Smart Vending Machine

USER MANUAL

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TOOL DESCRIPTION

This is the prototype of a vending machine that was made for our system.

1.0   GENERAL INFORMATION

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1.1 System Overview

Smart Vending Machine focuses on the refinement of the prevailing vending machines where the machines can be controlled and it will ensure the dispense of desired product requested by the user. Each of the users will have an account and their personal information will be stored. This system will use online banking for the purchasing process unlike the typical vending machine. Furthermore, since this system can control vending machines remotely without involving touch, the risks of various life threatening diseases can be reduced. Admins can use this system to make required changes.

1.2 Organization of the Manual

The user's manual consists of the following sections.

1) General Information
2) System Summary
3) Using of System

2.0   SYSTEM SUMMARY

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2.1 System Configuration

SVM can be used on mobile devices to control the integrated vending machine. The SVM application requires Bluetooth on order to integrate with the vending machine so that the machine can be controlled via the app smoothly. Users' personal information and the details of products of the vending machine is saved in the database.

2.2 User Access

SVM has two groups of users.

1) Customers who are willing to buy from vending machine
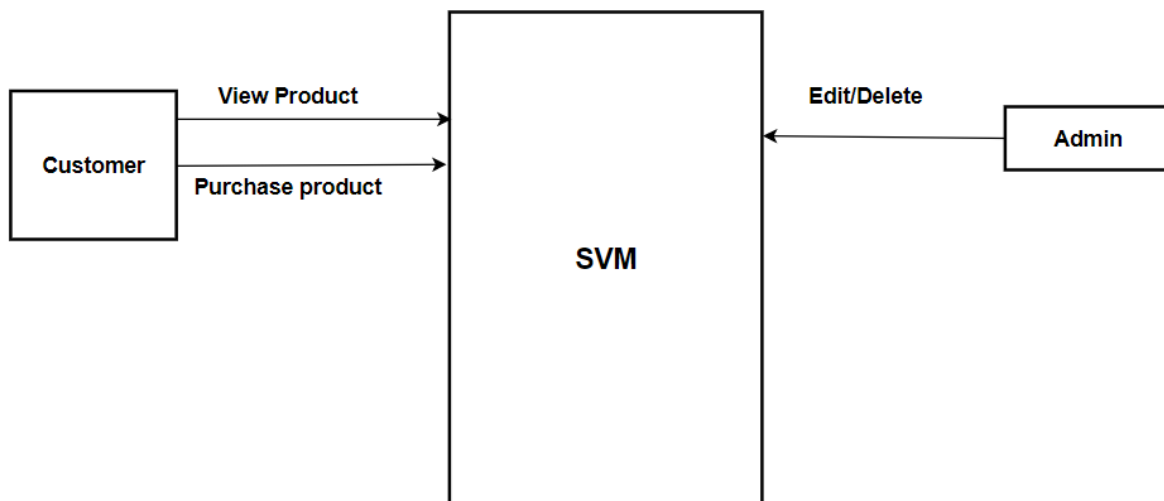2) Administration who will manage the various functions of a vending machine

Fig1 : Users of SVM

3.0   Using of the System

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3.1 Sign Up

Every new user will have to create a new account to use this app. To create an account:

