Our project addresses the critical need for monitoring air quality, focusing on detecting various gases including carbon dioxide, methane, liquefied natural gas, butane, propane, methane, alcohol, and hydrogen in the atmosphere. With the understanding that while most atmospheric gases are beneficial, excessive levels can pose health risks, especially in enclosed spaces. We designed an air quality monitoring system capable of detecting multiple gases simultaneously, along with temperature and humidity levels.

The primary goal of our project is to provide a comprehensive solution for maintaining optimal air quality in indoor environments, particularly in spaces like classrooms where CO2 levels can quickly rise due to human respiration. We aim to create a system that not only detects harmful gas levels but also alerts users when temperature thresholds are exceeded, ensuring a comfortable and safe environment.

To achieve this, we utilized sensors capable of detecting various gases, temperature, and humidity levels. The system includes a passive buzzer to sound an alarm when the temperature surpasses predefined thresholds, along with three LEDs indicating air quality—green for good, yellow for moderate, and red for poor.

By implementing this solution, we aim to enhance awareness of air quality and empower individuals to take proactive measures to improve the environment they inhabit. Ultimately, our project contributes to promoting health and well-being by ensuring access to clean and safe air, particularly in indoor settings where people spend a significant amount of time.