
Online Restaurant Order and Delivery System for Web Application

DESIGN REPORT

April 21, 2017

92/100

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I. INTRODUCTION

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A. PURPOSE

1. The purpose of this Design Report is to present the data structure and logic of the functionalities described in the SRS (Software Requirements Specification) for the Online Restaurant Order and Delivery System for Web Application. This document will assist with the implementation of this software.

B. SCOPE

1. This software system we are going to develop, is an online restaurant order and delivery system to connect restaurants and customers to a central location. Customers will be able to order food from a menu, have it delivered to them, and rate the food and service. The restaurant is able to decide the food selection of the menu, make deliveries, manage customer accounts, and manage employees. Visitors to the restaurant, denoted as surfers, will be able to view the menu and its ratings, and decide if they want to apply to become customers. This online restaurant order and delivery order system consists of three groups of users: restaurant, customers, and surfers.

C. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

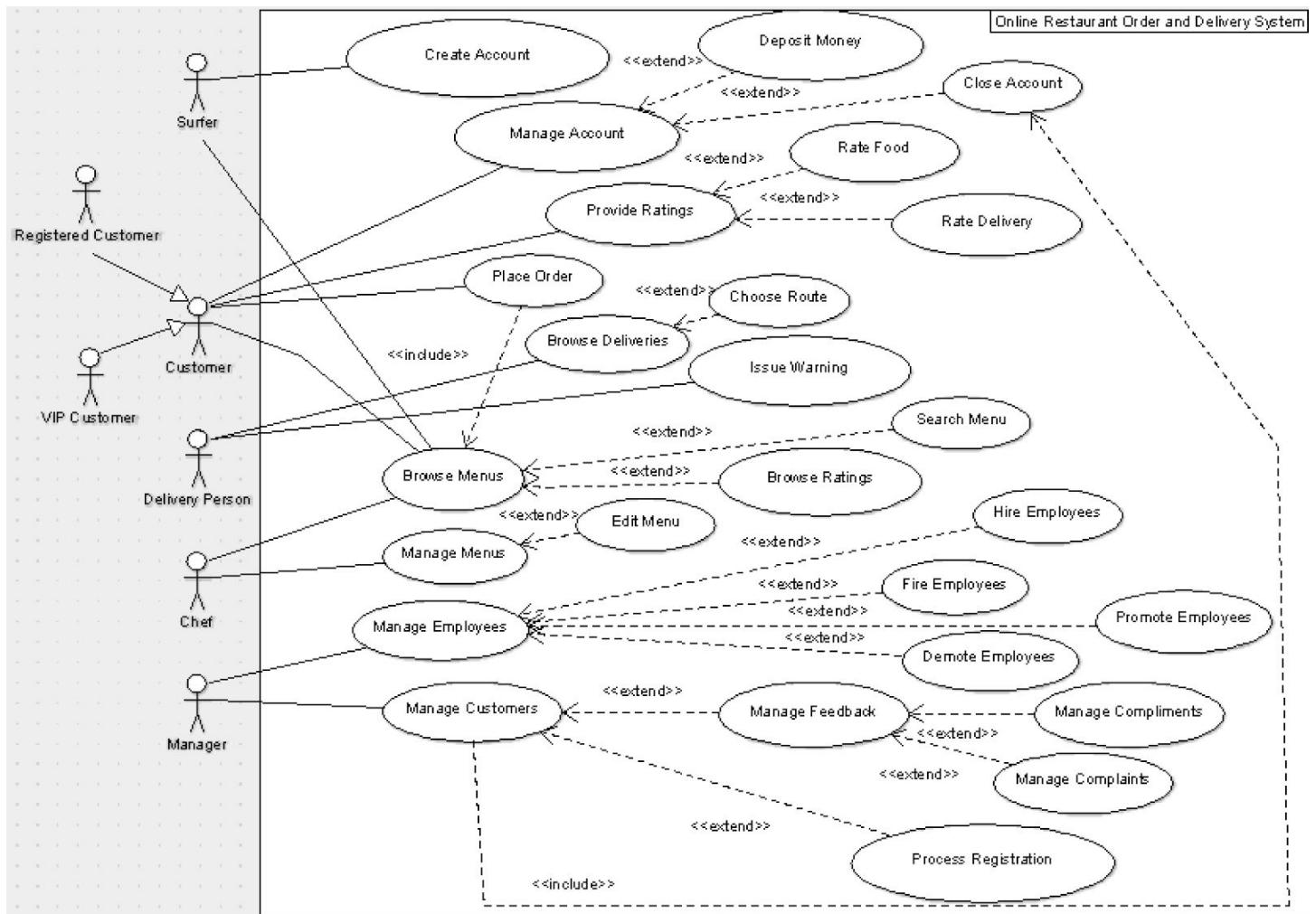
Terms	Definition
Restaurant Users	These are the restaurant employees and have a higher level of access compared to the other users in order to manage the content of the system and receive privileged information. There are three types of restaurant users, chef, manager, and delivery person.
Chef	A type of restaurant user who determines what is on the menu.
Manager	A type of restaurant user who manages customer accounts, and manages the chef and delivery person.
Delivery Person	A type of restaurant user who determines which route to take when delivering food to the customer.
Customer Users	These are customers to the restaurant and have an account with the restaurant. These users are able to search the menu, make orders, and rate the quality of the food and delivery. There are two types of customer

	users, registered customer and VIP customers.
Registered Customer	A type of customer user who has a standard account with the restaurant.
VIP Customer	A type of customer user who has a premium account with the restaurant which comes with special perks.
Surfer	These are visitors to the restaurant with only the privilege to view the menu and associated ratings. They are eligible to apply to become a registered customer.

II. USE CASES

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A. OVERALL USE CASE DIAGRAM



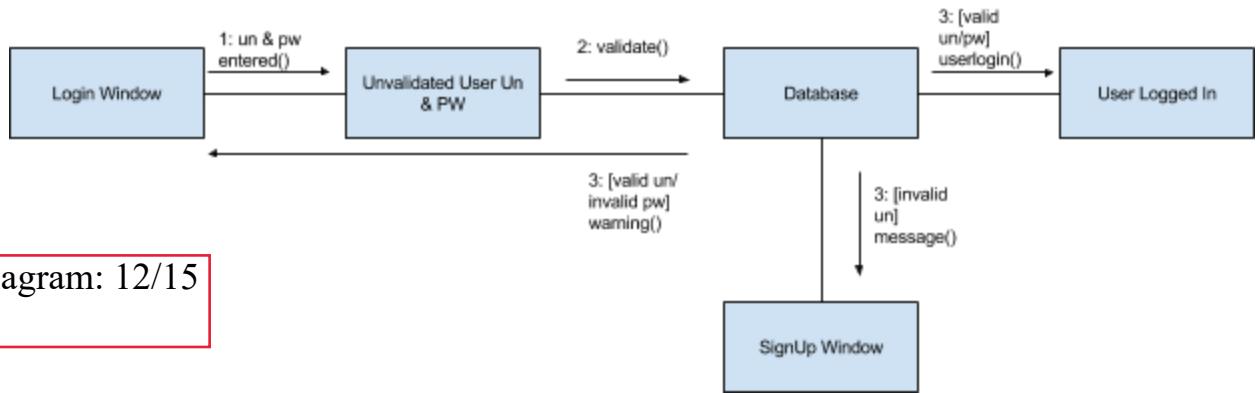
B. SIGN IN

1. Description

- All users other than Surfers are required to login in order to perform their specific given tasks.

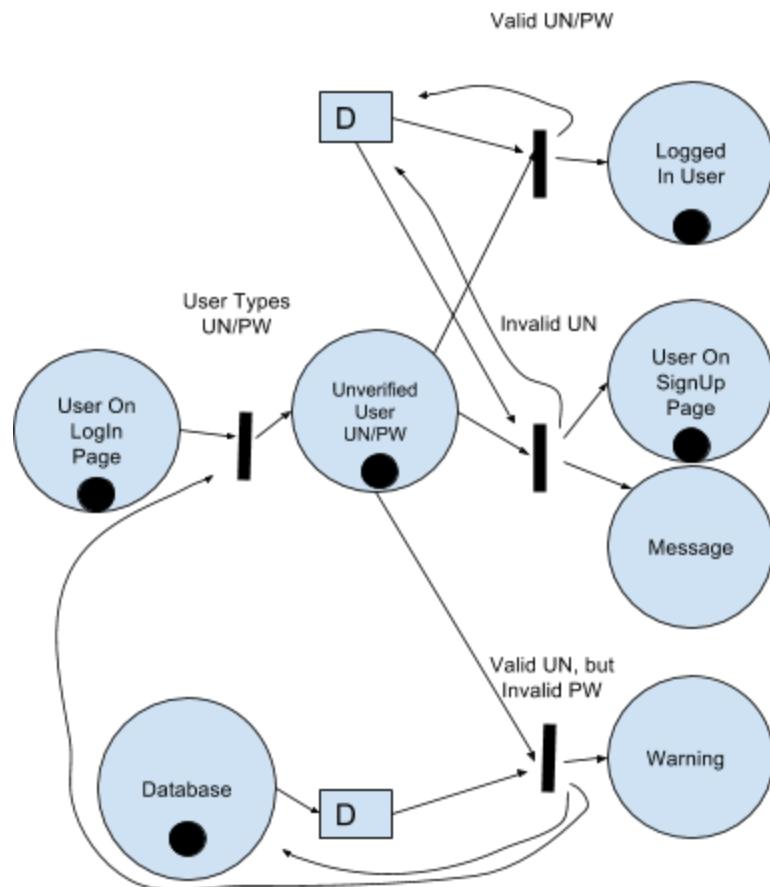
When the user enters the username and password, the system checks to see if the username is in the system. If it is not then they are sent to the SignUp page with a message indicating that we could not find their username. If the login credentials do exist, then the respective password is verified. If the password is incorrect, then they are sent to the LogIn screen indicating that the password is incorrect. If the password is correct, then the user is logged in.

