

# Mom & Pop's

**Section:** 02

**Team:** Boba Tea

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# Requirements Definition:

## Functional Requirements:

1. Customers should be able to login with username and password
  - 1.1. Prompt user with a text box for their username (phone number)
    - 1.1.1. Only a 10 digit phone number is valid and all else will be rejected
  - 1.2. When successfully entering their phone number, prompt a new text box for their password
    - 1.2.1. Allow login if there is a matching customer record
  - 1.3. If login is successful, display success and redirect the user to the home page
  - 1.4. Error Message
    - 1.4.1. If username wrong
    - 1.4.2. Error message if password is wrong
2. Users should be able to reset their password if forgotten
  - 2.1. Prompt user for email or phone number in a single text field
    - 2.1.1. Check database for matching record and send a 6-digit code if found
  - 2.2. Ask for 6-digit code with a set of 6 small text boxes that allow only a single number
    - 2.2.1. If successful, then show two text fields for a new password and a confirmation
    - 2.2.2. Send an email stating the user's password was reset
  - 2.3. Error Message
    - 2.3.1. If user record does not exist
    - 2.3.2. If the 6-digit code is not correct
    - 2.3.3. If the new password does not follow password rules
3. New Customers should be able to create a new account with phone number, password, and email address
  - 3.1. Text field for username will pop up first
  - 3.2. If username is valid, prompt user with another text field for their password
  - 3.3. After successful password, then display a form with multiple text fields for name, email, and address
  - 3.4. Error Message
    - 3.4.1. If email format is invalid
    - 3.4.2. If Phone number format is invalid
    - 3.4.3. If password doesn't meet password rules
    - 3.4.4. If Address isn't in a valid format
4. Employees should be able to login with their employee username and password
  - 4.1. Two text fields prompting for username and password
  - 4.2. Send MFA if employee record exists and password is correct

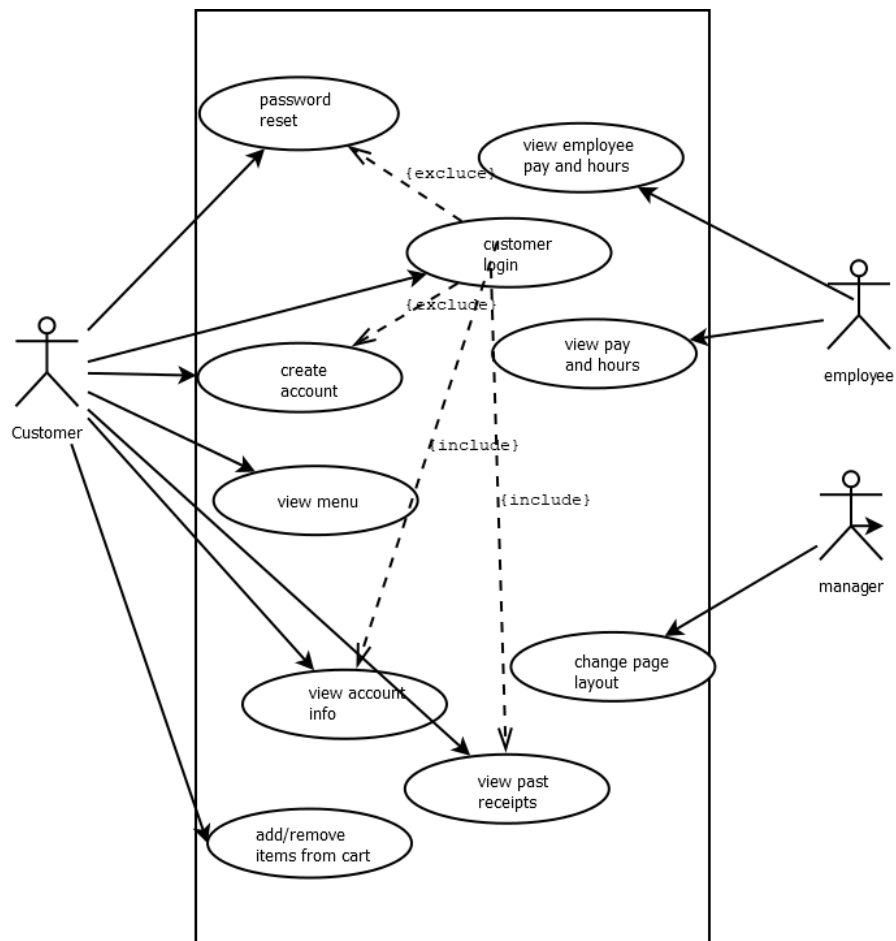
- 4.3. Allow login post successful MFA check
- 4.4. Error Messages
  - 4.4.1. If MFA fails
  - 4.4.2. If employee username is not found in the database
  - 4.4.3. If employee password doesn't match
- 5. Customers should be able to view menu item
  - 5.1. Display menu items for user to select from
  - 5.2. Show additional options for user when they have health preferences or allergies
  - 5.3. Customer should be able to look at the nutritional value of the item
  - 5.4. Customer should also view the price of the product and any discounts added onto the item
- 6. Customers should be able to edit items in their carts
  - 6.1. Customer should be able to add an item to their cart
  - 6.2. Customer should be able to remove an item from their cart
- 7. Customers should be able to view their account information
  - 7.1. Customers should be able to edit their account information
  - 7.2. Show additional options for user when the user prompts it to
- 8. Customers should be able to create and view orders
  - 8.1. Customers should be able make extra changes and requests to their orders
  - 8.2. The price should calculate when a new item is added to the order
- 9. Customers should be able to view their past receipts
  - 9.1. Customers should be able to view their history including payment, order information
  - 9.2. Customers should be able to reorder past orders
- 10. Manager should be able to change all page layouts and elements
  - 10.1. Managers should be able to view profits and history

