

IoT Based Weather Monitoring System with Data Logger System

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Abstract: *In this system, a network of IoT sensors is strategically deployed to capture a comprehensive range of weather parameters such as temperature, humidity, atmospheric pressure, wind speed, and rainfall. These sensors transmit their data wirelessly to a central data processing unit, which includes a robust data logger system capable of handling extensive datasets. This historical data not only supports real-time monitoring but also facilitates in-depth trend analysis and climate studies. The proposed system aims to create a comprehensive solution for real-time weather data acquisition and logging. Leveraging the Internet of Things (IoT) technology, the system incorporates various sensors to collect essential weather parameters such as temperature, humidity, and atmospheric pressure. These sensors are strategically deployed in different locations to ensure a diverse and accurate representation of weather conditions. The collected data is transmitted wirelessly to a central server, facilitating remote monitoring and analysis. The inclusion of a data logger system ensures the archival of historical weather information, allowing users to access and analyze trends over time. This project not only provides valuable insights for meteorological applications but also showcases the potential of IoT in creating efficient, data-driven solutions for environmental monitoring. The IoT-based weather monitoring system addresses the growing need for reliable and accessible weather data in diverse applications, including agriculture, infrastructure planning, and disaster management. By combining sensor technology, wireless communication, and data logging capabilities, the system offers a scalable and adaptable solution for both real-time monitoring and long-term data analysis.*

Keywords: Internet of Things (IoT), IoT Sensors (Temperature, Humidity, Atmospheric Pressure, Wind Speed, and Rainfall), Network, Data Acquisition and Logging, etc