2. Collaboration Diagram



Collaboration diagram: 12/15
Petrinet: 14/15

3. Petri-Net



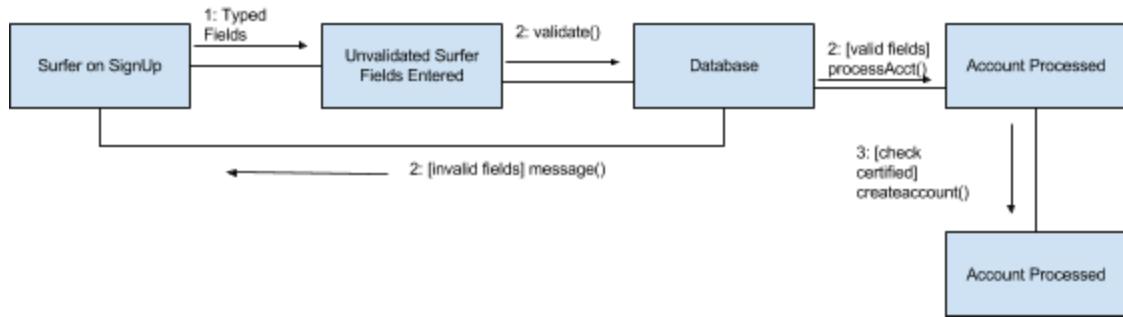
C. CREATE ACCOUNT

1. Description

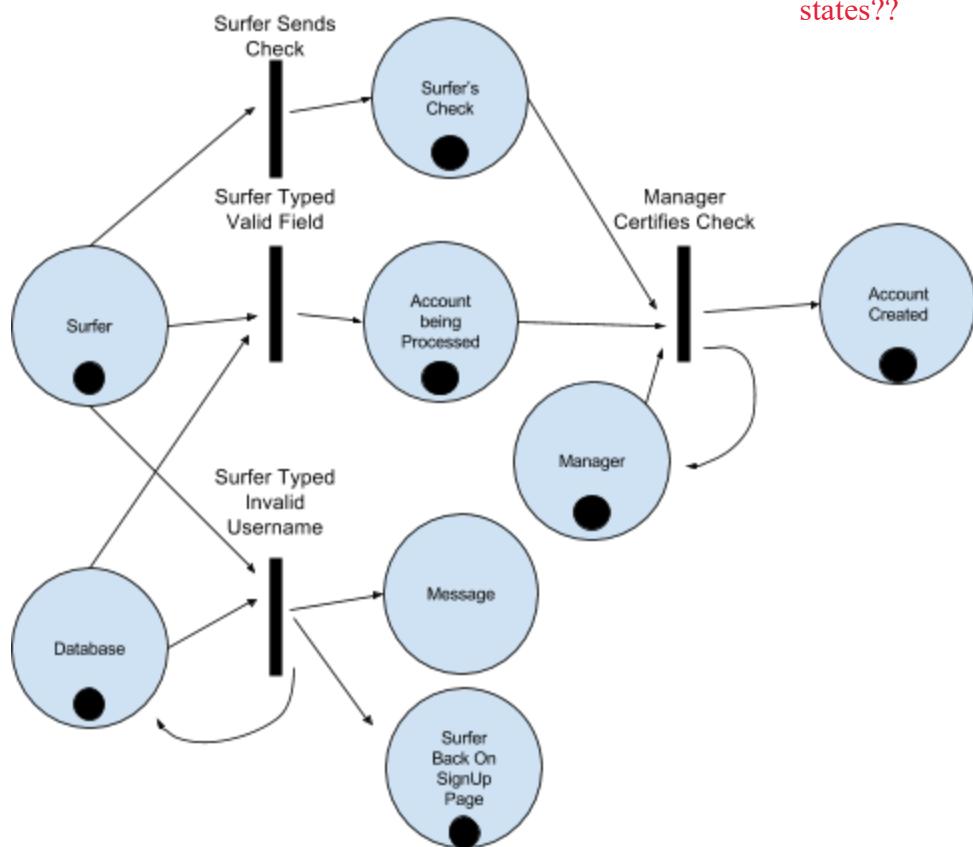
- Surfers are able to create an account to become a registered customer if they want to place orders and have other capabilities that customers have. Surfers will need to include vital information about themselves and indicate an initial deposit which they will send via check to the restaurant's address. If the username the surfer wants is already created, then they will have to choose another

username. The manager needs to certify that the check has been received before the account is fully created.

2. Collaboration Diagram



3. Petri-Net



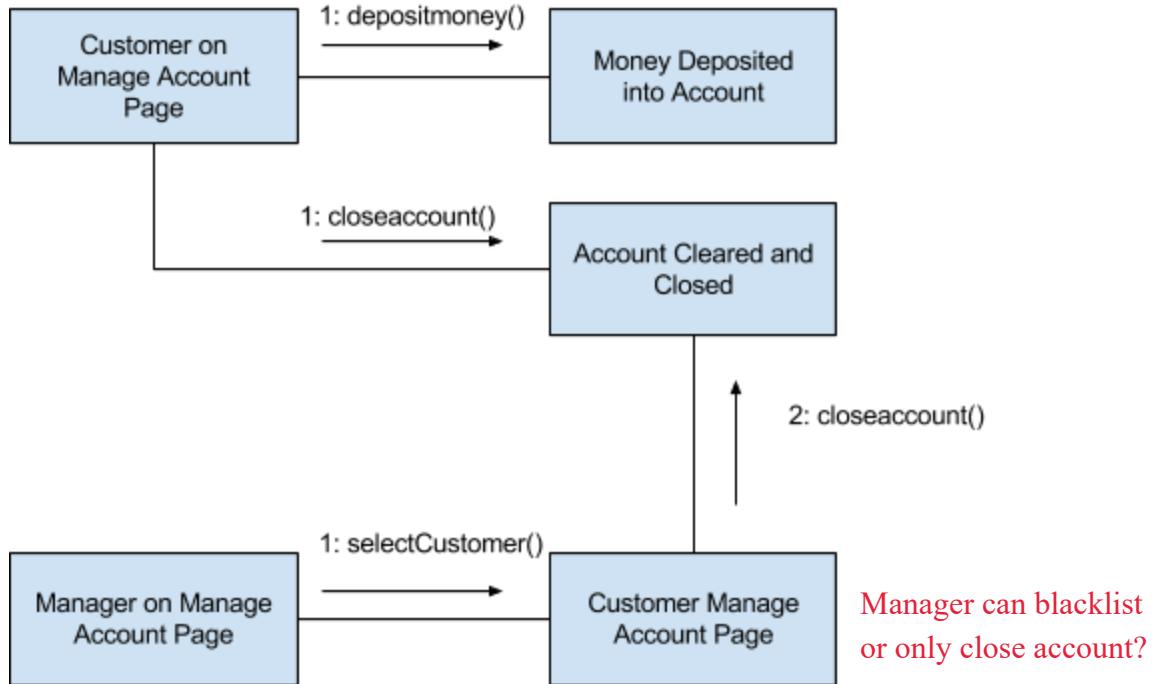
Why two account processed states??

D. MANAGE ACCOUNT

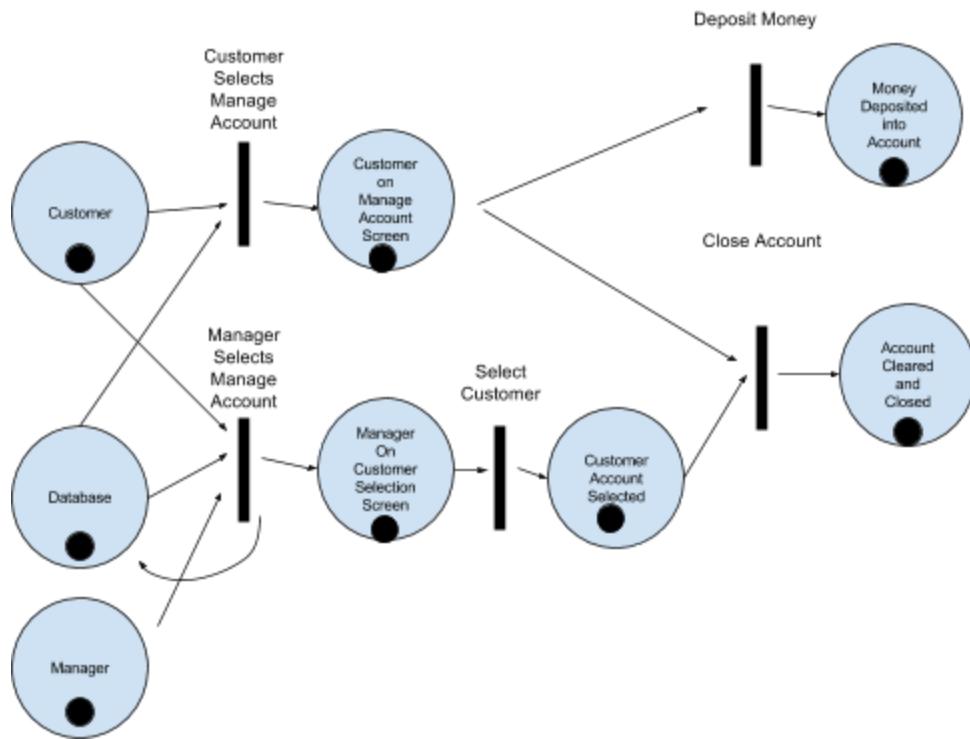
1. Description

- Customers and managers are able to manage accounts. Customers can only manage their own account. Managers are able to manage all customer accounts.

