Requirements Documentation for an Electronic Point of Sale System

Development Team

Jeff Adkisson

Product Owner

Emily Mack

Team Manager
Primary Document Writer
Programmer

Mason Sherrill

Lead Programmer

Aly Hussein

Database Manager
Record Keeper
Programmer

Joel Juarez

Programmer
Document Writer

Table of Contents

Requirements

<u>Customer Database</u>

1.1   Customer can create an account to receive benefits or order as an anonymous

     1.1.1   Customer records are added through "Add New Customer" menu

     1.1.2   Accounts consist of First name, Last name, and phone number

     1.1.3   Database must check that the phone number is unique and does not match with any other customers

     1.1.4   All inputs must be filled

     1.1.5   Name must be at least 10 characters

1.2   Customer database keeps track of each customer's rewards points

     1.2.1   By entering a Customer's phone number, the User can view customer information and amount of rewards points available

1.3   Customer will be searchable by phone number

     1.3.1   Employee can search for new customers by using the "Customer List" button and typing a phone number

     1.3.2   The customer list menu will display all the customers sorted by Last name, First,name, then phone number; anonymous customers will always be displayed at the top

1.4   User will access Customer Database or create an anonymous order for every transaction

     1.4.1   A transaction cannot be started unless the customer's account is pulled up or the anonymous user is selected

<u>Payment System</u>

2.1   This system has the capabilities to process payments from credit cards and reward points

     2.1.1   System must validate credit card number and expiration date

     2.1.2   To use rewards, must have as many points as cost of order

     2.1.3   Customers are rewarded 10 points for every $1 system

          2.1.3.1   Points are rounded down to nearest integer

2.2   Anonymous customers will not receive reward points

2.3   A receipt will be printed at the end of each transaction

     2.3.1   Receipt displays drinks (including customizations), prices and quantities,k subtotal, tax, and total.

2.3.2 Receipt displays the last 4 digits of the customer's credit card, or the number of reward points redeemed depending on whether they used card or points

2.3.3 If the customer is anonymous, the reward points won't be displayed

GUI

3.1 The system contains the full menu for all the drinks for the store and different customizations

3.2 Managers and employees can only use the system

    3.2.1 Managers are the only ones who can download and print out CSV files which are under the "manager tools"

3.3 When adding drinks to an order the customer can customize the drinks while the employee chooses these customizations through buttons on the screen.

    3.3.1 Customizations to drinks will affect the price

3.4 In the "order drink" screen, there will be two panes:

    3.4.1 On the left side, "drink creator", this will display all the menu items and different customizations

    3.4.2 On the right side, "drinks added to the order", this will display the drinks ordered, subtotal, tax, and total

3.5 Once at least one order has been made, activate the button to go to Payment screen, there must be at least one

Handling Orders

4.1 The user can select drink(s) from a menu from the left side of the screen and the application will be able to keep track of drinks.

    4.1.1 The user will be able to customize the drink(s). If modifications are made, they will be displayed and kept track of for pricing purposes.

4.2 Anytime a user cancels on the Order Drink screen the entire order will be canceled.

Nonfunctional Requirements

5.1 The application will run exclusively on systems that can support Microsoft Forms.

5.2 Credit card information will not be stored in the database

Requirements Priority Table

Requirements	Priority (1-5, 5 being highest priority)
1.1	5
1.1.1	3
1.1.2	3
1.1.3	3
1.1.4	3
1.1.5	3
1.2	5
1.2.1	4
1.3	5
1.3.1	4
1.3.2	4
1.4	5
1.4.1	5
2.1	5
2.1.1	5
2.1.2	5
2.1.3	5
2.2	5
2.3	5
2.3.1	4
2.3.2	4
2.3.3	3

3.1	5
3.2	3
3.2.1	2
3.3	5
3.3.1	5
3.4	5
3.4.1	4
3.4.2	4
3.5	5
4.1	4
4.1.1	4
4.2	4
5.1	5
5.2	5