- Provide username, mobile number and password to create an account

- Press the "SignUp" button

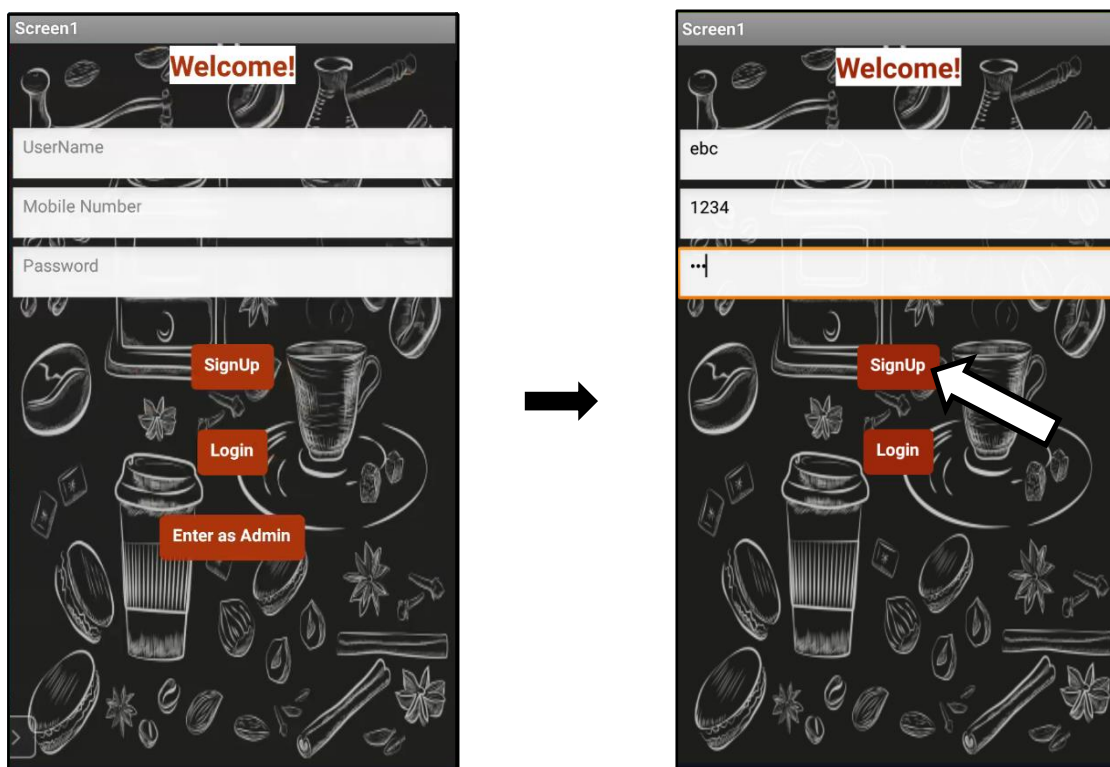If the account is created the user will be redirected to the Log In page.

Fig2 : Navigation for SignUp

3.2 Log In

To login into user's account:

- Enter username, mobile number and password of already created account
- Press "Login" button

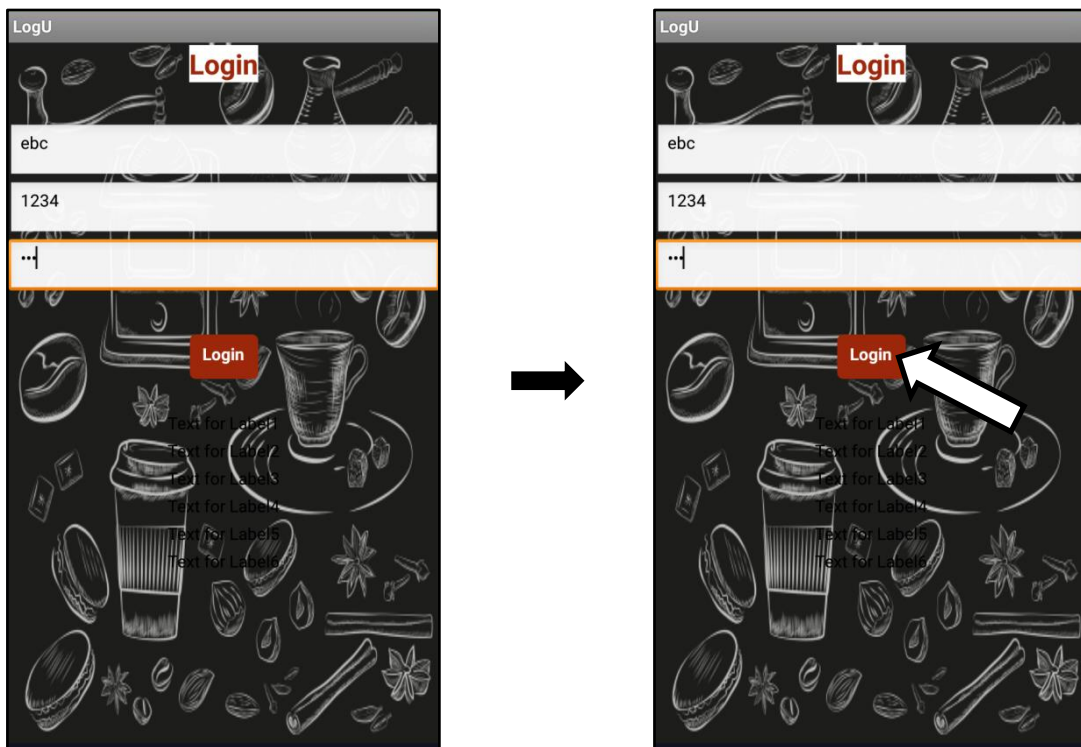On successful login, the user will be redirected to his profile page.

