ABSTRACT

Dispenser is a device used to put a reservoirs of drinking water (called gallon) . So far it is generally only used as a place to take drinking water without any features of automation such as sensors, water meters, automatic valve etc. In fact, nowadays a large corporate that has so many employees with a large number of dispensers requires management of the use of drinking water which requires data such as how much each employee consumes water per day, whether meet with the minimum needs based on health standpoint, if not, should be reminded through a warning on his/her mobile phone, how much is the average amount of drinking water consumed each day (for the purpose of planning monthly), and which dispensers need to be refilled immediately by sending a warning message to the officer, and so on.

In this final project, designed and implemented an automatic water dispenser to achieve some data as needed by the user/officer. The system consits of an RFID transmitter which is affixed at the cup of employee as an unique ID each employe. Each employee also has an application on their mobile phone to choose the amount of water as well as the kind of water as desired (hot, warm, or normal water). Those of data requested by the employee will be transmitted to ESP 32 to control the valve of the dispenser (to open or close) based on measurement result of the amount of water flow meter. ESP 32 also will send the notification when the rest of water in the gallon reach the minimum as predetermined. The associated data transmitted by ESP 32 through the cloud (firebase) to employee"s or officer's mobile phone according to their needed.

The test result of functionallity show the system can function as planned with performance in terms of the accuracy of the water volume (measuring water flow meter) of 98,4%, And the accuracy of water conditions (hot, warm, normal) of 97,1%.

Keywords: Dispensers, RFID, internet of things, selenoid valve, waterflowmeter