## Non-Functional Requirements

1. Security
  - 1.1 phone numbers and emails should be stored in a protective area inaccessible to the wider public.
  - 1.2 Only after providing the correct email to the account and the correct code is inputting should the user be allowed to recover their password.
  - 1.3 only managers should be able to have access to change the site
2. Capability
  - 2.1. The software should be a minimal as possible aside
  - 2.2. The manager's access should be slightly more complex
3. Compatibility
  - 3.1. The software should be able to run on minimal hardware
  - 3.2. The website should be easily accessible on mobile devices and easy to order from.
4. Reliability and availability
  - 4.1. System should be available during store hours
  - 4.2. Software should still be accessible through off hours but the user cannot make any orders
5. Manageability
  - 5.1. The manager should be able to make easy fixes to the system and change layouts
  - 5.2. The program should be minimal to allow easy fixing due to the low budget of the client
6. Scalability
  - 6.1. The program should be eventually be able to support multiple stores
  - 6.2. Program should also be able to maintain high traffic at once
7. Usability
  - 7.1. Customers should have an easy time accessing the order menu and ordering
  - 7.2. All links are easy to find
  - 7.3. Employees and managers have their own directive but once they reach it it'll be easy to access their specific options

# Requirements Specification:

## Use Case Diagram:



## Use Case Flow of Events:

### Use Case 1 (Register/Login) :

Use Case 1 (Register/Login):

Primary actor

Preconditions

Basic flow

Exception flow:

Postconditions

Customer

Customer already has an account

1. Customer is prompted to log in or sign up for an account.
2. The system shows buttons to log in or sign up, with text boxes to enter credentials
3. Customer enters username and password
4. System verifies credentials, logs user in

2a. If the user forgets their password, they can reset their password

Customer gains access to all account features

### Use Case 2 (Create Account) :

Use Case 2 Create Account:

Primary actor

Preconditions

Basic flow

Exception flow:

Postconditions

Customer

Customer does not have an account

1. Customer opts to create an account
2. The system shows a registration form
3. Customer enters username/email and password
4. System verifies credentials, stores new account information
5. Confirmation message is displayed and sent to the user's email

2a. If required information is missing, the system will prompt the user to enter all required information

4a. If the email already exists, an error message appears

A new account is created for the customer

### Use Case 3 (View menu) :

Use Case 3 (View menu):

Primary actor

Preconditions

Basic flow

Customer

Customer is logged in

1. Customer selects the view menu button
2. The system shows available menu items
3. Menu items present prices, the name of the item, and category (pizza, wings, dessert)

Exception flow:

2a. If menu cannot be displayed, an error message is shown

Postconditions

Customers can view menu items and do selections from menu

### Use Case 4(Add/Remove items from cart) :

Use Case 4 (Add/Remove items from cart):

Primary actor

Preconditions

Basic flow

Customer

Customer accessed the menu

1. Customer adds items to their cart
2. System updates cart and calculates the total price
3. Customer may remove items from the cart
4. System updates the cart after each change

Exception flow:

1a. If an item is not available, the system displays a message to the user preventing them from adding it to the cart.

