Sri Lanka Institute of Information Technology

Programming Applications and Frameworks (IT3030)

Continuous Assignment – 2023, Semester 1

Final Document

GROUP ID: *078*

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1. Introduction

"Foodies" is a social media web application catering to the needs of food and beverage reviewers who want to share their dining experiences with others. The development team has majorly focused on creating an interface that is simple to use and navigate by incorporating best practices for web design and user experience making it accessible to a wide range of users, including those without technical backgrounds.

The system offers a range of features that allow users to create posts and edit or delete them as needed. Registered users have the ability to view posts made by other users on the platform. Each user has their own profile page, which displays all the posts they have made, and other users can follow them to stay updated on their latest content. The platform also includes the ability for users to like and comment on other users' posts and save any post of interest to be viewed later easily. The social media platform is flexible with the original author of the comment being able to edit or delete comments they made. The original owner of the post has the ability to delete any comment made on their posts as well. Moreover, the users of the Foodies platform can also share their favorite recipes with the other users of the platform.

Authentication and Authorization are critical components of web applications. By incorporating Spring OAuth2 technology, users are provided with a secure and reliable means of accessing the Foodies platform while ensuring that only authorized users have access to sensitive information.

2. Methodology

	Tools / Libraries	Reason for the selection
Client web application	React.js	• provides a component-based architecture, which allows us to create modular and reusable UI components
	Material UI	• Provides customizable UI components that can be used to build responsive user interfaces. • To ensure consistency in the design of the web application
REST API	Spring Boot	• Provides features such as auto-configuration, dependency injection, and embedded servers that simplify development process.
	OAuth2	• Standard protocol to secure the REST API
Database	Mongo DB	• NoSQL database that provides scalability and flexibility to handle the frequently updating large amount of data in the social media platform
Test client	Postman	• To test and validate the REST API endpoints quickly and efficiently
Version Controlling	Git / GitHub	• Git is used to manage the source code for the project. • GitHub provides an user friendly interface for managing Git repositories and enables collaboration between team members.

3. Requirement Analysis

3.1 Functional Requirements

REST API	Client web application
The REST API should allow users to register to the system and authenticate themselves before logging in to the platform.	The application should have a user-friendly and simple interface.
The REST API should implement security measures such as password hashing and access control to protect user data and privacy.	Users should be able to create posts with multiple images and a description of their dining experience.
The REST API should allow users to manage their profiles including personal information, profile picture, and other details.	Users should be able to edit posts uploaded by themselves.
The REST API should allow users to post and share their experiences	Users should be able to delete a post uploaded by themselves.
The REST API should provide notifications to users about new comments and likes on their posts.	Users should be able to view posts from other users on their post feed.
The REST API should allow users to follow and unfollow other users.	Users should be able to like on posts uploaded by other users and remove the like if needed.
	Users should be able to comment on posts uploaded by other users.
	Users should be able to edit or delete a comment made by themselves.
	Users should be able to delete a comment made on their own post if necessary.
	Users should receive notifications for likes and comments made on their posts.
	Users should be able to manage their profile details.
	Users should be able to follow a user and unfollow them if necessary.

3.2 Non-functional requirements

REST API	Client web application
Security –User data must be protected via the API against unauthorized access.	Usability–Users with varying levels of technical expertise can easily understand and use the application without difficulty.
Scalability –API needs to be scalable and capable of handling users and requests.	Accessibility–The application should be accessible to users with different disabilities.
Reliability–API should maintain the consistency and integrity of the data.	Performance–The application should be responsive to user actions.
Performance–API should be able to accommodate all users and requests without substantial lag or unavailability.	Compatibility–The application should be compatible with different OS and hardware devices.

3.3 Technical requirements

1) The REST API should provide endpoints for creating, editing, and deleting posts, as well as retrieving posts and their associated images and comments. It should also implement functionality for adding and removing likes on posts.

2) The REST API should allow users to create, edit, and delete comments. The API should also include permission controls to ensure users can only edit or delete their own comments.

3) The technical requirements for implementing notifications in a REST API include setting up a notification system that can track and notify users of likes and comments made on their posts, as well as ensuring the proper authentication and authorization mechanisms are in place.

4) To implement the ability to follow and unfollow users, the REST API should include endpoints for users to send requests to follow another user and for users to accept or decline follow requests. Users should also be able to unfollow other users through the API.

