

ABSTRACT

LiFi (Light Fidelity) which is very fast in transmitting data compared to WiFi (Wireless Fidelity), is the latest solution for sending data that uses light or VLC (Visible Light Communication) as the transmission medium, which will later be used as an access point to activate WiFi. The application is a system that works automatically with accurate results, therefore it is needed in doing the job.

The limitations of human performance in doing work, especially in the field of customer service, are many, especially in a cafe. sometimes cafe workers are overwhelmed to serve the many customers. In fulfilling customer desires, an application that has certain advantages is needed in one way or another. These advantages can help customers in placing orders quickly and precisely.

The system made in this Final Project is an application for ordering menus at cafes in the form of a GUI on a LiFi-based Raspberry Pi that can send data using infrared light, in the application there is a menu of food and beverages to be ordered along with the amount, this order data can be sent correctly in the infrared receiver and forwarded to the VLC link side later.

The results of tests that have been carried out on applications and devices can prove that the input information on the application is in accordance with the data in the infrared receiver. The quality of the reach of the infrared sender and receiver has been achieved at a distance of 150 cm, the average delay value on the infrared link is 0.42 second which proves the delivery quality is quite good, and packet loss has a proportion of 0% which proves that all data can be sent without any data being lost and infrared receiver angle can work from an angle of 0° to 4.18° .

Keywords: LiFi, WiFi, VLC, GUI, Infrared, Raspberry Pi.