2. Collaboration Diagram



3. Petri-Net



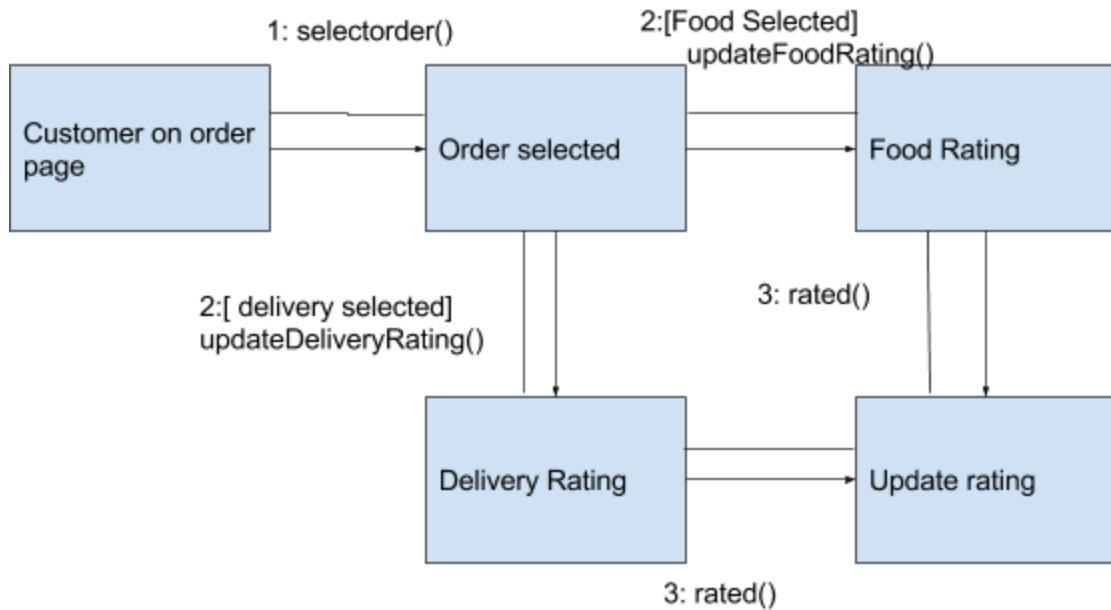
E. PROVIDE RATINGS

1. Description

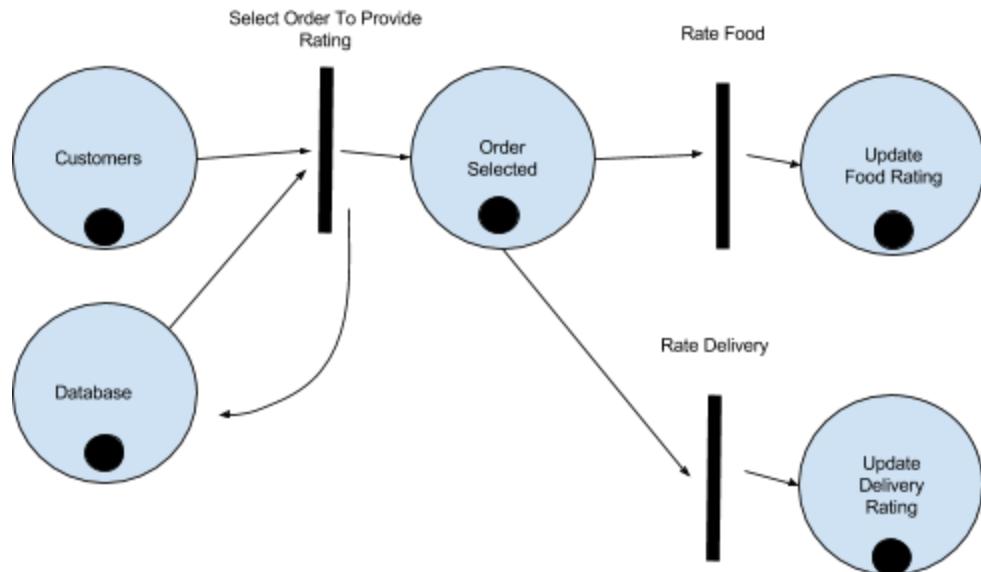
- Customers are able to provide ratings on both food and delivery of orders that they made. At first, they will select the order they want to provide the ratings on. After that, they can choose to decide

to provide rating on the food or delivery. The corresponding information is updated in the DB accordingly.

2. Collaboration Diagram



3. Petri-Net

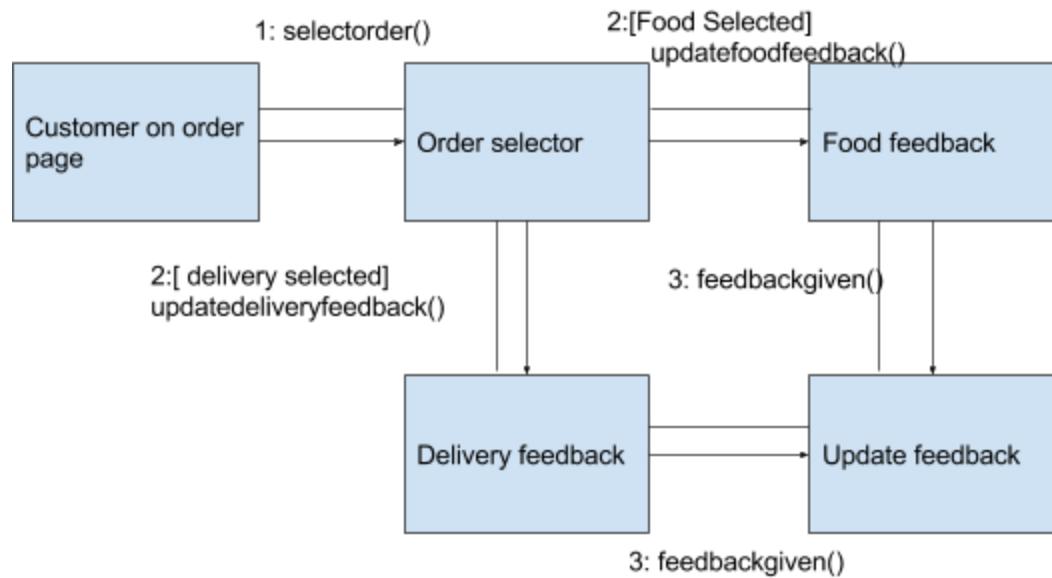


F. PROVIDE FEEDBACK

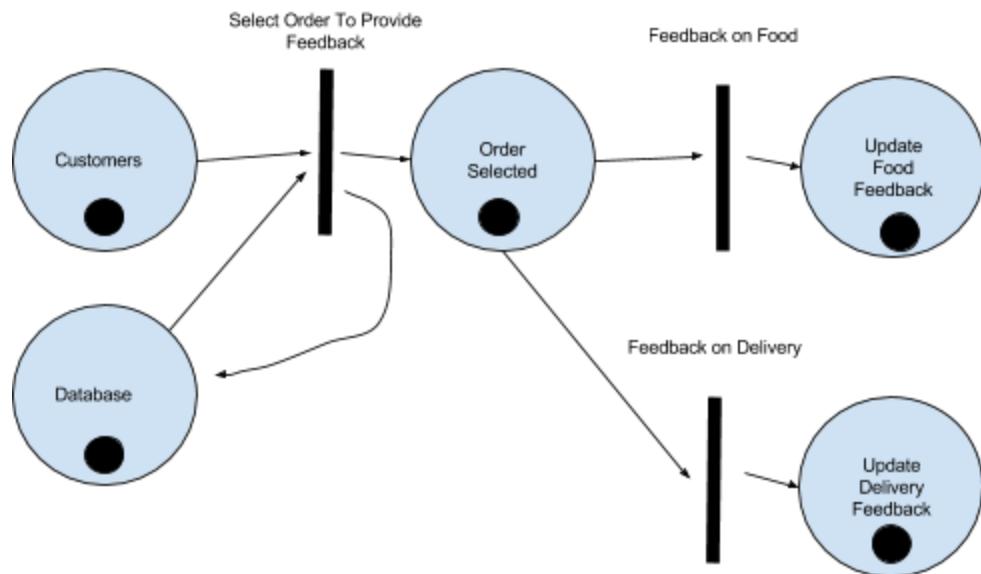
1. Description

- Customers are able to provide feedback on both food and delivery. These feedbacks are in the form of complaints and compliments. This operates similar to the ratings as indicated previously.

