



**DALHOUSIE
UNIVERSITY**

MEALSTOP

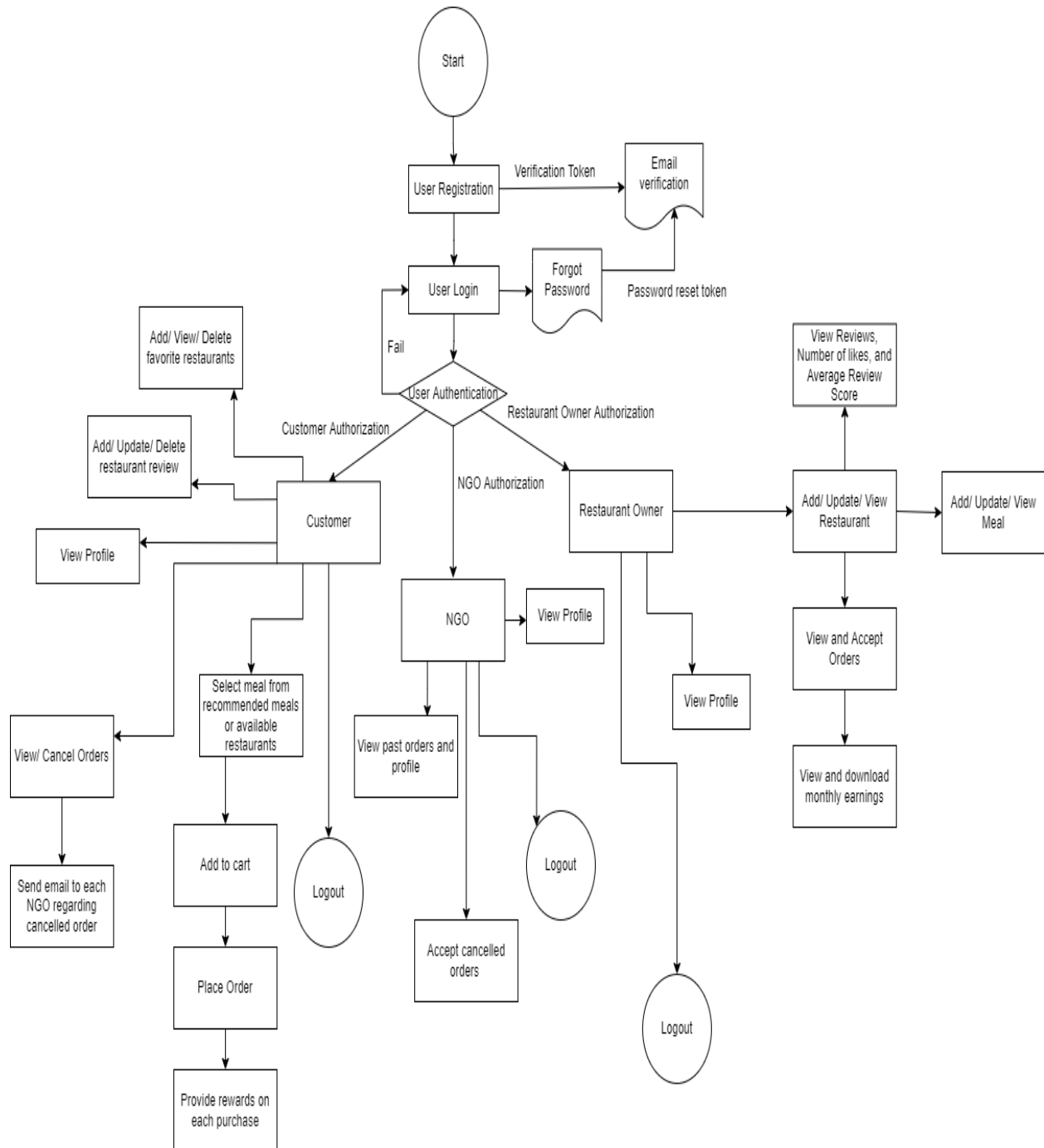
Professor: Tushar Sharma

TA: Hamza Jasnak

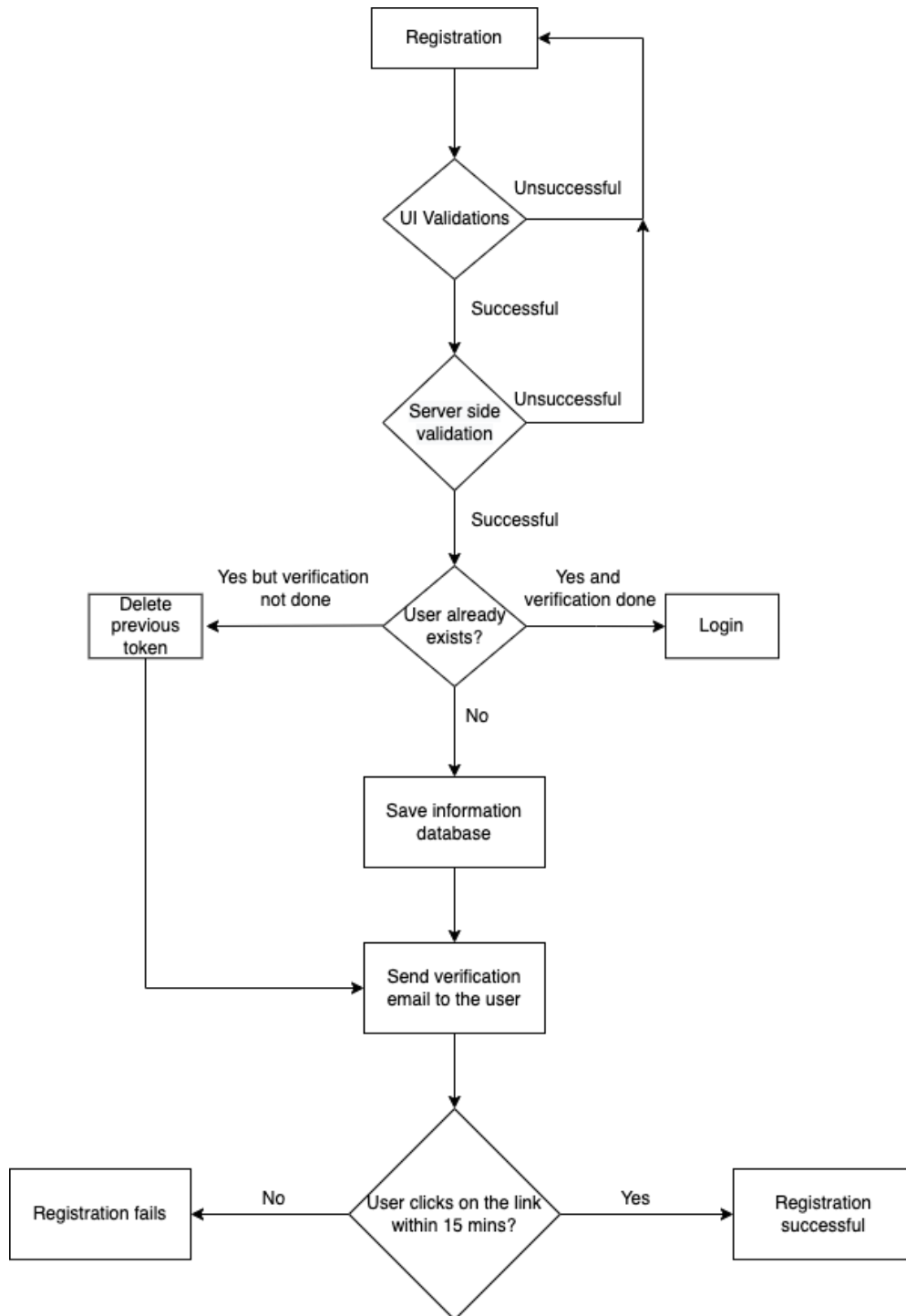
Table of Contents

Sr. no.	Content	Page no.
1.	User Scenarios	2
2.	User Registration	3
3.	User Login	8
4.	Forgot Password	11
5.	Restaurant/Meal	14
6.	Recommendation System	22
7.	Customer	24
8.	Review	29
9.	Favorites	31
10.	Cart	33
11.	Orders	36
12.	Rewards	44
13.	NGO	46
14.	References	51

User Scenarios



1. User Registration



Registration based on user types

- A user can register as Restaurant owner, Customer or NGO owner.
- Restaurant owner, customer will have common registration basis on the role type.
- NGO owner will have its own registration.

Registration validations

- Validations work on both client and server side.
- Server-side validations work, even if client-side validations fail.

Registration verification email

- When a user is successfully registered inside the user table, an email with verify URL containing verification token email is sent.
- Verification token has a validity of 15 minutes. If a user is not verified within 15 minutes, he needs to register again.

Registration process scenarios

- If a user is coming for the first time:
 - User information will be stored inside user table.
 - Verification token will be stored inside verification token table.
 - An email will be sent to the user on the registered email with verification URL.
- If a user already exists inside the system with user not enabled i.e., user not verified.
 - Previous verification token will be deleted.
 - New verification token will be created.
 - An email will be sent to the user on the registered email with verification URL.
- If a user already exists inside the system with user not enabled i.e., user verified.
 - Already existing user will be returned.

Registration UI for Customer/Restaurant



Register

[Already registered? Login](#)

Registration UI for NGO



[Already registered? Login](#)

Verification email:

mealstopapp@gmail.com

to me ▼

Verify url: <http://localhost:8080/api/v1/verifyRegistration?token=88e68460-ef46-4485-873e-e687b0820047>

Registration UI with validations

First Name

First name cant be null
First name should have at least 3 and max of 50 characters

Last Name

Email

Email cant be null

Password

Password cant be null
Password should have at least 6 and max of 50 characters

Confirm Password

Matching Password cant be null
Password should have at least 6 and max of 50 characters


