

Menufy :: AWS EB, Flask + Python

Final Report

CS 467 Capstone Project
June 5th 2020

Serena Tay || Alexander Drath || Matthew Egan

CS 467 Capstone Project Final Report - Menufy

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[Alexander Drath](#)

[Matthew Egan](#)

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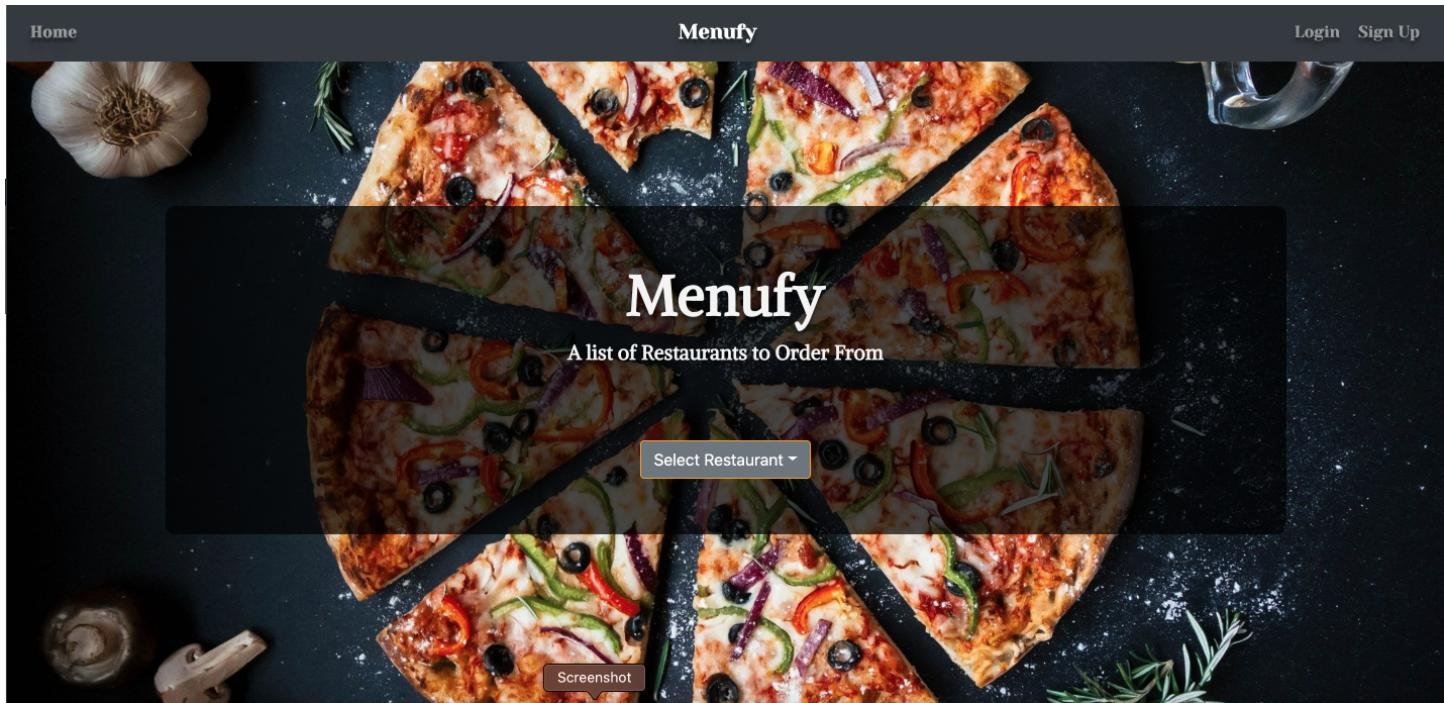
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Introduction

In the past ten weeks, our team Fantastic Foodies embarked on a journey to revolutionize the restaurant service industry by creating a digital menu to replace traditional paper based menus.

As the world moves towards enhancing hygiene and public health safety protocols due to the recent covid-19 pandemic, there is a growing shift towards digitization of processes across all services to minimize risk exposure. We believe our project will help the restaurant industries to cater to the growing demand of online orders while still retaining control of the ordering and restaurant management process.



Program Description (User's Perspective)

A web application that provides an online user platform that integrates food ordering and serving process as well as the inventory system for restaurant businesses. The application also enables data storage on a consolidated cloud-based system to enable restaurant management to utilize the data to help serve customers better and improve resource planning. This application aims to achieve the following objectives:

- **Improve customer outreach and accessibility** - easy-to-access online menu available on web app
- **Increase efficiency in the food ordering process** - provide customers with the ability to order food and beverages via the web application
- **Achieve sustainability** - eliminate paper-based menus

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- **Improve inventory planning** - provide ready-to-use and consolidated information on customer preferences to better plan for future demands
- **Improve resource planning** - utilize information to identify bottlenecks in rush hours to better manage human resource for future needs

Project Name

Menufy

Project URL

<http://menufy-test-2.eba-tabwfhzk.us-west-2.elasticbeanstalk.com/>

Project GitHub Repository

<https://github.com/AneresArsenal/CapstoneProject>

Dev Team Name

Fantastic Foodies

Team Members

Member Name	Email	ONID
Alexander Drath	dratha@oregonstate.edu	dratha
Matthew Egan	eganmat@oregonstate.edu	eganmat
Serena Tay	tays@oregonstate.edu	tays

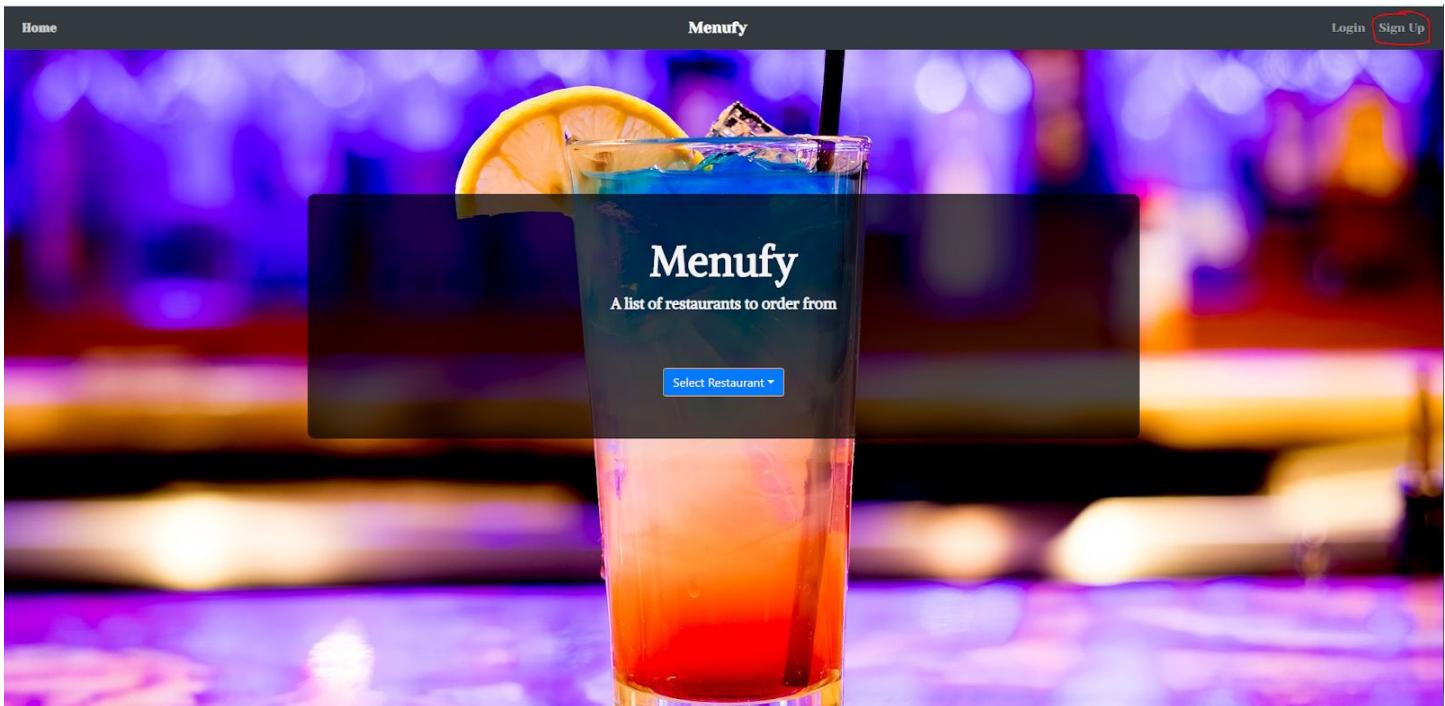
Setup & Usage

Customer User Features

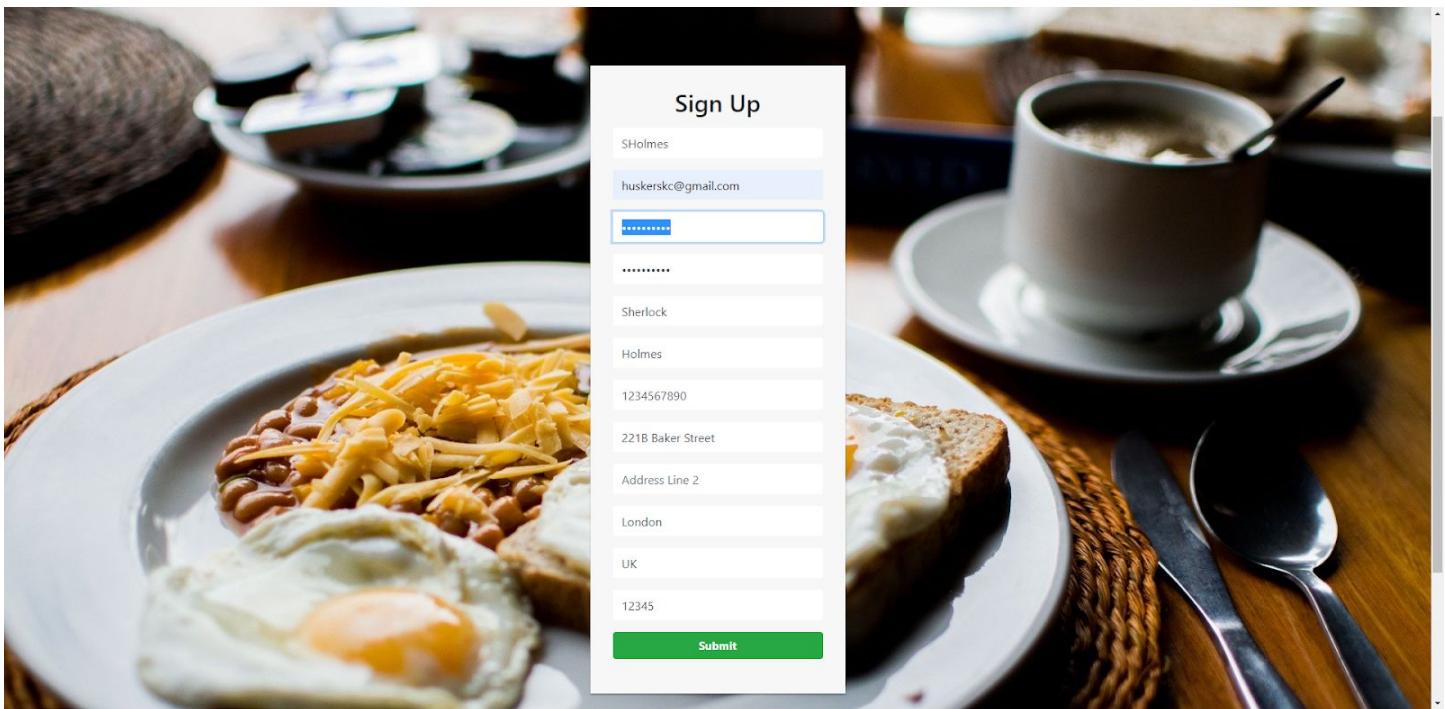
Creating a Customer User Account:

Click on Sign Up in the right hand corner of the screen:

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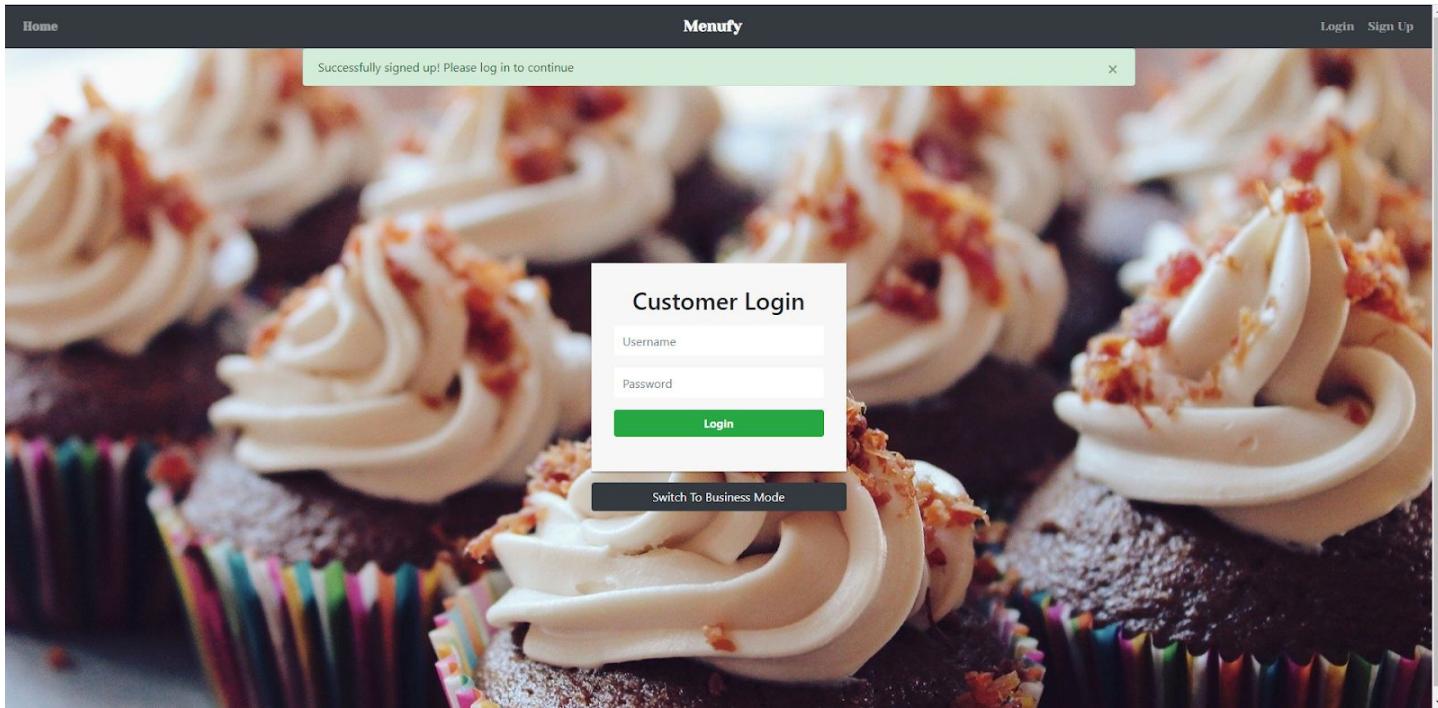
Fill out the form:



Note: You cannot create a username that already exists. Also the passwords for password and confirmation password must match in order for it to submit. All of the fields must be filled in with the exception of address line 2 which is optional.

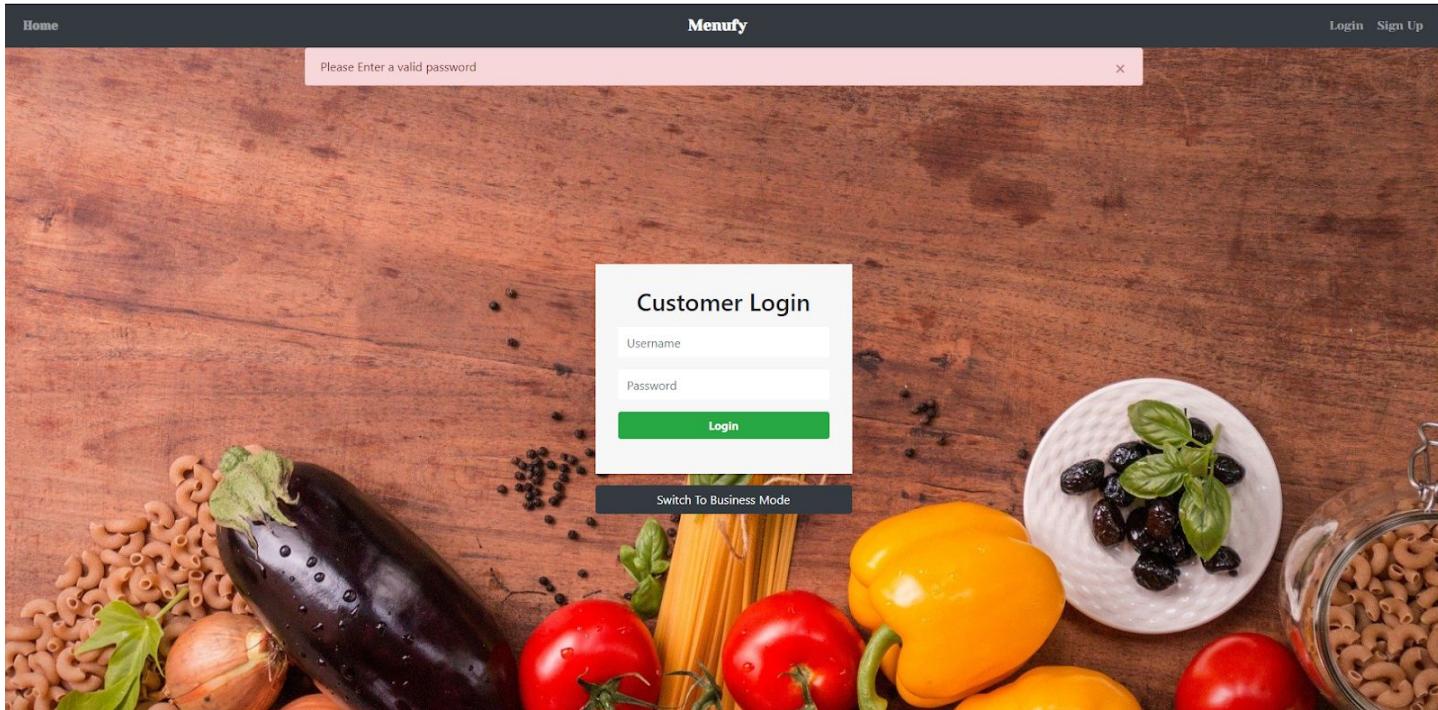
Click submit and a “successfully signed up!” banner will appear on the login page where you can sign into your account then.

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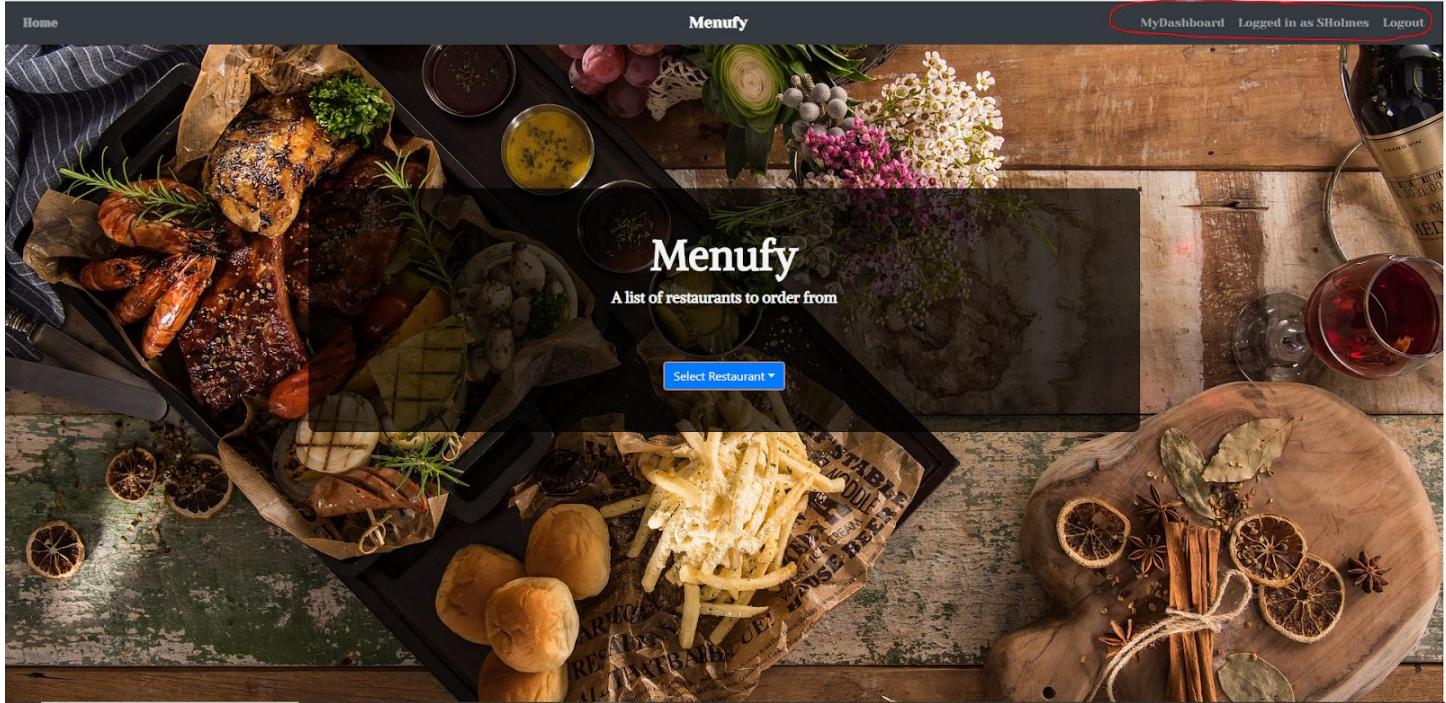
Sign in to your account which will redirect you to the main page.

If you fail to log into your account properly with the wrong password, an error will appear:



You will notice 3 buttons up in the right hand corner of the navbar that are different now. There are three options for you to click on. The first is the MyDashboard, which will take you to a dashboard for the customer displaying your user information, the ability to edit said information, filter your order history and see your orders. The "Logged in as {{customer_username}} just takes you back to the main page. The last option is logout where you can log out of the account.

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Dashboard:

The image shows the dashboard for user SHolmes. The background is a close-up photo of a barbecue grill with meat cooking. In the center, there's a dark overlay with the text "SHolmes's Dashboard" in white. Below this, under the heading "Customer Information", are five data fields: "First Name: Sherlock", "Last Name: Holmes", "Phone Number: 1234567890", "Email: huskerskc@gmail.com", and "Address: 221B Baker Street, London, UK, 12345". At the bottom left of this section is a blue button labeled "Edit Contact Information". The top navigation bar is identical to the home page.

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The screenshot shows a modal window titled "Edit Contact Information" with a "Filter Table By:" section. It includes four date input fields: "Order Date" (mm/dd/yyyy), "Order Time" (a dropdown menu), "End Date" (mm/dd/yyyy), and another "End Date" (mm/dd/yyyy). Below these is a "Submit" button. The background of the modal is dark, and the overall design is clean and modern.

All Orders By Filter

Restaurant Name	Order Number	Order Time	Order Completion Time	Order Status
Jack Stacks BBQ	Order Details	2020-06-01, 01:54:03	None	Submitted
Paolo's Tavern	Order Details	2020-06-01, 01:54:53	None	Submitted

Logout:

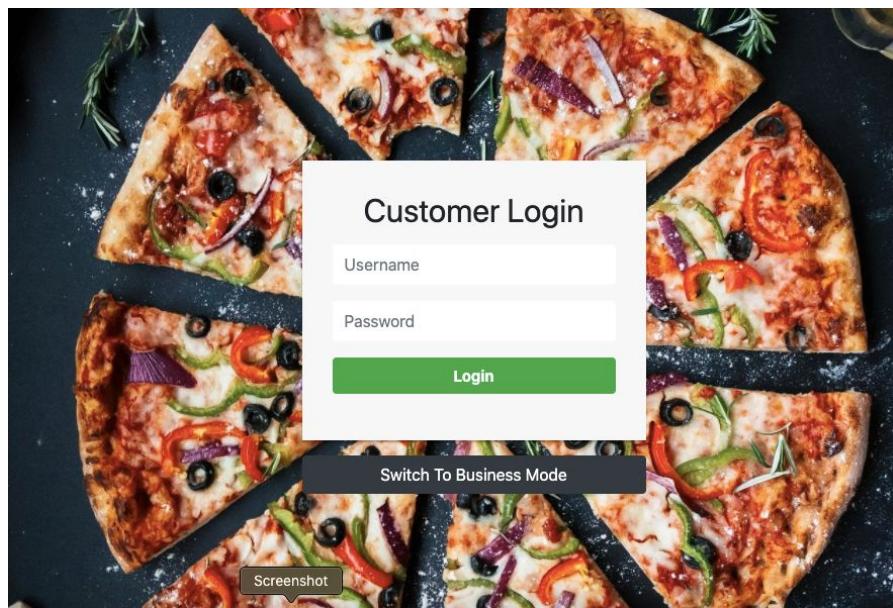
The screenshot shows the main landing page of Menufy. At the top, there are links for "Home", "Menufy" (the logo), and "Login / Sign Up". The main content area features a large image of sushi rolls with chopsticks. Overlaid on this image is a dark box containing the text "Menufy" in large white letters, followed by "A list of restaurants to order from" and a "Select Restaurant" button. The overall design is sleek and focused on food delivery.

