

ABSTRACT

Some parking lots have provided information about the number of parking slots, but there is no information where the exact available parking slots are available in real time as desired by the parking user, has created a new problem namely the congestion caused by busy parking users who are looking for parking slots available to be occupied. A system is needed that makes it easy for parking users to be able to get information and directions to find the location of parking slots that have been specifically provided for them according to the needs of the parking user effectively and efficiently.

This final project focuses on implementing an Internet of Things (IoT) based system by designing a system to find a parking slot that suits the needs of the parking user. The making of this system relies on Infrared and Proximity Sensors as a detector of empty parking slots with NodeMCU as programming that is installed in the parking slot area for its application. How to work short of this system is the parking user comes to the parking slot that has been provided and also gets a guide to the number of the empty parking slot.

Based on the results of tests that have been done, it is obtained that the Infrared and Proximity sensors in the prototype test function perfectly because they are able to detect vehicles with a distance of 2-20 cm and the LED lights that were not initially lit when a vehicle will turn red when detected by a sensor vehicle, the testing time delay sending data to Firebase has an average delay time of 0.1 seconds.

Keywords: *Internet of Things (IoT), NodeMCU, Infrared and Proximity Sensors.*