Mobile Number

Mobile number cant be null
Mobile number should have 10 characters

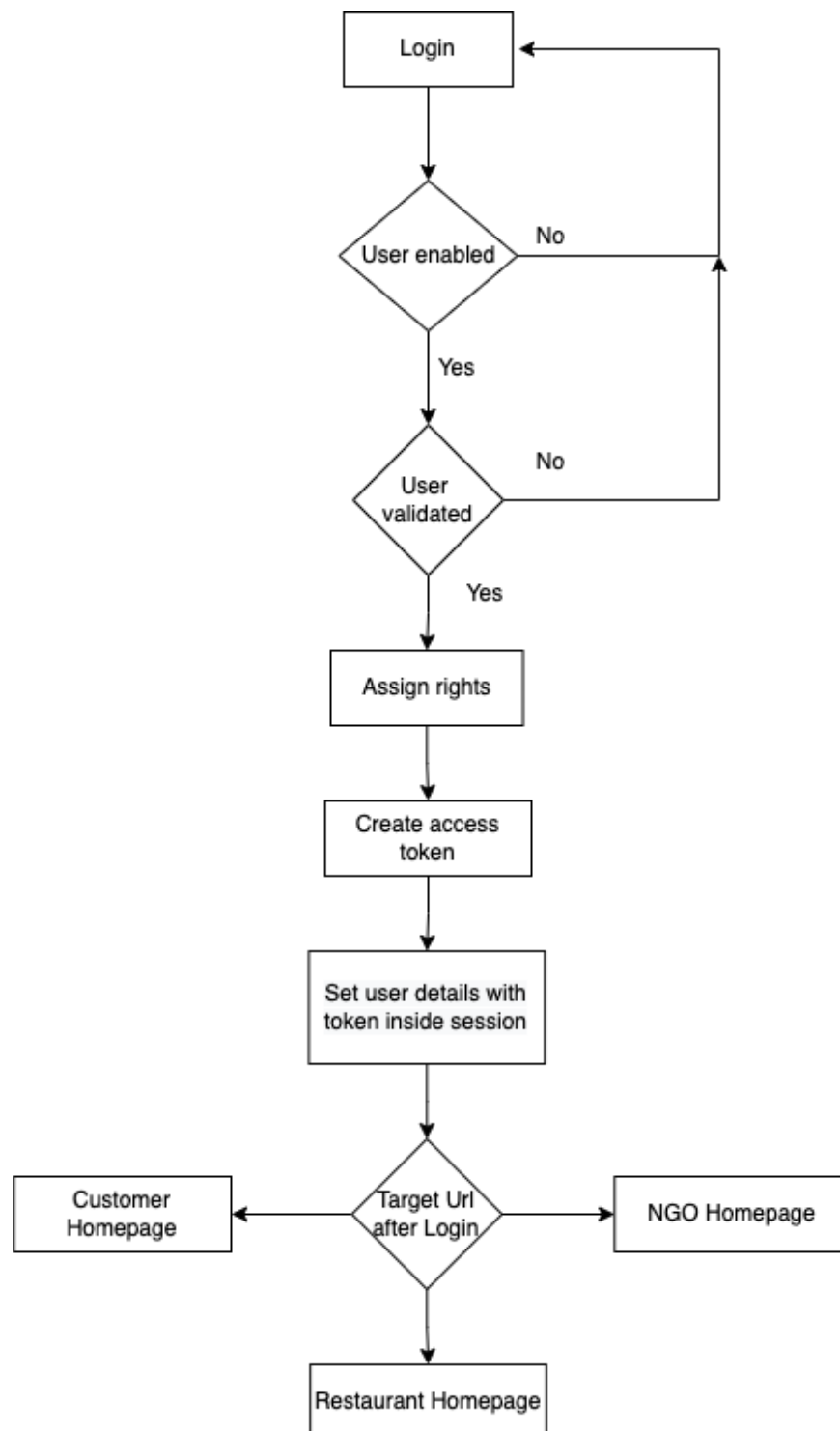
Address

Address should have at least 10 and max of 200 characters
Address cant be null

2010-01-03



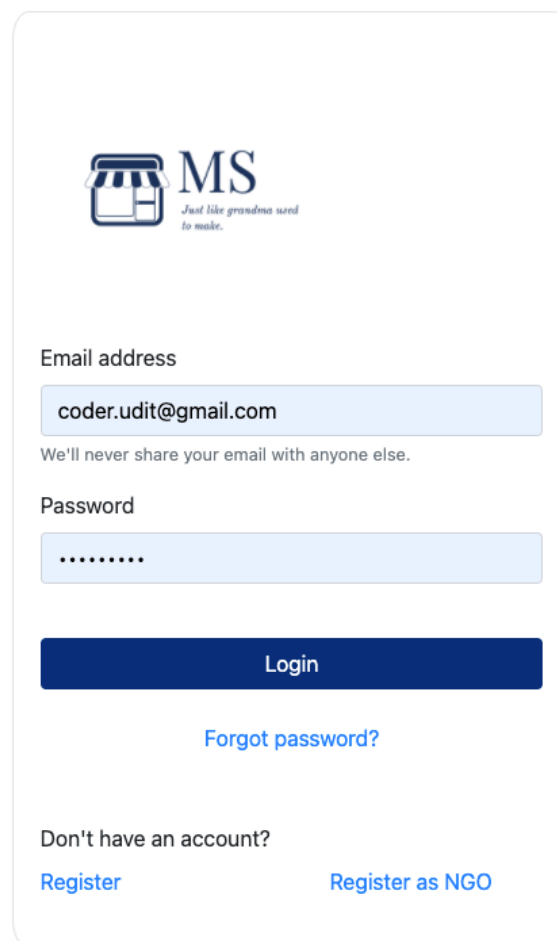
2. User Login




User Login Scenarios

- If a user has been registered and not verified.
 - User will be redirected to error page for login again.
- If a user has been registered and verified, but wrong information.
 - User will be redirected to error page for login again.
- If a user has been registered and verified, with correct information.
 - Rights will be assigned to the user.
 - Access token will be created containing information about user and its rights.
 - Access token will be set inside the HTTP session for further authorization of requests.

User Login UI



The image shows a user login interface for a mobile application. At the top, there is a logo consisting of a storefront icon and the letters 'MS' in a serif font, with the tagline 'Just like grandma used to make.' below it. The login form is centered and contains the following elements: an 'Email address' label above a text input field containing 'coder.udit@gmail.com'; a line of text stating 'We'll never share your email with anyone else.'; a 'Password' label above a password input field with eight dots; a dark blue 'Login' button; a blue link 'Forgot password?'; and a section for new users with the text 'Don't have an account?' followed by two blue links: 'Register' and 'Register as NGO'.



MS
Just like grandma used to make.

Email address

We'll never share your email with anyone else.

Password


Login

[Forgot password?](#)

Don't have an account?

[Register](#) [Register as NGO](#)

User Login invalid email format



Email address

Password

Login

[Forgot password?](#)

Don't have an account?

[Register](#) [Register as NGO](#)

! Please include an '@' in the email address. 'coder.udit' is missing an '@'.

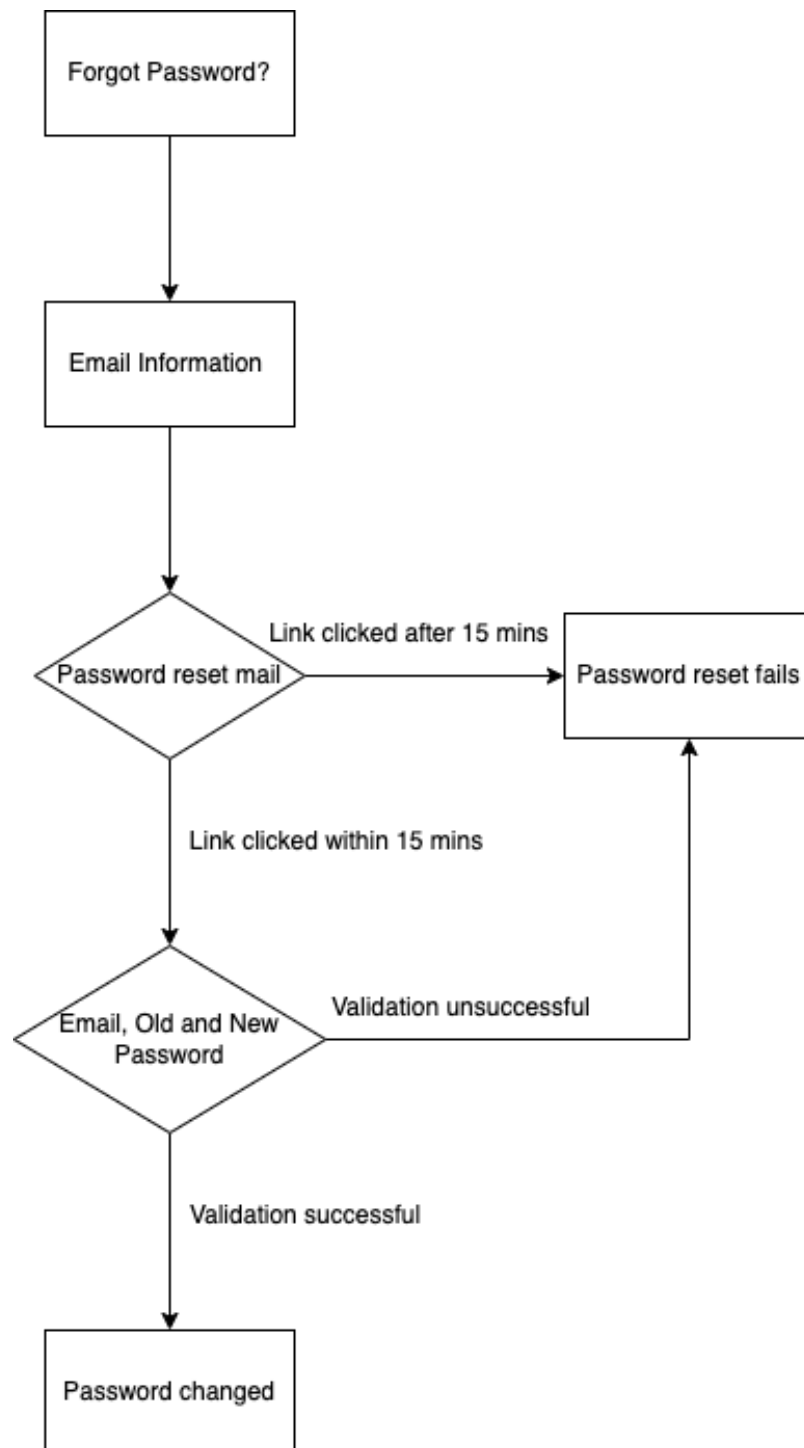
User Login UI error



Invalid user details

[Trying login again!](#)

3. Forgot Password



Forgot password scenarios

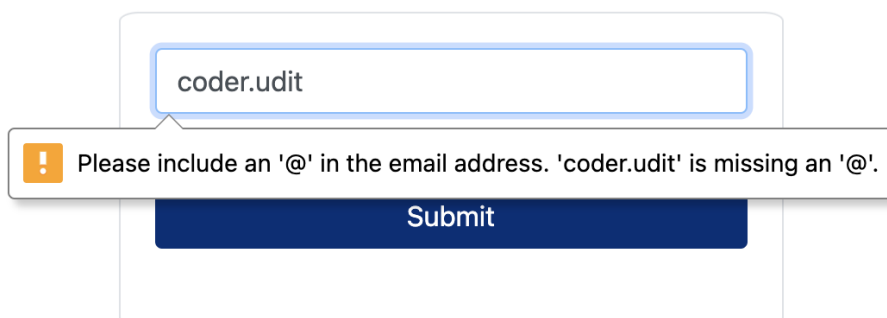
- User enters an email that does not exist in the system.
 - Redirect the user to the login page.
- User enters an email that exist in the system.
 - Sends a password reset mail to the user containing password token.
 - User needs to click on the link.
 - User enters the new password.

Forgot password UI



A mockup of a forgot password form. At the top is a logo consisting of a storefront icon and the letters 'MS' with the tagline 'Just like grandma used to make.' below it. Below the logo is a text input field containing the email address 'coder.udit@gmail.com'. Underneath the input field is a dark blue button with the text 'Submit' in white.

Forgot password UI with invalid email format



A mockup of a forgot password form showing an invalid email format. The text input field contains 'coder.udit'. Below the input field, a white error message box with a yellow warning icon contains the text: 'Please include an '@' in the email address. 'coder.udit' is missing an '@'. Below the error message is a dark blue button with the text 'Submit' in white.


Password reset mail

mealstopapp@gmail.com

to me ▼

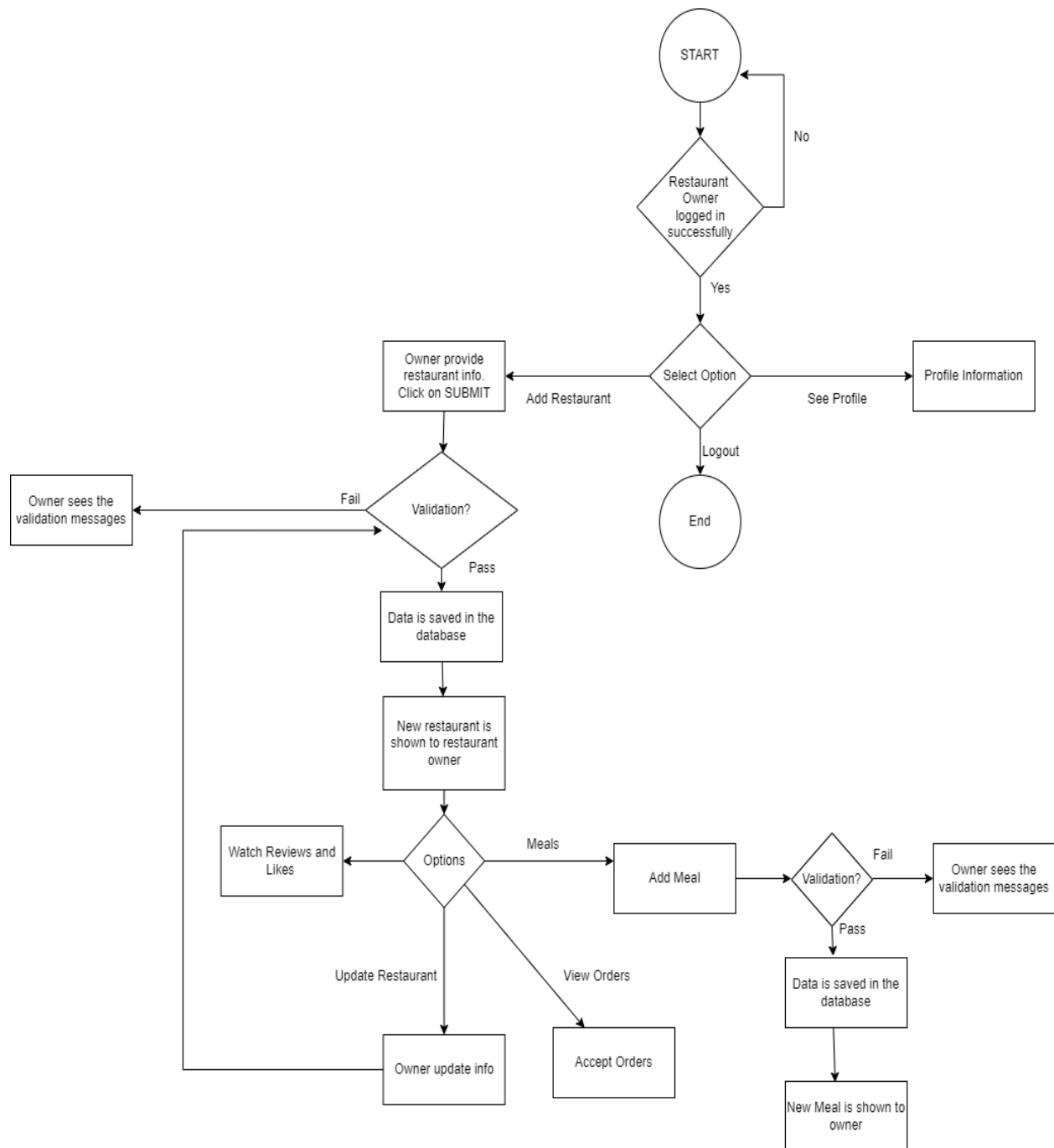
<http://localhost:8080/api/v1/savePassword?token=76ad5523-b998-4da2-8a78-cb17cee097ae>

Change password UI



MS
*Just like grandma used
to make.*

4. Restaurant/Meal



Restaurant

- A restaurant owner can add multiple new restaurants
- A restaurant owner can update an existing restaurant
- A restaurant owner can add a new meal to a restaurant
- A restaurant owner can update an existing meal
- A restaurant owner can see the average review score provided to a restaurant by the customers
- A restaurant owner can see the reviews provided to a restaurant by the customers
- A restaurant owner can see the number of likes given to a restaurant
- A restaurant owner can see the profile page
- A restaurant owner can see orders per restaurant
- A restaurant owner can see and download monthly earnings


Add/ Update Restaurant and Meal validations


- Validations work on both the client and server-side
- Server-side validations work, even if client-side validations fail

Scenarios

- If a restaurant user is coming for the first time:
 - User will be able to add a new restaurant after validations are passed
 - User will have no “No Reviews” as an average review score and no review messages
 - The number of likes will be zero
 - User can add meals under the new restaurant
 - After meal addition user may see orders under the Orders section
 - User can see the profile page
- If a restaurant user has one or more restaurants and reviews, likes are provided:
 - User will be able to add/ update restaurants
 - User will be able to add/ update meals
 - User will see the average review score and see the review messages per restaurant
 - User can see the number of likes per restaurant
 - User will be able to see the orders
 - User will be able to see and download monthly earnings
 - User can see the profile page


Restaurant Owner Profile Page

Home 




parampal
Customer of MealStop
911 Park Victoria South Park Street


Full Name	parampal
Email	p1@gmail.com
Mobile	7889194231
D.O.B	1996-07-11
Address	911 Park Victoria South Park Street

 Meal Stop Application connects customers, restaurants and NGO together.