Postconditions

Customer's cart is updated with the correct items and the total cost.

### Use Case 5 (View account info/past receipts) :

Use Case 5 (View account info/past receipts):

Primary actor

Preconditions

Basic flow

Customer

Customer is logged in

1. Customer opts to view their account information



2. The system presents the user's saved information (password, email, address, username, etc.)
3. Customer opts to view receipts of past orders
4. System retrieves and presents the user's past order receipts.

Exception flow:

4a. If the user has no previous orders, the system presents a message stating "No previous orders."

Postconditions

Customer reviews account details and their history of purchases

## Use Case 6 (Employee) :

Use Case 6 (Employee):

Primary actor

Preconditions

Basic flow

Employee

Employee is logged in

1. Employees choose to view their pay and hours
2. System retrieves the employee's payroll and their schedule
3. Employee payroll and schedule are presented

Exception flow:

2a. If payroll information is missing, an error message is shown

2b. If schedule information is missing, an error message is shown

Postconditions

Employee is able view their pay and work hours

## Use Case 7 (Change page layout) :

Use Case 7 (Change Page Layout):

Primary actor

Preconditions

Manager

Manager is logged in

Basic flow

1. The manager selects the “Change Page Layout” feature
2. System loads customization options
3. Manager edits layout pages
4. The system confirms changes

Exception flow:

3a. If an invalid layout is selected, the system returns to the previous layout.

Postconditions

Page layout is updated in the system.

## Use Case 8(Resetting password) :

Use Case 8 (Resetting password):

Primary actor

Customer

Preconditions

Customer fails to log in

Basic flow

1. Customer selects “forgot password” feature
2. System prompts for the customer’s email
3. Customer enters their registered email
4. System sends a password reset link to the customer’s email
5. Customer resets password and logs in

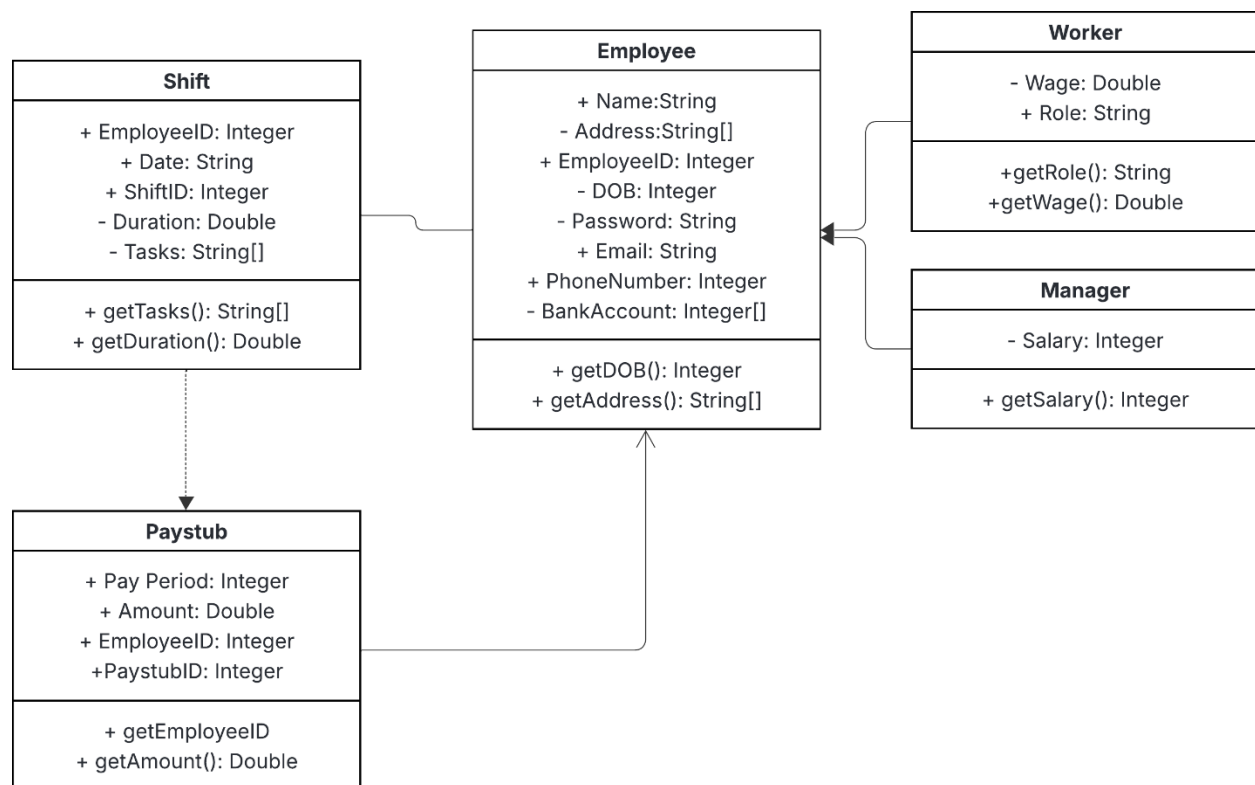
Exception flow:

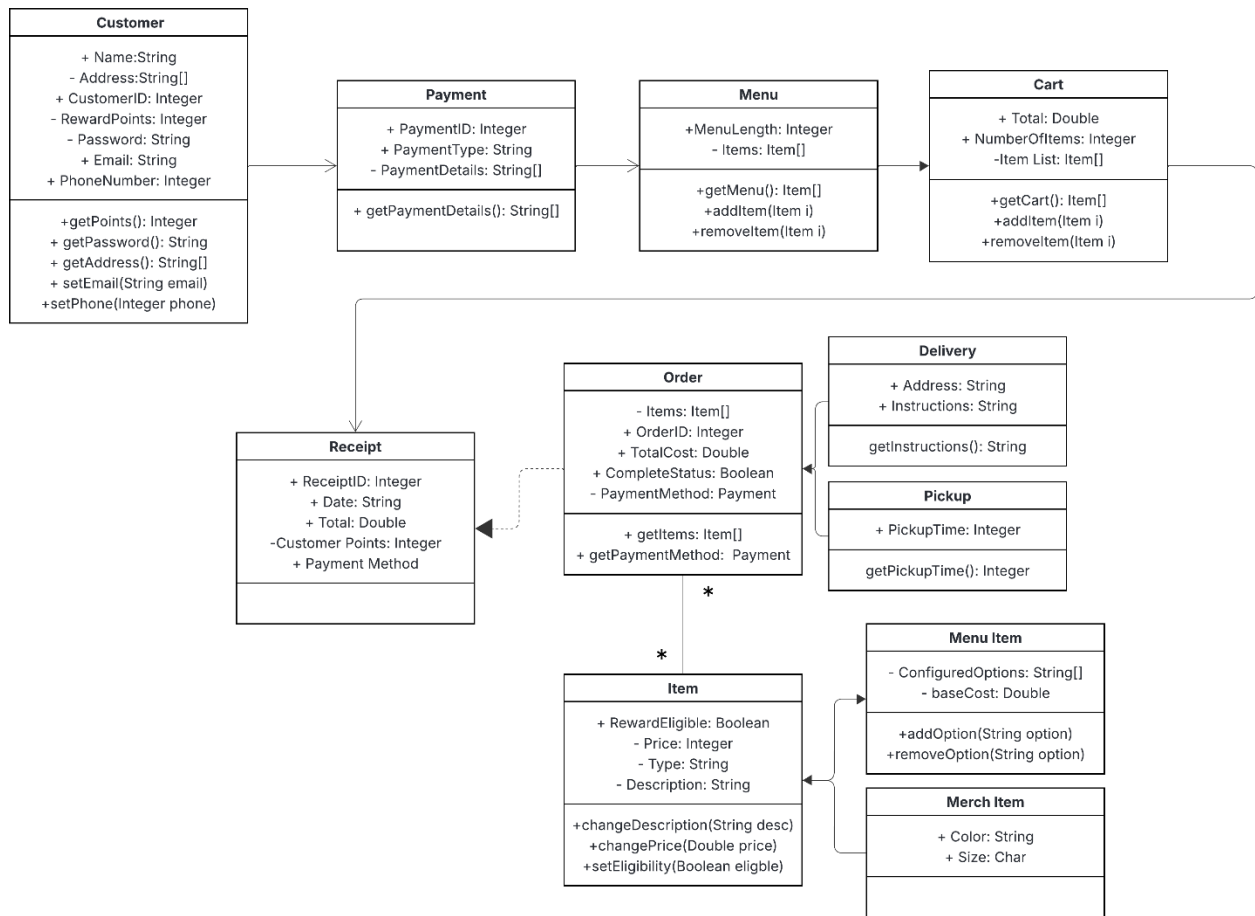
3a. If the email is not recognized, the system displays an error message

