ABSTRACT

Speed and accuracy in responding to customers in restaurants greatly affect customer satisfaction. In this day and age, there are still restaurants that use traditional methods to call waiters, such as waving their hands or calling waiters by voice, which is ineffective, especially when the restaurant is crowded. This method can cause delays in waiters responding to customers. As a solution to this problem, a wireless-based "Waiter Call" system has been designed using the NRF24L01 communication module and NodeMCU ESP8266. This system consists of two main components: a transmitter device placed at each customer table and a receiver device located in the service area. Each customer table is equipped with a push button that serves as a tool for calling waitstaff. Where there is a push button on the customer's table to call the waiter. The customer presses the button on the Arduino Nano, then the Arduino Nano sends data to the NodeMcu using the NRF24L01 as an intermediary. The NodeMcu receives the input, then turns on the LED and buzzer, and displays it on the web. This study uses a quantitative method. Test results show that the communication range of the NRF24L01+ without obstacles can connect within a range of 20 meters to 280 meters with an average latency of 0.52 seconds to 1.83 seconds. Meanwhile, the test results for the communication range of the NRF24L01+ with obstacles showed that it can connect from a distance of 20 meters to 220 meters with an average delay of 0.58 seconds to 1.08 seconds. The functionality of the website itself works well.

Keywords: *Waiters call, NRF24L01, NodeMcu ESP8266, wireless communication, waiter calling system.*