Fig3 : Navigation for Login

3.3 Viewing User Profile

In this user profile page, the information of the user will be displayed. The user can go to the following two pages from this page:

1. If the user wants to recharge his account he will press the "Recharge" button.
2. If the user wants to buy any product, he will press "Buy now" button.

3.3.1 Recharge

If the user pressed "Recharge" button on his profile page, he will be navigated to this page.

To complete the task of recharge:

- Enter the Card number, CVS number(3-digit number on the other side of the card), Name on Card (put it in capital) and the recharge amount
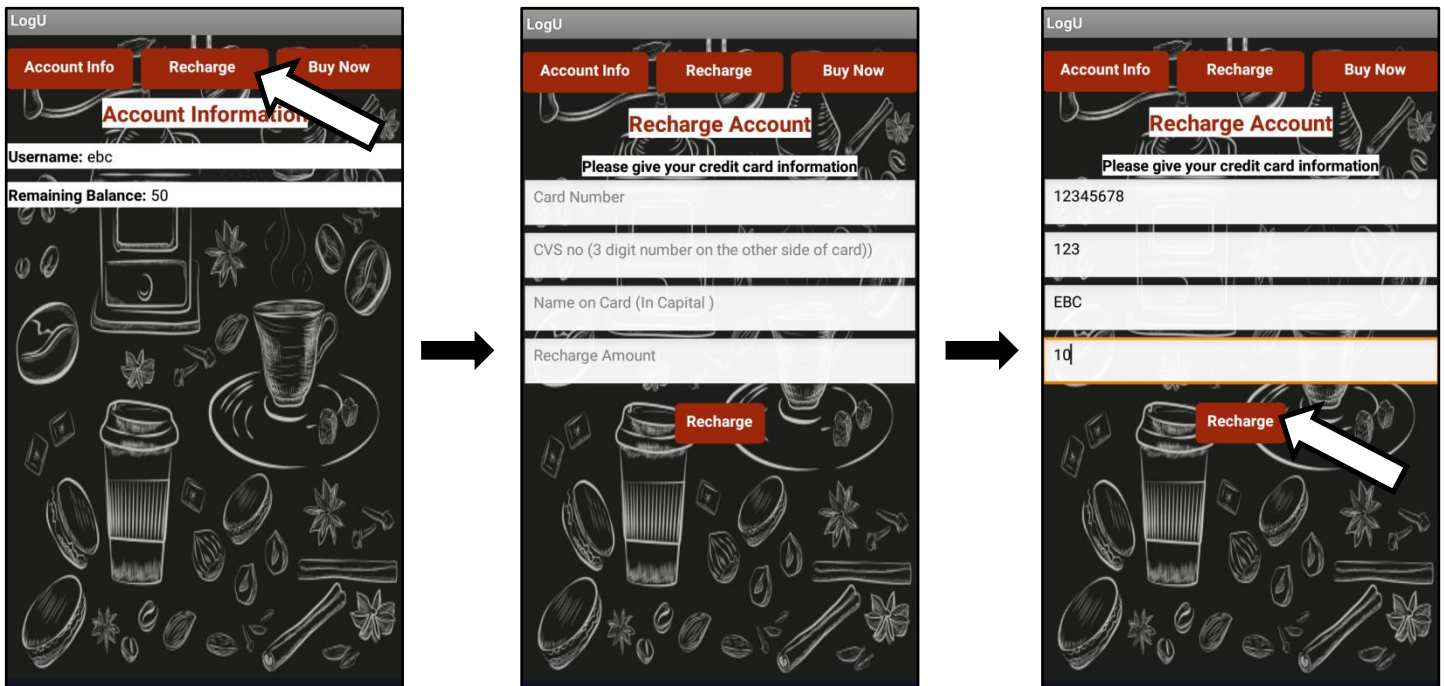- Press "Recharge" button
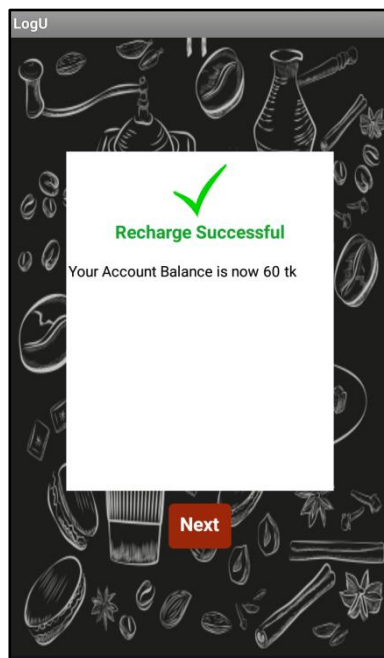
Fig4 : Navigation for recharging the account