2. Collaboration Diagram



3. Petri-Net

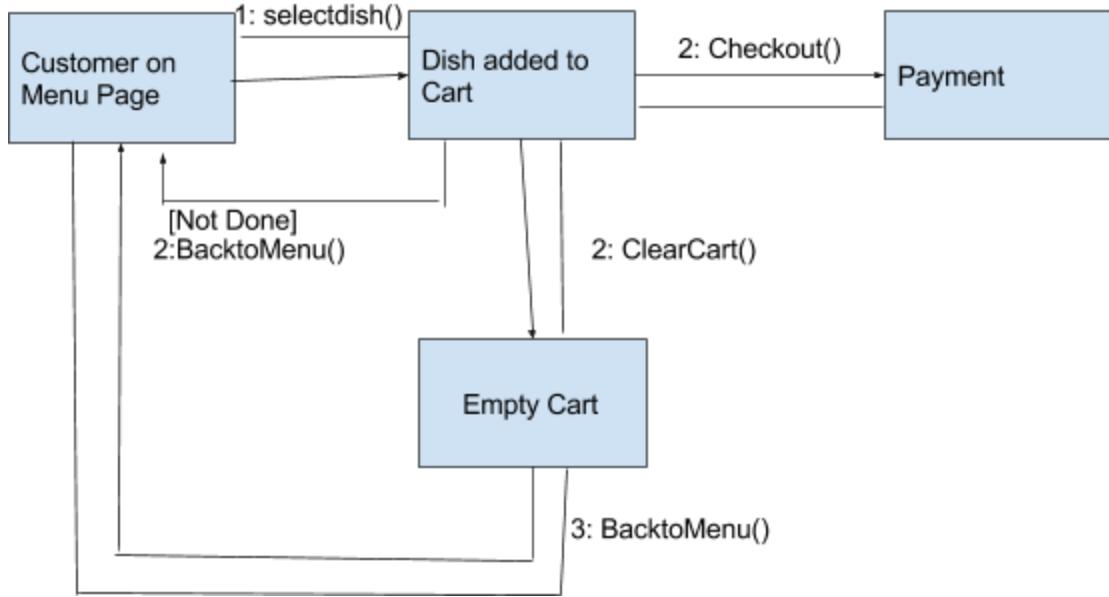


G. PLACE ORDER

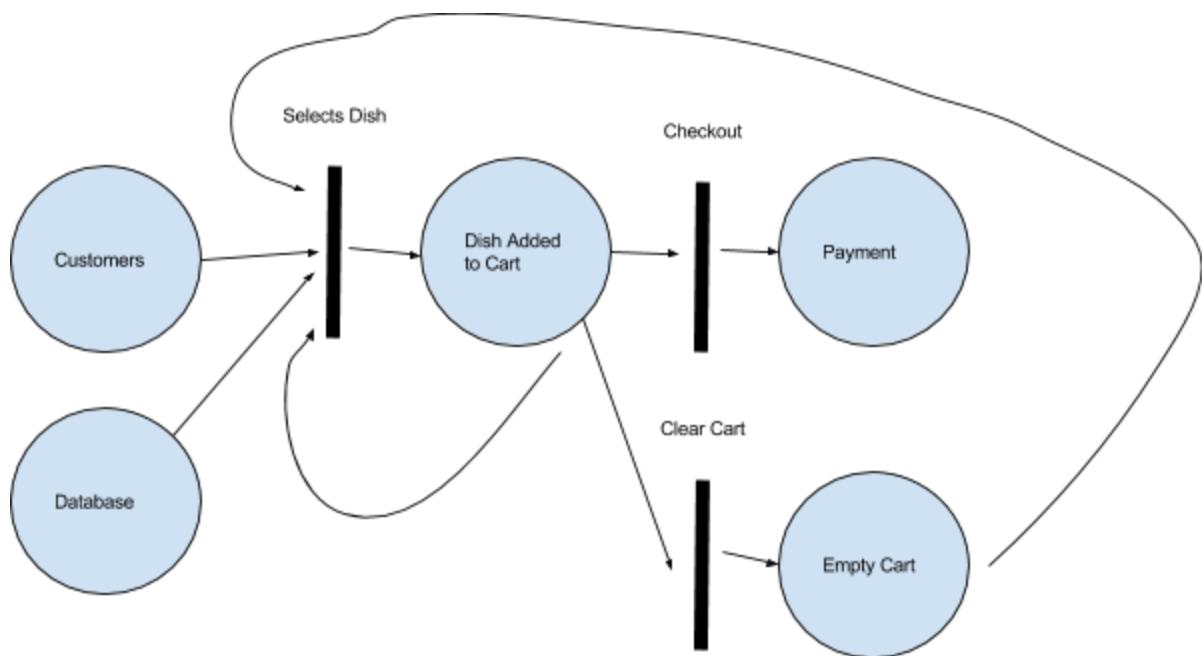
1. Description

- Customers are able to place orders on a dish on the menu. They can continue to add dishes to the cart if they wish. They can also empty their cart. When the customer clicks checkout is when the order is created and sent to payment.

2. Collaboration Diagram



3. Petri-Net

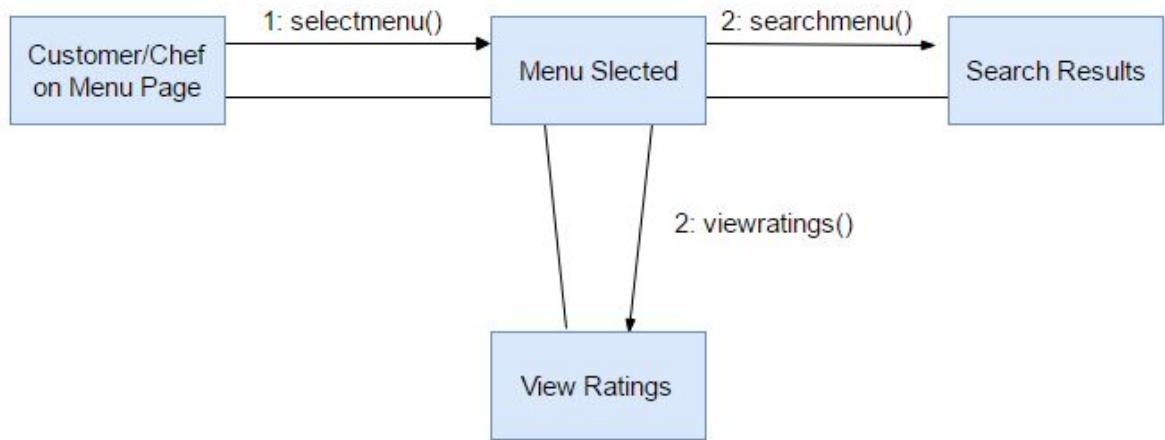


H. BROWSE MENUS

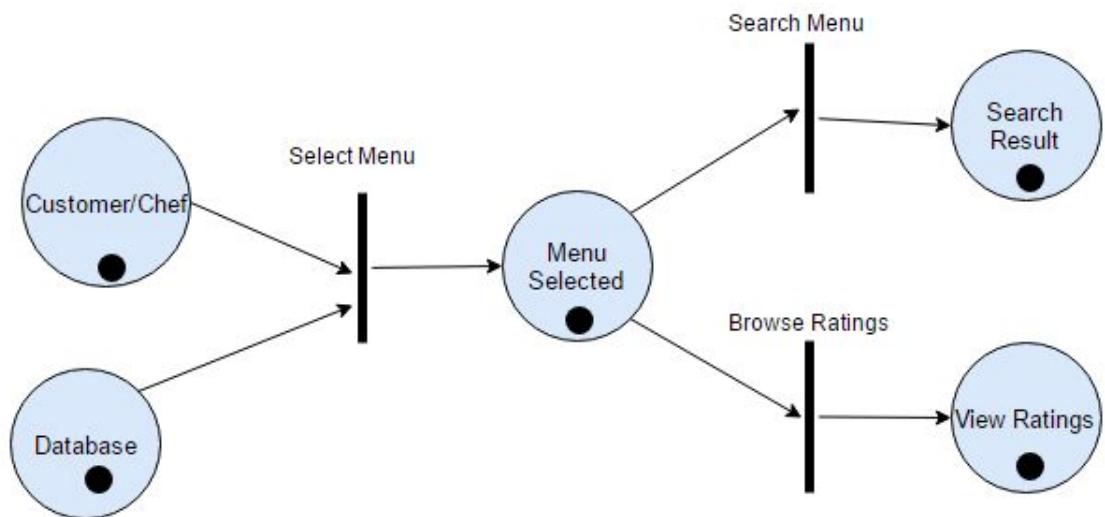
1. Description

- Customers and Chefs are able to view available menus. Along with that, they have the option to search for specific items. Each menu item also has a rating, and is also viewable by both Customer and Chef.