Use Case Diagram
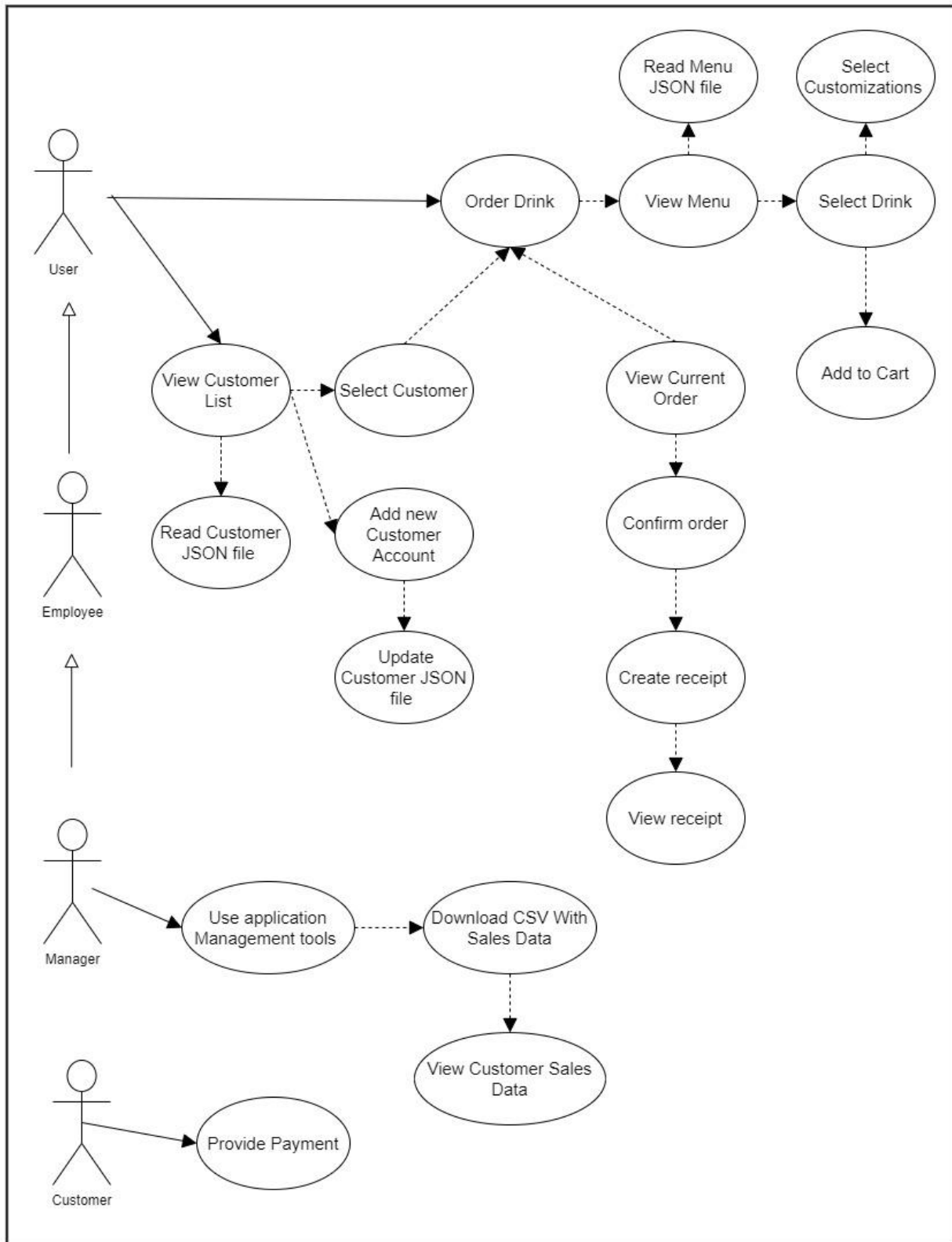
Use Case Flow of Events

I. <u>**Drink from Anonymous Case**</u>

   A. **Precondition**: Customer will be anonymous.
   B. When a customer is anonymous (not a member) or does not wish to earn reward points, the application goes directly to the Order Drink Screen (Case 4

II. <u>**Drink from Customer Case**</u>

   A. **Preconditions**: In order to advance in this screen and earn points, the customer **must** have an account, or make one (Case 3) before advancing to the Order Drink screen (Case 4).
   B. Upon choosing the Customer List Screen, the application will display a list of customers sorted in the following way: Last Name, First Name, Phone Number. "Anonymous" will always be on top.
      1. The user will have the choice to choose anonymous from here as well which leads to the Order Drink screen. (Case 4).
      2. The customer will be identified by their phone number, and once selected, the application will lead to the Order Drink screen (Case 4).
   C. If the customer is not found, there will be feedback.
   D. The user also has the option of choosing a button which leads to the Add Customer screen from the Customer List (Case 3)
   E. If the customer wishes to cancel, the application will return to the Main Menu.