Business User Features

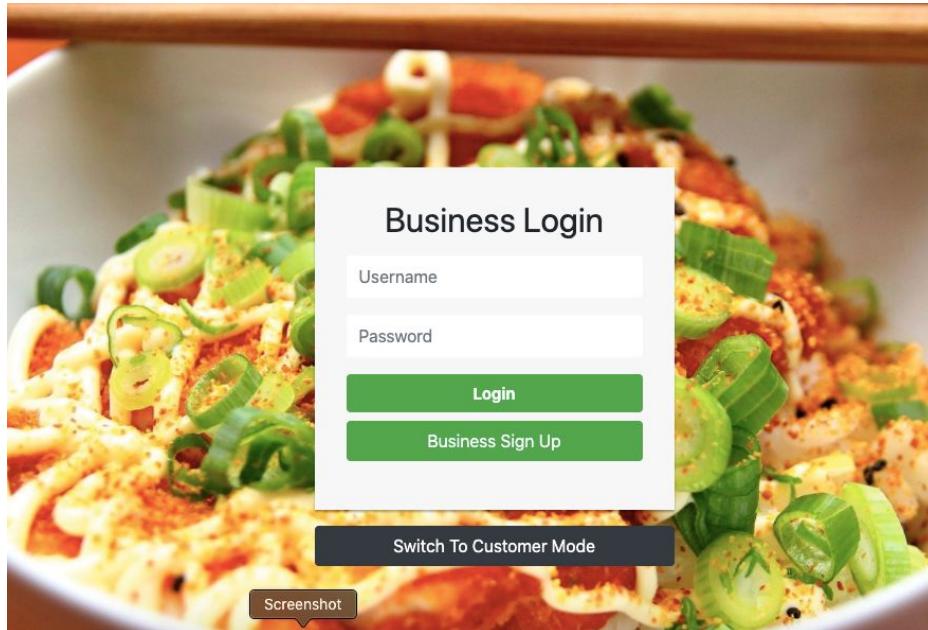
Account Creation: Sign Up, Login and Logout

1. Access Business mode via the Customer Login page using the "Switch to Business Mode" button

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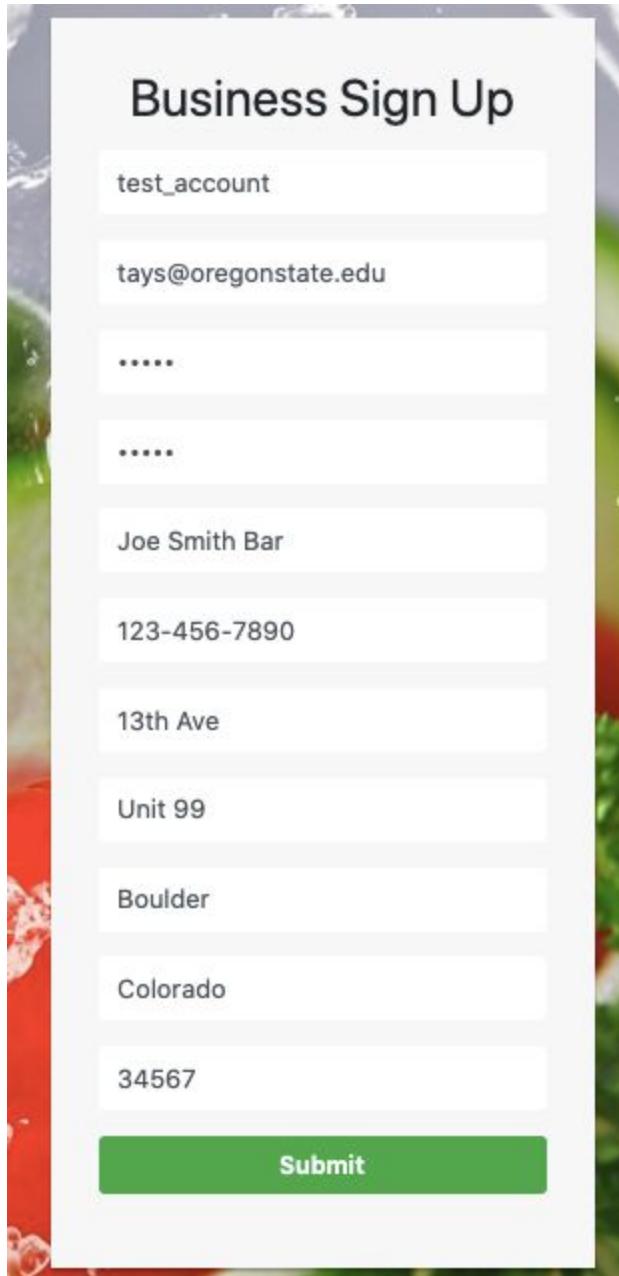


2. To sign up for a new account, choose the “Business Sign Up” button



3. Fill in form with all the required details

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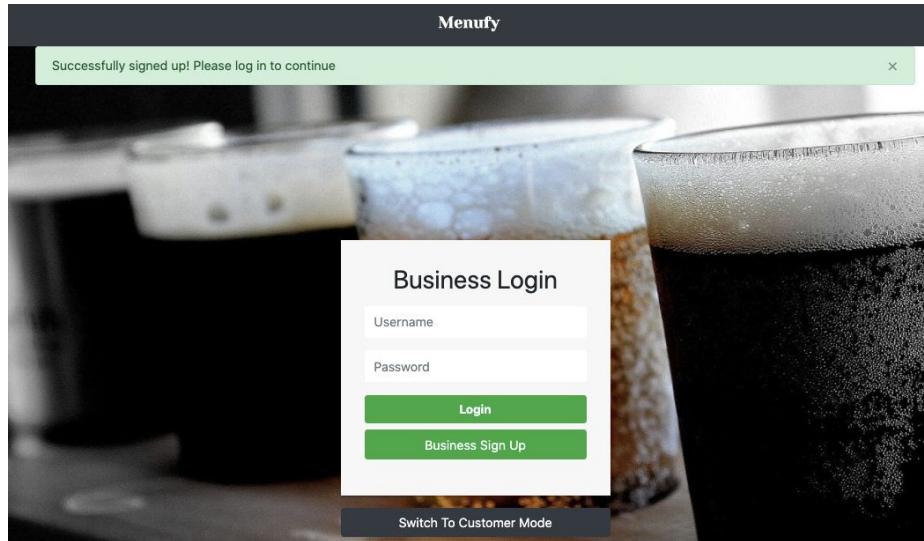
A screenshot of a mobile application's "Business Sign Up" screen. The screen has a light gray header bar with the title "Business Sign Up". Below the header are ten input fields, each with a placeholder text and a red "X" icon in the top right corner. The fields are arranged vertically:

- Placeholder: test_account
- Placeholder: tays@oregonstate.edu
- Placeholder:
- Placeholder:
- Placeholder: Joe Smith Bar
- Placeholder: 123-456-7890
- Placeholder: 13th Ave
- Placeholder: Unit 99
- Placeholder: Boulder
- Placeholder: Colorado
- Placeholder: 34567

At the bottom of the screen is a large green button with the word "Submit" in white text.

4. Successful creation of account will result in the display of a notification on the user interface

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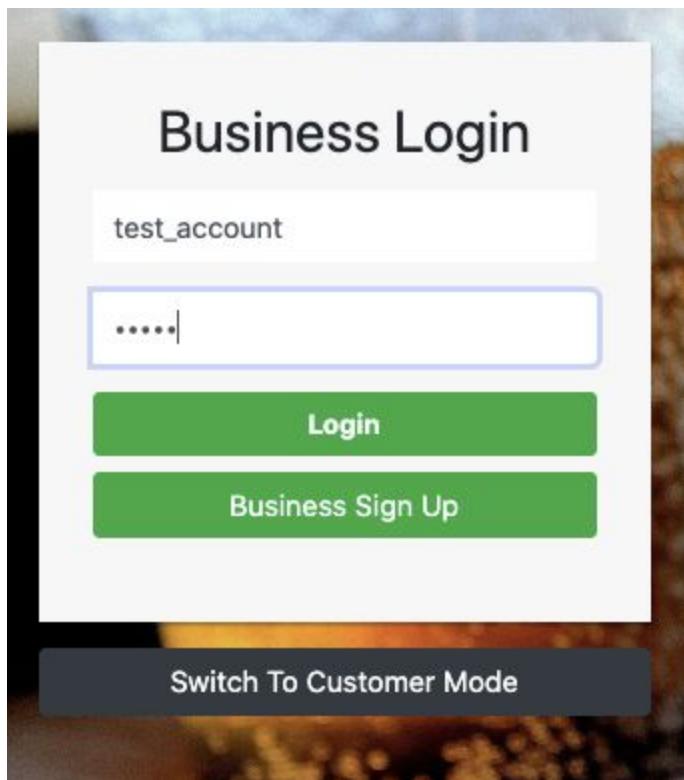


Behind the scenes, DynamoDB will create an item in the restaurant table, registering the new account

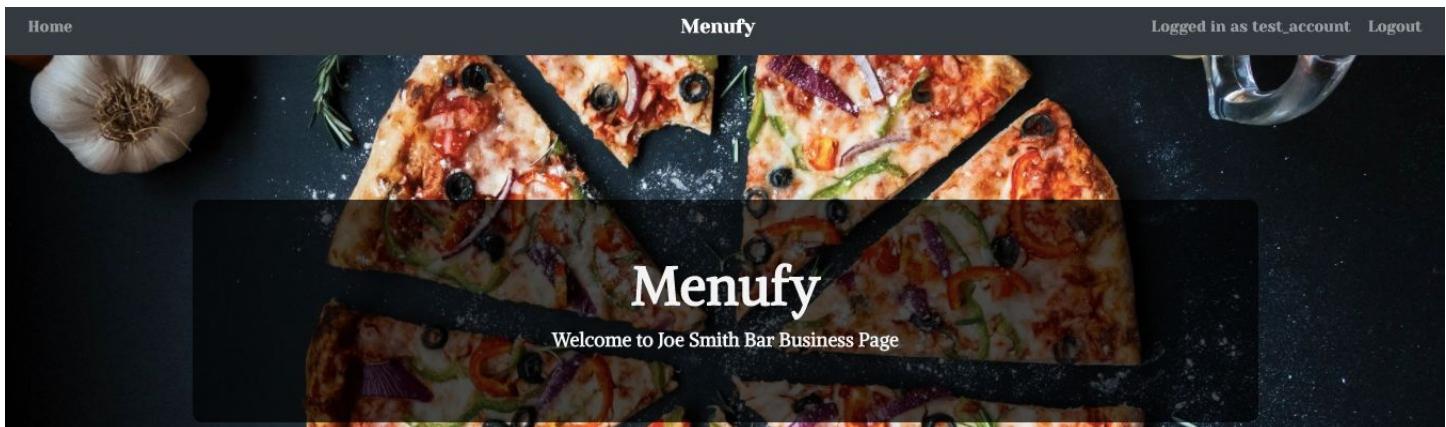
A screenshot of the AWS DynamoDB "Edit item" dialog. The dialog shows a tree view of a new item in the "restaurant" table. The item has 11 attributes: password, restaurant_address_line1, restaurant_address_line2, restaurant_city, restaurant_email, restaurant_id, restaurant_name, restaurant_phone_num, restaurant_postal_code, restaurant_state, and restaurant_username. The "password" attribute is a hashed string. The "Save" button is highlighted. The "Screenshot" button is also visible at the bottom left of the dialog.

