ABSTRACT

Landslides are natural disasters that often occur in the territory of Indonesia, landslides are natural disasters that have a considerable impact on victims and losses in Indonesia, the cause of these landslides is too much water content in the soil and causes the soil to move easily. In this research, a tool that can read ground motion using an accelerometer sensor and NodeMCU as a microcontroller and personal computer has been made to process the accelerometer sensor data. The data the X and Z axis. Data from the accelerometer sensor is sent by NodeMCU to the personal computer using the MQTT protocol (Message protocol) Queuing Telemetry Transport) in real-time, after the data is sent the personal computer processes the original data using a low pass filter, the low pass filter is used to remove noise obtained from the sensor, after the data is filtered the personal computer processes the data to find the position value of the accelerometer sensor then the system takes a landslide or non-landslide decision using fuzzy logic. In this research, the whole system has been tested and the functionality of the system can run well despite problems such as delays when sending data this is due to the sensors used too much.