Restaurant Homepage

Home Add Restaurant 

Name	Email	Address	Phone Number	Availability	Average Review Score	Watch Reviews	Update Restaurant	Add/Update Meal	Orders
Adda	addaHotel@gmail.com	Down Town Halifax	9029892771	monday, tuesday	4.0	Reviews	Edit	Meals	Orders
Makhani	makhani@gmail.com	Bedford Nova Scotia	7889194231	sunday, monday, wednesday	2.5	Reviews	Edit	Meals	Orders
Buffet Hut	buffetHut@gmail.com	Down Town PEI	9029892792	tuesday	No Reviews	Reviews	Edit	Meals	Orders
Pizza Pizza	pizzaPizza@gmail.com	Down Town Halifax	9029892345	monday	No Reviews	Reviews	Edit	Meals	Orders

 Meal Stop Application connects customers, restaurants and NGO together.

Add New Restaurant

Add Restaurant

Name

Address

Email

Phone Number

Availability

Submit

Add New Restaurant with Validations

Add Restaurant

Name

Restaurant name cannot be null

Address

Address should have at least 10 and max of 200 characters
Address cannot be null

Email

Email cannot be null

Phone Number

Phone number should have 10 characters

Availability

Restaurant availability cannot be null


Submit

Meals Homepage

[Home](#) [Add Meal](#)



Meal Name	Calories	Tags	Cuisine Type	Price	Action
roti	123	carbs, protein	indian	1	Edit
Salad with Beans and Roasted Chicken	200	carbs, protein	American	2	Edit

 Meal Stop Application connects customers, restaurants and NGO together.

Add New Meal

Add Meal

Meal Name

Calories

Tags

Cuisine Type

Price

[Submit](#)

Add New Meal with Validations

Add Meal

Meal Name

Meal name cannot be null

Calories

Meal calories cannot be null

Tags

Meal tags cannot be null

Cuisine Type

Meal cuisine type cannot be null

Price

0

Meal price cannot be less than 1

Submit

Review and Likes Page

Home

Number of likes: 1

Customer Reviews

good

awesome food

Meal Stop Application connects customers, restaurants and NGO together.

Restaurant Orders Page

Home

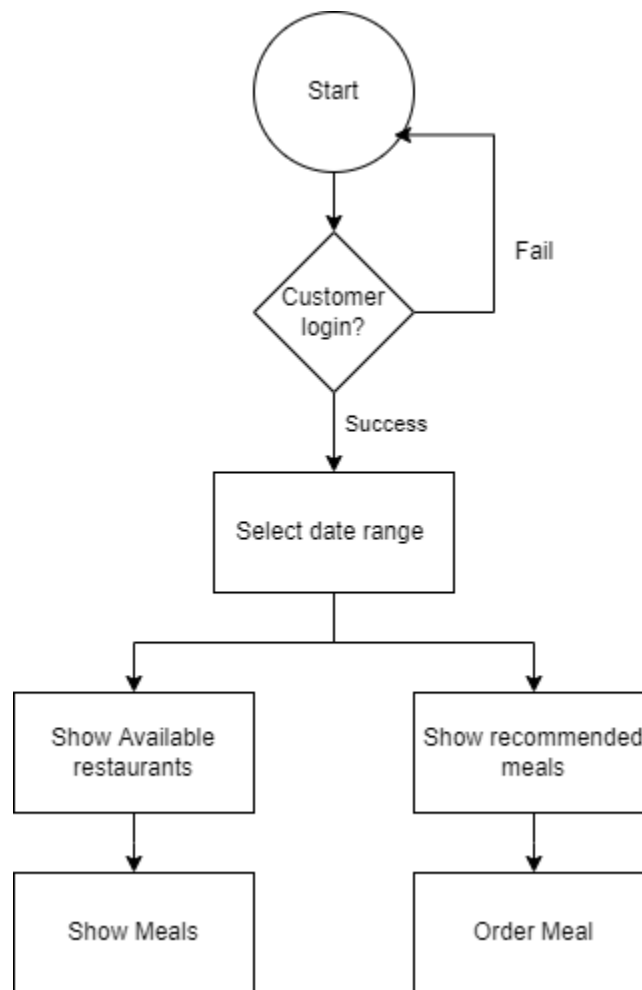
Orders

Report

Food	Date	Amount	Status	Action
roti	2022-04-02	1.0	ACTIVE	Processed

Meal Stop Application connects customers, restaurants and NGO together.

5. Recommendation System



Available Restaurants

- Restaurants are displayed to the customer as per the availability declared by the restaurant owner

Recommended Meals

- Meals are recommended to the customer based on available restaurants and orders placed. Recommendation is performed based on the most liked meal tag

Date Selection Validations

localhost:8080 says
Start date or End date can't be empty

OK

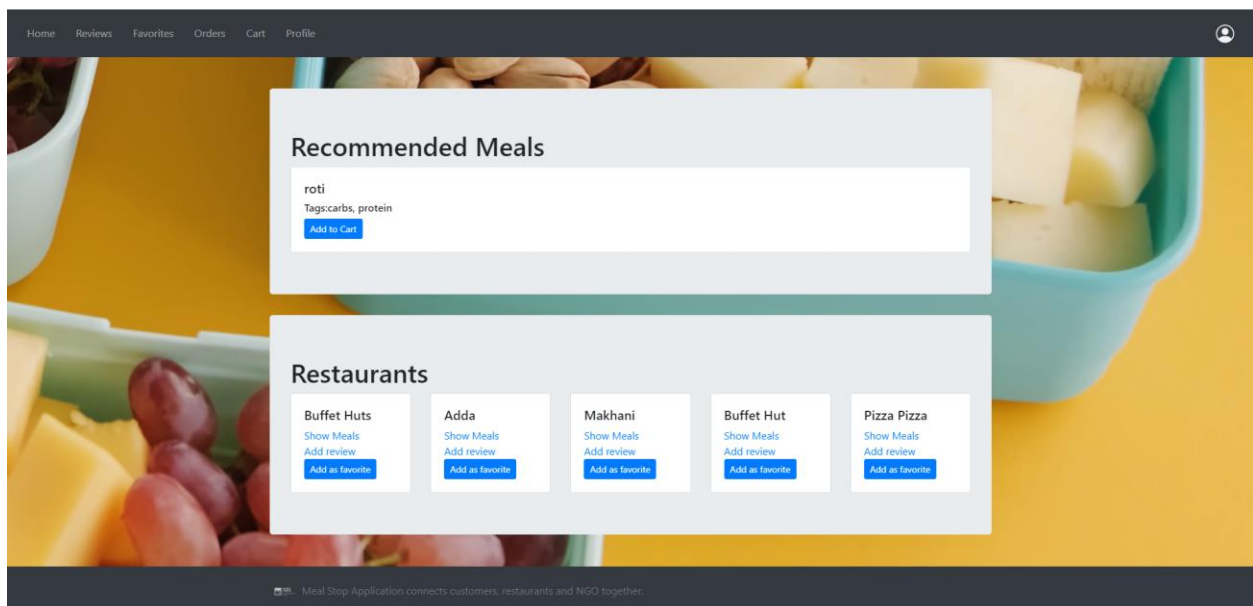
localhost:8080 says
End date should be greater than Start date

OK

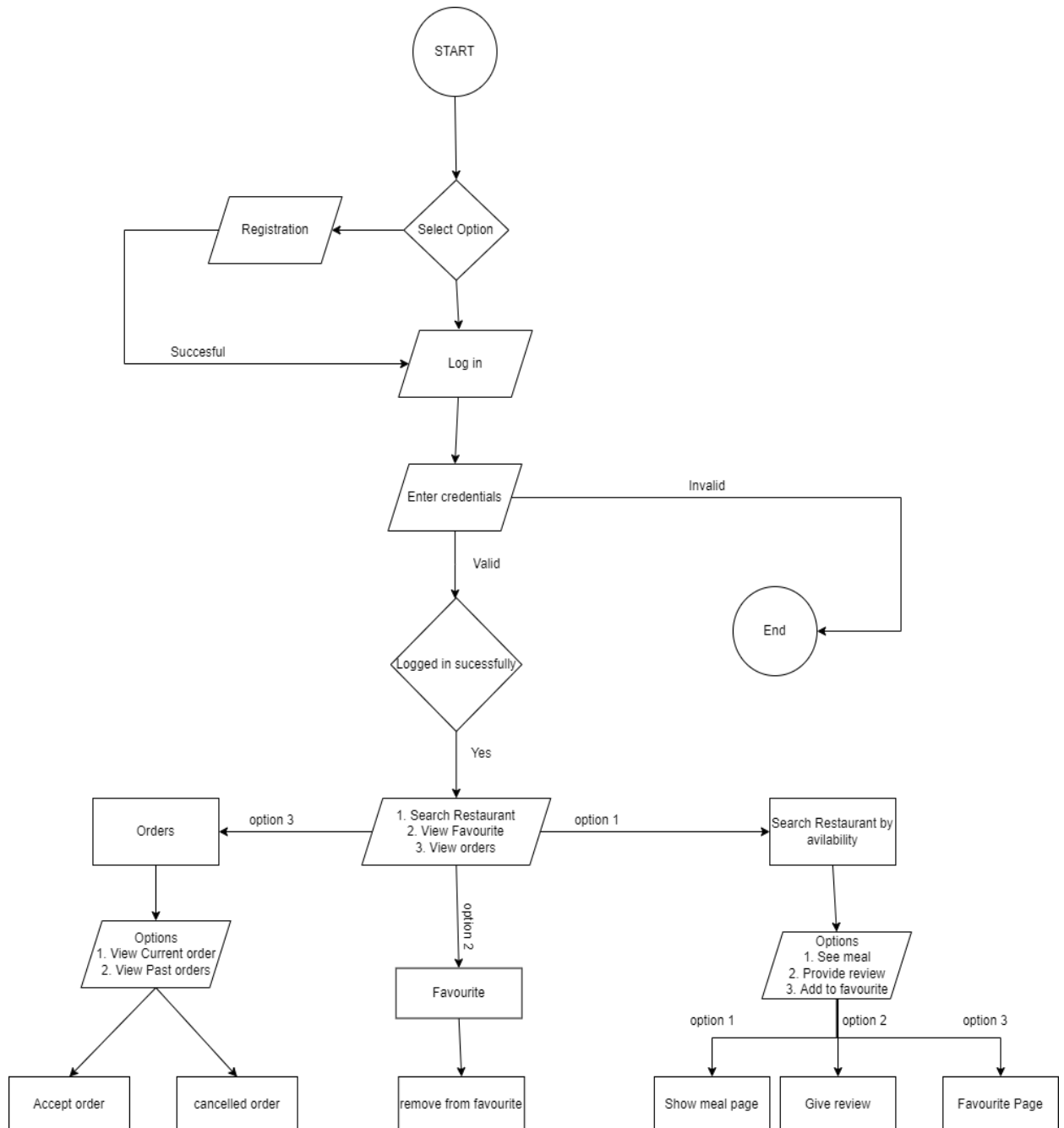
localhost:8080 says
Start date should be greater than or equals to current date

OK

Recommendation Page :



6. Customer



Customer

- A customer can search for restaurants.
- A customer can view favourites.
- A customer can view orders.
- A customer can add meals to the cart.
- A customer can remove meals from the cart.
- A customer can give reviews for restaurants.
- A customer can edit reviews for restaurants.
- A customer can delete reviews for restaurants.
- A customer can add restaurants to the favourite.
- A customer can remove restaurants from the favourites.
- A customer views his profile.
- A customer signs out from his session.

Search Restaurants by availability

User Scenario 1

- When a registered user logs in he is redirected to the homepage.
- With the valid start date and end date he can search restaurants.
- With the provided recommendation meals, he would be able to add to cart.

User Scenario 2

- With the provided restaurants he can view the meals offered by that restaurant.
- Add review to the restaurant.
- Can also add the restaurant to their favourites.

Add/Update Reviews for Restaurants and Validation

- Validations work on both the client and server-side
- Server-side validations work, even if client-side validations fail
- The User can see the list of reviews he had given for each restaurant.
- User will be able to navigate to the restaurant menu page.

Add/Remove Favourite Restaurants

- Shows the user the list of his favourite restaurants.
- Allows the user to give reviews for the restaurant
- User can remove the restaurant from his favourite anytime.

