PyroSense Project Week-Update Report-3

Dhruv, Piyush, Sonali, Arush

13 September 2024

Introduction

This week's report provides an update on our progress during the debugging phase of the PyroSense project. Our primary focus was on identifying and resolving issues related to the automation task, particularly the automatic triggering of SMS and call alerts upon fire detection. We also continued work on other aspects of the project, building upon our achievements from the previous week.

Activities Completed

- **Debugging Automation Task**:
  - Conducted thorough testing of the automated alert system.
  - Identified and resolved issues preventing proper triggering of SMS and call alerts.
  - Improved the reliability and timing accuracy of the alert system.
- **Continued Development**:
  - Advanced the integration of the GSM module for call and message functionality.
  - Further refined the Home Assistant dashboard for improved user experience.
  - Implemented additional design improvements for both software and hardware components.

Key Findings

- **Automation Stability**: The debugging process has significantly improved the stability of the automated SMS and call alert system, allowing it to function as intended.
- **Alert Timing Accuracy**: Debugging tests have helped ensure that alerts are triggered promptly, minimizing delay in emergency responses.
- **System Reliability**: The overall reliability of the PyroSense system has improved due to the resolution of critical automation issues.
- **User Interface Improvements**: Continued enhancements to the Home Assistant dashboard have resulted in a more intuitive and user-friendly interface.

Next Steps

For the upcoming week, we plan to:

- **Voice Message Integration**: Implement a feature that plays a voice message during a call to inform the receiver about the fire emergency.
- **User Interface Enhancements**: Continue improving the Home Assistant dashboard for better user experience, with a focus on making it accessible for non-technical users.
- **Ongoing Testing and Refinement**: Further test and refine the automated alert system and other components to maintain and improve reliability.
- **Sensor Calibration**: Address the previously identified need for improved sensor calibration to enhance overall system performance.