PES

FINAL PROJECT PROPOSAL

The project aims to create a weather monitoring system using the GY-BMP280 sensor interfaced with the FRDM-KL25Z microcontroller board through the I2C communication protocol. Real-time barometric pressure data will be measured and displayed on the terminal.

Objective:
To measure and display real-time barometric pressure data using the GY-BMP280 sensor and FRDM-KL25Z microcontroller via I2C.

The GY-BMP280 sensor will be connected to the FRDM-KL25Z microcontroller through the I2C interface. Proper wiring will be set up according to the sensor and microcontroller datasheets, ensuring accurate communication and power supply. The microcontroller will be programmed to establish I2C communication with the GY-BMP280 sensor. This will involve configuring the necessary I2C pins on the FRDM-KL25Z and initializing the communication protocol to retrieve sensor data. The system will collect barometric pressure data from the GY-BMP280 sensor through the established I2C communication. The microcontroller will interpret and format this data for display on an output device such as a serial monitor. Calibration will be performed to ensure accurate sensor readings. A testing phase will simulate environmental changes to verify the system's capability to accurately capture and display real-time barometric pressure data.

Learnings:
- To acquire deeper knowledge in I2C Protocol: Understanding and implementing advanced features of the I2C protocol for efficient sensor data retrieval.

- Detailed Sensor Register Settings: Exploring and implementing specific register settings on the GY-BMP280 sensor for better control and more accurate data collection.

BY

Shruthi Thallapally