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ABSTRACT

Observation of weather elements continuously and in real time is very important to know the momentary weather conditions. Current and past weather observation data can be used to predict future weather conditions, information on weather and climate conditions is needed to support all human activities. Information on weather and climate is also very much needed in the agriculture, transportation, telecommunications, and tourism sectors. Observations of weather elements in the form of wind speed, wind direction, and rainfall are still mostly done manually where errors due to human factors often occur, while if done automatically it will facilitate human work, and avoid errors caused by human factors. Therefore, it is necessary to build an IoT-based Weather Station Monitoring system to simplify and reduce the risk of human error.

The development of the Internet of Things (IoT) based Weather Station Monitoring system in this final project uses Arduino Mega 2560. By using the DS3231 data logger module as a data store in real time clock and using Mappi32 to send the data to the database via an available WiFi network.

With the creation of this Final Project, it is hoped that it can provide accurate information about weather conditions, so that it can be useful for all human activities, especially in the Telkom University campus area. It is also hoped that this tool will be useful for the agricultural, government and private sectors engaged in fields related to climate and weather conditions.

Keywords: *weather station, internet of things, data logger, weather,* arduino mega.