5) The API should support secure authentication mechanisms such as OAuth 2.0 or JSON Web Tokens (JWT). It should also enforce password policies, use HTTPS for secure communication, and implement role-based access control to protect user data and privacy. User profile data should be stored securely and encrypted at rest.

4. Design and Development

4.1 System Architecture

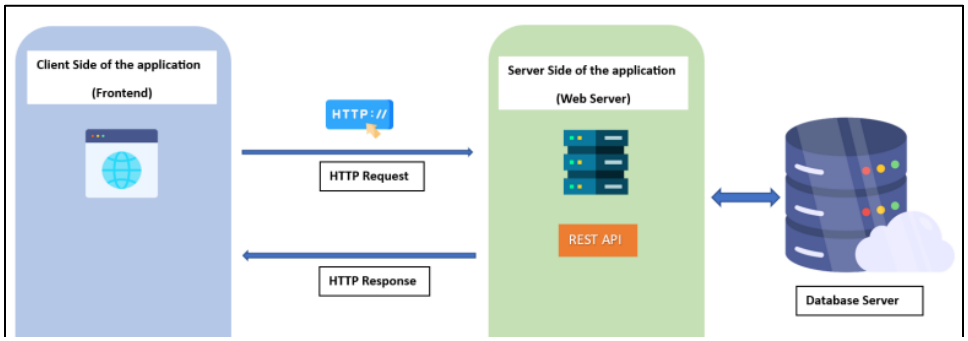


Fig.4.1 Architectural diagram for the overall system

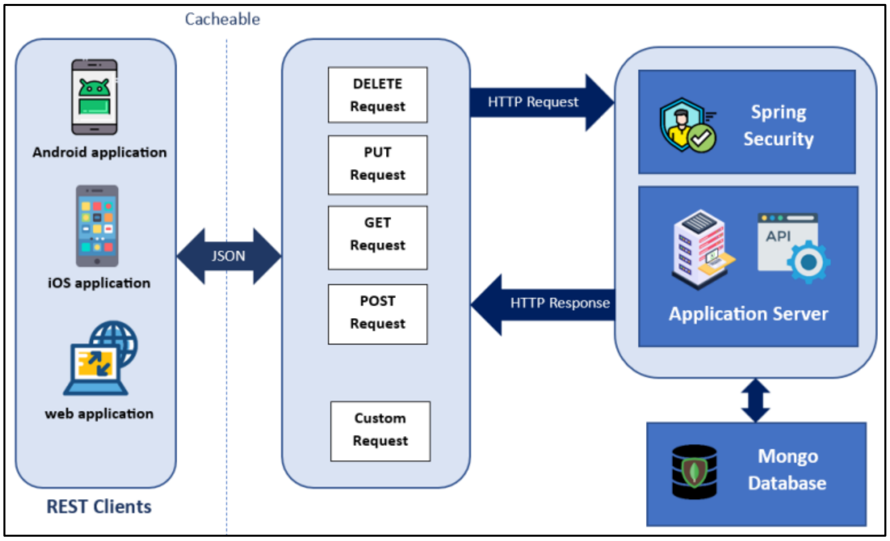


Fig.4.2 Architectural diagram for the REST API

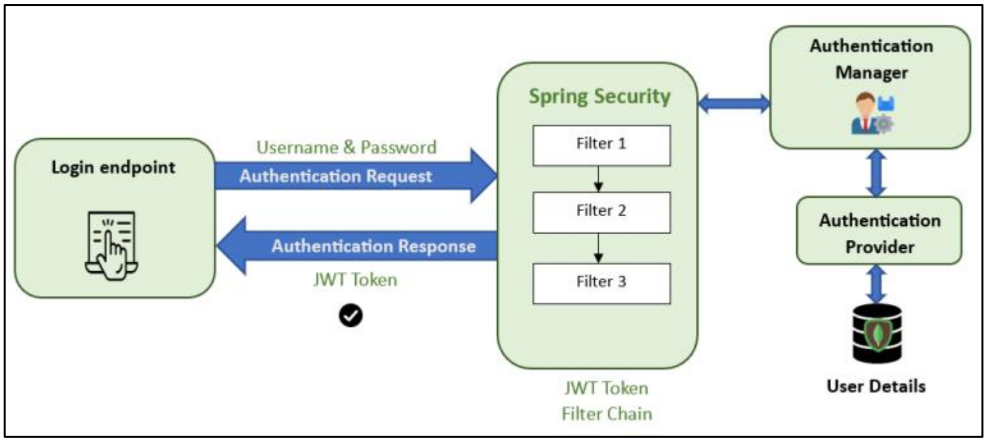


Fig.4.3 Spring security architectural diagram

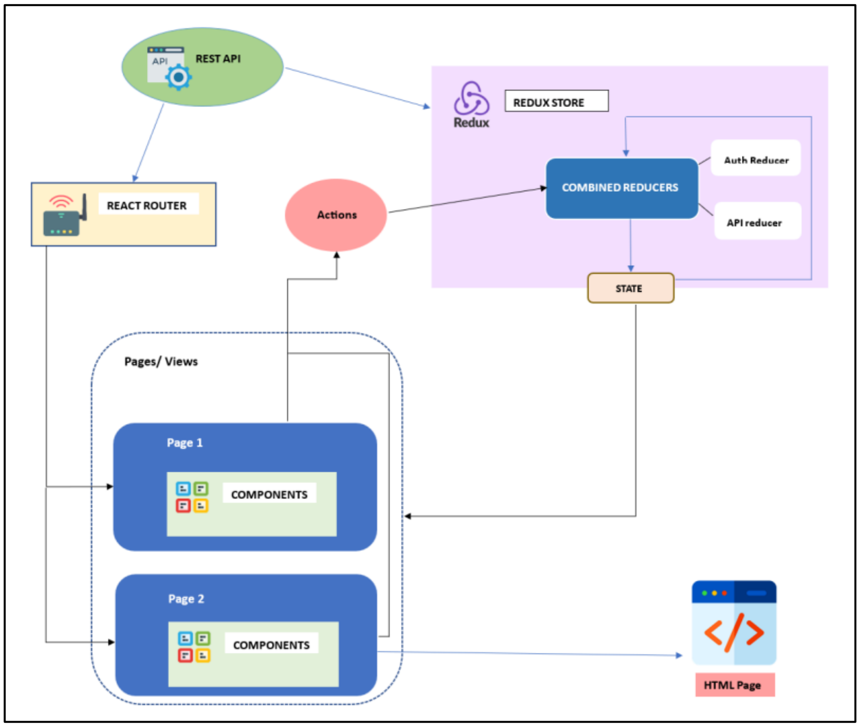
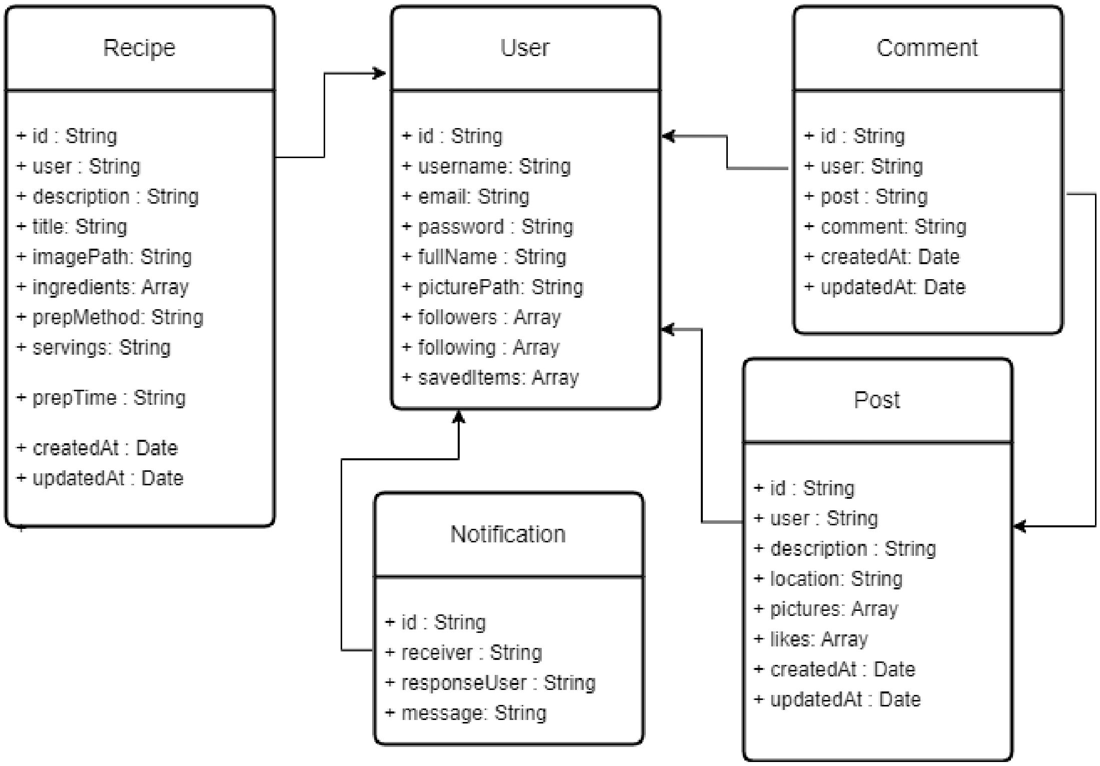


