

ABSTRACT

Vending machine is an automatic transaction machine where we put our money or coins to get it work and give out the things we want. The coin we used is a special coin which only can be read by the vending machine. We can obtain that special coin by trading it with our money to the machine's operator. Paper money based vending machine work by indentifies incoming materials with its sensors. However, this type of vending machine can only work with a certain value and decent condition of money.

In this final project, a vending machine which work with USSD (*Unstructured Supplementary Service Data*)-based pulse transfer as the payment menthod so that this vending machine can be accessed remotely by the user with more variety prices, is built. This machine has more capacity of newspaper loading than the old generation. Besides, this machine is also equipped with multioperator service so that can be accessed with more than one GSM operator. A PIN security sistem which is installed on this machine provides more security in term of ability o acces the machine. This machine work by message sent by operator as a notification of pulse transfer. The microcontroller then indentifies the value of pulse transferred, user's phone numbers and operator's numbers by reading the message. Furthermore microcontroller will command the actuator to push the newspaper out.

The test results showed a success rate of the system by analyzing the number of successful transactions and the time needed by a user to make transactions until the paper came out.

Kata kunci: *Vending machine, USSD (Unstructured Supplementary Service Data)*.