ABSTRACT

Along with the many needs for the vehicle, it is very difficult to find empty space in the parking area, especially on weekends or holidays. A study shows that finding a parking space during weekends or vacation locations can take more than 10 minutes to about 66% of visitors. In addition, the lack of availability of parking areas is also a major issue in this case. Based on the above case the author created a tool called Monitoring Parking Space with Zigbee.

The main function of this tool to provide information to the driver how much parking space is still available in the parking area that is displayed on the LCD that placed in front of the parking door. In addition, this tool is expected to distinguish the vehicle based on the length of the vehicle detected menggunkan LDR sensors that are placed before the entrance, so as to reduce the risk of congestion in the parking area and save time for motorists to find another parking lot if the visited parking area is full.

In testing this tool, there are 2 aspects that became the main focus, sensor performance and zigbee performance. From the test results to the success of the sensor obtained each sensor used to work with 100% accuracy, while from the test of the reading time to the sensor obtained the closer the vehicle closer to the sensor the faster the sensor readings, that is 2,745 seconds for a distance of 1 cm against Sensor, 2,76 seconds for distance of 2 cm, 4,16 seconds for distance of 3 cm and 4,435 seconds for a distance of 4 cm. For testing of the distance of reading that can be done by the zigbee is a minimum distance of about 0,1 meters which means that the distance is very close and the maximum distance of reading is 9,3 meters.

Keyword: : *Monitoring parking space, Zigbee technology,* Arduino Mega 2560, LDR, LCD