

## ABSTRACT

One of the most widely used communication technology devices is Wireless Fidelity (Wi-Fi). Now its ability to access the Internet of Things (IoT) makes it easy for users who only need to connect it. Wi-Fi itself has penetrated the needs of work, education, and even commercial. Wi-Fi is also widely available in public places for free, thus causing a lot of abuse of Wi-Fi itself. Its use in this common area is Wi-Fi owners about password security and other abuse. In this case, it is common in restaurants that have free Wi-Fi service. Many take advantage of this free Wi-Fi by simply booking a booking or two and staying overnight. This case caused a loss for the restaurant owner. Therefore, the recommended prevention in this final project is to limit bandwidth and implement Near Field Communication (NFC). The bandwidth limitation itself is carried out by the Captive Portal and made for that long time customers at the restaurant by doing bandwidth so that the internet connection becomes slow.

This design includes NFC tags and smartphones that already support the NFC reader feature and have installed the applications made. The NFC Tag component is required to be positioned on the back of the smartphone. To create an NFC Tag reader application, Android Studio software is required. The app can be used as an NFC Tag reader and to connect to a wifi network. This system works with applications that have been installed on smartphones that already have an NFC reader feature to scan NFC tags.

From the test results, the system in this study has a throughput speed of 23080 bps with a total delay of 15.12103 ms. This research is expected to help wifi owners to prevent losses for wifi owners.

**Keywords :** NFC, Wi-Fi, IoT, Captive Portal.