5. Log in to the account using the username and password provided

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- Upon successful login, it will redirect the user to the account's landing page



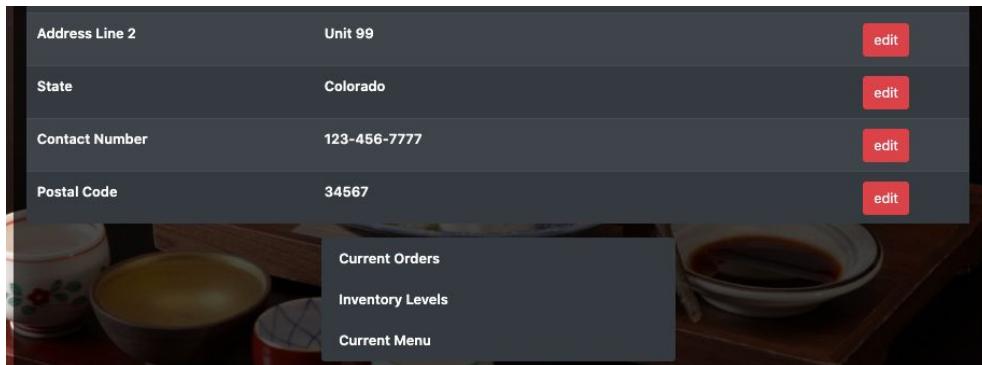
- Logout can be done by clicking the logout at the top right corner



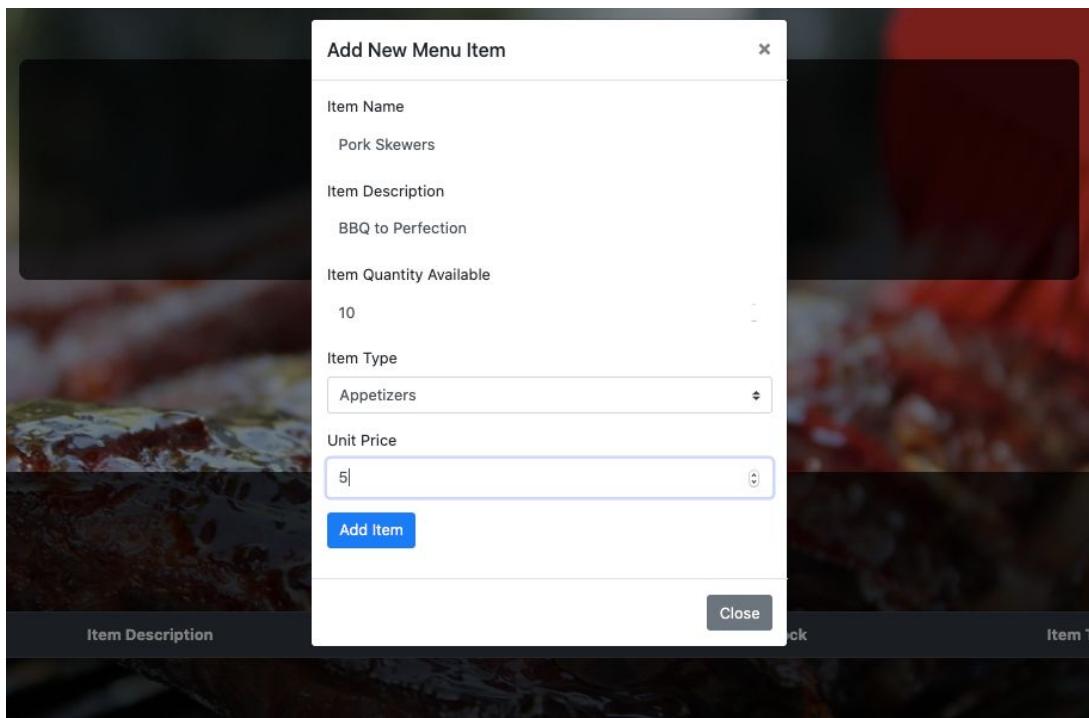
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Account Features: Menu Management Dashboard

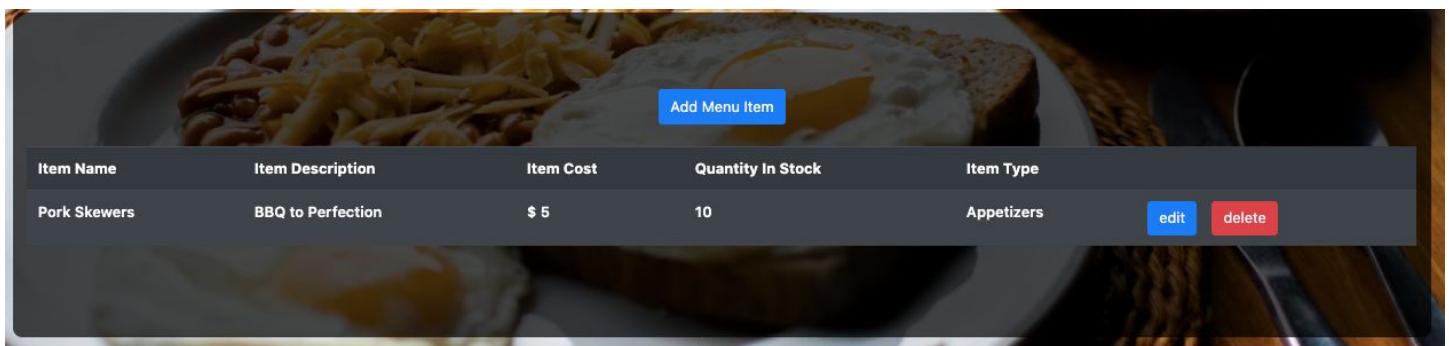
1. Navigate to Menu Dashboard using the “Current Menu” link



2. Add menu item using the button provided

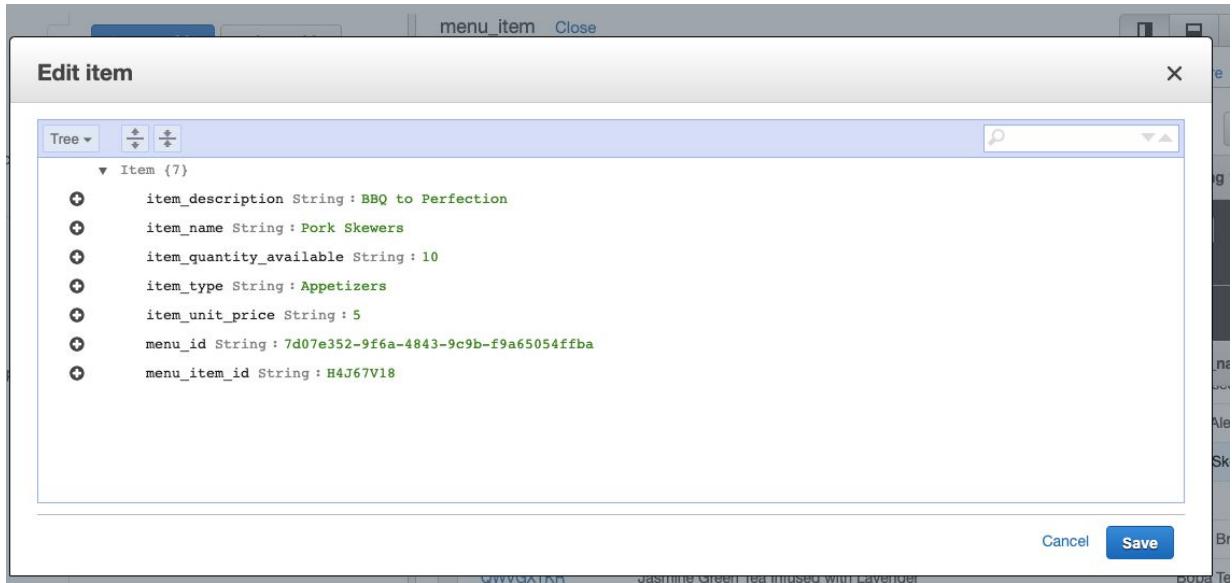


3. Once completed, the menu dashboard will display the new item

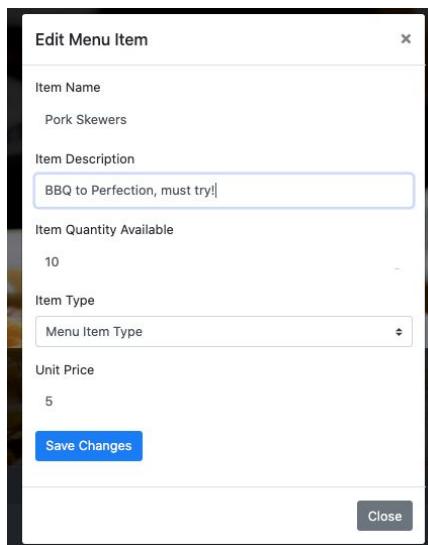


4. Item is reflected in DynamoDB as well

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5. If an edit is required, using the edit button will allow user to update the information



6. Once the page refreshes, the item's description will be updated

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The screenshot shows a pizza with various toppings like olives, bell peppers, and onions. The Menufy logo is at the top left, and the text "Joe Smith Bar Inventory Levels" is at the top right. A blue button labeled "Add Menu Item" is visible. Below the image is a table:

Item Name	Item Description	Item Cost	Quantity In Stock	Item Type	
Pork Skewers	BBQ to Perfection, must try!	\$ 5	10	Appetizers	edit delete

7. If the user would like to delete an item, clicking the delete button would remove it from the menu

Before deletion is executed

Business view

The screenshot shows a dish of Beef Skewers. The Menufy logo is at the top left, and the text "Joe Smith Bar Inventory Levels" is at the top right. A blue button labeled "Add Menu Item" is visible. Below the image is a table:

Item Name	Item Description	Item Cost	Quantity In Stock	Item Type	
Beef Skewers	Slow cooked	\$ 3	5	Appetizers	edit delete
Pork Skewers	BBQ to Perfection, must try!	\$ 5	10	Appetizers	edit delete

Customer view

The screenshot shows a bowl of nachos with green onions and cheese. The Menufy logo is at the top left, and the text "Welcome to Joe Smith Bar" is at the top right. On the left, there's a sidebar with "Appetizers" and two cards: one for "Beef Skewers" (Slow cooked, Price: \$ 3) and one for "Pork Skewers" (BBQ to Perfection, must try!, Price: \$ 5). Each card has quantity input fields (-, 0, +).

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After deletion is executed

Business view

The Business view dashboard features a header with the brand name "Menufy" and a subtitle "Joe Smith Bar Inventory Levels". Below the header is a large image of a pizza. A modal window titled "Add Menu Item" is overlaid on the pizza image. At the bottom of the screen is a table with the following data:

Item Name	Item Description	Item Cost	Quantity In Stock	Item Type	
Beef Skewers	Slow cooked	\$ 3	5	Appetizers	<button>edit</button> <button>delete</button>

Customer View

The Customer View dashboard has a header with the brand name "Menufy" and a subtitle "Welcome to Joe Smith Bar". The main visual is a vibrant, multi-colored cocktail with a lemon slice. On the left side, there is a sidebar menu with the following items:

- Appetizers
- Beef Skewers
Slow cooked
Price: \$ 3

Below the sidebar are three buttons: a minus sign, a zero, and a plus sign.

Account Features: Order Process Tracking Dashboard

1. Navigate to Order Dashboard using the “Current Orders” link

The Order Process Tracking dashboard displays the following address information:

Address Line 2	Unit 99	<button>edit</button>
State	Colorado	<button>edit</button>
Contact Number	123-456-7777	<button>edit</button>
Postal Code	34567	<button>edit</button>

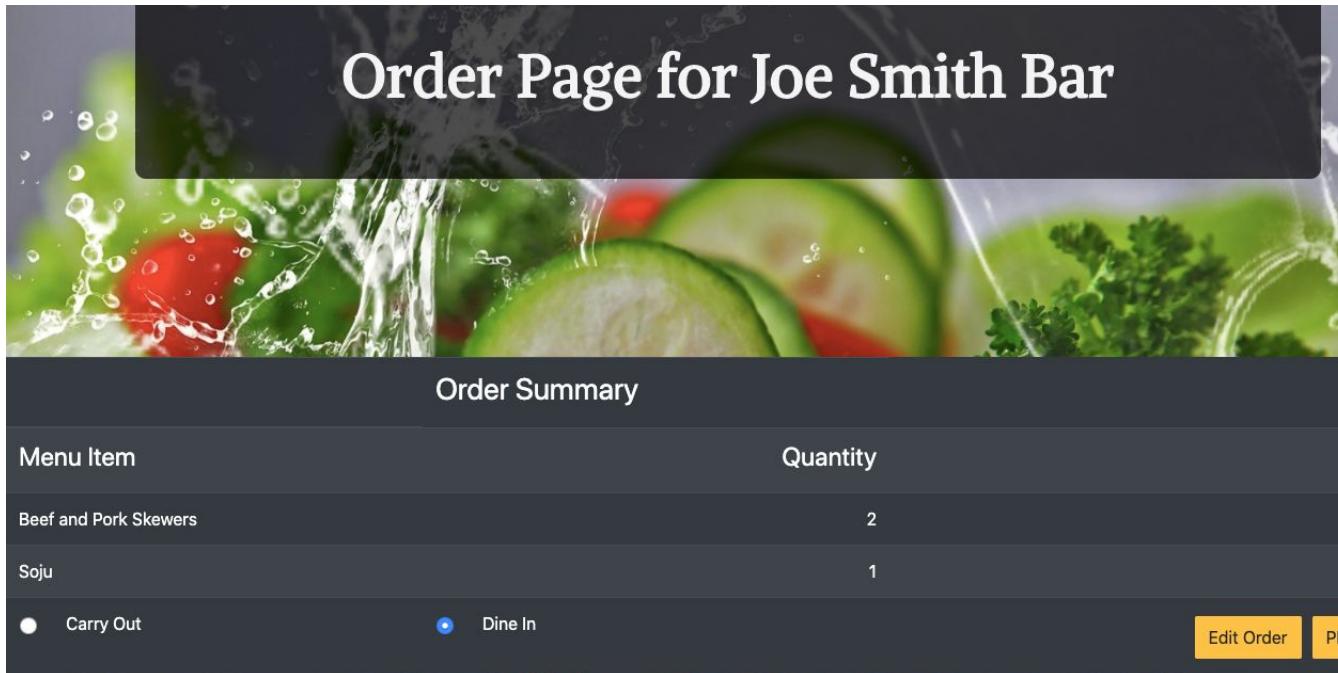
At the bottom of the dashboard, there are three navigation links:

- Current Orders
- Inventory Levels
- Current Menu

The background of the dashboard shows a blurred image of a meal.