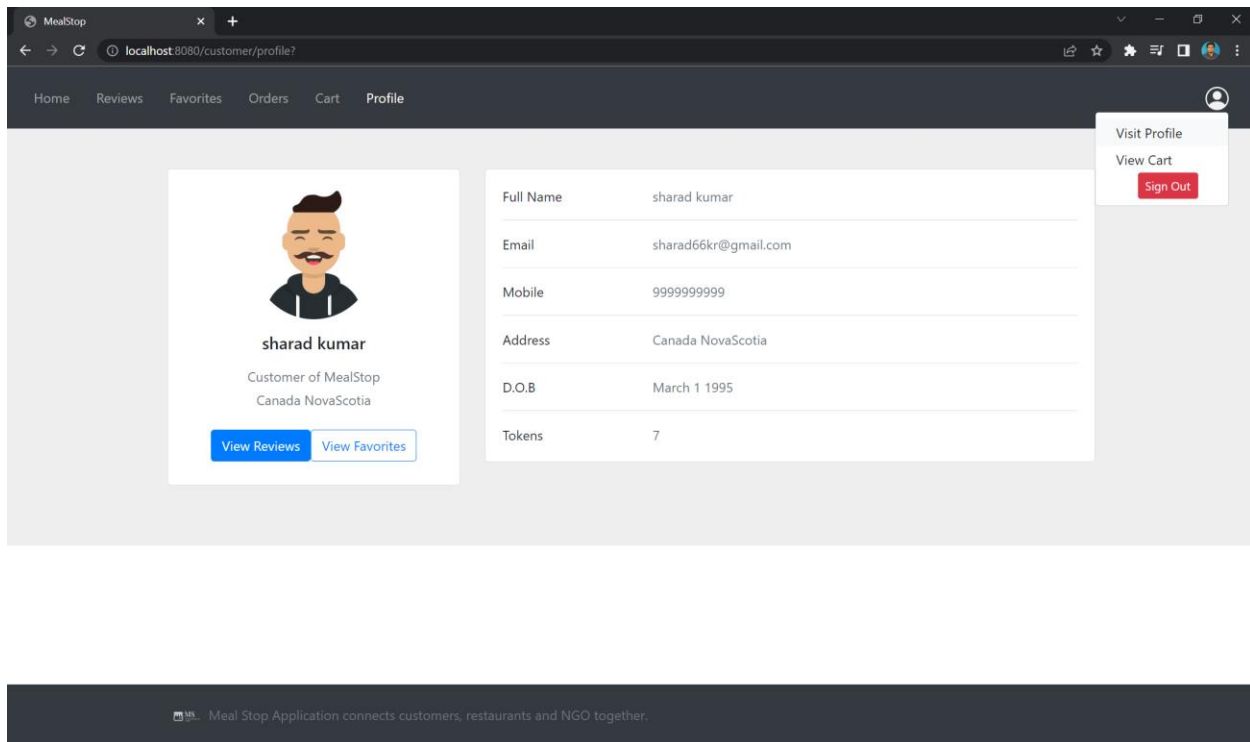
Cart

- Lists the items the User adds to the cart
- User will be able to place order only when he has available Tokens.
- Allows the User to continue shopping.

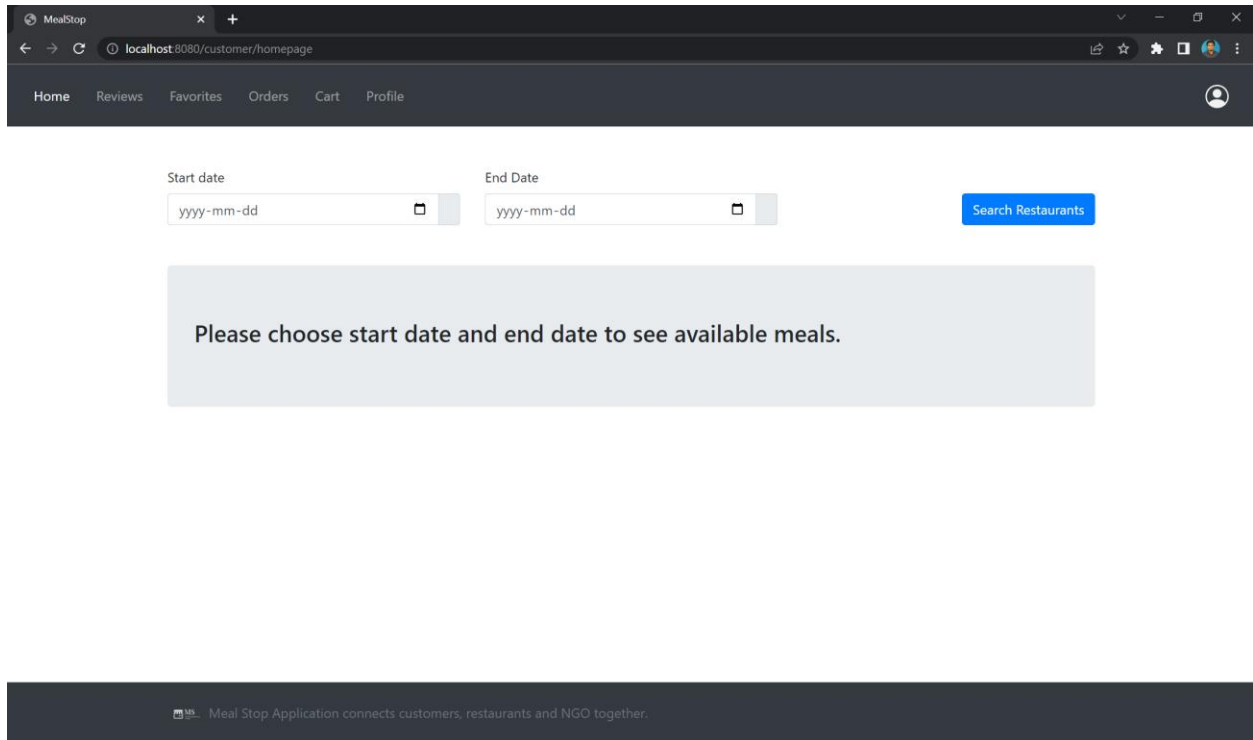
Profile

- Visit User Profile
- Route to users' cart
- Sign out of the session

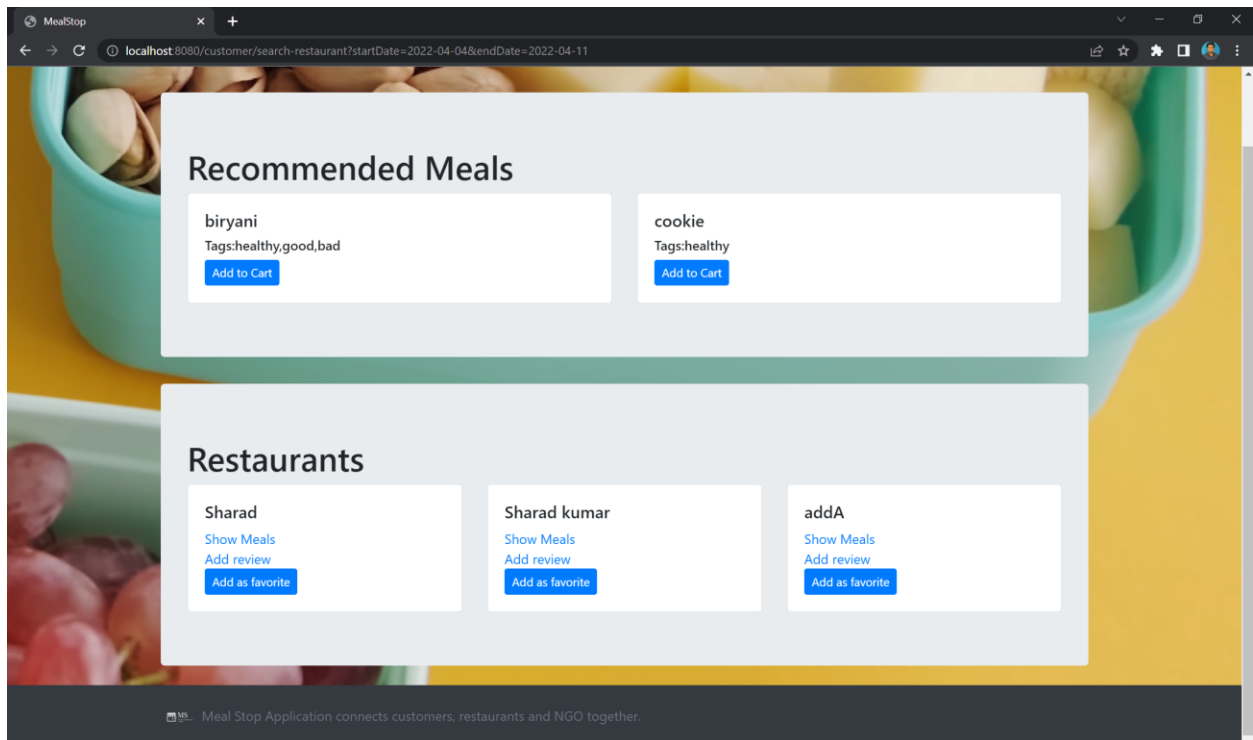
Customer Profile



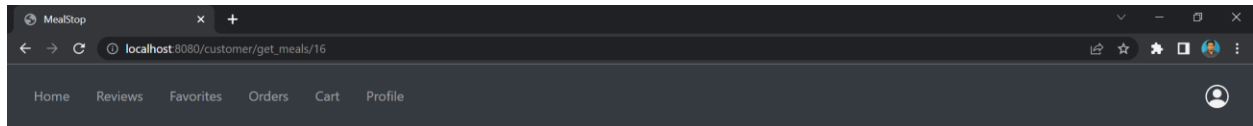
Homepage



Search Restaurants



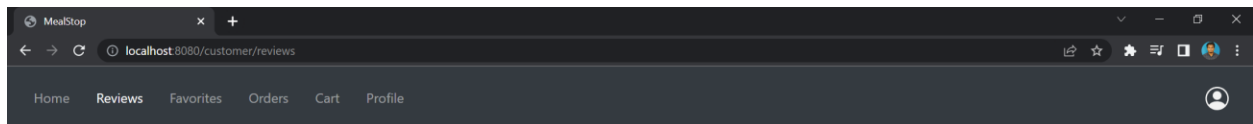
Restaurant Meals Menu



Meal Name	Calories	Tags	Cuisine Type	Price	Action
biryani	300	healthy,good,bad	indian,western	3	<button>Add to Cart</button>
drinks	122	drink	continental	2	<button>Add to Cart</button>
snack	103	healthy, unhealthy	chinese	3	<button>Add to Cart</button>

Meal Stop Application connects customers, restaurants and NGO together.

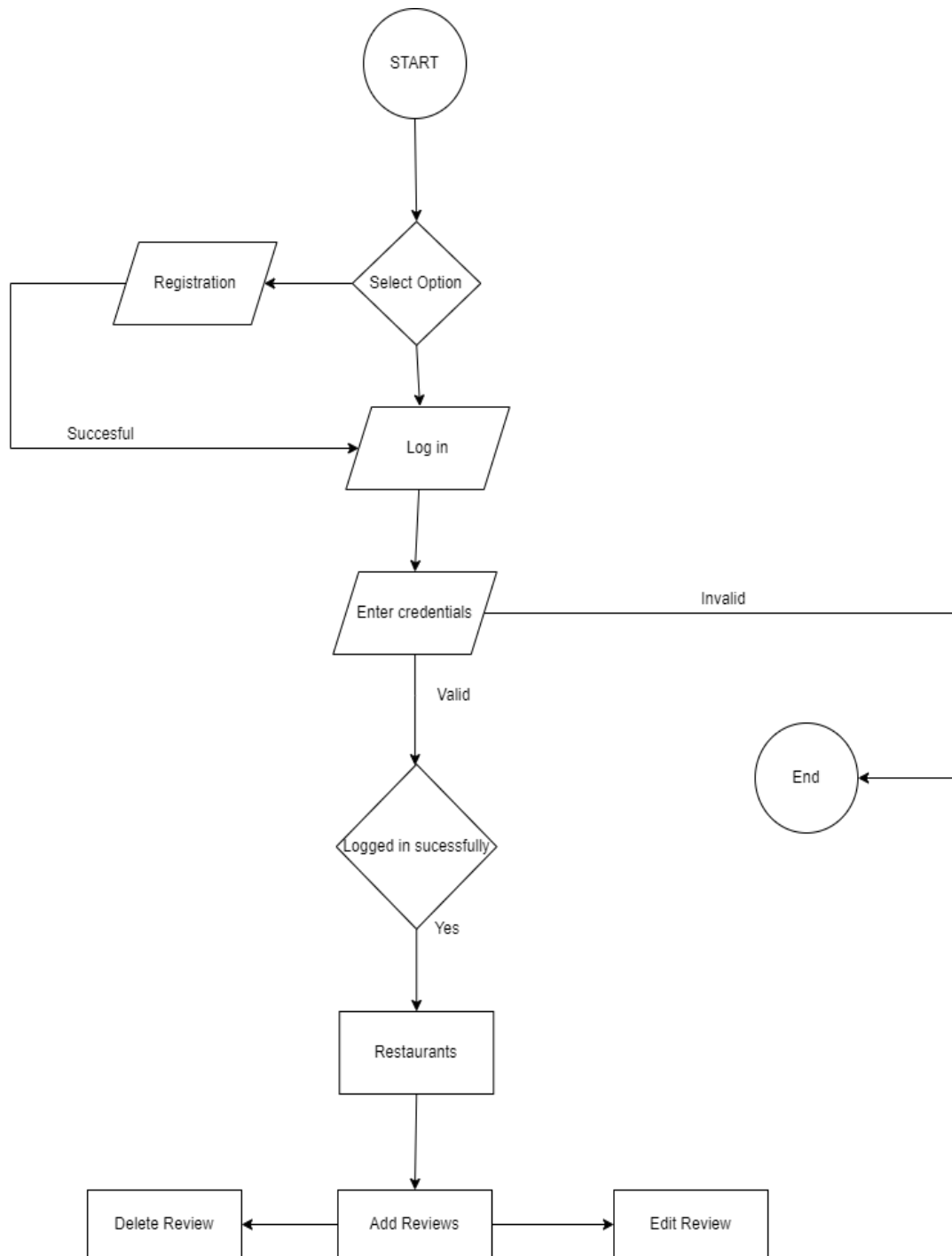
Review



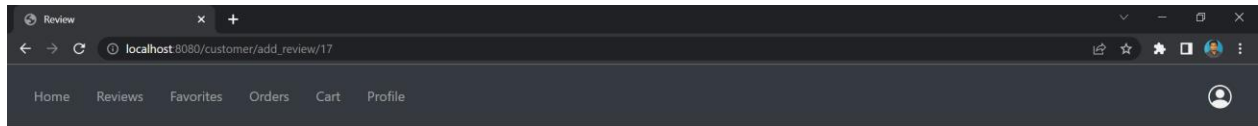
Review Message	Review Score	Date	Restaurant Name	Edit	Delete
asdc	4 ★	2022-04-02 22:08:48.0	Sharad kumar	<button>Edit</button>	<button>Delete</button>
Great food	5 ★	2022-04-01 19:03:41.0	Sharad	<button>Edit</button>	<button>Delete</button>
asdc2	5 ★	2022-04-02 22:09:18.0	Sharad	<button>Edit</button>	<button>Delete</button>
Good Food	1 ★	2022-04-04 21:37:14.0	Sharad	<button>Edit</button>	<button>Delete</button>

