Abstract

Internet access is considered one of the basic necessities nowadays as it served as a form of entertainment, communication, and source of knowledge. This study aims to improve one of the most common form of internet access nowadays, the Wi-Fi Vending Machine. With the existing Wi-Fi Vending machine, the use of thermal printer is needed in every transaction because it prints out the username and password for every transaction. The monthly expenses of this vending machine are great due to the replacement of thermal paper and its great power consumption. The transaction is also limited to one coin at a time service. When a client drops a coin, it will already print out the receipt for the transaction making it harder to manage the time of usage. These problems can be solved by eliminating unnecessary devices and improving the system itself. The researchers used a microprocessor, the Raspberry Pi, as the main processor of the system. The main processor was used as the access point of the system. It handled all the process and data coming from the coin slot, LCD, and Wi-Fi dongle. In order to eliminate the usage of thermal printer, it will be replaced by an LCD screen. All the display for the transaction will be shown in the LCD. The increment of amount of coin is also allowed in order for the client to manage his time of usage efficiently. With this study the researchers are able to understand the uses of a microprocessor in terms of creating an access point. The researchers have acquired the necessary data by testing the system to the CEAT students and by creating a comparative cost analysis. The system was tested for its effectiveness, accuracy, and speed for every different number of simultaneous users. Therefore the system provides the expected results which are to produce a cheaper and efficient Wi-Fi vending machine and as proven by the panelist and students who tested the improved Wi-Fi vending Machine.

Keywords: Wi-Fi vending machine, Raspberry Pi, Access Point