Fig5 : The recharge successful message

3.3.2 Buy Now page

If the user pressed "Buy Now" button on his profile page, he will be navigated to this page. The user will now have to connect the smartphone with available vending machine.

3.3.2.1 Connecting to Bluetooth

The app will display a message to turn on the Bluetooth and connect the phone with vending machine. The user must connect his phone to Bluetooth and connect with the HC-05 Bluetooth module of the hardware.

To create the connection:

- Press the "Connect your phone to Vending Machine" button
- From the list of available devices, select HC-05.

If the connection is created successfully the user will be navigated to the available product page.
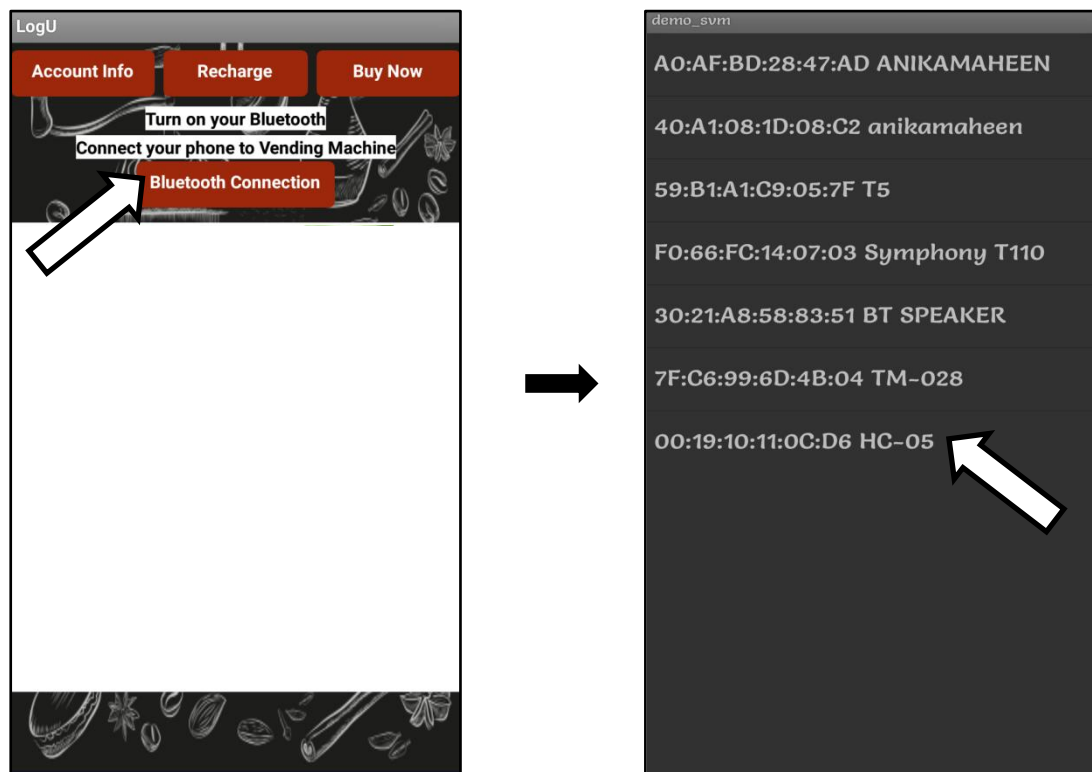

