ABSTRACT

Vending machine is an automatic goods selling device that works when we insert banknotes or coins. Vending machines that use banknotes as payment method work with sensors that identify incoming materials to determine the nominal of the banknotes. However, these tools work on banknotes with certain nominal (usually integers) and in decent condition. So that makes the price of goods sold by vending machine to be more expensive than the original price.

In this final project, the author has created a ticket vending machine which is using cellphone balance applications based on USSD (Unstructured Supplementary Service Data) as a payment method so that the price of the ticket can be more flexible and allow the user to buy ticket remotely. This device is equipped with a multi service provider, that made it available to consumers with different GSM providers and use a PIN security system to acces the device. This vending machine is also designed to connect to the ticket sales server database so it can inform the number of available seat left and integrate with other ticket sales system that existed before either manually or online.

Ticket vending machine that is produced in this final project has an average speed for processing seat available information SMS request as long as 17.2 seconds. Average speed for ticketing process is 23.2 seconds for the IM3 GSM card and 21.2 seconds for Telkomsel GSM card. At the printing of the ticket the average ticket printing speed is 4.15 seconds.

Keywords: Vending machine, USSD (Unstructured Supplementary Service Data), Microcontroller, Database