

Abstract

Crime or criminal acts in valuable storage such as jewelry boxes are currently very rampant. In addition, this crime can have a large costly impact on the jewelry box owner. This impact is a problem for everyone who has it. In an effort to prevent these crimes, an Internet of Things-based security monitoring system is required. An effort to prevent this incident is to access this jewelry box using a registered fingerprint and suitably owned by the owner. When you try to enter with an unsuitable fingerprint, the solenoid in the jewelry box is closed, the buzzer will sound and the LED will be red. The fingerprint test that receives the appropriate fingerprint code has an error of 3 times out of 20 attempts or 0.15%. Fingerprint sensors that accept the appropriate fingerprint codes also have an average response time of 1.19 s, while fingerprint codes that are rejected by fingerprint have an average response time of 1.93 s. It also has two modules namely the GPS Module and the ESP32 Wireless Module. The advantage is that it can monitor the location of the jewelry box in the Blynk application and send the coordinates of the location of the jewelry box when it is in danger, stolen, lost with a GPS speed of more than 5 km / hour and a warning message via the telegram application to the owner's smartphone. The level of accuracy of the location of the coordinate points sent by the GPS Module has an average of 0.58 m from the coordinates of the actual coordinates sent by Google Maps.

Keywords: ESP32 Wireless, Fingerprint, GPS, Jewelry Box, Criminalacts, Blynk, Telegram