**TEAM 4**

Table of Contents

1. Introduction
2. Problem statement
3. Purpose of a project plan
   1. Project plan definition
   2. Scope
   3. Analysis of a Vending Machine
   4. Details for the proposed Vending Machine inputs
   5. Roles and Responsibilities
4. End-user documentation
   1. What’s a vending machine
   2. The purpose of having a vending machine
   3. How to use a vending machine
   4. Steps on how to use a vending machine
   5. Advantages and disadvantages of a vending

Machine

1. Bibliography

**Introduction**

A vending machine is a machine used for its convenience it provides the ability to stock a number of different items, most vending machines are built with the ability to accept money for the items selected. A finite State Machine is a machine that holds all the possible sets/states of information in response to any external occurrence such as a button being pushed.

**Problem Statement**

Electronic machine that is used to disperse a product to a user after a total cost has been put into the machine. Vending machines are regularly used to disperse snack and beverages items. The machine accepts payments with R5, R2, R1, c50, c20, and c10. Cola costs 8.50, orange costs 10.00, sweets cost 12.50 and chocolate costs 15.00. Machine does not give change. Once sufficient money is inserted, the customer informs the machine of the item he/ she would like to purchase. If the user inserted less money machine will not disperse the item requested, and will ask the user to put more money. Then if the buyer has inserted more money the vending machine must calculate the change.

**Purpose of a project plan**

The compiled project plan will namely provide a definition of the project/system being worked on, these documents will include the projects main aim and end goals, in addition the plan will act as an agreement between the Team 4 project members.

**1.1 Project Plan defines the following:**

* Purpose
* Goals & objectives
* Expectations
* Roles and responsivities
* Conceptual design

**1.2 Scope**

This project main goal is to design and create a CLIPS program for an Finite State Machine represented by a vending machine. It plans on improving the delivery of multiple snacks depending on the options given to the user and the choice selection the user makes (e.g. Cola, sweets and chocolates). The user will at first need to insert money equivalent to the price of the items the user wants into the machine both coins and paper will be accepted then a selection needs to be made by the user to decide on the food items they want, in case of an error a *cancel order* option will be available to return the users money and cancel their order.

**1.3 Analysis of a Vending Machine**

* A user gets a list of items available in the vending machine accompanied by the prices of each item
* The user inserts money for the chosen item
* If an incorrect amount is inserted or fake currency is used the vending machine will not accepted it
* When the user selects items that aren’t currently in stock the machine will reject the order.
* A cancel option is inserted when user wants to cancel their order.
* Vending machine system is to be designed using Finite State Machine(FSM).

**1.4 Details for the proposed Vending Machine inputs**

|  |  |
| --- | --- |
| **Input** | **Description** |
| Cola | Select 8.50 for Cola transaction |
| Orange | Select 10.00 for Orange transaction |
| Sweets | Select 12.50 for Sweet transaction |
| Chocolate | Select 15.00 for Sweet transaction |
| Cancel | End process/cancel order |

**1.5 Roles and Responsibilities**

|  |  |
| --- | --- |
| **Team Members** | **Responsibilities** |
| Panashe &  Girtie | Problem Statement |
| NS Langa &  SA Mabaso | Diagrams |
| Sekgola &  Khwelisile | Planning documentation |
| Kevin &  Tshepang | End – User documentation |

**End user Documentation**

1. **What is a vending machine?**

Business Dictionary explains a vending machine as an electronic machine used to disperse a product to a customer after a certain amount of money has been put into a machine. According to my understanding a vending machine is a machine that replaces someone else’s duty or job by selling a product to a customer and it selects a specific product provided from the menu that is required by the user and there after the product is dispensed from the machine.

1. **What is the purpose of having a vending machine?**

There are quite a few reasons why vending machines were invented and one major reason was to make life easy in a way of making it easy to access your comfort products. A few of the reasons was to disperse items like snacks and beverages but it is rear to find drinks that contain alcohol in the vending machines and there some even disperse items like gadgets for instance from your digital cameras to your iPods.

1. **How to use a vending machine?**

The type of vending machine we working with happens to be the modern vending machine that dispense food and selective electronic gadgets as mentioned above, this type of vending machine accepts coins such as **R5, R2, c50, c20 and c10** as form of payments and it does not accept paper money where as others may accept credit or credit cards. Here are the choices of items available in the vending machine menu:

* Cola 8.50
* Orange 10.00
* Sweets 12.50
* Chocolate 15.00

Like I have mentioned in the above statement, the user is obliged to insert money before receiving a product of choice and ***here are ways the user can place a payment.***

* If the user wants ***cola***, they will have to insert **R5, R2 and c50 or** insert **R5, c20, c20,c10, c50, c50, c50,c50,c20, c20, c10,c50**
* If user wants ***Orange*** they must insert **R5, R5 or R5, c20, c20, c10, c20, c20, c10, c50, c50, c50, c50, c50, c50, c50,c50**
* If the user want ***sweets***, they will insert **R5, R5, c50,c50,c50, c50,c50**
* If the user wants ***chocolate***, they will insert **R5, R5, R5 or c50,c50,c50, c50,c50,c50, R5, c50,c50,c50,c50**

**Steps on how to use the Machine**

**Step1:** Make sure the machine is stocked with products it will dispense to the user. The supplier or installer must make sure to fill each display with product and ensure the products **do not** inter-tangle with the vending mechanism

**Step2:** Test if the machine is loaded properly and ready to dispense or select products from the menu provided or ensure it accepts form of payments (coins).

**Step3:** The user should check if they have sufficient amount to money before placing an order.

**Step4:** If the money is sufficient, select a product(s) of choice from given menu and collect

1. **The advantages and disadvantages of vending machine**

Advantages:

* Low in maintenance:
* Different types of vending machines
* Saves time ( Convenient)
* Keeps users alert and satisfied
* Choice of purchase

Disadvantages:

* Fraud
* Vandalism of machine
* High taxation levy
* Faulty Programming (Continuous dispersing a product due to technical errors)

**Bibliography**

Alrehily, A., Fallatah, R. and Thayananthan, V. (2015). Design of Vending Machine using Finite State Machine and Visual Automata Simulator. International Journal of Computer Applications, 115(18), pp.37-42.

Business Dictionary. 2018 .Vending machine. [www.businessdictionary.com/definition/vending-machine.html](http://www.businessdictionary.com/definition/vending-machine.html) Date of access: 19 Apr 2018.