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Nambur (V), Pedakakani (M), Guntur (Dt.), Andhra Pradesh – 522 508
[Program: Computer Science and Engineering (Internet of Things) – CSO]
DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

AIR QUALITY MONITORING USING RASPBERRY PI

Batch No. B11

Team

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Name of the Guide

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PROBLEM STATEMENT :

- Poor air quality has been linked to respiratory and cardiovascular diseases, as well as increased risk of cancer and other health problems.
- In addition, air pollution can have detrimental effects on ecosystems, wildlife, and agriculture.
- The lack of access to reliable and accurate air quality data, particularly in developing countries and in areas with limited monitoring infrastructure.

PROBLEM OBJECTIVE:

❖Low-cost sensors and microcontrollers like Raspberry Pi make it possible to develop affordable air quality monitoring systems.

❖MQ135 sensor is used to measure the concentration of harmful gases like ammonia, benzene, and CO2(MQ135 is not a good sensor for measuring CO2, but it can measure the readings which are not accurate).

❖MQ9 sensor is used to measure the concentration of harmful gases like carbon monoxide and methane.

❖DHT11 sensor is used to measure temperature and humidity.

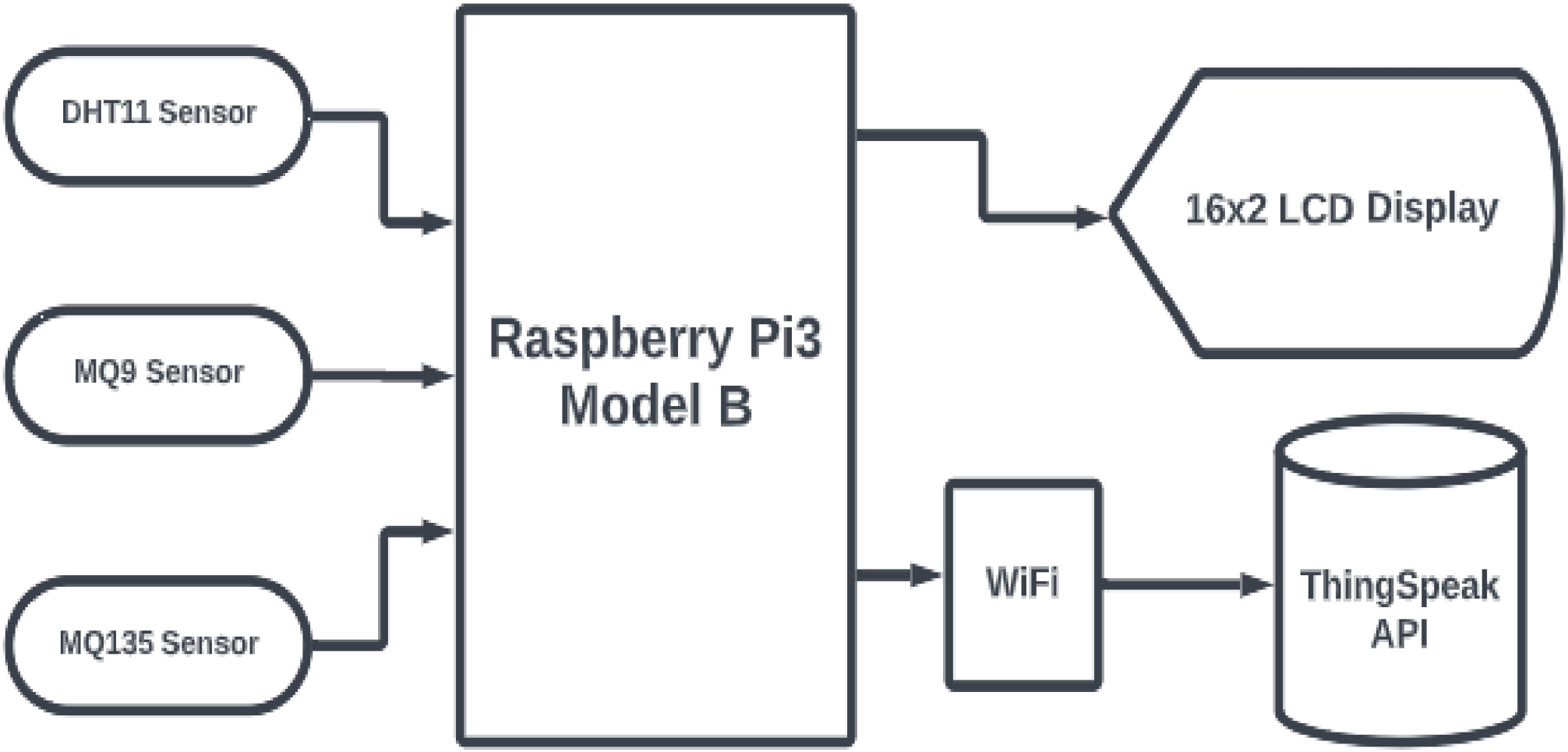
❖Readings from sensors are displayed on a 16x2 LCD display in real-time.

❖Data is also uploaded to the ThingSpeak cloud API.

HARDWARE AND SOFTWARE USED

- The following are the components used in the system design.
  - **Hardware**
    - Raspberry Pi 3 Model B
    - MQ9 Sensor
    - MQ135 Sensor
    - DHT11 Temperature Sensor
    - 16x2 LCD Display
  - **Software**
    - Raspbian Operating System
    - Python
    - ThingSpeak API

Block Diagram:



Time Line

Week - 1 (13-03-2023 to 18-03-2023)	Week - 2 (27-03-2023 to 01-04-2023)	Week - 3 (03-04-2023 to 08-04-2023)
Design of modules related to the project	Coding of different modules using Python and Testing of modules.	Report writing and Project Demonstration.

THANK YOU