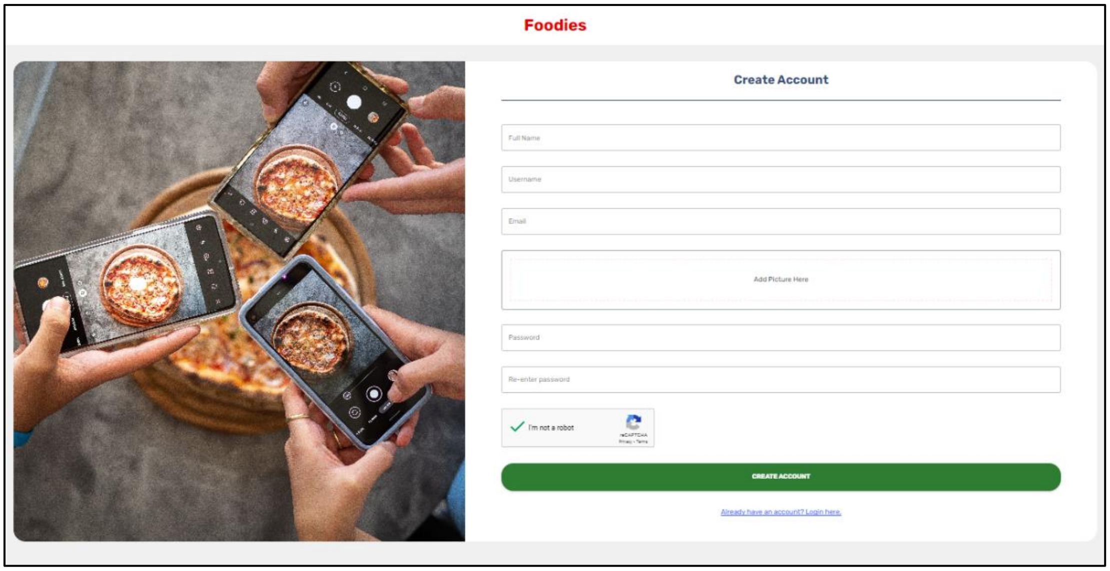
Fig.4.4 Architectural diagram for the client application (Single Page