Meal Stop Application connects customers, restaurants and NGO together.

7. Review



Add Review




Add review for restaurant: Sharad kumar

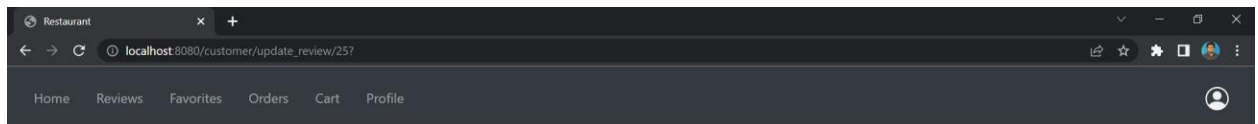
Review Message

Review Score

Add review

 Meal Stop Application connects customers, restaurants and NGO together.

Update Review




Sharad kumar

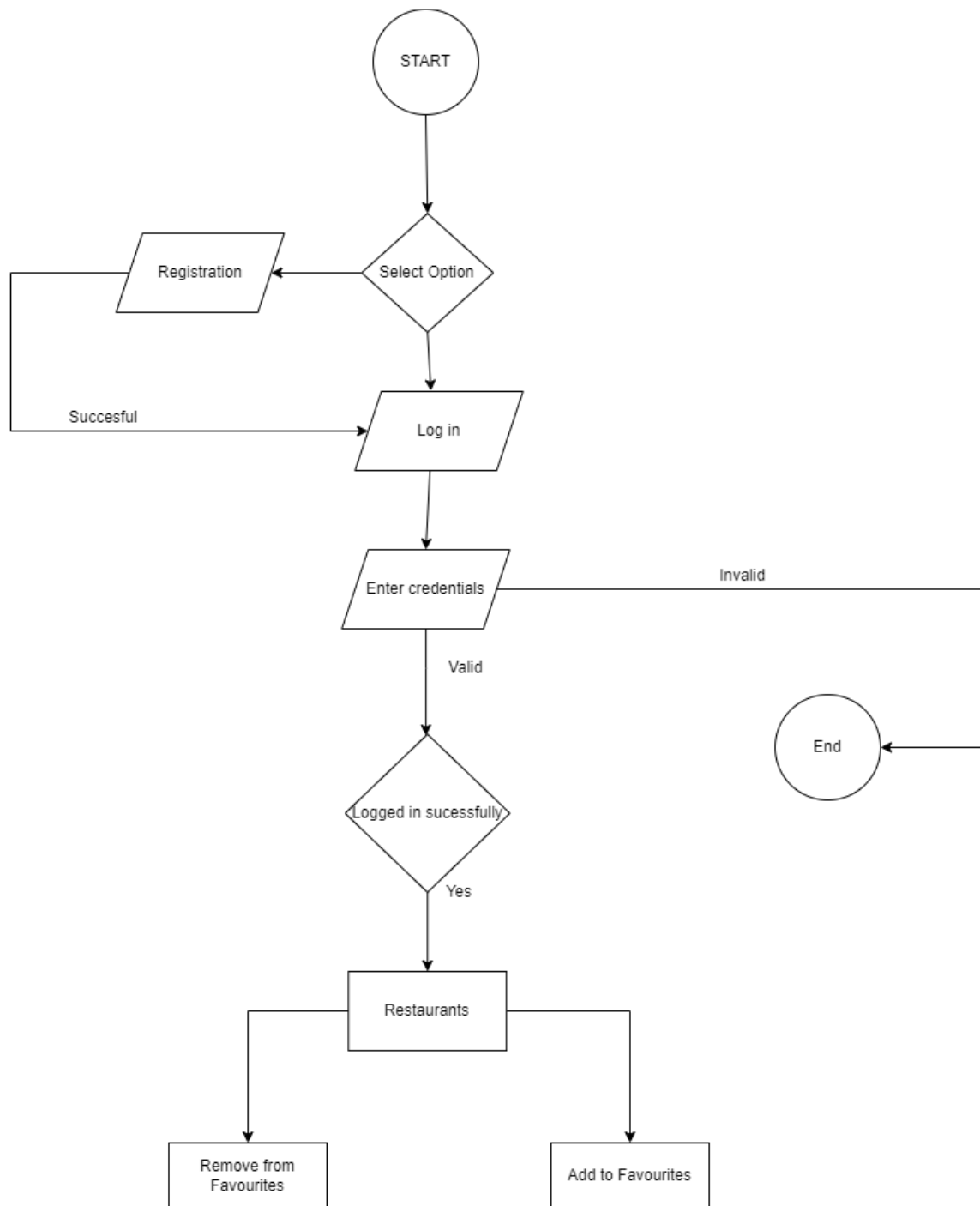
Review Message

Review Score

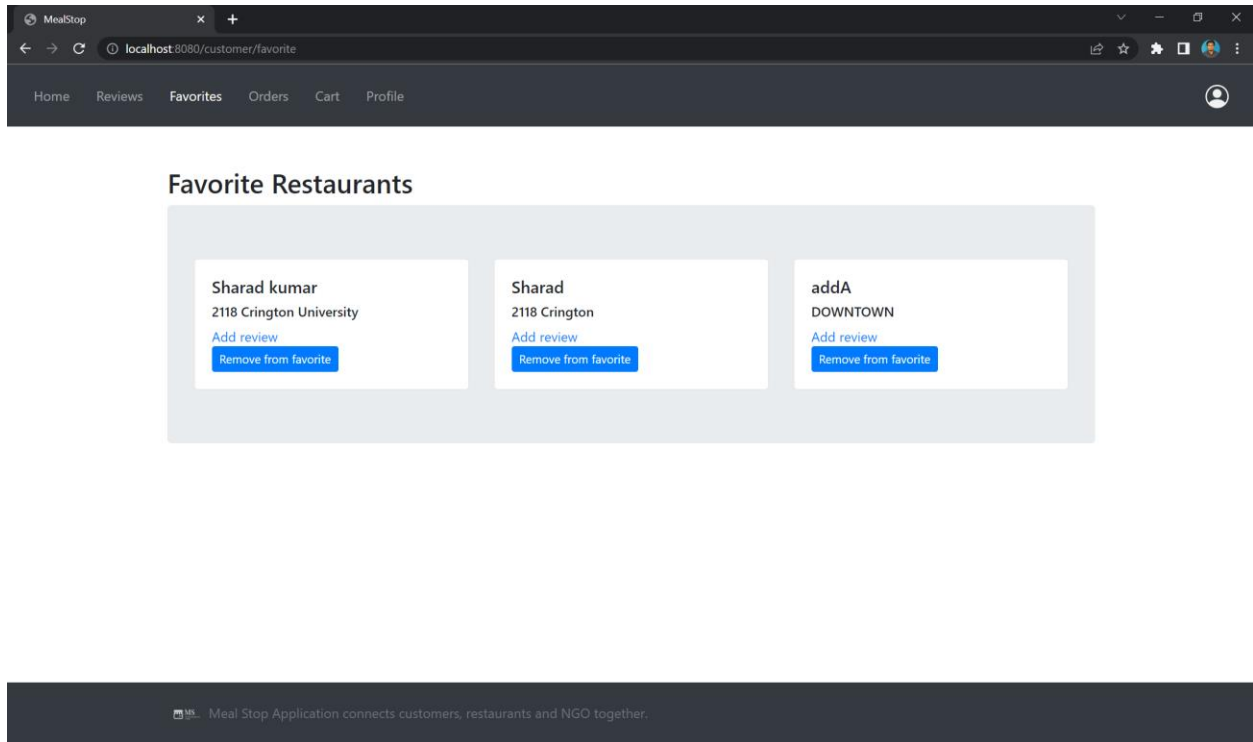
Update Review

 Meal Stop Application connects customers, restaurants and NGO together.