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- When a customer order is put through via the customer mode as shown below (Note: Menu is updated for demo purposes)

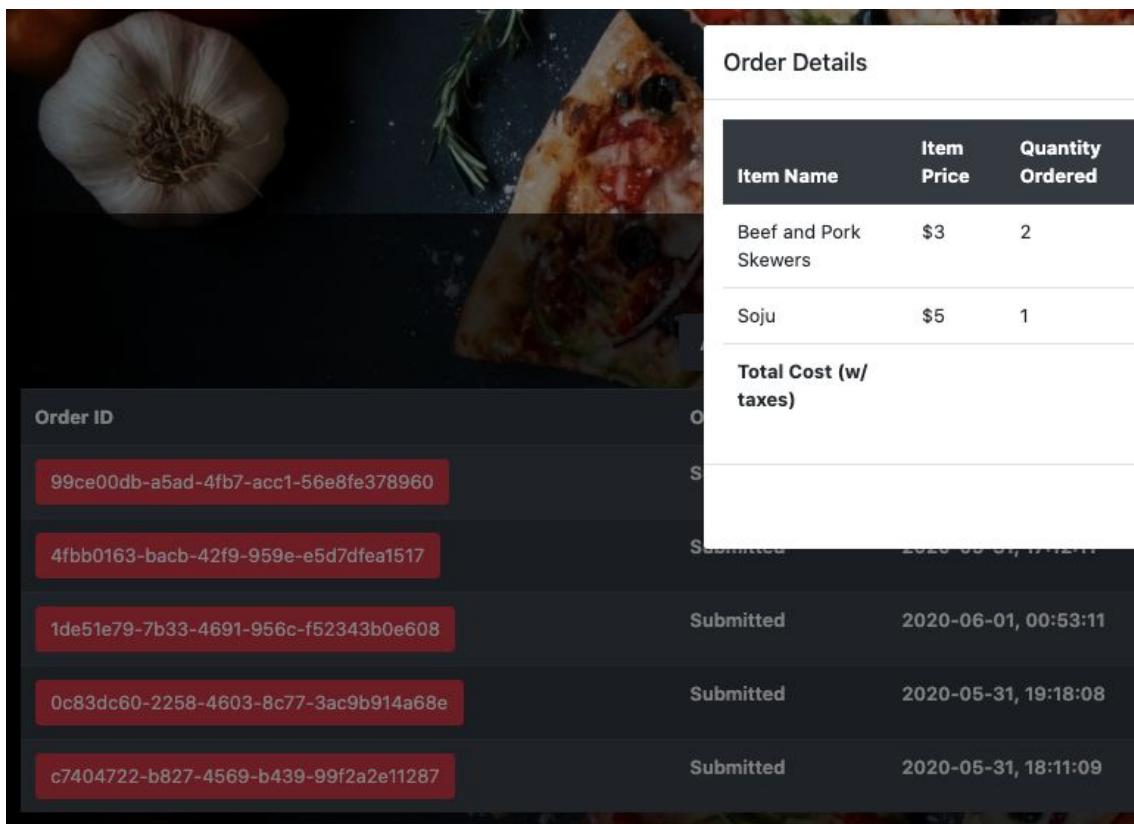


The screenshot shows the 'Order Page for Joe Smith Bar'. At the top, it displays a vibrant background image of various fruits and vegetables. Below the header, the title 'Order Page for Joe Smith Bar' is centered. The main section is titled 'Order Summary'. It contains a table with two items:

Menu Item	Quantity
Beef and Pork Skewers	2
Soju	1

At the bottom left, there are two radio buttons: 'Carry Out' (selected) and 'Dine In'. On the right side, there are two buttons: 'Edit Order' and 'Pl'. The entire interface has a dark theme.

The order will be added to the tracking system in business mode to allow users to keep track of orders.



The screenshot shows the 'Order Details' page. On the left, there's a decorative image of a garlic bulb and a slice of pizza. To the right, the 'Order Details' section is displayed with a table:

Item Name	Item Price	Quantity Ordered
Beef and Pork Skewers	\$3	2
Soju	\$5	1

Below the table, there's a section for 'Total Cost (w/ taxes)'. At the bottom, a table lists previous orders:

Order ID	Submitted	Date
99ce00db-a5ad-4fb7-acc1-56e8fe378960		2020-06-01, 19:12:11
4ffb0163-bacb-42f9-959e-e5d7dfea1517		2020-06-01, 19:12:11
1de51e79-7b33-4691-956c-f52343b0e608	Submitted	2020-06-01, 00:53:11
0c83dc60-2258-4603-8c77-3ac9b914a68e	Submitted	2020-05-31, 19:18:08
c7404722-b827-4569-b439-99f2a2e11287	Submitted	2020-05-31, 18:11:09

- Orders can be marked in progress by clicking on "Work on Order" on the far right

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Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
99ce00db-a5ad-4fb7-acc1-56e8fe378960	Submitted	2020-05-31, 16:59:45	Dine In		Work on order
4fbb0163-bacb-42f9-959e-e5d7dfa1517	Submitted	2020-05-31, 17:12:11	Dine In		Work on order
1de51e79-7b33-4691-956c-f52343b0e608	Submitted	2020-06-01, 00:53:11	Dine In		Work on order
0c83dc60-2258-4603-8c77-3ac9b914a68e	Submitted	2020-05-31, 19:18:08	Dine In		Work on order
c7404722-b827-4569-b439-99f2a2e11287	Submitted	2020-05-31, 18:11:09	Dine In		Work on order

4. Once the button is clicked, the order status will be changed to “In-progress”. Once an order has been fulfilled, click on “Order completed”.

Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
99ce00db-a5ad-4fb7-acc1-56e8fe378960	Submitted	2020-05-31, 16:59:45	Dine In		Work on order
4fbb0163-bacb-42f9-959e-e5d7dfa1517	Submitted	2020-05-31, 17:12:11	Dine In		Work on order
1de51e79-7b33-4691-956c-f52343b0e608	In-progress	2020-06-01, 00:53:11	Dine In		Order completed
0c83dc60-2258-4603-8c77-3ac9b914a68e	Submitted	2020-05-31, 19:18:08	Dine In		Work on order
c7404722-b827-4569-b439-99f2a2e11287	Submitted	2020-05-31, 18:11:09	Dine In		Work on order

5. Once the button is clicked, the order status will be changed to “Completed”.

Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
99ce00db-a5ad-4fb7-acc1-56e8fe378960	Submitted	2020-05-31, 16:59:45	Dine In		Work on order
4fbb0163-bacb-42f9-959e-e5d7dfa1517	Submitted	2020-05-31, 17:12:11	Dine In		Work on order
1de51e79-7b33-4691-956c-f52343b0e608	Completed	2020-06-01, 00:53:11	Dine In		Revert
0c83dc60-2258-4603-8c77-3ac9b914a68e	Submitted	2020-05-31, 19:18:08	Dine In		Work on order
c7404722-b827-4569-b439-99f2a2e11287	Submitted	2020-05-31, 18:11:09	Dine In		Work on order

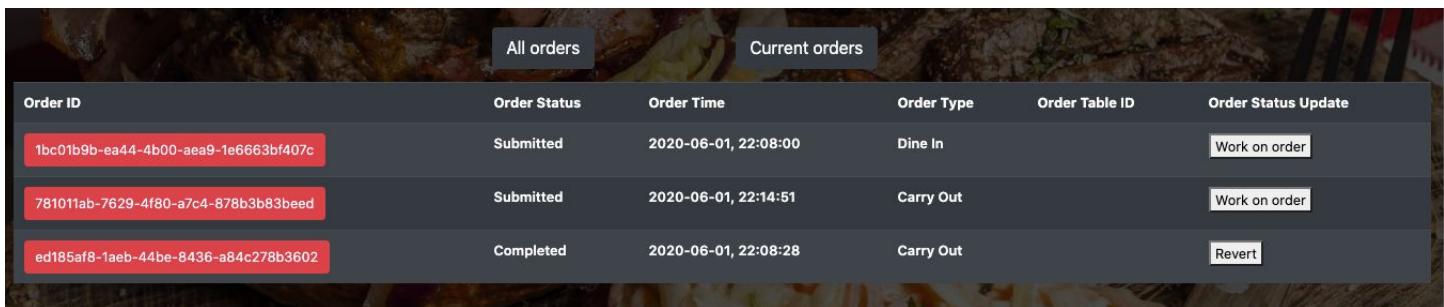
6. Should there be an incident where a user would like to go back to working on an order in the case where an order has been entered incorrectly. Clicking on the “Revert” button as noted above will revert the order status to in-progress.

Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
99ce00db-a5ad-4fb7-acc1-56e8fe378960	Submitted	2020-05-31, 16:59:45	Dine In		Work on order
4fbb0163-bacb-42f9-959e-e5d7dfa1517	Submitted	2020-05-31, 17:12:11	Dine In		Work on order
1de51e79-7b33-4691-956c-f52343b0e608	In-progress	2020-06-01, 00:53:11	Dine In		Order completed
0c83dc60-2258-4603-8c77-3ac9b914a68e	Submitted	2020-05-31, 19:18:08	Dine In		Work on order
c7404722-b827-4569-b439-99f2a2e11287	Submitted	2020-05-31, 18:11:09	Dine In		Work on order
c79c3cf1-a8b2-4f00-bdb9-9aec8af6b777	Submitted	2020-06-01, 21:55:16	Dine In		Work on order

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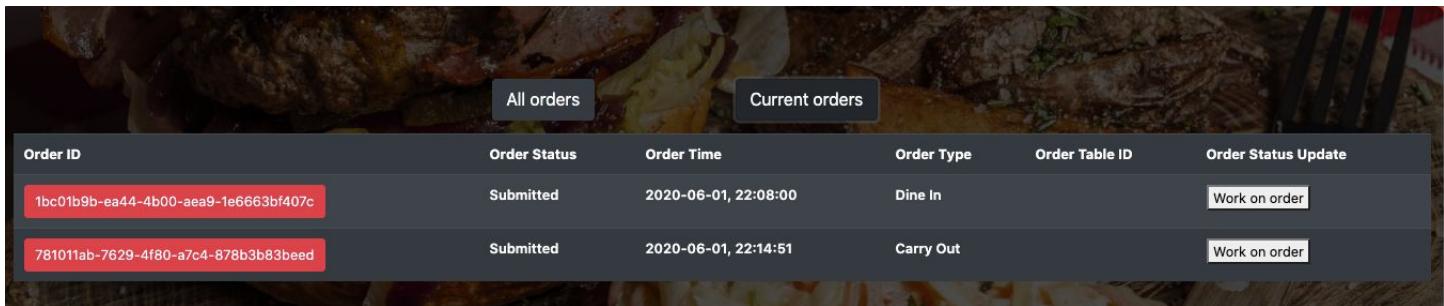
7. Users can filter for only incomplete orders by clicking “Current orders” at the top of the table

Before:



