ABSTRACT

Nowadays, the increasing number from transportation like road transport, especially car which makes the parking area becomes narrower but the existing parking area does not follow it. At this time, the parking system that has existed only able to count the number of vehicles that enter and exit the parking location and using cameras reading the vehicle license plate, so the author hopes that the parking space can be utilized as fully as possible and be able to more efficiently utilize the time to parking the car. The problem is the parking system does not present the information of an empty parking lot so vehicle spend a lot of time and energy to find it.

Therefore, we need a parking system's design that can solve the problem. Automatic parking system's design with the concept of queues can reduce the wasting time and energy to find an empty parking. The transmission data using wireless Zigbee/Xbee that connects the parking system (Microcontroller ATMega8535) with PC / Laptop. Microcontroller as the transmitter is connected to the Zigbee/Xbee and data will be transmitted to the laptop. On the laptop, the data which was received, will be processed and displayed a prototype parking system interface using Visual Basic 6.0.

Finally the results of this Final Project, the data obtained by the detection of vehicles that enter the parking area for vehicles by using Op-amp 741 as a comparator produces 1.447 V low output that indicates the condition of existing vehicles and high output 4.243 V for the absence of the vehicle. The longest distance for data communication using the Zigbee / Xbee is 25 m with the condition there are no obstructions. Then, It can be concluded that the tool is working as it should be designed.

Keyword :*ATMmega8535, Wireless Zigbee/ Xbee, Visual Basic 6.0*