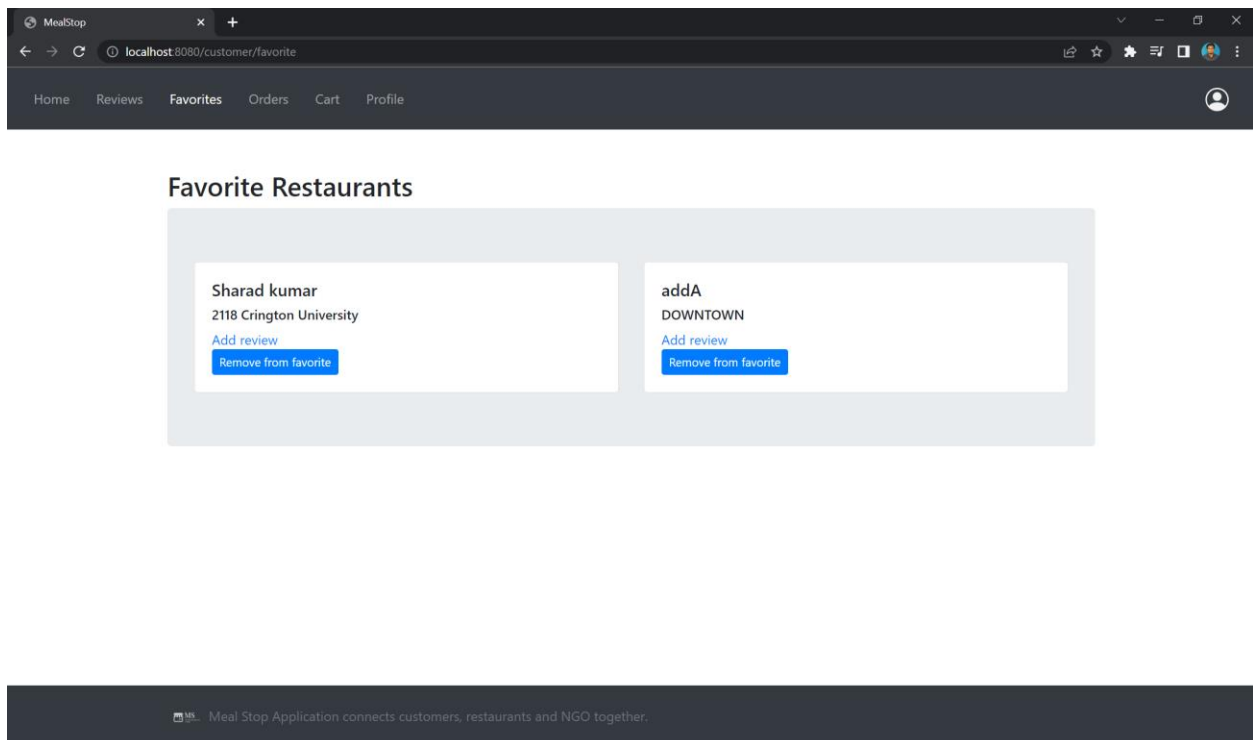
8. Favourites



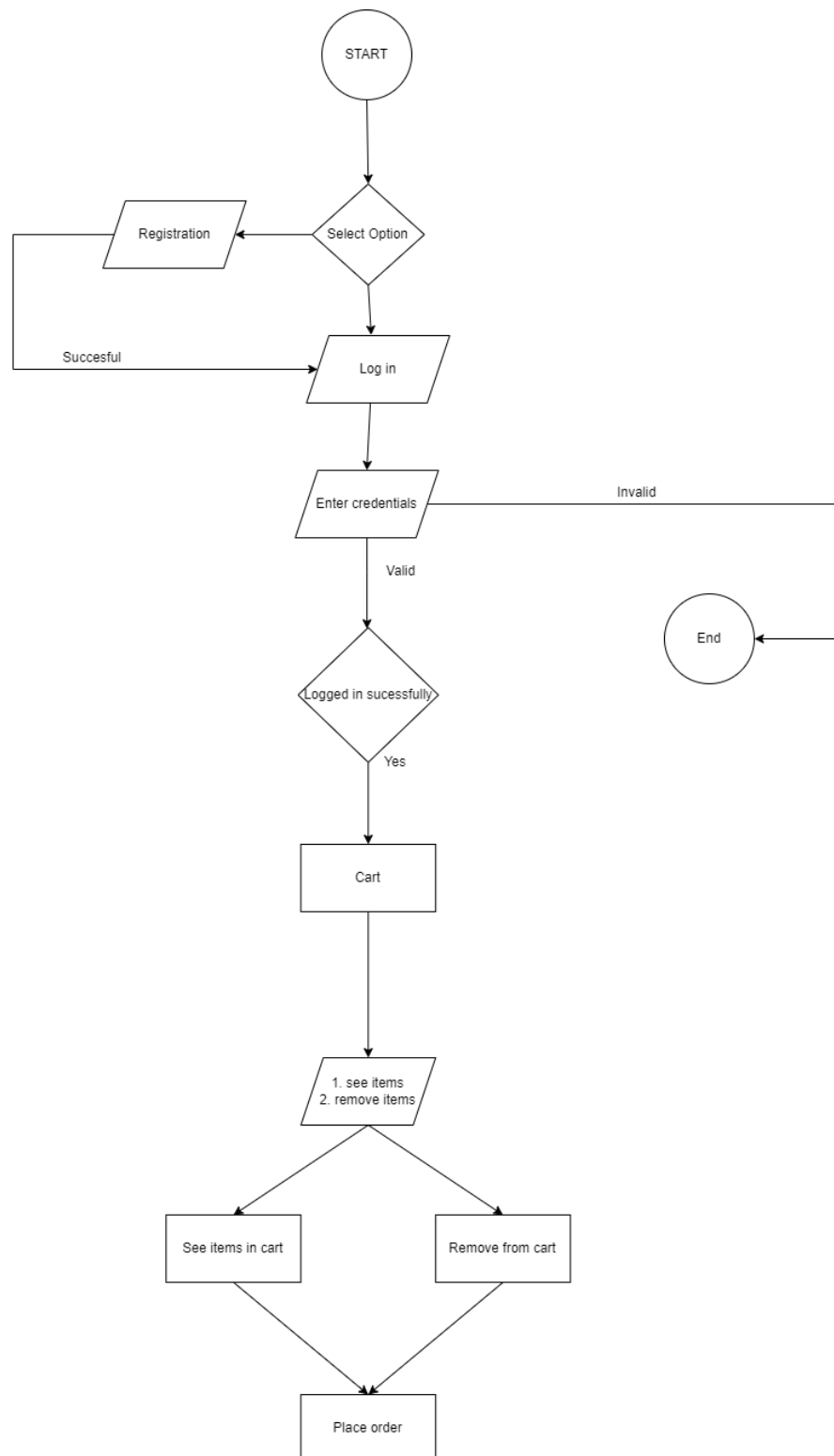
Favourite Restaurants (Add)



Favourite Restaurants (Removed one)



9. Cart



Cart Scenario1 (Token Available: 0)

MealStop

localhost:8080/customer/cart

Home Reviews Favorites Orders **Cart** Profile

sharad kumar

Product	Meal Name	Tags	Price	Total	Actions
₹120	biryani	healthy,good,bad	3	3	
₹120	biryani	healthy,good,bad	3	3	

Tokens Available :0

Total Tokens : 6

Continue Shopping

Sorry you donot have enough tokens to place this order

Meal Stop Application connects customers, restaurants and NGO together.

Cart Scenario 2 (Token Available > 0)

MealStop

localhost:8080/customer/cart

Home Reviews Favorites Orders **Cart** Profile

sharad kumar

Product	Meal Name	Tags	Price	Total	Actions
₹120	biryani	healthy,good,bad	3	3	
₹120	biryani	healthy,good,bad	3	3	

Tokens Available :10

Total Tokens : 6

Continue Shopping

Place Order

Meal Stop Application connects customers, restaurants and NGO together.

Add/Edit Review Validation

localhost:8080 says

Review message and review score cannot be empty

OK

localhost:8080 says

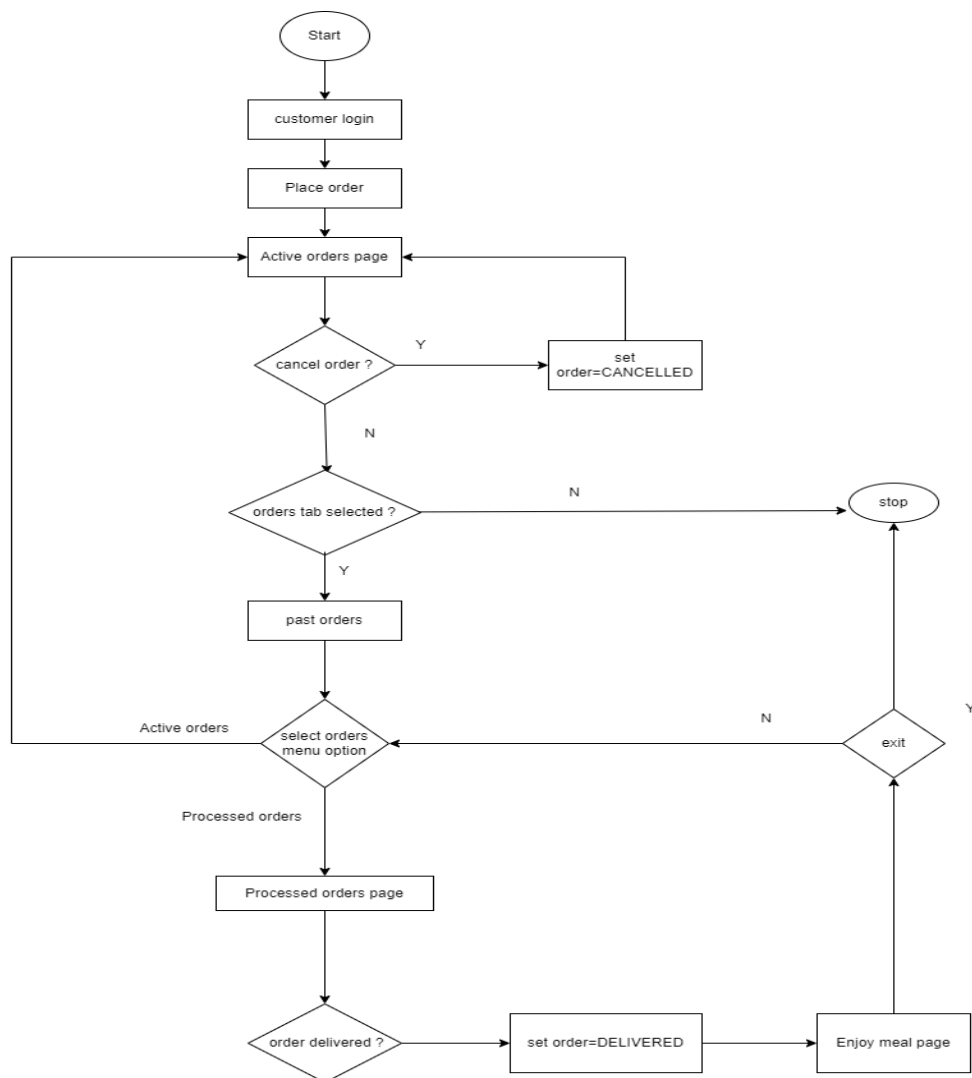
review score cannot be less than 0 or more than 5

OK

10. Orders

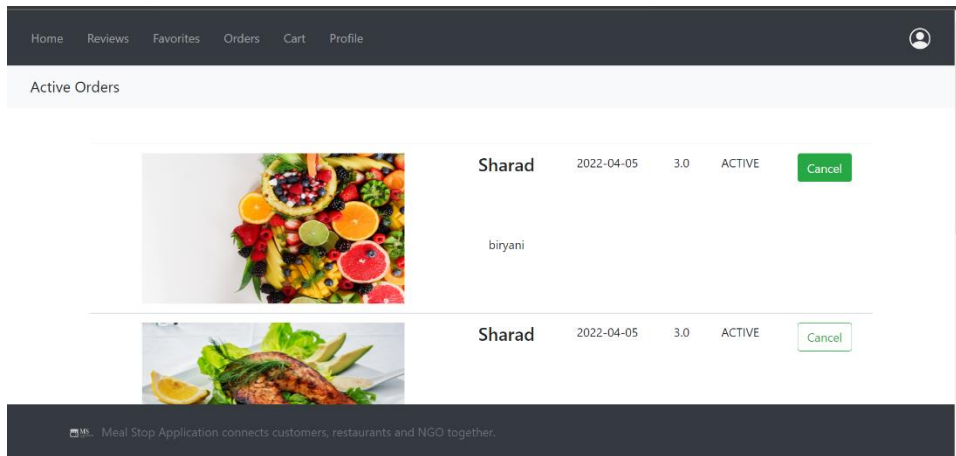
This module handles orders which have been placed by the users. It facilitates the Customer module, Restaurant module and NGO module with the information related to orders. Customers have the option to view past orders, cancel current active orders or declare a processed order as delivered. Restaurants on the other hand have the option to see all orders placed, get their yearly report on sales, and export them if needed. NGO can see all the cancelled orders ordered by the customers.

Customer Flow in Orders



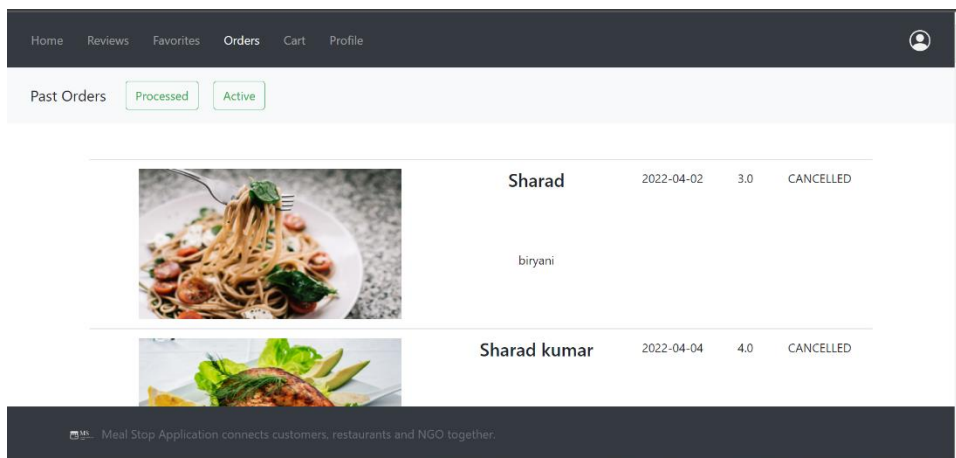
Active Order

- This page is displayed immediately when an order is placed.
- User has the option to cancel current active order
- Users can also cancel past orders which have not been accepted by the restaurant



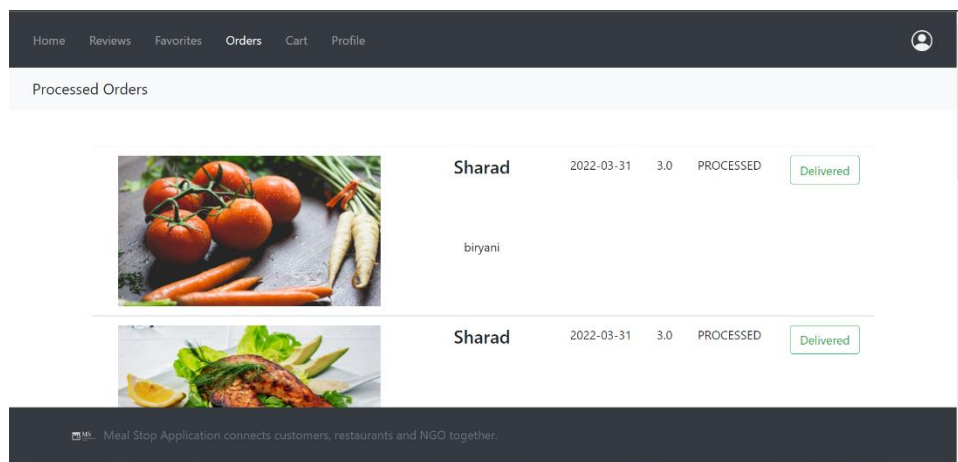
Orders Menu

- This is the landing page for orders module
- By default, the module displays all the past orders which includes delivered and cancelled orders
- User can further navigate to processed or active orders page using sub menu

