

ABSTRACT

In this modern era, of course already familiar to what is called the Global Positioning System (GPS). Where to find out the location or position of an object GPS is only needed, which of the GPS sends a coordinate point which is then located from the coordinate point, using the geolocation feature of course. GPS can be used for intelligent Internet of Things (IoT) devices so that it can be used to track an object using GPS and a microcontroller.

GPS will be used to determine the location that will be integrated with RFID, and NodeMCU as the processor. In previous research IoT platforms still did not have the Google Maps feature to display the location of the object to be tracked, so the implementation of the Google Maps API on IoT platform was carried out. In this system RFID detects cards that have been registered before, then the GPS module will be active when RFID detects the registered card, the GPS module will send coordinates. On IoT platforms operators can see the location of objects and can also find out information from those using objects based on RFID that have been detected before.

The results of the testing tool consisting of NodeMCU as a processor, DHT-11 as a temperature sensor, and GPS module Neo-6m as a location determinant, the results are as follows. The reading of the GPS Neo-6m module has a difference of ± 0.000003 based on reading coordinates on Google Maps directly, or with a mobile phone. The results of delay on good network conditions obtained an average delay of 0.326 seconds, and the data transmission throughput value obtained using NodeMCU from the test is 140.4 Bytes / s in an interval of 150 seconds.

Keywords: NodeMCU, IoT platform, GPS, Google Maps API, RFID