4.2 Database design

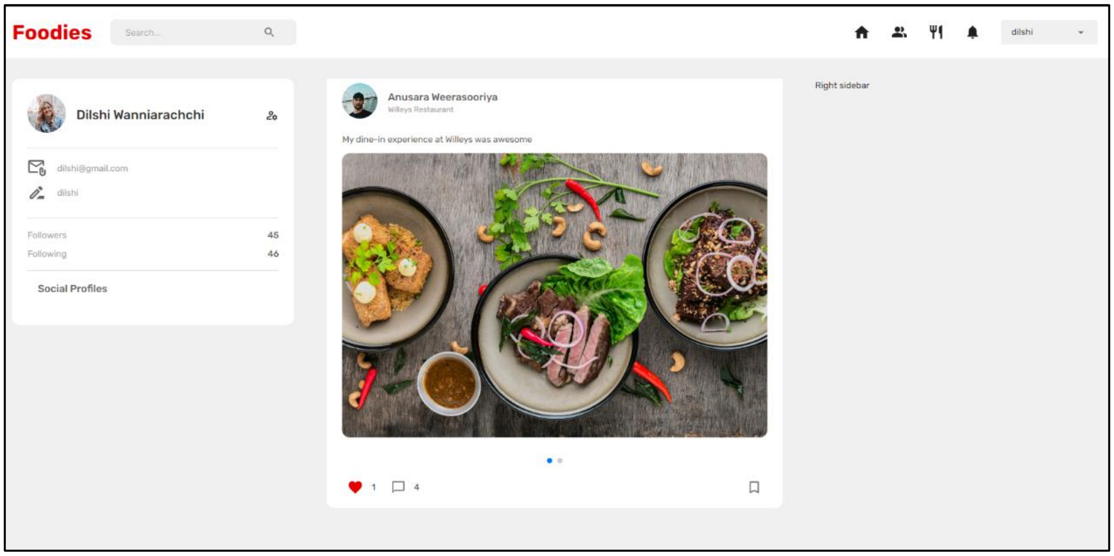


4.3 Frontend Development

Weerasooriya K. A – IT21 0606 94



Users are initially navigated to the login screen where they can login to the “Foodies” platform by entering username and password. Un-registered users can register to the system by selecting the “Signup here” link located in the login form and fill out the registration form. After performing the ReCAPTCHA validation the user will be successfully registered in the system.



Dilshi Wanniarachchi
dilshi@gmail.com
dilshi

Followers	45
Following	46

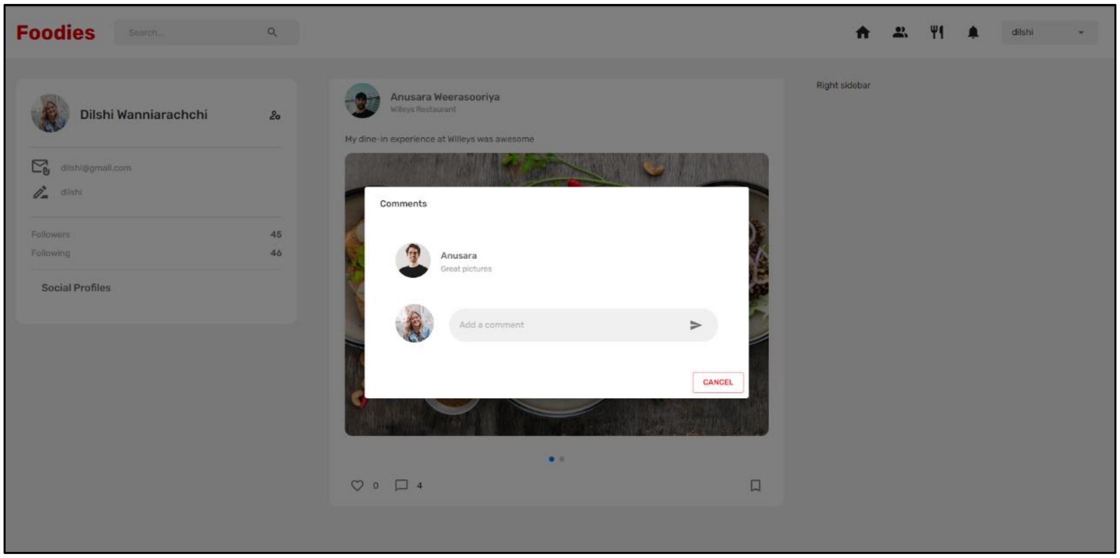
Anusara Weerasooriya
Willeys Restaurant

My dine-in experience at Willeys was awesome

♥ 1 □ 4

Users can upload a new post by entering a brief description, location and selecting one or more photos (maximum 4) from the device gallery. The new post will be displayed on the home feed. Users of the “Foodies” platform can also like the post by clicking on the heart icon below the post. The users will be able to view all posts made by them by navigating to user profile. Users can update the details of their posts except the photos by clicking on the more options icon and selecting the “Update Post” option. If the user intends to delete the post, he can select the “Delete Post” option.