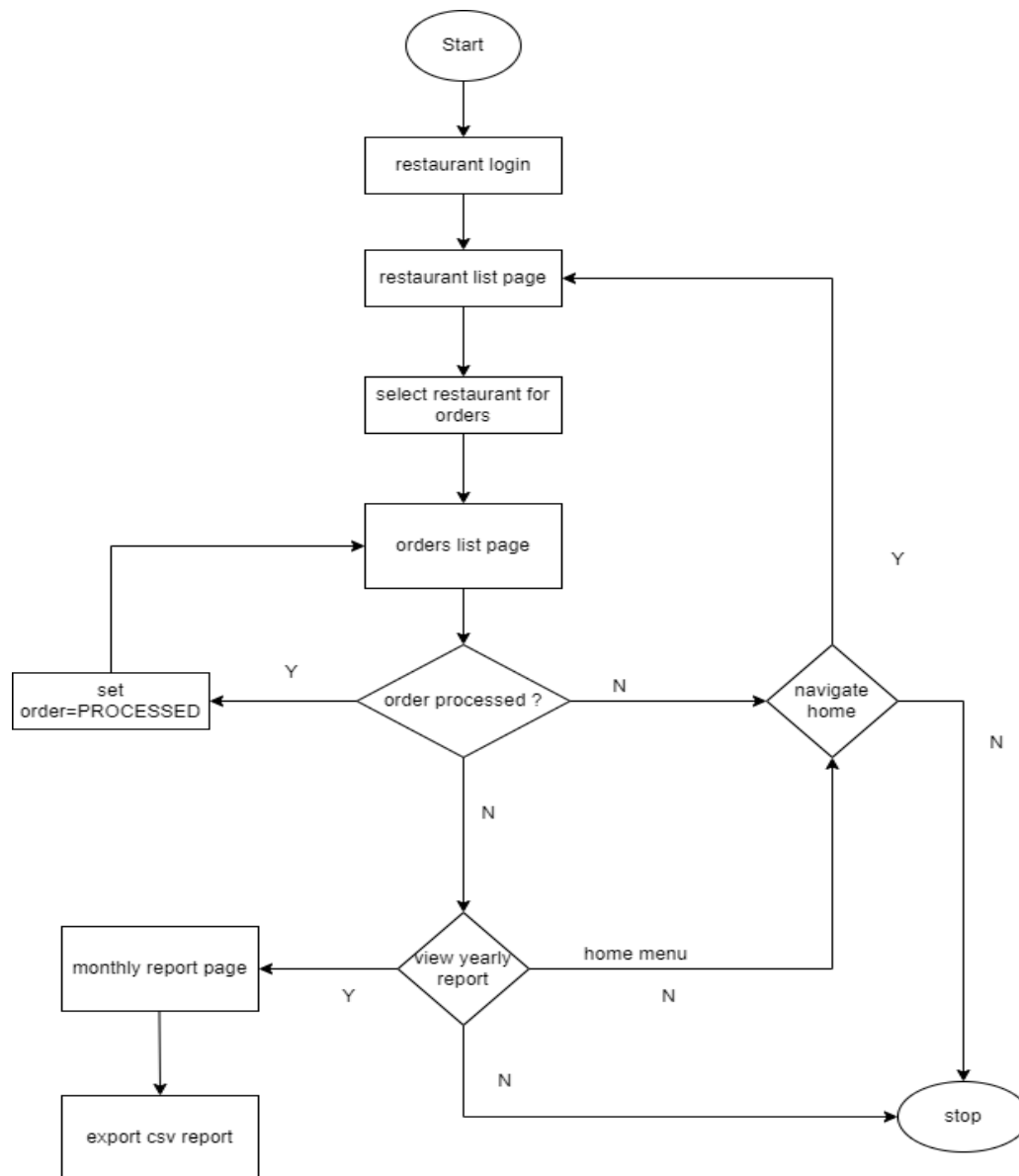


Processed Orders

- This page displays all the orders which has been processed by the restaurant
- Customer has option set the state of order as delivered if they have received the order




Restaurant Flow in Orders




Restaurant orders


- This page in restaurant module lists all orders which have been placed by the customers
- Restaurant owners have option to mark the order as processed if the food is ready
- Processed orders will be available in the processed order section of customers
- This page also has option to see yearly report of the earnings of the restaurant

Home


Orders
[Report](#)


Food	Date	Amount	Status	Action
biryani	2022-04-05	3.0	ACTIVE	Processed
biryani	2022-04-05	3.0	ACTIVE	Processed
drinks	2022-04-05	2.0	ACTIVE	Processed
biryani	2022-04-05	3.0	ACTIVE	Processed

 Meal Stop Application connects customers, restaurants and NGO together.

Home


Orders
[Report](#)

Food	Date	Amount	Status	Action
biryani	2022-04-05	3.0	ACTIVE	Processed
biryani	2022-04-05	3.0	ACTIVE	Processed
drinks	2022-04-05	2.0	ACTIVE	Processed
biryani	2022-04-05	3.0	ACTIVE	Processed

 Meal Stop Application connects customers, restaurants and NGO together.

Restaurant report


- This page lists all the earnings of the restaurant in current year
- The page shows monthly earnings corresponding to each month
- This report can be exported in CSV format as well.

Home

Monthly Report

Export csv

Month	Total Sales
March	52.0
April	59.0

 Meal Stop Application connects customers, restaurants and NGO together.

Report export

- Reports generated can be exported in csv file
- Clicking on the “Export csv” will download a csv file from the browser

Home

Monthly Report

Export csv


Downloads

Earnings (4).csv

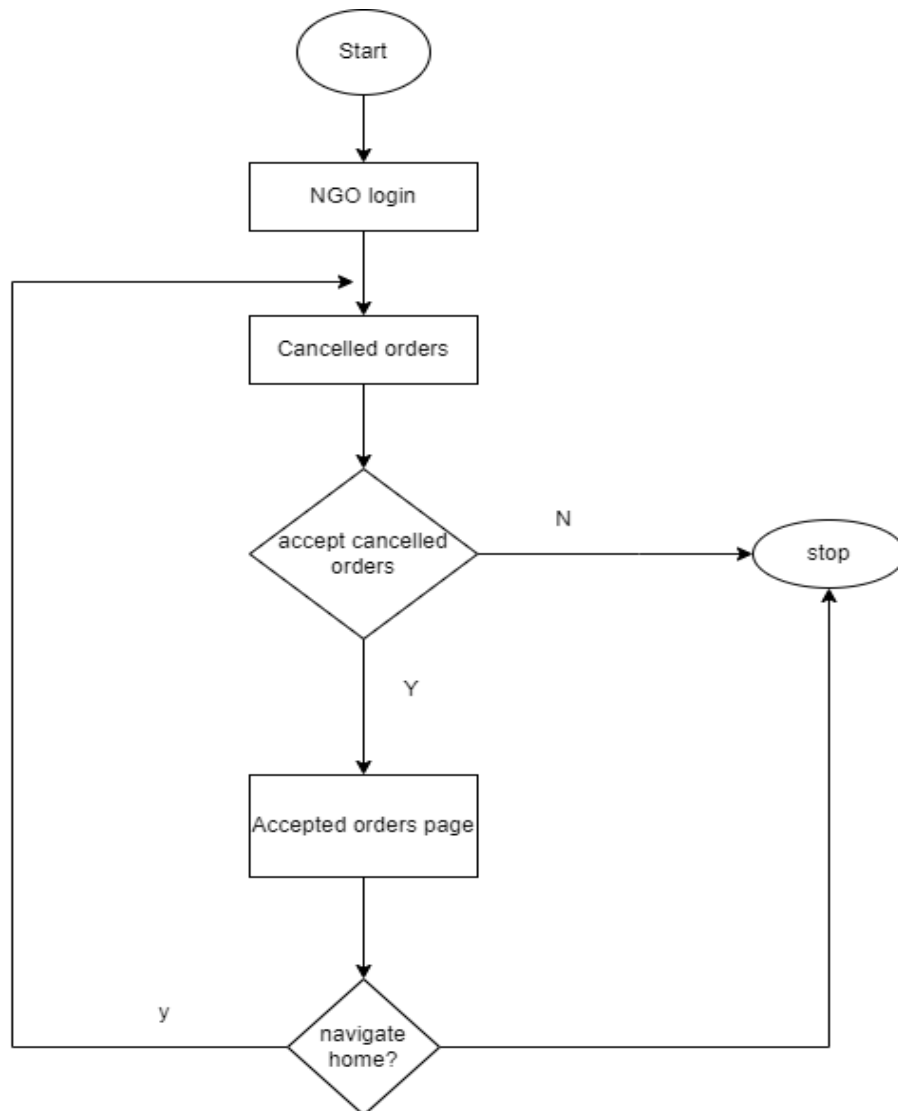
Open file

See more

Month	Total Sales
March	52.0
April	59.0

 Meal Stop Application connects customers, restaurants and NGO together.

NGO Flow for Orders



Cancelled Orders

- Cancelled orders from customers section will be available in NGO section
- NGO can accept any cancelled orders
- Further details about NGO are available in NGO module

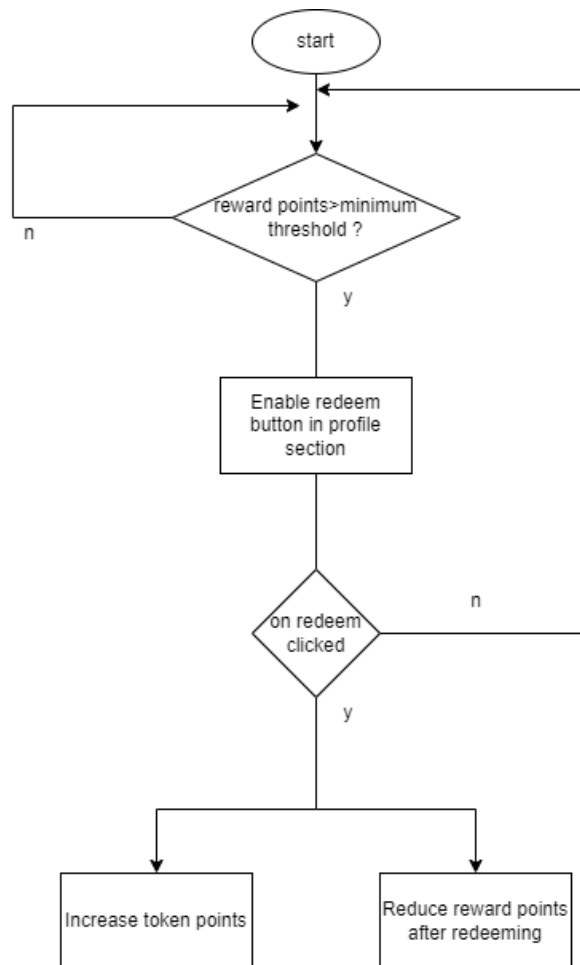


Cancelled Orders

Sharad	2022-04-02	3.0	Accept
biryani			
Sharad kumar	2022-04-04	4.0	Accept
cookie			
Sharad kumar	2022-04-04	4.0	Accept
cookie			

11. Rewards

This module handles reward points for the customers which can be redeemed in the form of tokens after reaching a predefined threshold. The rewards can be redeemed from the profile section of the customer page. Rewards can be earned by placing orders. Each order gives a fixed amount of reward points



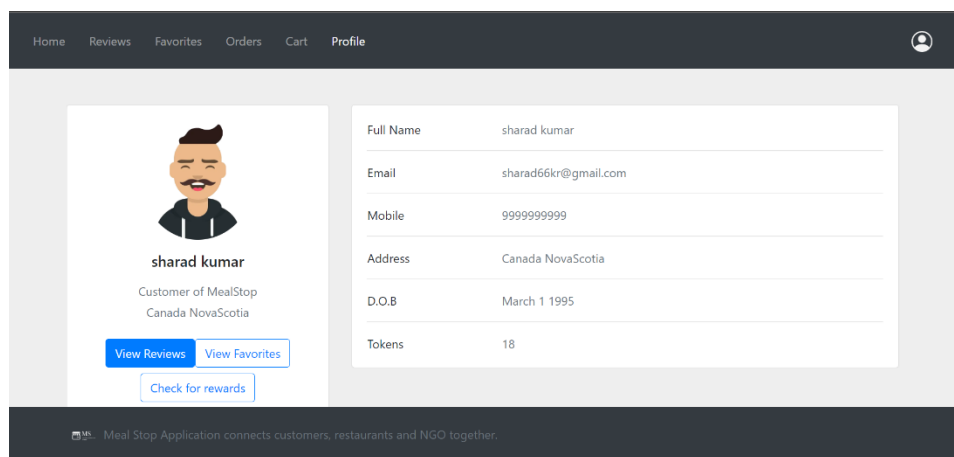
Obtaining Rewards

- Customer orders a food item
- 10 points is by default added to the customer account
- Threshold limit to redeem reward point is set to 50 points

Redeeming Rewards

- Get total points accumulated by a customer
- Verify if accumulated point is greater than minimum threshold to redeem points
- If points are greater than threshold, provide 1 token each for reward points which are equivalent to threshold limit
- Update customer token
- Update deducted final reward points

Profile screen before redeeming points

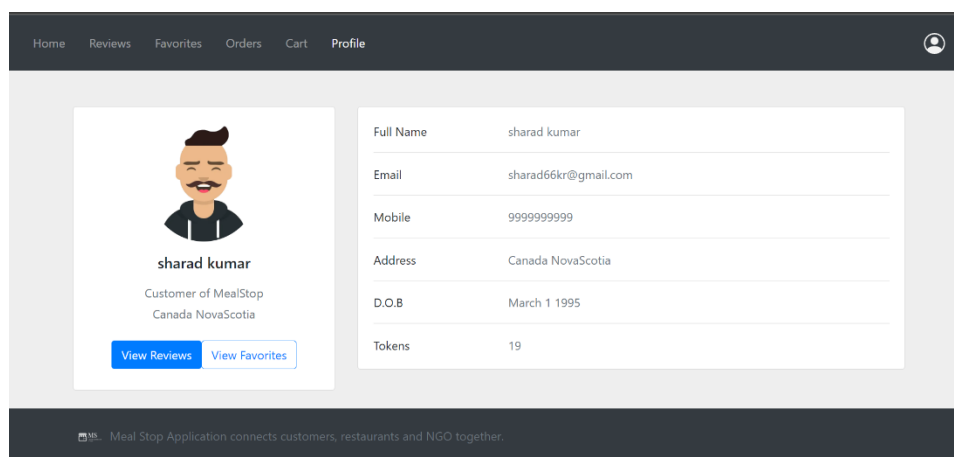


The screenshot shows a user profile for 'sharad kumar'. The profile card on the left includes a cartoon avatar, the name 'sharad kumar', the title 'Customer of MealStop', and the location 'Canada NovaScotia'. Below the card are buttons for 'View Reviews', 'View Favorites', and 'Check for rewards'. To the right is a table of user details.

