

Development of a River Water Level Monitoring System in Bonelemo Village Based on Arduino Microcontroller using Ultrasonic Sensors and SMS Gateway

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Abstract. In this development to design and make a prototype of the Bonelemo Village River Water Level Monitoring System Based on an Arduino Microcontroller Using Ultrasonic Sensors and SMS Gateway. The type of research used is Research and Development (R&D) which develops a monitoring system for river water levels using a prototype development method. The components used in making this prototype are arduino uno, ultrasonic sensor, buzzer, Bluetooth HC-06, and breadboard, Arduino IDE 1.8.5 software to create programs and MIT App Inventor applications to create android applications as a tool for sending messages. The development of this research is a tool that is used for monitoring and monitoring water levels in the form of an ultrasonic sensor to read the status of the water level connected to bluetooth and the Android application as a medium for sending sms to the user. The results of the research carried out can be concluded that the prototype of the river water level monitoring system has been tested using black box testing and all components of the tools and applications used have functioned properly.

Keyword: prototype, R&D, ultrasonic sensor, SMS gateway, bluetooth, android