Braille display, offering an affordable alternative to commercial devices.

4. **Smart Shoe Navigation System**

- o This wearable assistive technology is designed to provide hands-free navigation using vibration feedback. It benefits visually impaired individuals and those navigating unfamiliar environments. The system integrates a Silicon Labs microcontroller, GPS module, and vibration motors to facilitate seamless navigation.

This collaboration aims to foster technical learning, hands-on experimentation, and innovation among students while leveraging industry partnerships to enhance research and development in emerging technologies.

Few snaps from Event:





This version maintains the original intent while improving clarity, structure, and formality.
Let me know if you need further refinements!