

CLOUD WEB-BASED FLOODGATE WATER LEVEL MONITORING SYSTEM USING ARDUINO AND GROOVED SENSOR

Muhammad Nabil Emir Bin Sazahan & Nizam Bin Osman (Supervisor)

Muhammadnabilemirsazahan@gmail.com

nizamos@gmail.com

ABSTRACT

Cloud Web-based Floodgate Water Level Monitoring System using Arduino and Grooved Sensor is a web-based application that was developed to monitor water level at designated floodgate. The floodgate water level monitoring system used Arduino Uno as its water level monitoring system. This hardware was used to detect the water level of a water surface using the grooved water sensor module. The device integrated NodeMCU to connect the device to the system. The NodeMCU is responsible for the communication between the water level device and Firebase, the cloud database that the system used to store its data. The purposed of the floodgate water level monitoring system was to help the crop field's floodgate operators manage the floodgate more easily by providing them the water level history of the water canal. The water sensor device send data to the cloud database whenever changes of water level is detected. The data is then organised into periods of daily and weekly. The website, hosted also by Firebase, will take the data and transform it into charts. The development of the floodgate water level monitoring system consists of 8 steps, which are information gathering, planning, research design, project requirement, design and development, experiment, analysis and documentation. An accuracy test was conducted to verify the water sensor device accuracy in taking the water level measurement. The reading of the water sensor device must be parallel to the reading obtained from a standard ruler for measuring short distance. The results obtained from the testing was within the acceptable accuracy percentage. Therefore, the proposed application proved to be beneficial to the floodgate operators by allowing them to have a quick information on the water level history of the affected floodgate and also gives morale support to other developers to help contribute to the agricultural sectors in the future.

Keywords: IoT, website, monitor, water level, floodgate