ABSTRACT

Increasing the number of vehicles from year to year, parking lots are a problem in shopping centers, campuses, and public places or public facilities. The difficulty of finding a parking space is a disadvantage factor for motorists. To minimize losses that occur, a system is needed that can determine the location of parking.

From these problems, it is necessary to develop a smart parking system that is useful for providing information on the availability of parking slots in the place. The Internet Of Things is applied to a smart parking system which is expected to be a solution to this problem. The smart parking system is commonly found in Indonesia, but this system is not yet helpful because motorists are still looking for their own parking space which results in time losses and can experience congestion in the parking area.

In this final project, a smart parking system is designed that will determine the nearest parking location from the entrance. Motorists will receive a parking ticket from a thermal printer containing the parking slot number and barcode as payment. There is an ultrasonic sensor to detect the presence of an object connected to arduino Mega 2560. Wifi Expansion Shield is used to send data to the database. By knowing the availability of parking from the beginning, parking users save more time.

Based on the test results of the device system, it is known that the device can provide information on the availability of parking slots and can transmit ultrasonic sensor data to the database. The process of sending data from the ultrasonic sensor to the database shows that the QoS in this system is included in the good category with each value, namely a throughput of 3276,3 bps, a packet loss of 0%, and a

delay of 159.08 ms.

Key Word : Internet Of Things, Smart Parking, Ultrasonic Sensors, Arduino Mega 2560, WiFi Expansion Shield, Thermal Printer