Postconditions

Password is updated, the customer can successfully log back in

## Class Diagram:





## Class Documentation:

Classes:

Customer: Stores all the data relating to the customer's account including their personal information, and account history.

Employee: Superclass of all of those who work within the company.

Manager: Subclass of employee that stores all the manager privileges and exclusive information.

Worker: Subclass of employee that stores all the employee's information and exclusive information.

Inventory: Class that stores all the information relating to the current inventory.

Menu: Class that offers all the information relating to the menu.

Item: Superclass relating to each item that could be contained.

Menu Item: Subclass of item relating to every item on the menu.

Cart: Stores all the items a customer buys.

Receipt: Class that stores each receipt the customer gets after an order.

Paystub: Class that employees can access to see their paycheck.

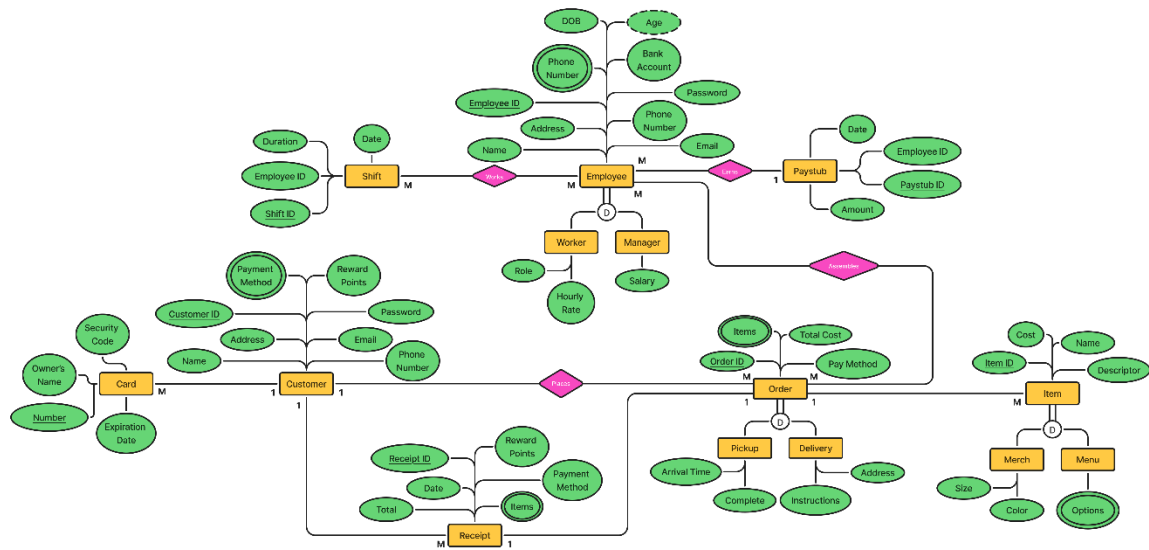
Shift: Class that contains all information relating to

Order: Contains all order information needed to make and create an order.

Delivery: Subclass of order that contains the delivery information.

Pickup: Subclass of order that contains the pickup time and information.

