ABSTRACT

Natural disasters such as floods are problems that can occur in people who are in need in the watershed, to obtain data The condition of the river environment requires a long time will increase the need for accountability. Through the development of technology and information, many tools have been created to solve problems in various aspects. In this final project, the author wants to find a system that can transfer information about rivers that emit floods in real time through smartphones that utilize the Internet of Things.

This tool will oppose the increase that occurs namely rainfall and duration when it rains. This system will read the Environment changes from a tipping bucket type rainfall data which is then processed by NodeMCU esp8266 V3 then sent to the user's Smartphone via the IoT and Blynk application platforms and the HL-83 rain sensor is processed by Arduino Mega2560 and sends data to LCD The results of the reading of these 2 sensors will produce rain duration and rainfall intensity status based on categories from BMKG that are mild, moderate and heavy.

The results obtained based on testing is that the design of an early flood inspection system was successfully realized by integrating the Rainfall sensor with NodeMCU esp8266 V3. Sensor the average value of average rainfall of 85.45% and the relative error of rainfall of 14.54%. In testing esp8266 V3 NodeMCU gets a delay value of 12.18 seconds and a packet loss value of 0%.

Key Word: *Flood,Internet of Things, Rain fall, Sensor, Tipping bucket*