2. Collaboration Diagram



3. Petri-Net

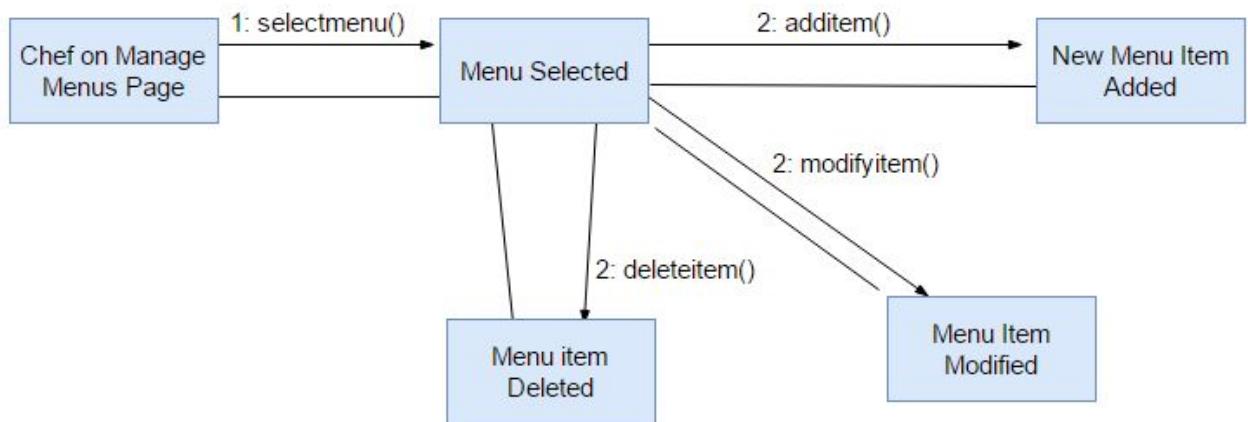


I. MANAGE MENUS

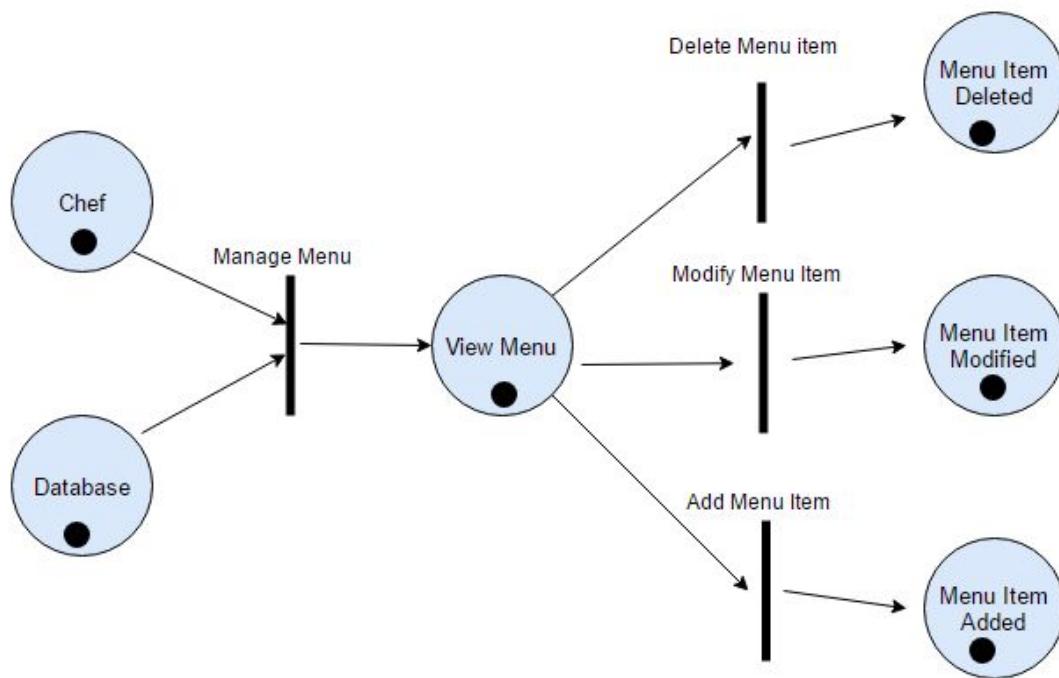
1. Description

- a) Chefs are able to manage their menus. They can add, delete and modify menu items. Prices for new menu items are discussed with managers before finalized. A chef first selects his or her menu and then is able to modify as they please.

2. Collaboration Diagram



3. Petri-Net

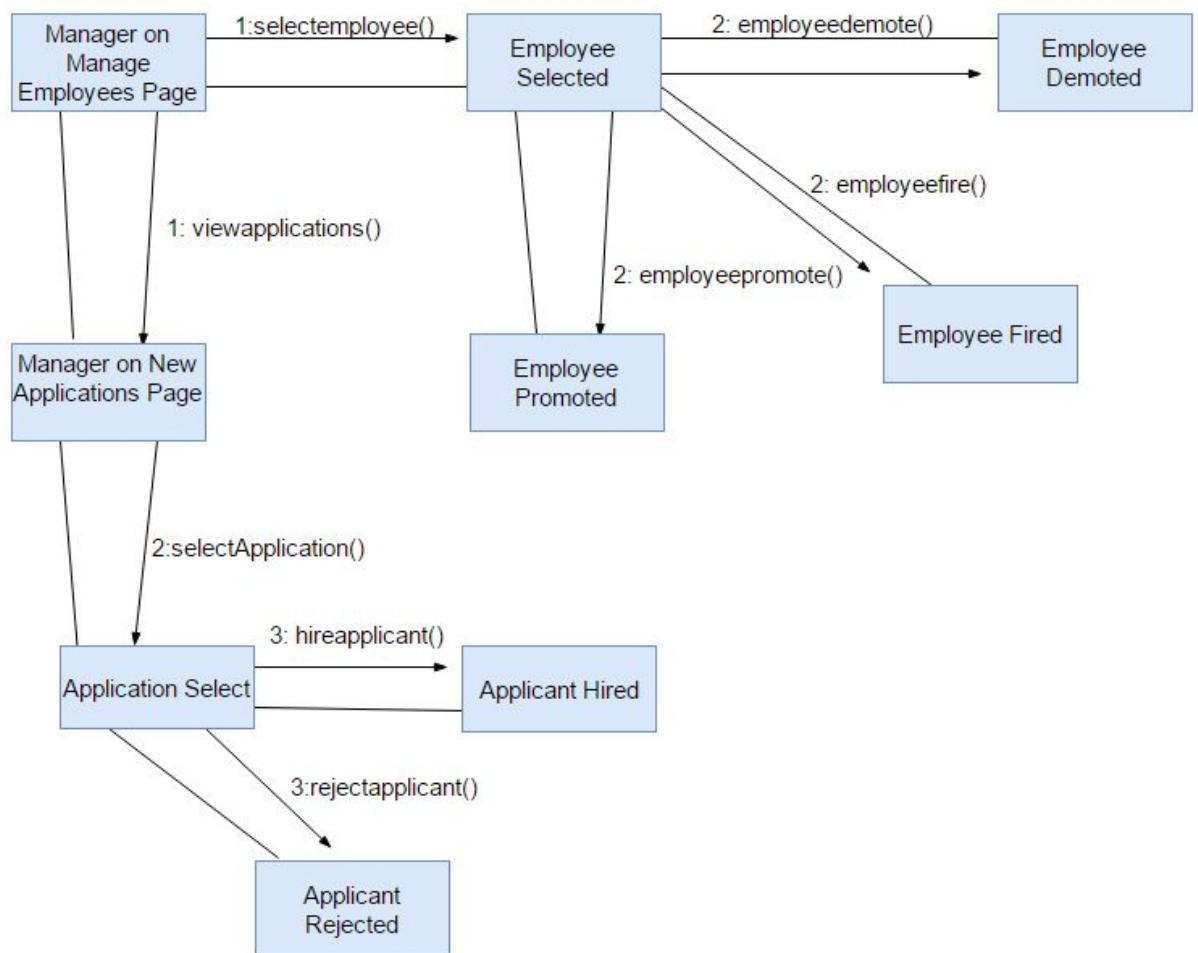


J. MANAGE EMPLOYEES

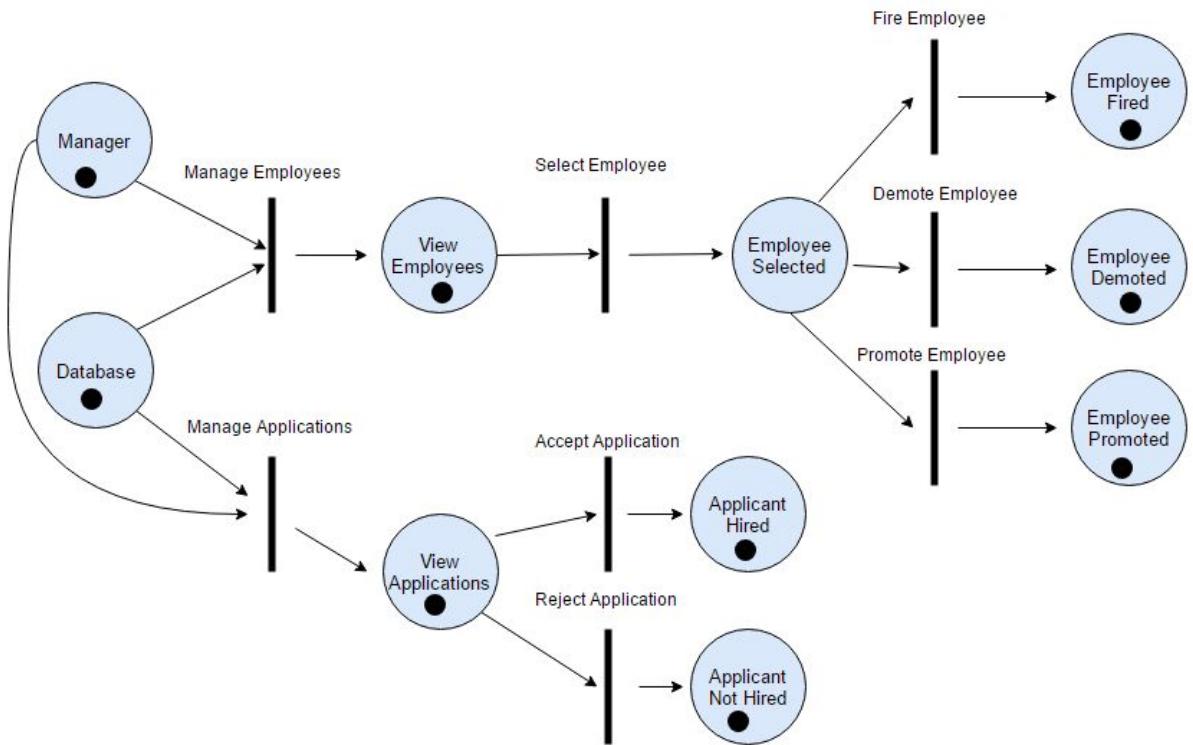
1. Description

- a) Managers are able to promote, demote, and fire current employees based on their performance. They can also hire new employees depending on the quality of their application. When an employee is promoted, it means that they receive an increase in pay. Conversely, if an employee is demoted they receive less pay. A fired employee can no longer work at the restaurant. New hires will be notified through the website.