## ER Diagram:



Link for clarity: <https://www.figma.com/board/dDxIfTBFuSulgCPodYoOiE/Mom---Pop-s-ERD?node-id=0-1&t=1lJxvWZCtwkSgXf-1>

### Decision Table Diagram:

Causes				
Phone number entered	T	T	T	T
Phone number valid	T	T	T	F
Customer record exists in the database	T	T	F	F
Password matches record	T	F	F	F
Affects				

Display success	T			
Prompt for password				T
"Invalid phone number"			T	
"Incorrect password"		T		

Causes				
User enters phone number or email	T	T	T	T

Exists in database	T	F	T	T
6-digit code is sent	T	F	F	T
6-digit code is entered	T	F	F	T
Code matches	T	F	F	T
New password is entered	T	F	F	T
New password is accepted	T	F	F	F
Affects				

Password is reset and sends confirmation email	T			
"Invalid user"		T		
Offers to resend code			T	
"Invalid password"				T

Cause					
Phone number entered	T	T	T	T	T



Phone number valid	T	F	T	T	T
Password entered	T	F	T	T	T
Password meets the rules	T	F	F	T	T
Valid email entered	T	F	F	F	T
Valid address format	T	F	F	F	F
Affects					

"Account successful"	T				
"Invalid number"		T			
"Invalid password"			T		
"Invalid email"				T	
"Invalid address"					T

Causes				
Employee user name exists in database	T	T	T	T
Password matches record	T	F	T	T
MFA sent	T	F	F	T
MFA verified	T	F	F	F
Affects				

"Username not found"	T			
"Password not found"		T		
Sends MFA			T	
"MFA failure"				T

Causes				
User logged in	T	T	T	T
health preferences and allergies specified	F	T	-	T

Item selected	F	T	T	F
Affects				

Display menu items	T			
Display nutritional information		T		
Display item price and discount			-	
Display filtered items				T

Cause		
User logged in	T	T
User history exists	F	T
affects	Show user history	Shows new order, current order, past receipts

Show user history	T	
Show new order, current order, past receipts		T

Cause	
If user role = manager	T
Access to page layout	
Affects	View layout, change, edit, or save layout

View layout, change, edit, or save	T
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## Appendix:

Natalie

Minutes In Person:	Minutes In Virtual Meets:	Time Spent on Task:	Task:	Date:
	100	100	set of the scope of the project	9/15/2025
75		75	IN CLASS Discussion	9/4/2025
75		75	IN CLASS Discussion	9/11/2025
	200	200	Technical Description + Document finalization	9/20/2025
75		75	IN CLASS Discussion	9/21/2025
75		75	IN CLASS Discussion	9/23/2025
	240	240	Project Requirements	9/24/2025
	270	270	Project Requirements	9/25/2025

Chris

Minutes In Person:	Minutes In Virtual Meets:	Time Spent on Task:	Task:	Date:
75			IN CLASS Discussion	9/4/2025
75			IN CLASS Discussion	9/11/2025
240			Technical Description + Document finalization	9/20/2025
75			IN CLASS Discussion	9/21/2025
75			IN CLASS Discussion	9/23/2025
270			Project Requirements	9/24/2025
300			Project Requirements	9/25/2025

Vincent

Minutes In Person:	Minutes In Virtual Meets:	Time Spent on Task:	Task:	Date:
75		75	IN CLASS Discussion	9/4/2025
75		75	IN CLASS Discussion	9/11/2025
	115	115	Planning Document Scope and Resume Sections	9/15/2025
	30	30	Add detail to scope	9/16/2025
	65	65	Further changes to scope and document formatting	9/18/2025
	48	48	Scope reformatting and final additions	9/19/2025
	30	30	Data management plan	9/19/2025
	200	200	Data management plan	9/19/2025
	240	240	Technical Description + Document finalization	9/20/2025
75		75	IN CLASS Discussion	9/21/2025
75		75	IN CLASS Discussion	9/23/2025
	239	239	Project Requirements	9/24/2025
	270	270	Project Requirements	9/25/2025

Brice did not work on this aspect of the project, nor did he have any contact with us. We do not believe he is taking part in the project anymore.