Fig6 : Navigation for connecting with HC-05

3.3.2.2 Choosing and purchasing the product

From the list of available products of the connected vending machine, the user can select his desired product by clicking on the "Buy" button. After clicking that button the purchase will be completed. When the purchase is completed, a message saying "Item Purchase Successful" will be shown and money equivalent to the price of that product will be deducted from his account.
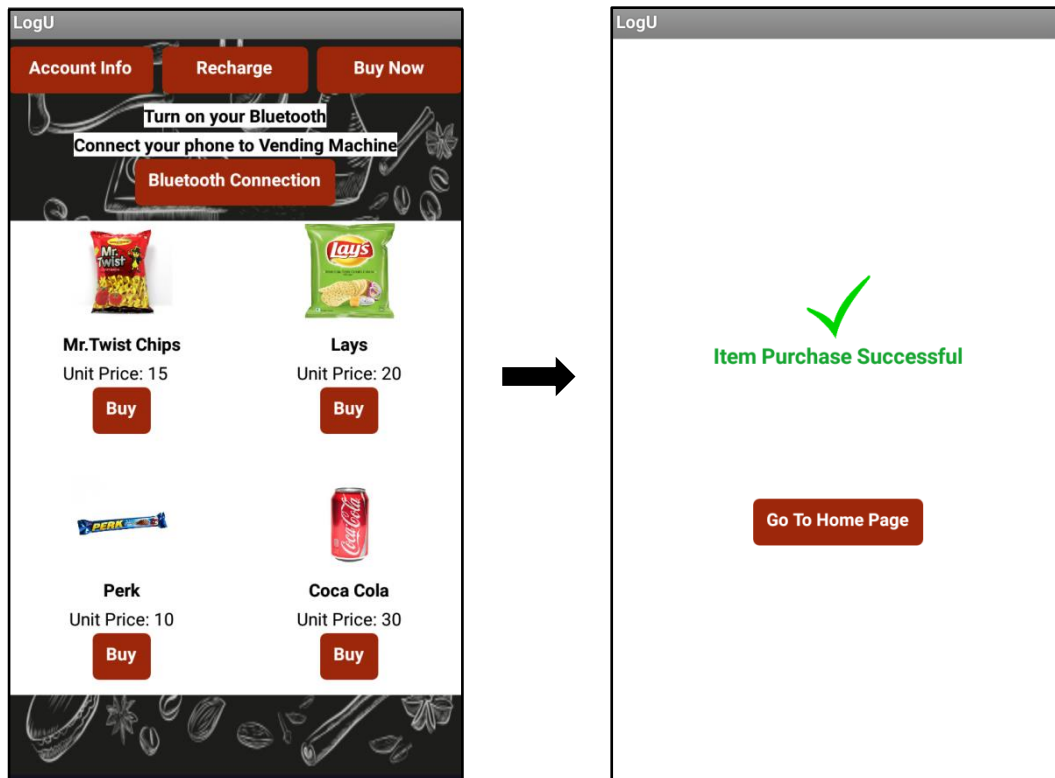
Fig7 : Navigation for purchasing the product

4.0   Risk Management

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There are some risk precautions should be considered.

Risk Id.	Risk Description	Mitigation Plan (what to do to avoid the risk)	Contingency Plan (what to do if the risk occurs)	Impact (what the impact will be to the project if the risk occurs)	Likelihood of occurrence (e.g., high, medium, low)
1.	Malfunction of parts	Prior checking of equipment's	Check equipment's regularly	User will not be able to buy things from the vending machine	medium
2.	Bluetooth Connection loss	Prior checking the wiring of Bluetooth module	The wiring to be fixed correctly	The vending machine will not connect with the user's smartphone	medium