2. Collaboration Diagram



3. Petri-Net

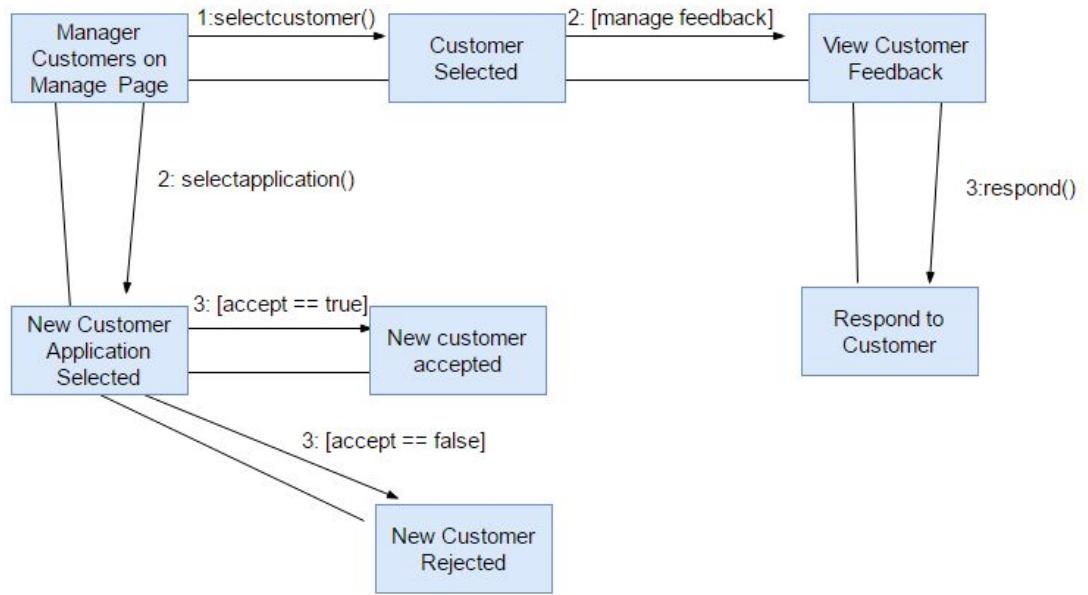


K. MANAGE CUSTOMERS

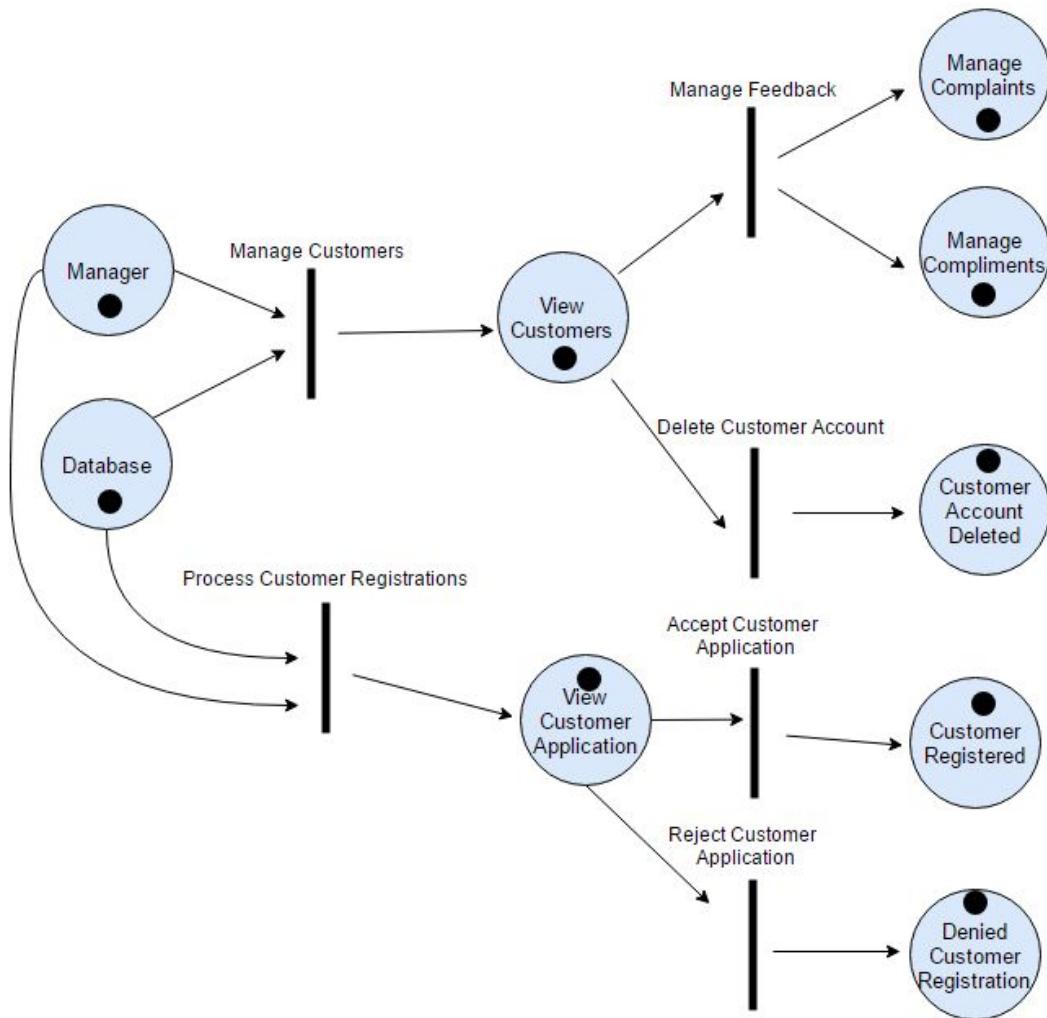
1. Description

- a) Managers are able to view customer feedback, as well as delete a customer account if they accumulate too many warnings. Feedback is broken into complaints and compliments. These are processed by the manager, and if deemed valid, the feedback will affect the status of a corresponding employee. Customer warnings are issued by

2. Collaboration Diagram

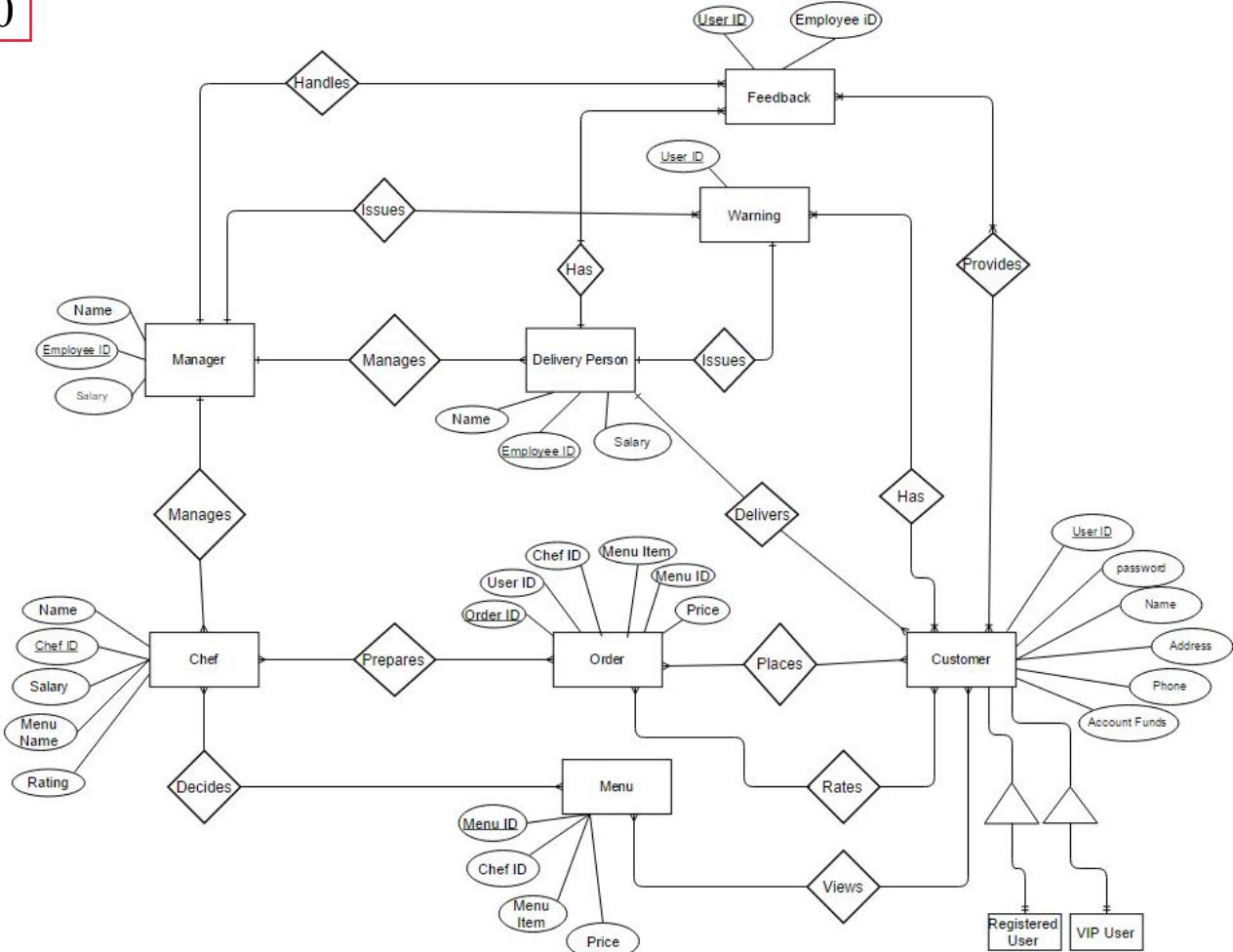


3. Petri-Net



III. E-R DIAGRAMS

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cardinalities between entities?

IV. DETAILED DESIGN

A. SURFERS METHODS

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1. Create Account (**userID**, **password**)

- a) Get valid fields from the user.

