ABSTRACT

A landslide is a process of changing equilibrium which causes the movement of soil and soil mass. This changes the parameter so a landslide occurs. A landslide detection device is needed monitored, so it can detect a landslide. Therefore, a land disaster detection tool will be designed with the internet concept of things that can be considered bankruptcy.

In this final projectusing a microcontrollers, used multiple sensors to detect a landslides. This final project uses two TTGO LoRa microcontrollers integrated with LoRa, Accelerometer sensor and gyroscope (MPU6050), Soil Moisture, Raindrop Sensor, and rotary encoder. The detector will send sensor value to the real-time database via LoRa communication.

The results final project, soil moisture sensor measurement value obtained an average error of 0.017%, an average soil slope of error of 0.56%, a rotary encoder as a sensor to change the soil has an average error of 0.90 mm. This tool has an average delay of 28.84 seconds to connect between LoRa. The distance covered by LoRa in a LOS state exceeds 350 meters.

***Keywords**: Landslides, MPU6050 sensors, TTGO esp32 LoRa, Internet of Things.*