Full Name	sharad kumar
Email	sharad66kr@gmail.com
Mobile	9999999999
Address	Canada NovaScotia
D.O.B	March 1 1995
Tokens	18

Meal Stop Application connects customers, restaurants and NGO together.

Profile screen after redeeming points



This screenshot is identical to the previous one, but the 'Tokens' value in the profile details table has increased from 18 to 19.

Full Name	sharad kumar
Email	sharad66kr@gmail.com
Mobile	9999999999
Address	Canada NovaScotia
D.O.B	March 1 1995
Tokens	19

Meal Stop Application connects customers, restaurants and NGO together.

12. NGO

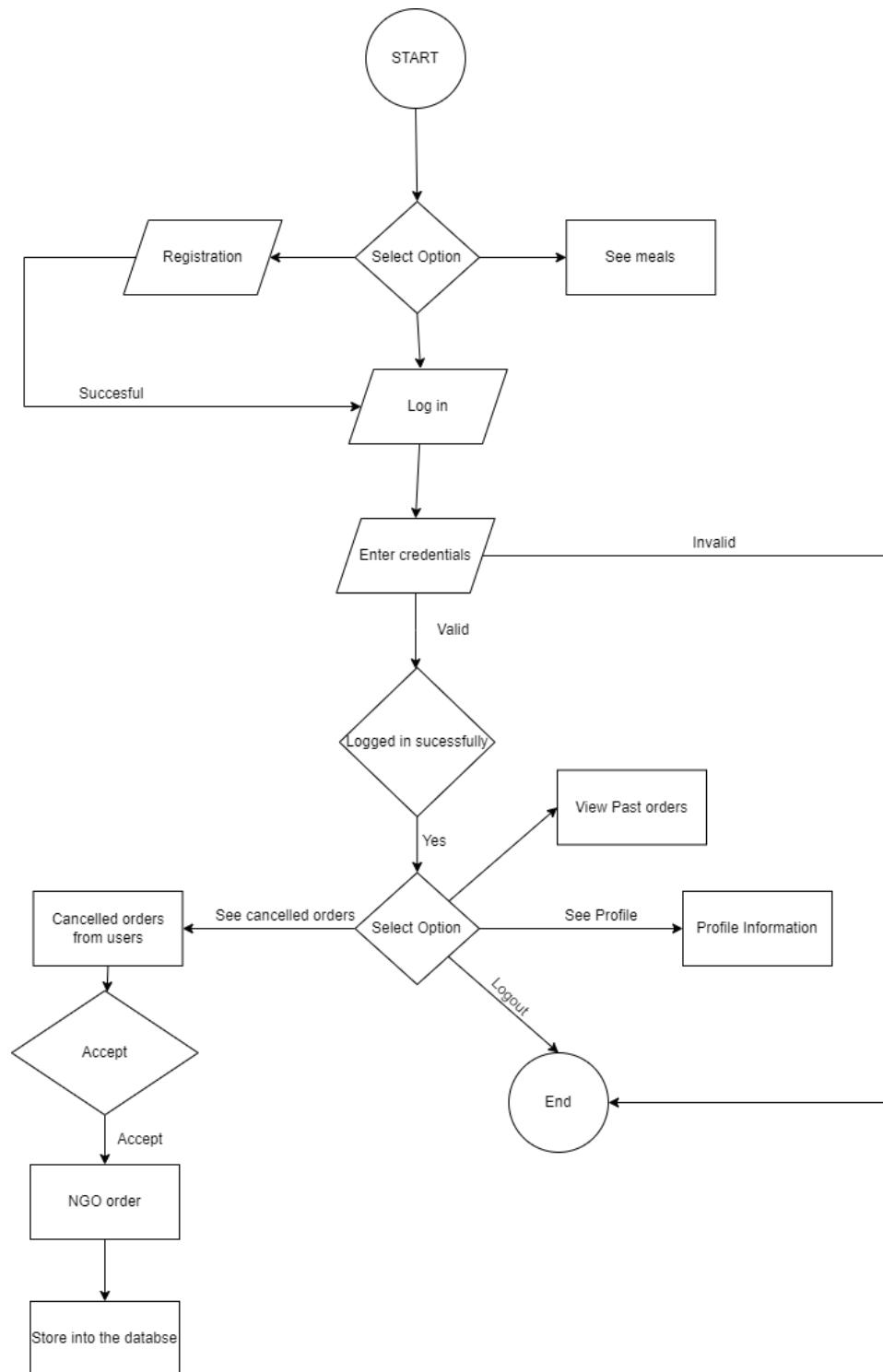
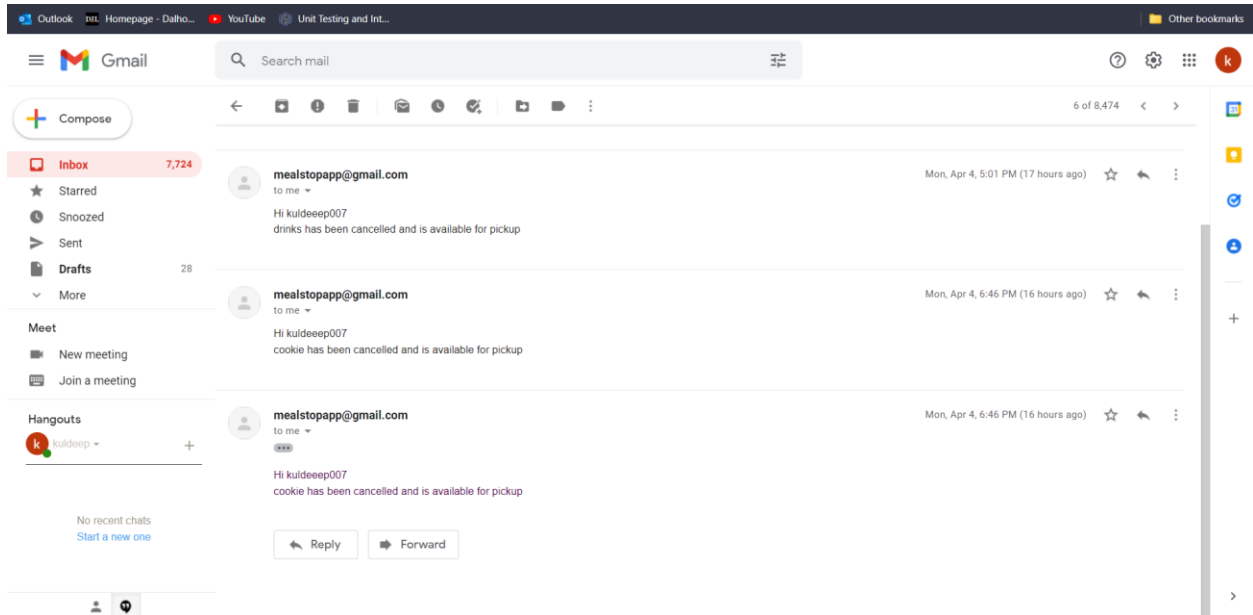
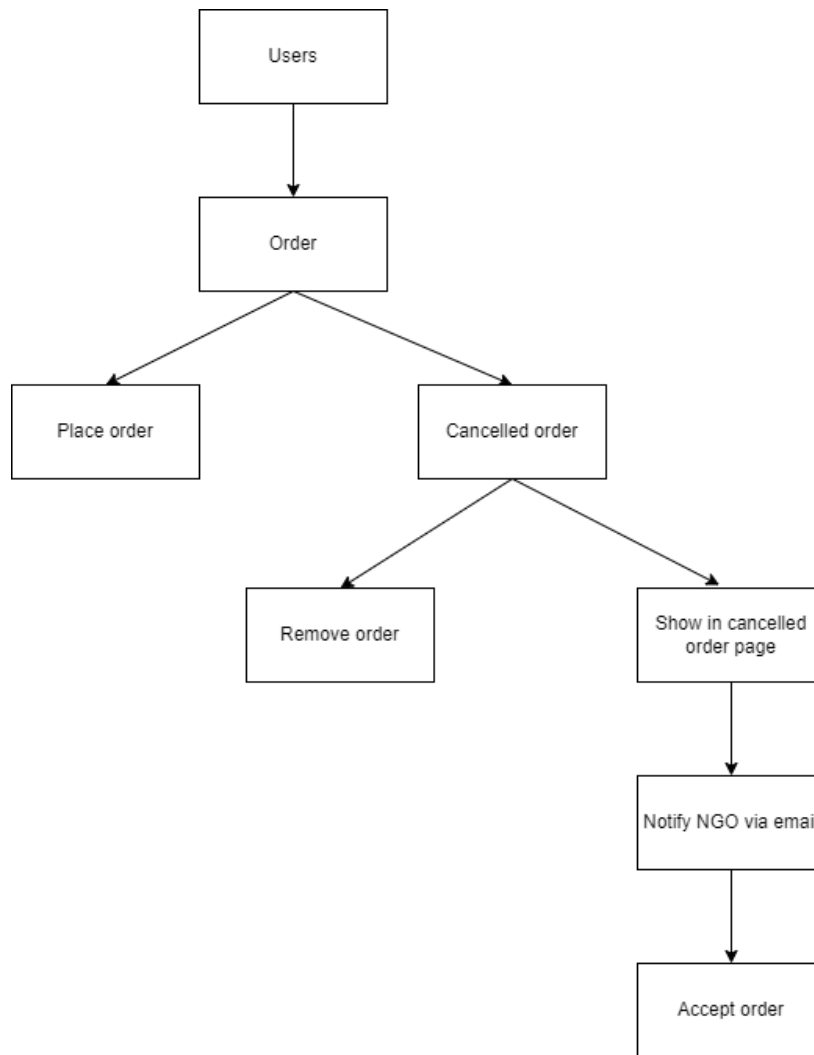


Figure 1 flow chart of NGO service

NGO email notification

- Whenever a customer cancels a meal NGO users will be notified via email whenever which will help NGOs to keep updated.





NGO view cancelled orders

- NGO can view all the cancelled orders which are cancelled by customers after the placing order.
- NGO will provide an option to accept the cancelled orders.
- NGO will show all the accepted orders along with their status.


Saffron	2022-04-03	1.0	Accept
Fafda			
Saffron	2022-04-03	2.0	Accept
jalebi			


- Once an NGO accepts the cancelled order it should be removed from the display page.
- After accepting the cancelled order, it must be populated to the accepted page.
- Accepted orders should have all the necessary details such as token count, name, date, etc.

Saffron	2022-04-03	2.0	<button>Accept</button>
jalebi			

Profile page


- NGO will have an option to checkout to the profile page where all the provided details while registration will be reflected.

[Home](#) [Past Orders](#) 




Helping Hand
NGO of MealStop
ngo@gmail.com
Harbouview apt
9029896224

Full Name	Helping Hand
Email	ngo@gmail.com
Phone	9029896224
Address	Harbouview apt

 Meal Stop Application connects customers, restaurants and NGO together.


NGO past order history

- NGO past order will show all the accepted orders which are accepted by the NGO owner along with their date.

[Home](#) 

[Orders](#)

Food	Date	Amount	Status
Fafda	2022-04-03	1.0	Claimed
Gathiya	2022-04-03	1.0	Claimed
Kachori	2022-04-03	1.0	Claimed
Khaman	2022-04-03	1.0	Claimed
jalebi	2022-04-03	2.0	Claimed
Fried rice	2022-04-03	2.0	Claimed
Bhajiya	2022-04-03	1.0	Claimed

 Meal Stop Application connects customers, restaurants and NGO together.

REFERENCES

- [1] *Baeldung.com*. [Online]. Available: <https://www.baeldung.com/spring-boot-testing>. [Accessed: 06-Mar-2022].
- [2] "Flowchart maker & online diagram software," *Diagrams.net*. [Online]. Available: <https://app.diagrams.net/>. [Accessed: 16-March-2022].
- [3] "Thymeleaf," *Thymeleaf.org*. [Online]. Available: <https://www.thymeleaf.org/>. [Accessed: 06-Feb-2022].
- [4] E. Punzalan, "Apache maven clean plugin – introduction," *Apache.org*, 22-Jul-2013. [Online]. Available: <https://maven.apache.org/plugins/maven-clean-plugin/>. [Accessed: 26-Feb-2022].
- [5] "Sign in," *GitLab*. [Online]. Available: <https://git.cs.dal.ca/>. [Accessed: 11-Feb-2022].
- [6] "MySQL workbench: Visual database design," *Mysql.com*. [Online]. Available: <https://www.mysql.com/products/workbench/design/>. [Accessed: 20-Mar-2022].
- [7] "Spring makes Java simple," *Spring*. [Online]. Available: <https://spring.io/>. [Accessed: 25-Feb-2022].
- [8] "JUnit – about," *Junit.org*. [Online]. Available: <https://junit.org/junit4/>. [Accessed: 28-Jan-2022].