Name: Arunkumar.Jv BE(EEE)

Project title : IoT-Based Weather Monitoring System: Real-Time Environmental Sensing and Analysis

Abstract:

The IoT-Based Weather Monitoring System project proposes the development of a comprehensive solution for real-time environmental sensing and analysis, leveraging the Internet of Things (IoT) technology. This system aims to provide users with accurate and up-to-date weather data for various applications, including agriculture, urban planning, disaster management, and outdoor activities. The system consists of sensor nodes deployed in strategic locations to capture essential weather parameters such as temperature, humidity, air pressure, wind speed, and precipitation. These sensor nodes are equipped with sensors capable of measuring the desired parameters and transmitting the data wirelessly to a central server for processing and analysis.

At the core of the system is a robust data processing and analysis platform, which aggregates, cleans, and analyzes the incoming sensor data in real-time. Advanced algorithms and statistical techniques are employed to detect patterns, trends, and anomalies in the weather data, enabling accurate forecasting and prediction of future weather conditions. The system includes a user interface accessible through web and mobile applications, allowing users to visualize and interact with the weather data in a user-friendly manner. Users can access real-time weather updates, historical data, trend analysis, and personalized alerts based on their preferences and location.

Block diagram :