If the user enters a database present in the database **Meaning ??**

Send message “Choose Another Username”

Else

Insert user's fields into the database

Render the user's login homepage

B. CUSTOMERS METHODS

1. Manage Account (userID)
 - a) If delete account selected
 - Send funds from user's account to their corresponding address
 - Remove user from the database
 - Render the homepage
2. Submit Complaint (userID, chef, complaint)
 - a) If the user is a VIP
 - Add complaint to the database
 - Increase chef's complaint count by 2
 - Else
 - Add complaint to the database
 - Increase chef's complaint count by 1
3. Submit Compliment (userID, chef, compliment)
 - a) If the user is a VIP
 - Add compliment to the database
 - Increase chef's compliment count by 2
 - Else
 - Add compliment to the database
 - Increase chef's compliment count by 1
4. Submit Rating (menuItem, rating)
 - a) Add rating of the menu item in the database
5. Place Order (foodItems, userID)
 - a) If the user's account funds \geq food items cost
 - If the user is a VIP
 - Food cost is set to food cost times .90 for a 10% discount
 - Add foodItems to order and add that to the deliveries database with state incomplete
 - Else
 - Print "insufficient funds"
6. Deposit Money (userID, amount)
 - a) Set the account funds to current funds + new amount in the database

C. DELIVERY PERSON METHODS

1. Browse Deliveries
 - a) From the database receive a list of orders to be delivered
2. Deliver Food (orderID, userID)
 - a) Select the route based on the user's address.
Get the order of the user from the database.
Set the order's state as to delivered.

D. CHEF METHODS

1. Add Menu Item (chefID, menuID, itemName, price)
 - a) Locate menu in the database and add the corresponding information.
Render the menupage.
2. Remove Menu Item (chefID, menuID)
 - a) Locate menu in the database and remove the item from that menu

E. MANAGER METHODS

1. Hire Employees (name, address, salary, type)
 - a) If type is chef
Add the employee to the chef database with the corresponding information
 - Else
Add the employee to the delivery person database with the corresponding information
2. Fire Employees (employeeID)
 - a) Locate employee in database and remove.
3. Demote Employees (employeeID)
 - a) Locate employee in the database
Set employee's salary to minus 10,000
Lower employee's level by 1
Increase employee's demotion count by 1
If employee's demotion count is ≥ 2
Fire employee
4. Promote Employees (employeeID)
 - a) Increase employee's salary by 10,000

Increase employee's level by 1

5. Process Registration (username, name, address)

a) If check was received

Insert into the database the information provided.

Else

Set state to pending check

6. Give Warning (userID)

a) Increase user's warning by 1

F. CUSTOMER & MANAGER METHODS

1. Close Account (userID)

a) Send all remaining funds in user's account to corresponding address.

Remove the user from the database based on ID.

G. SURFER, CUSTOMER, & CHEF METHODS

1. Browse Menus (chefID)

a) Return the menu based on the chef's ID and sort by ratings.

2. Search Menus (itemName)

a) Look in the database for the item.

If the item exists

Return the item

Else

Return the message "not found"

H. CUSTOMERS, DELIVER PERSONS, CHEF, & MANAGER METHODS

1. Log In (userID, password)

a) Check in database that the username and password exists

If the username and password exists

Render the user's homepage

Else

Send alert that login failed

Render the login page

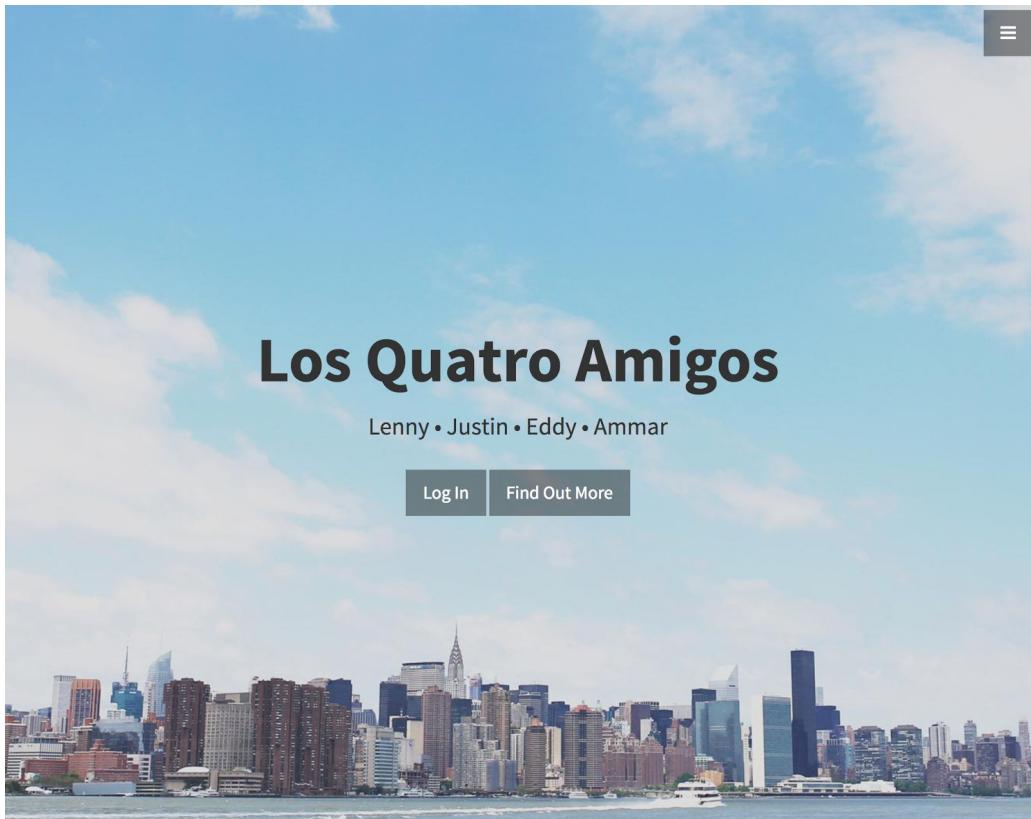
2. Log Out (user)
 - a) Set the current logged in session state to false.
 - Set the current session user to none
 - Render the homepage

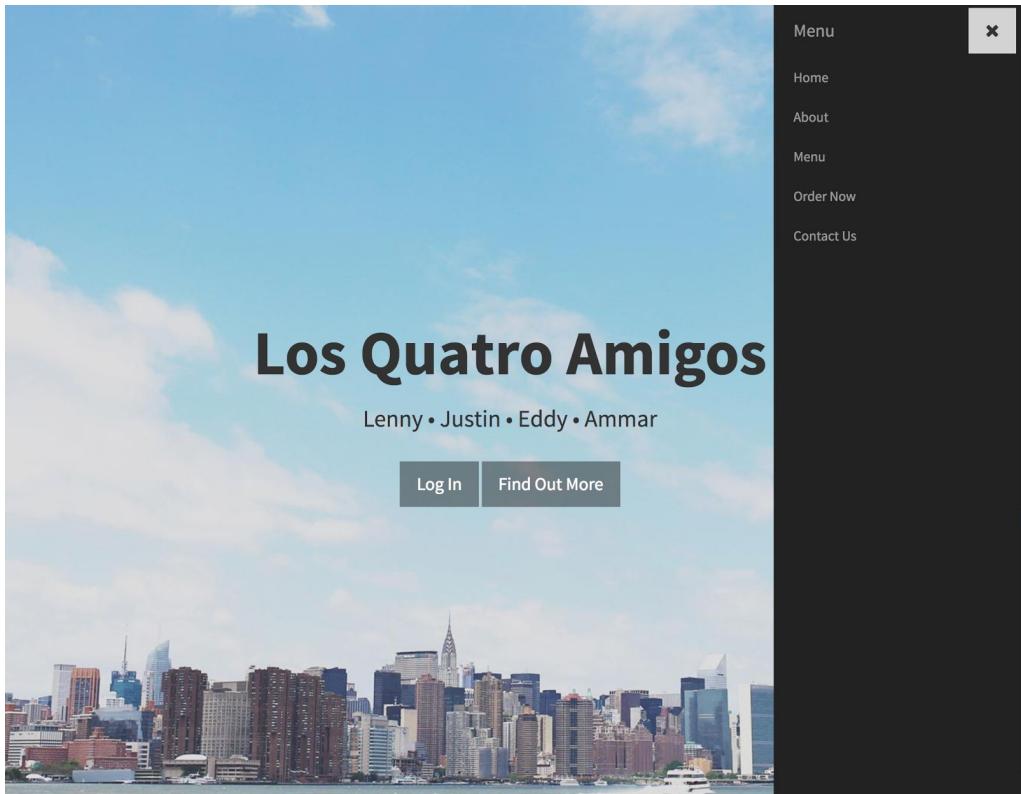
V. SYSTEM SCREENS

A. MAIN SCREEN FOR ALL USERS

10/10

1. Description
 - a) This is the homepage.
2. Screenshot





Los Quattro Amigos

Lenny • Justin • Eddy • Ammar

[Log In](#) [Find Out More](#)

Menu

Home

About

Menu

Order Now

Contact Us

×

≡

Our Restaurant provides **thee best** Mexican Food in the Tri-state Area

You have the option to select from 4 of our best chefs, who each specialize in a specific type of mexican cuisine

[Sign Up Now](#)

!For Some Muy Delicioso Taquitos y Mucho Mas!

Our Chefs



Chef Juan

Chef Juan comes from Oaxaca, which is sometimes called the Land of the Seven Moles. Mole is more of a technique, than a recipe, and only Oaxaqueno's know the secret to the countless variations of mole.

[See Menu](#)



Chef Rosita

Chef Rosita hails from Veracruz, which stretches over 400 miles along the Gulf of Mexico. So, seafood is her speciality.

