ABSTRACT

Natural disasters are events that can occur at any time and anywhere can also result in many casualties and material losses, Indonesia is also a country that often experiences natural disasters, one of which is an earthquake. Based on this, a system for monitoring earthquakes is needed that aims to provide warnings in real time.

With this problem, an earthquake detection system needs to be made using Wireless Sensor Network technology. The 801S and ADXL345 sensors are used as input to detect vibrations and get ground acceleration information that is converted to a magnitude value, the value of which will send a notification to the chatbot (Line). This system uses a NodeMCU microcontroller, which functions to process the data received from the sensor and later it will be sent to the cloud, then finally it can be received in the chatbot (Line) application.

From the results of Testing Delay in scenario 1 (Earthquake detection system - Server - Line) the value is 7.58 ms and in scenario 2 (Line - Server - Line) the value is 22.55 ms. The calculation of throughput value in scenario 1 (Earthquake detection system - Server - Line) is 5.1 Kbps and in scenario 2 (Line - Server - Line) which is 4.26 Kbps. The value Reliability & Availability in scenario 1 (Earthquake detection system - Server - Line) has a value of 100% and in scenario 2 (Line - Server - Line) has a value of 100%.

Keyword : *Wireless Sensor Network, 801S sensor, ADXL345 sensor*