III. <u>**Adding Customer to Database Case**</u>

   A. **Preconditions:** No customer may be in the database twice, each one must be unique based on the phone number.
   B. Upon choosing the "Add Customer" button in the Customer List screen, the Add Customer screen will open.
      1. In order to advance and actually add a new member, the user must enter **all** of the customer information required. This includes First Name, Last Name, and Phone Number.
      2. When every required field is satisfied and the uniqueness of the phone number is confirmed, the application will advance directly to the Order Drink screen (Case 4).

C. If there is an error adding the customer to the database, the application will display an error message and allow the user to try again.

D. If the customer wishes to cancel, the application will return to the Main Menu.

IV. Ordering Drink Case

A. **Preconditions:** If the application is coming directly from the Main Menu screen or "Anonymous" is chosen in the Customer List screen, the customer is not a member and will earn **no** reward points. The customer should also be able to order multiple drinks at one time.

B. On the left pane: when the Order Drink menu opens, it will display all the current menu items.

   1. The customer may customize their drinks, adding any of the special available modifications to the drink. The modifications will affect the total.

   2. Once complete, the application will allow the user to add the drink to the order as well as create another drink under the same order, repeating this process again.

C. On the right pane: Displays all drinks added to the order. This will initially be empty until the user finishes and adds the first drink to the order.

   1. Each drink will include a list of the special modifications (if any) made to the order and their respective prices.

   2. All drinks and modifications for each drink will be added to the customer Subtotal. The Tax is then calculated and added to the Total.

   3. In order to advance to Payment (Case 5) and finalize an order, there must be at least **one** item in the order. If there is not, then the application will not allow the user to continue.

D. If the customer wishes to cancel the order at this point, the application will return to the Main Menu.

V. Payment Case

A. **Preconditions**: There must be at least one drink in the order. We must know if the customer is a member or anonymous.

B. If the customer is anonymous the following must be done in order to purchase the order:

   1. The customer may **only** pay with a credit card and will earn no reward points for their purchase.

2. The credit card will be validated with the number, and expiration date.
3. If the card is invalid, the user will be notified and the program will not continue to the receipt screen until purchase is successful.
4. The last four digits of the card must be kept for receipt information.

C. If the customer is a member they may have two options:
1. The customer may choose to pay with either a credit card, or reward points **only if** they have sufficient points for the entire order
2. Card Payment:
   a) The credit card will be validated with the number, and expiration date.
   b) If the card is invalid, the user will be notified and the program will not continue to the receipt screen until purchase is successful.
   c) The last four digits of the card must be kept for receipt information.
   d) The customer will earn 10 points for every $1 spent and the number will be rounded down for any fractional amount.
   e) If successful, the customer's reward points will be readjusted accordingly, in this case points are added in.
3. Reward Point Payment:
   a) The customer must have enough points to cover the entire order, otherwise the user will be unable to advance to the receipt screen..
   b) The customer will **not** earn any points when they pay with points.
   c) If successful, reward points will be readjusted accordingly; here points are removed.

D. Once everything is satisfied, the application will allow the user to advance to the Receipt screen (Case 6).
E. If the customer wishes to cancel, the application will return to the Main Menu

VI. <u>Receipt</u>

A. **Preconditions:** Payment must be successful in order to reach this screen.
B. This will be the final screen reached once everything else is complete.

C. This screen will show all important information pertaining to the customer's order.
D. Displays any remaining reward points only if the customer is a member.

Anonymous customers do not get this.

    E. Once finished, the user can return to the main menu screen.

VII. <u>Generation of CSV Case</u>

    A. Accessed through the main menu "Management" button, once it is chosen it will give a manager the option to generate a CSV sales report.

        1. CSV of sales will be generated and opened with Microsoft Excel

    B. If the customer wishes to cancel, the application will return to the Main Menu.

Decision Tables

Conditions	Customer Info		
Existing Customer	F	F	T
Add to Customer List	T	F	
Actions			
Create customer profile	X		
Open existing profile			X
Select Anonymous		X	
Take Order	X	X	X

This decision table determines what actions are performed for a customer based on whether or not they are an existing customer and whether or not they would like to remain anonymous.

Conditions	Customer Payment Info		
Customer Profile	T	T	F / Anonymous
Using Points	F	T	
Actions			
Calculate Price	X	X	X
Calculate Tax	X	X	X
Use Points		X	
Collect Card	X		X
Award Points	X		
Print Receipt	X	X	X

This decision table determines what actions are performed for when collecting payments for services based on whether or not they have a profile and whether or not they would like to use their points.