ABSTRACT

Because of the increasing level of car ownership, the more parking needs and the more complex the arrangement of parking spaces. This causes problems in the parking lot. Problems that arise include difficulties in knowing the availability of parking position information.

In this final project a smart parking system design has been made to provide information on the availability of parking positions using infrared sensors as vehicle detectors in the parking lot, NodeMCU as a microcontroller to and send infrared sensor data to databases and Android applications as devices to display infrared sensor data from the database. Application users can use it to see the availability of parking positions.

Based on the results of tests conducted it has been found that each function in the application and testing of infrared sensors on the parking lot runs as expected, in testing the delay time sending data to firebase has an average distance delay of between 2 - 4.5 seconds. And in the time delay the data retrieval time from Firebase has the average distance delay time between 1 - 2.5 seconds.

Keywords: *Smart Parking System, Infrared Sensor, Android Application.*