[See Menu](#)



Chef Miguel

Chef Miguel, comes from the West or Baja California. The food from this region is what people from California have been exposed to for years. Since it's separated from the mainland, their food is predictably seafood-based.

[See Menu](#)

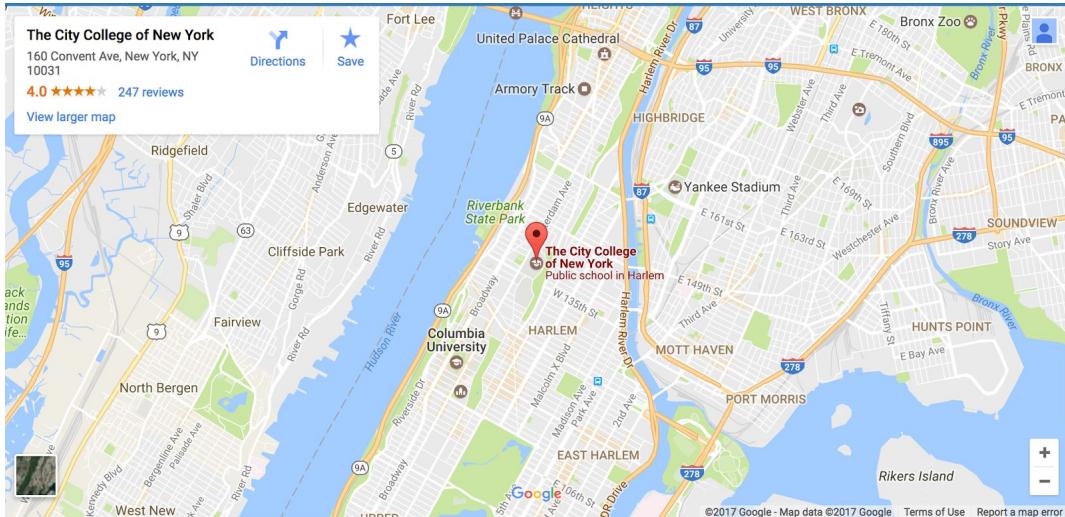


Chef Monica

Chef Monica, specializes in Mexican pastries such as tamales, mexican bread, and your traditional pastries such as flan and tres leches pastel

[See Menu](#)

^



Contact Us

160 Convent Avenue
New York, NY 10031

[\(123\) 456-7890](tel:(123)456-7890)
LosQuattroAmigos@gmail.com

B. SIGN IN SCREEN FOR USERS

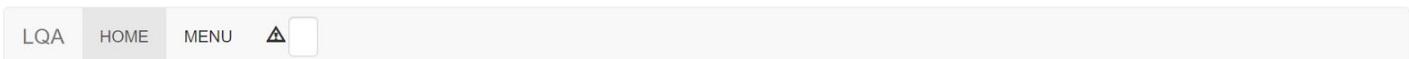
1. Description
 - a) This is what users will see when they want to login
2. Screenshot

C. MAIN SCREEN FOR CUSTOMERS

1. Description
 - a) This is what the customers will see when they login.
2. Screenshot

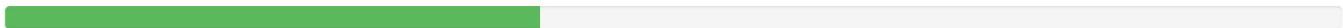
Los Quatro Amigos

User Account



Order History

Progress to VIP membership:



Order #	Product	Payment Taken	Status
1	Tacos de Carner Enchilda	01/04/2015	Processed
2	Lobster Ceviche	01/14/2015	Processed
3	Mole Poblano	02/15/2015	Declined - insufficient funds -
4	Mole Poblano	02/15/2015	Processed
5	Dry-Aged PorterHouse Agnolotti	03/01/2015	Processed

D. MAIN SCREEN FOR DELIVERY PERSONS

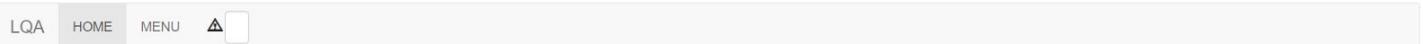
1. Description

- This is what the delivery persons will see when the log in

2. Screenshot

Los Quattro Amigos

Delivery Boys



Order History

Progress to Promotion:



Order #	Product	Address	Status
1	Tacos de Carne Enchilda	123-33 99th Street	Delivered
2	Lobster Ceviche	45-11 45th Street	Delivered
3	Mole Poblano	33-70 35th street	Delivered
4	Mole Poblano	160 Convent Avenue	Cancelled
5	Dry-Aged PorterHouse Agnolotti	Statue of Liberty	On Route

E. MAIN SCREEN FOR MANAGERS

1. Description

- This is what the managers will see when they login

2. Screenshot

F. PROTOTYPE OF PLACING ORDER FUNCTIONALITY

1. Description

- Here customers can add items to their cart and then place the order. We will show in the following screenshots the

2. Screenshot

The screenshot shows the 'Chef Miguel's Menu Items' section of the website. It features three menu items in white boxes:

- Steak Tacos**
\$2.25
ADD TO CART
- Chicken Tacos**
\$2.25
ADD TO CART
- Chorizo Tacos, (Mexican Sausage)**
\$2.25
ADD TO CART

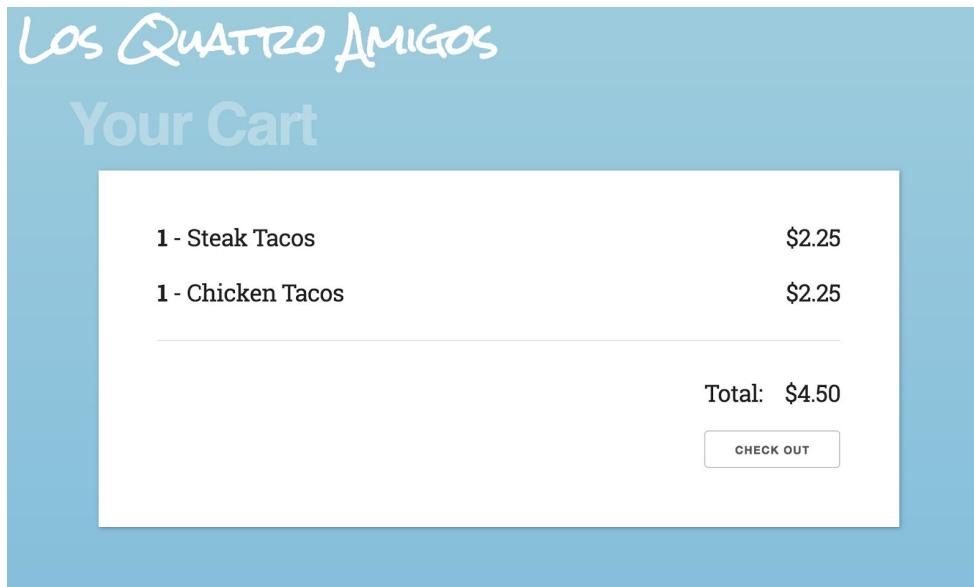
A pink header bar at the top right indicates "0 ITEMS".

The screenshot shows the 'Chef Miguel's Menu Items' section of the website. It features the same three menu items as the previous screenshot.

A pink header bar at the top right indicates "1 ITEM".

The screenshot shows the 'Chef Miguel's Menu Items' section of the website. It features the same three menu items as the previous screenshots.

A pink header bar at the top right indicates "2 ITEMS".



VI. GROUP MEETING MINUTES

A. We had both physical and virtual meetings.

1. Physical meetings occur on a weekly basis for about 1.5 hours.
 - a) Meetings are done in the library.
 - b) Discussions primarily include distribution of work, understanding of tasks at hand, and idea generation.
2. Virtual meetings occur twice a week for an hour each totalling two hours a week.
 - a) Meetings are done via Slack messaging app.
 - b) Discussions primarily include solving problems, understanding functionalities, and understanding of each other's work.
3. Some meeting discussions:
 - a) What language to use? Python 3
 - b) What framework to use? Flask
 - c) How to communicate and when.
 - d) How to divide work? What were everyone's strengths and interests?

- e) How to design the layout?

VII. 1ST PHASE REPORT RESPONSES TO COMMENTS

- A. We spent a significant amount of time working on the 1st phase report and was glad to see that it paid off. We had three main comments on our report that we needed to respond to:
 1. First, we originally included a relationship where users, Manager, Chef, and Delivery Person were sub users of the superuser, Restaurant. We had previously thought that the Restaurant superuser was a requirement but now understand that the users mentioned have different functionality. With these different functionalities, we were able to keep them as their own separate actor, removing the actor (superuser) Restaurant, and thus, the associated relationships.
 2. Second, we separated a couple of functionalities which could have been combined together. Instead of separating the ability of the manager to close customers' accounts and clear their deposit, we put them under a single use case, close account. Also, we had a close account for the manager and a close account for the customer. We also combined them.
 3. Third, we renamed some of the use cases to follow the verb and noun template for generalization of our use cases for future expansion (eg. "Apply to be registered customer" to "create account"). In addition to this, we changed some vocabulary around to make it sound more sophisticated (eg. 'view' to 'browse')
- B. These updates can be seen in the SRS Version 2.0.
 1. Name Changes
 - a) Apply to be registered customer → create account
 - b) Deposit money into account → deposit money
 - c) Close account → clear deposit
 - d) Grade food delivered → provide ratings
 - e) Grade food quality → rate food
 - f) Grade delivery quality → rate delivery
 - g) Issue customer warning → issue warning
 - h) View menus → browse menus
 - i) View ratings of food → browse ratings
 - j) Process customer registrations → process registrations
 2. Other Changes
 - a) Clear customer deposit & close customer account removed from manager customers
 - b) New include line from manage customers to close account
 - c) Manage compliment and complaints are now an extension of manage feedback which extends from manage customers