

09 AUG 20

MEDIVEND: OVER-THE-COUNTER VENDING MACHINE

A Project Study Report

Presented to

the Department of Electronics Engineering Faculty

Central Philippine University

Jaro, Iloilo City, Philippines

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science in Electronics Engineering

By

Joshua Kyle P. Esteba

Elson D. Isidro

Brian Kent J. Jalyone

Hector Jaime A. Ledesma

Third Ed D. Lopez

April 2020



MEDIVEND: OVER-THE-COUNTER VENDING MACHINE

Isidro, Elson; Esteba, Joshua Kyle.; Jaylone, Brian Kent;

Ledesma, Hector Jaime; Lopez, Third Ed

ABSTRACT

This study aims to develop an efficient method of dispensing over-the-counter medicine through the fabrication of a medicine vending machine. The machine has four major components: the user interface, the dispensing mechanism, the changing mechanism, and the cooling system, on which all of them are controlled using the Arduino Mega microcontroller. The machine would respond when the user selects a drug with a prompt on the LCD, which shows the name and type of drug, its price, and asks the quantity the user wants. The machine was tested according to functionality, accuracy, usability, and performance. The functionality test was done to ensure that all the components are working. The performance test was conducted to the cooling system to track if the temperature is near 25°C. The accuracy was conducted to make sure that the device is giving the desired results. The energy consumption was measured to determine how much energy the device uses to determine how much it would cost to run the device per day. The usability test was made through a survey to determine how satisfied people are with the device. Questionnaire for User Interface Satisfaction (QUIS) and Computer System Usability Questionnaire (CSUQ) was used for data collection. Results of the survey conducted mainly with students, showed that majority of responses have positive feedbacks regarding the overall usage of the software and found it easy and very clear on the screen output. This study would integrate existing designs of vending machines to automate purchase transactions and relieve queues inside pharmacies.