

Abstract

Landslides are one of the most common disasters in Indonesia, especially in hilly, valley, and volcanic areas. Geographical conditions that are generally mountainous and have slopes make the soil unstable. As a result, when the soil moves it becomes easy to slide. Landslides and excessive water content are the main causes of landslides. Landslides can cause many losses, such as causing death, disrupting transportation routes, damaging agricultural land, and various other losses. By using a gyroscope sensor (MPU6050), a hygrometer sensor (Soil Moisture) and Wemos D1-R2 to provide early warning of landslides. Linear acceleration is detected using a gyroscope sensor to determine soil movement or soil slope based on the prototype developed in this study. Hygrometer sensor to detect soil moisture. The results of soil detection and soil moisture are managed in Wemos D1-R2 data. When soil and soil moisture detection are dangerous, it will activate an alarm and a warning notification of danger will be sent to the user's smartphone via the telegram bot on the telegram application that has been created.

Keywords: Landslide, IoT, Gyroscope, Hygrometer.