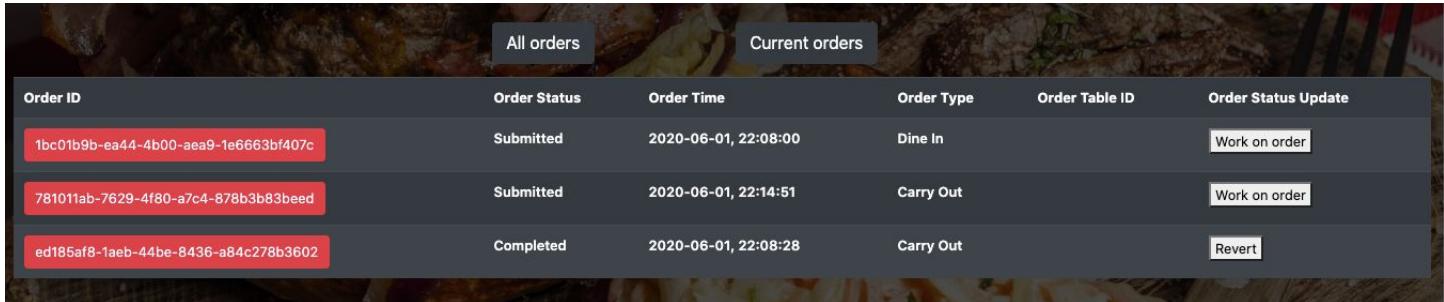
Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
1bc01b9b-ea44-4b00-aea9-1e6663bf407c	Submitted	2020-06-01, 22:08:00	Dine In		Work on order
781011ab-7629-4f80-a7c4-878b3b83beed	Submitted	2020-06-01, 22:14:51	Carry Out		Work on order
ed185af8-1aeb-44be-8436-a84c278b3602	Completed	2020-06-01, 22:08:28	Carry Out		Revert

After:



Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
1bc01b9b-ea44-4b00-aea9-1e6663bf407c	Submitted	2020-06-01, 22:08:00	Dine In		Work on order
781011ab-7629-4f80-a7c4-878b3b83beed	Submitted	2020-06-01, 22:14:51	Carry Out		Work on order

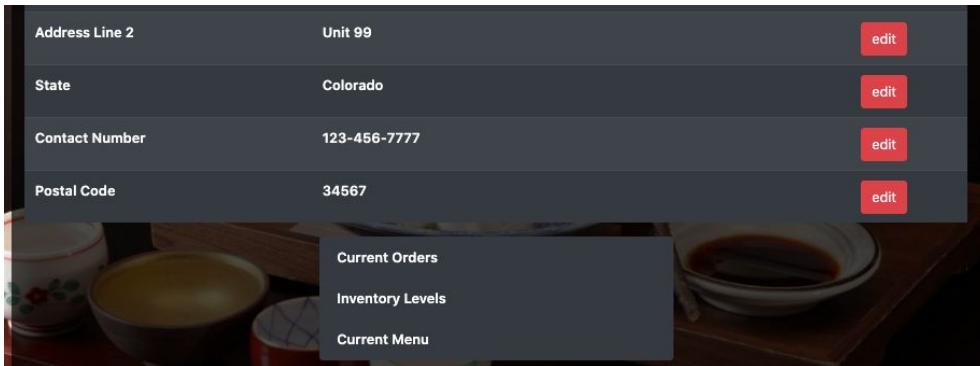
8. Clicking “All orders” will display all orders



Order ID	Order Status	Order Time	Order Type	Order Table ID	Order Status Update
1bc01b9b-ea44-4b00-aea9-1e6663bf407c	Submitted	2020-06-01, 22:08:00	Dine In		Work on order
781011ab-7629-4f80-a7c4-878b3b83beed	Submitted	2020-06-01, 22:14:51	Carry Out		Work on order
ed185af8-1aeb-44be-8436-a84c278b3602	Completed	2020-06-01, 22:08:28	Carry Out		Revert

Account Features: Inventory Tracking Dashboard

1. Navigate to Inventory Dashboard using the “Inventory Levels” link



2. If a user would like to restock inventory if the monitored menu item is low, click on “Reorder” would trigger an automated email to the vendor with details of the item needed for the reorder as well as shipment and contact details.

CS 467 Capstone Project Final Report - Menufy

The screenshot shows a dark-themed web application interface. At the top, the word "Menufy" is displayed in a large, white, sans-serif font. Below it, the text "Joe Smith Bar Inventory Levels" is shown in a smaller, white, sans-serif font. The main content area features a grid of items with a semi-transparent overlay. The grid has three columns: "Item Name", "Item Cost", and "Quantity In Stock". Each row contains two items: "Beef and Pork Skewers" (cost \$3, quantity 5) and "Soju" (cost \$5, quantity 5). To the right of each item row is a blue "Reorder" button. The background of the page is a photograph of various food items, including spaghetti and what appears to be a cocktail or juice.

Item Name	Item Cost	Quantity In Stock
Beef and Pork Skewers	\$ 3	5
Soju	\$ 5	5

- Once email has been sent, a success pop-up window will appear at the top of the page.



An email will be sent to the vendor with a customized message.

Joe Smith Bar: Restock Inventory Request [Inbox](#)



[menufy.capstone@gmail.com](#)
to me

Hello Procurement Team,

Please fulfill the following order for Joe Smith Bar

We are running low on Soju and would like to replenish our stock with the default stock order in our contract.

Please call us if you have any issues fulfilling this order at 123-456-7777.

Sincerely,
Joe Smith Bar
13th Avenue
Unit 99
Boulder
34567
Colorado

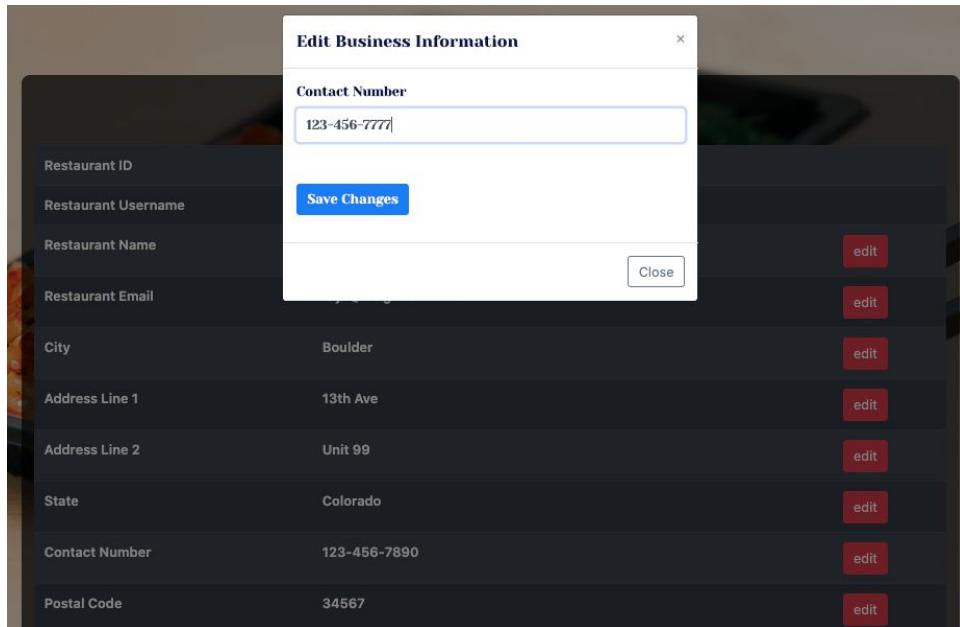
Account Features: Update Account Information

- In the main landing page, users can update their account information using the edit button

CS 467 Capstone Project Final Report - Menufy

Restaurant ID	5ccf870b-88b7-4ebe-ad82-7257f4f65d7a	
Restaurant Username	test_account	
Restaurant Name	Joe Smith Bar	<button>edit</button>
City	Boulder	<button>edit</button>
Address Line 1	13th Ave	<button>edit</button>
Address Line 2	Unit 99	<button>edit</button>
State	Colorado	<button>edit</button>
Contact Number	123-456-7890	<button>edit</button>
Postal Code	34567	<button>edit</button>

- For example, if the user would like to edit their contact information, a pop-up window will appear, allowing users to edit their information



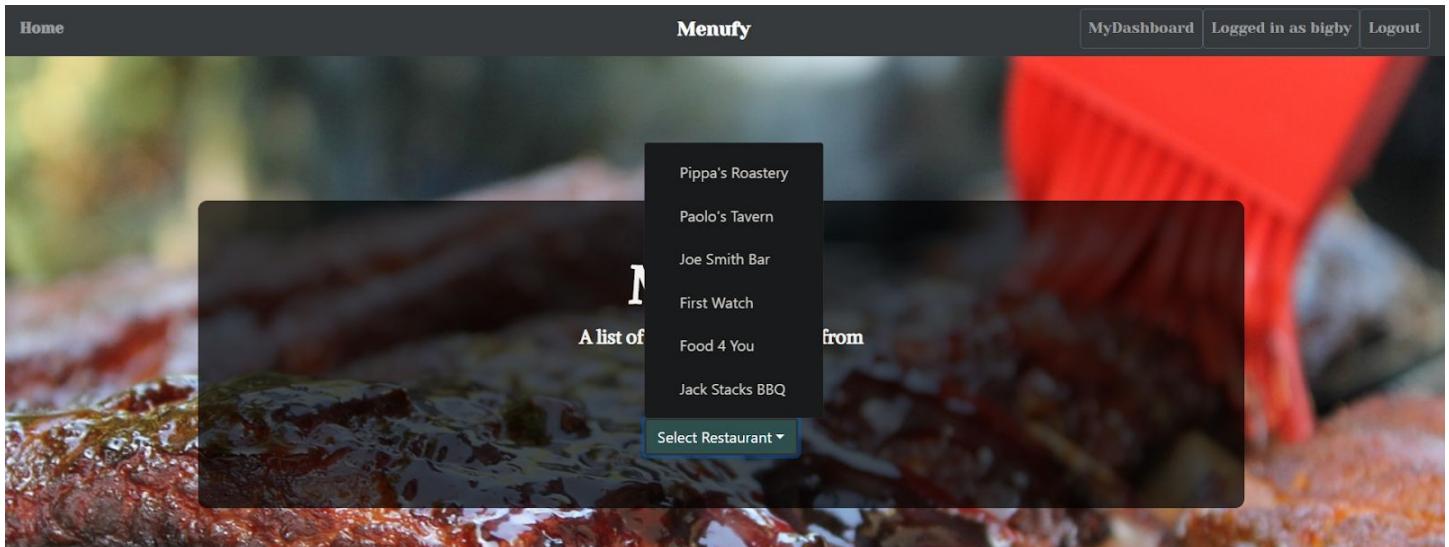
Once completed and the page refreshed, the updated contact will be reflected in the landing page

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Restaurant ID	7d07e352-9f6a-4843-9c9b-f9a65054ffba	
Restaurant Username	test_account	
Restaurant Name	Joe Smith Bar	<button>edit</button>
Restaurant Email	tays@oregonstate.edu	<button>edit</button>
City	Boulder	<button>edit</button>
Address Line 1	13th Avenue	<button>edit</button>
Address Line 2	Unit 99	<button>edit</button>
State	Colorado	<button>edit</button>
Contact Number	123-456-7777	<button>edit</button>
Postal Code	34567	<button>edit</button>

Menu and Food Ordering Process

The customer can view the menus of restaurants that have registered and uploaded their menus to the application. At the home page, clicking the 'Select Restaurant' button shows a dropdown menu of restaurants available.



The user then clicks the restaurant for which they want to place an order. Choosing the restaurant will display the menu for that restaurant, with items sorted according to which category they belong to (appetizers, drinks, desserts, etc.). The '-' and '+' buttons allow the user to choose the quantities for the items they wish to order.

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Menufy
Welcome to Pippa's Roastery

Drinks

Summer Mimosa
Fresh mint and organic orange juice
Price: \$ 7

Freshly Brewed Coffee
Fair trade coffee from our friendly neighbour Main Street Roastery
Price: \$ 8

Pour Over
Ethically sourced beans from Ethiopia. Made with precision and passion.
Price: \$ 5

Cappuccino
Award winning dark roast from Cuba.

Aussie Flat White

Cappuccino
Award winning dark roast from Cuba.
Price: \$ 5.5

Aussie Flat White
Melbourne-inspired flat white made with our house blend.
Price: \$ 7

Breakfast

Almond Croissant
Freshly baked almond croissant, from our in-house oven to you
Price: \$ 4.50

Cookie-lovers Beware
Addictive chocolate chip cookies infused with marshmallow and cornflake goodness.
Price: \$ 3

Avocado Toast
Organic Haas Avocado served on freshly baked ciabatta bread
Price: \$ 8

Lunch

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The screenshot shows a dark-themed mobile application interface. At the top left, there is a button labeled "Lunch". Below it, a card displays a "Smoked Ham Sandwich" with the description "Montreal smoked meat served in a brioche bun" and a price of "\$ 3". A quantity selector with a minus sign, a central input field containing "0", and a plus sign is shown below the price. In the bottom right corner of the screen, there is a yellow button labeled "Review Order".

Clicking on the 'Review Item' button will bring the user to an order summary page, listing the items they have selected, their quantities, and the subtotal price for those quantities. The order page also has an option for the user to select Dine In or Carry Out as their type of order (Dine In is selected as a default).

The screenshot shows the "Order Page for Pippa's Roastery". At the top, there is a title "Order Page for Pippa's Roastery" over a background image of a dish. Below the title, there is a section titled "Order Summary" with a table. The table has three columns: "Menu Item", "Quantity", and "Subtotal". The items listed are Cappuccino (Quantity 2, Subtotal 11.0), Aussie Flat White (Quantity 1, Subtotal 7.0), and Almond Croissant (Quantity 1, Subtotal 4.5). At the bottom left, there are radio buttons for "Carry Out" and "Dine In" (which is selected). In the center, there is a yellow "Edit Quantity" button. At the bottom right, there are three yellow buttons: "Add Items", "Update Order", and "Place Order".

Menu Item	Quantity	Subtotal
Cappuccino	2	11.0
Aussie Flat White	1	7.0
Almond Croissant	1	4.5

Upon arrival to this page, the quantities of items cannot be changed. But clicking on the 'Edit Quantity' button will change the Quantity field so that the amounts can be changed. After the quantities are changed to the users specifications, the user would then click the 'Update Order', and the subtotal for the changed quantity will be updated.

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The screenshot shows the Menufy Order Page for Pippa's Roastery. At the top, there is a banner with the text "Order Page for Pippa's Roastery". Below the banner is a close-up image of a dish, likely a stir-fry with green onions and other vegetables. The main content area is titled "Order Summary". It contains a table with three rows of items:

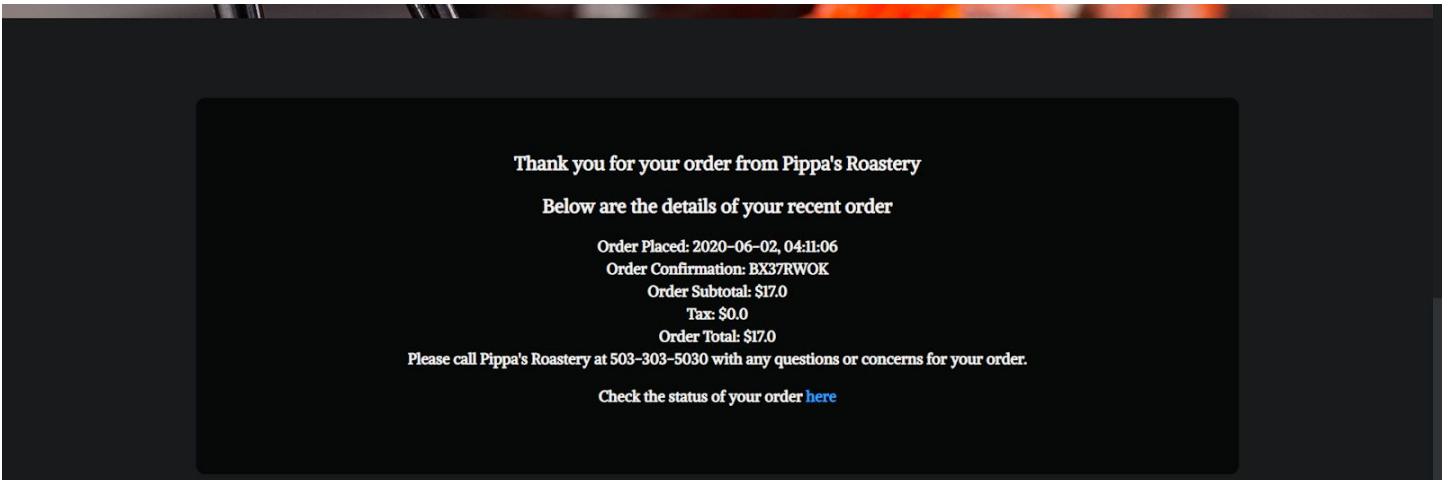
Menu Item	Quantity	Subtotal
Cappuccino	1	5.5
Aussie Flat White	1	7
Almond Croissant	1	4.5

At the bottom of the summary table, there are three buttons: "Add Items", "Update Order", and "Place Order". To the left of these buttons, there are radio buttons for "Carry Out" and "Dine In".

Clicking the 'Add Item' button redirects the user to the restaurant's menu page in order to add more items to their order. Clicking the 'Place Order' button will submit the order to that restaurant through the application. The application will then display a page showing the completed order summary. It will have the time the order was placed, and confirmation number, the subtotal, the amount of tax, and the order total. The page also displays the restaurant's name and phone number to contact with questions about an order, and a link to an order status page, where the customer can check on the status of their order, to see if it has been completed yet.

The screenshot shows the Menufy Order Confirmation Page. At the top, there is a navigation bar with links for "Home", "Menufy", "MyDashboard", "Logged in as bigby", and "Logout". A green banner at the top of the main content area says "Order was successful. Confirmation email sent to matthew.j.egan06@gmail.com". The main content area features a large image of sushi rolls. Overlaid on the image is a dark box containing the "Menufy" logo and the text "Order Summary for bigby".

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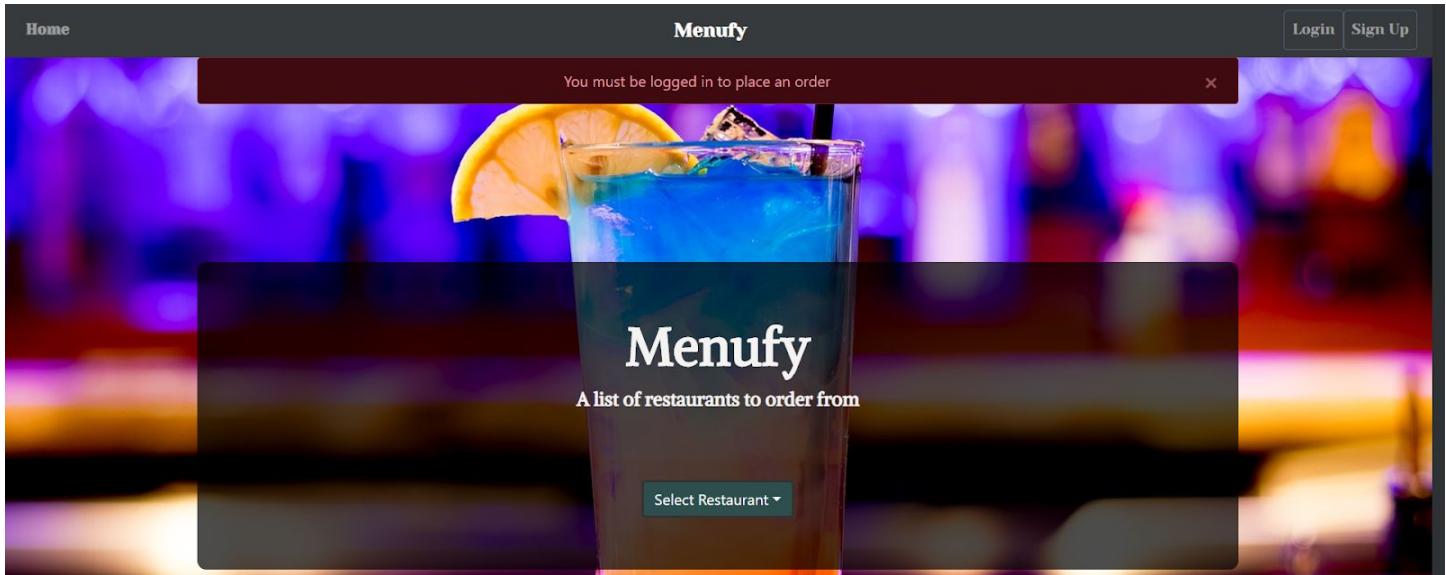


If a user is not logged in to the application, they can get to the order summary page, but if they try to submit the order, the application will redirect them to the home page with a message that they must log in to place an order.

The screenshot shows the Menufy application's order page. At the top, there is a navigation bar with "Home", "Menufy" (the logo), and "Login / Sign Up" buttons. The main heading is "Order Page for Food 4 You". Below this, there is a large image of a glass of beer on a wooden table. The section title "Order Summary" is visible, followed by a table showing the order details:

Menu Item	Quantity	Subtotal
Wheat Beer	2	10.0

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The application takes the menu item ids, the quantities of those items, and the subtotals for those items, and creates an order within the database containing all of the order information:

```
Tree ▾
+ Item {13}
+ confirmation String : BX37RWOK
+ customer_id String : 10831b62-0d2f-4d99-8268-5a998c53aaaf
+ oi_id List [3]
+ 0 String : 780f2169-5cbc-4425-800d-bf468ddd6c6b
+ 1 String : f78f6730-59dd-4626-bfa5-be1cc30f3675
+ 2 String : bcfbe969-b567-49cf-9d94-6190505036e8
+ order_fulfilled_time Null : true
+ order_id String : ad965796-ef89-48f5-a503-34cbe56a427a
+ order_status String : Submitted
+ order_time String : 2020-06-02, 04:11:06
+ order_total String : 17.0
+ order_type String : Dine In
+ restaurant_id String : 889d073b-e3e2-47b6-867f-b4119ea649e7
+ subtotal String : 17.0
+ table_id Null : true
```

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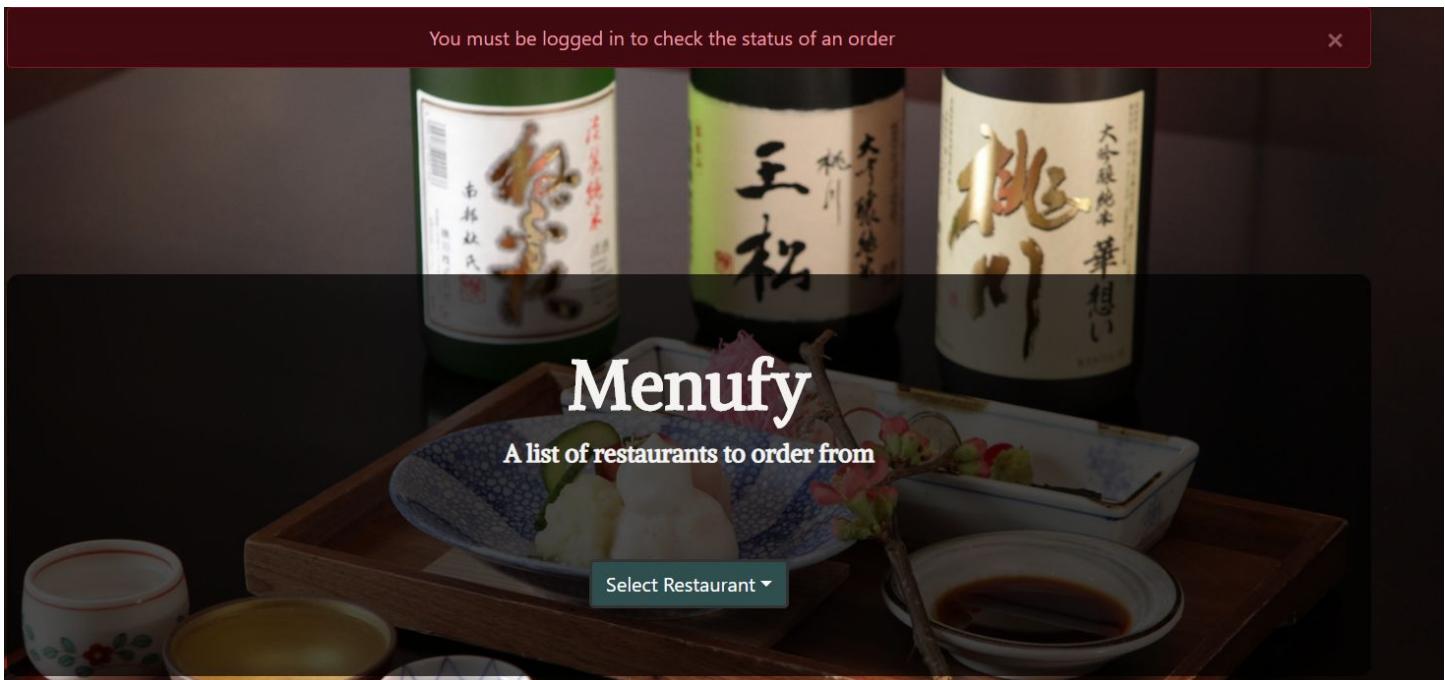
The restaurant side of the application has access to the orders, and can update the order status from the restaurant's part of the application

Here is what the order status page looks like:

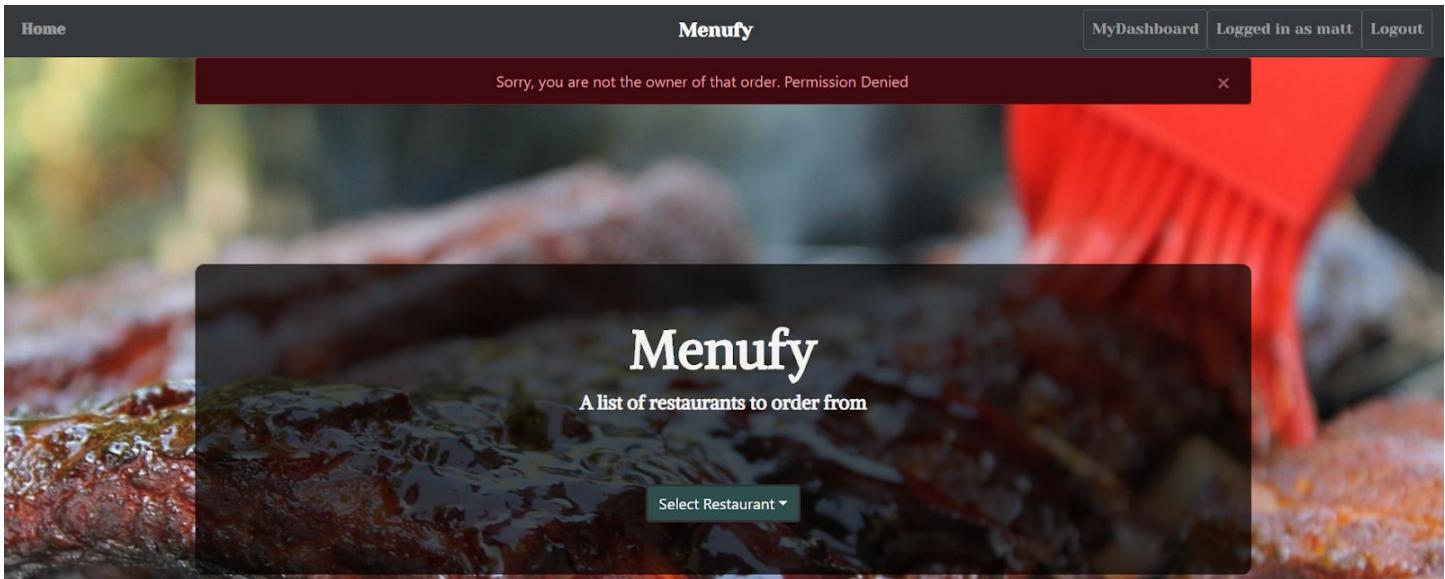


A user must be logged in to view the status of an order:

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Also, only the user that placed the order can check the status of that order. If another user tries to use the link, they get a message that states they are not allowed to view that order:



The user must have an email address registered to the application, because once an order is complete, the application sends an email to the user with the order details.

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Order Confirmation Email



menufy.capstone@gmail.com <menufy.capstone@gmail.com>

11:11 PM



To: matthewj.egan06@gmail.com

Hello bigby

Below are the details of your recent order from Pippa's Roastery

Order Placed: 2020-06-02, 04:11:06

Order Confirmation: BX37RWOK

Order Subtotal: \$17.0

Tax: \$0.0

Order Total: \$17.0

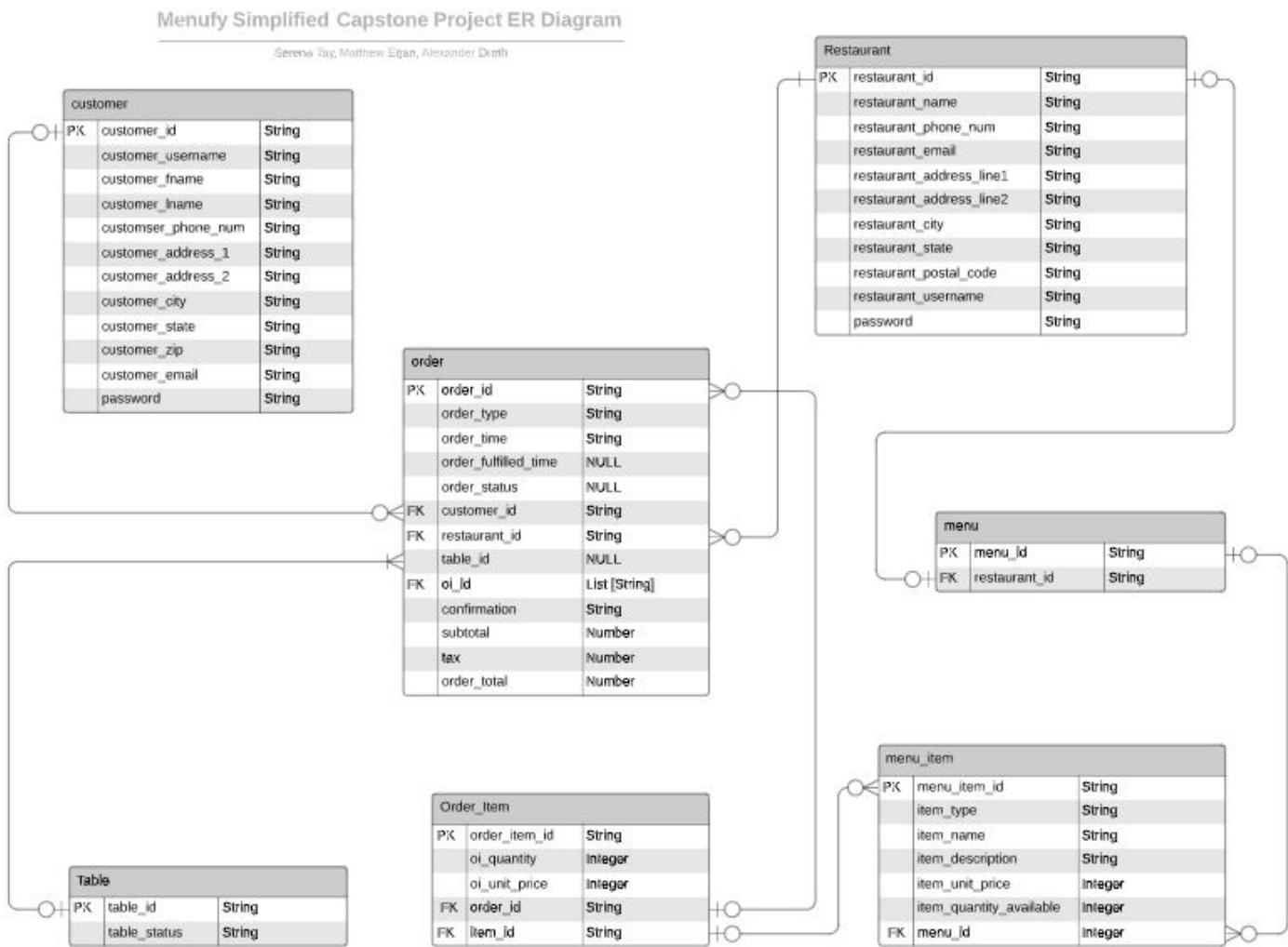
Please call Pippa's Roastery at [503-303-5030](tel:503-303-5030) with any questions or concerns for your order.

Check the status of your order [here](#)

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Program Technical Specifications

Program ERD



User Stories - Application Features

Our team managed and developed the project under the AGILE methodology. In order to ensure our application meets and satisfies user requirements, we developed our application by meeting the acceptance criterias for three major user stories as noted below.

User Story #1

As a **Restaurant Customer**, I want to have an **online ordering-enabled menu**, so that it would allow me to access the menu before heading to the restaurant and make orders online

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User Story #2

As a **Restaurant Manager**, I want to have **access to data pertaining to orders**, so that I can **leverage the information for operational management activities**.

User Story #3

As a **Kitchen Manager**, I want to **track orders and ensure orders are communicated to the kitchen in a timely manner**, so that this would **reduce wait time and minimize potential bottlenecks**.

Software libraries, Languages, APIs

Cloud and web services

- Amazon Web Services: aws.amazon.com
- Elastic Beanstalk
 - Elastic Beanstalk (EB) is a service that AWS provides that helps automate the process of running an application on the web. Our group was interested in cloud development, but had limited experience deploying a fully functional application on the cloud. EB allowed us to deploy our application without having to spend too much time focusing on the system management. EB allowed us to upload our application, it provisioned the server instances, and handled the load balancing and autoscaling. EB also allowed us to monitor how our application was functioning and if there were ever any issues or problems with the application. All of the components of EB were fully visible and we could inspect all components as need, making it an ideal application for our project.

Languages and Framework

- Python:
 - Used in the backend using the Flask framework
- Flask
 - The framework used to connect to the database (DynamoDB). Used special libraries such as flask_sessions, uuid, and flask_mail to help facilitate a connection between the front-end and database.
- HTML:
 - The web pages that show on the screen. Used Jinja2 to input and output to Flask.
- CSS:
 - Bootstrap and basic CSS was used to create a more user friendly site.
- JavaScript
 - DOM manipulation and JQuery used to facilitate appearance and alterations to the website.

Libraries

- AWS SDK for python Boto3 <https://aws.amazon.com/sdk-for-python/>
 - Used to interact with our tables in our database.
- Jquery
 - Used to help display certain parts of the website that required DOM manipulation or changes that needed to be altered on the front end rather than in Flask.

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- Bootstrap
 - Used to give the site structure and produce a user-friendly site.

Database

- DynamoDB (NoSQL database with AWS)
 - <https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Introduction.html>

Development tools

- VS Code
- Visual Studio
- GitHub
- JIRA

Team Members Contribution

Contribution Summary

Serena Tay

Serena took the unofficial role as a “project manager” by drafting blueprints for our project deliverables which includes our project plan, midpoint check and final project report. This includes setting up a timeline for our weekly tasks and deadlines, setting up LucidChart for our ERD diagram, GitHub repository for the application, a slack group channel for team communication and Google Docs drafts for deliverables to ensure our team progress on a timely basis and ensure the application is completed on the due date. From a development standpoint, Serena was responsible for creating the “Business Mode” for our application. This includes creating an account sign-up, log-in and log-out mode consistent with the customer mode of the application. Serena has also created features within the “Business Mode” that a business owner would find useful. Features include allowing users to view the order dashboard, inventory level dashboard and menu management dashboard.

Alexander Drath

The ERD diagram was initially created by Alex in the beginning of the project with the help of Serena. The development of the customer portion of the project was a major part of the project that Alex spent a lot of time working on. How to create, hash passwords and remain logged into a session was a big part of the process and laid the foundation for the business to create accounts as well. The ability to search/filter order was done by Alex as well. This was then integrated into the business side as well as the customer dashboard. A lot of the front end development such as the HTML and CSS was done by Alex as well. In particular, the modals that appear on the front-end when you are looking at the order details were worked on by Alex. Attending every meeting, Alex took meticulous notes to make sure that the project was going as smoothly as possible and allowed him to offer assistance where possible.

Matthew Egan

Matthew took the initiative to research Amazon Web Services in order to determine the best method for creating and hosting the application. After looking through the options AWS provided, the group settled on using AWS Elastic Beanstalk. Since we were all somewhat unfamiliar with hosting a full application on the

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cloud, it provided an ease of use in getting the project set up. Matthew also implemented a CI/CD pipeline that linked our application with our Github repository, and whenever a commit was pushed to the repository, the pipeline implemented our changes to our application. Matthew also spearheaded the ordering process for the customer aspect of the application. Matthew found a way to organize the items of a restaurant's menu so that the items in the same category were displayed together. Matthew also implemented how the application captured the information coming in from a user's initial selections from the menu, in order to display on the order summary page. Then he set up the functionality of how to edit the quantities in the order summary and once those were updated, changing the subtotals to reflect the change in quantity. Matthew handled the order creation within the database, and also researched and implemented the email functionality of the application, so the application could send out emails to the customer with their order details.

Conclusion

Deviations from Original Plan

One of the obstacles we faced at the start of the project was deciding if we were able to create an application that will be deployed in both web-based and mobile application user interfaces. After some extensive assessments, we decided it would be best to focus our efforts in creating a comprehensive web-based application given the time constraint. Upon approval by the course instructor, we removed the mobile application component from our project.

Closing Remarks

Overall, this has been a good learning experience working on building a functioning application from scratch. As the team was given full-reign on what tools, languages, framework and technology to work on the capstone project, this presented itself with a situation where we would need to research the available options in the market before deciding as a group on which ones would work best for our use-case.

Despite none of us having previous experience working with AWS and its technologies, this project was a good opportunity to gain exposure to the tools provided by AWS such as EC2, Elastic Beanstalk, CodePipeline to create an automated CI/CD environment to develop our application.

We have also utilized an AGILE methodology to ensure our application is built based on user needs. With the use of user stories and regular weekly sprints to ensure all team members are transparent about their progress, potential roadblocks and to-dos.

Lastly, the project has allowed us to gain valuable experience into understanding process flows within restaurant management and critically think about what would be important must-haves vs nice-to-haves in both a user interface perspective and from an application architecture point of view.