Nadeera A. A. D. P – IT21 0734 96



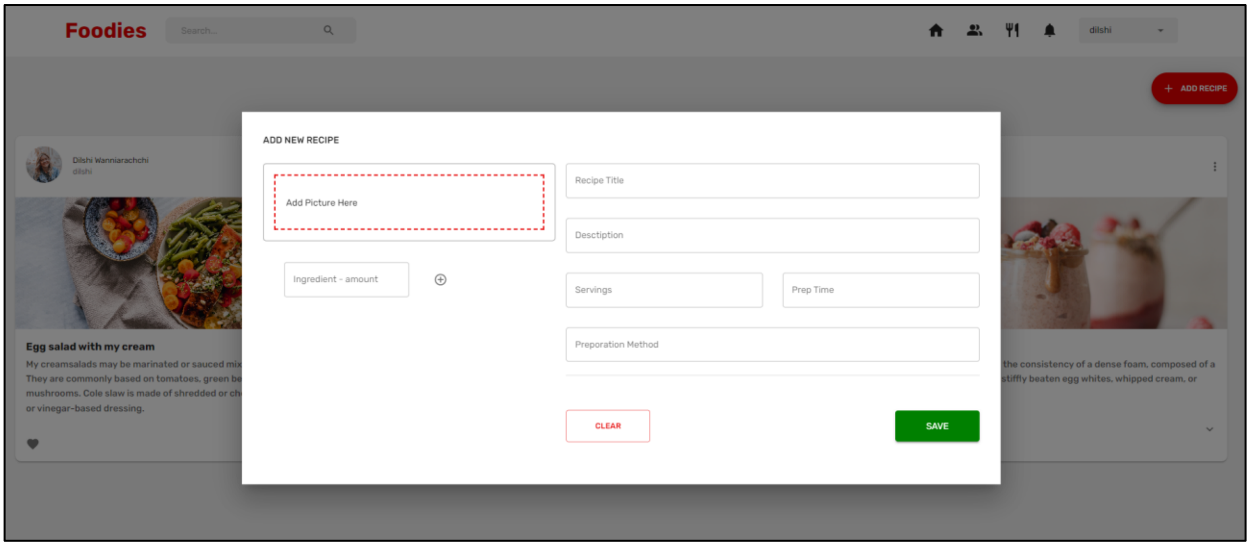
My dine-in experience at Willeys was awesome

Anusara
Great pictures

Users can view all comments made on a post by selecting the comment icon at the bottom of a post. If the user wants to add a comment, they can type a comment on the text area and click on the send icon. New comments will also be displayed for the post instantly. If the author of the comment needs to update the comment

Wanniarachchi W.D.D.M – IT21 0376 10

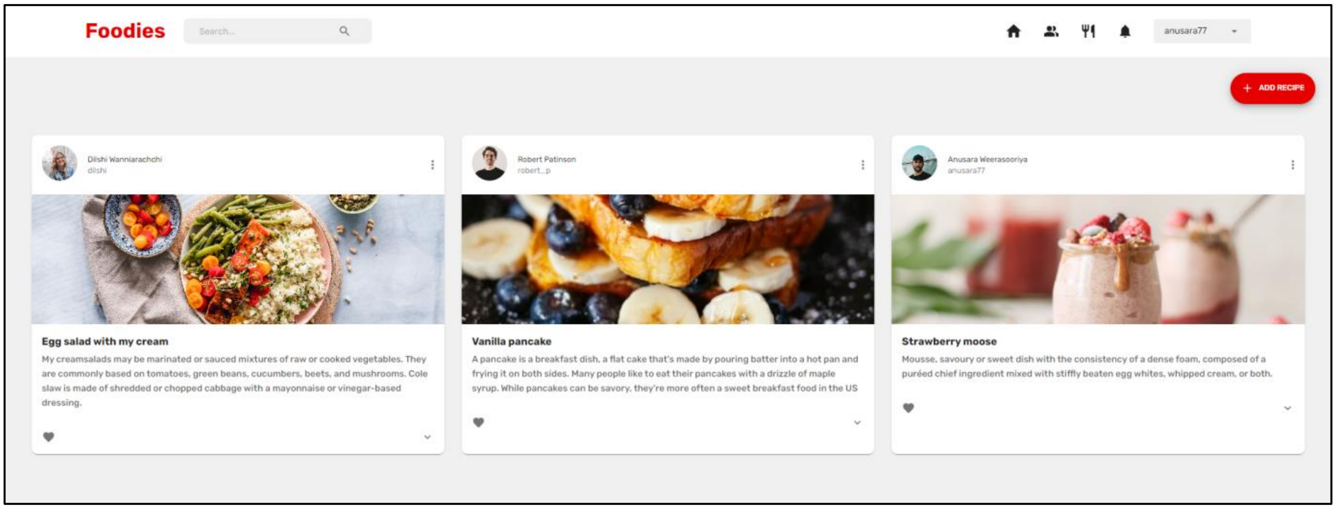
Another amazing feature of this website is to add users' own recipes. User can click on the food icon in the navbar and navigate to the Recipes page. All the recipes that are available in the website will be displayed here. User can add a new recipe by clicking on the floating action button called "ADD RCIPE". Then the Add recipe form modal will appear on the page. Users can create a new recipe by giving a title, description, preparation method, servings, and other important details. Users can also add ingredients one by one and remove them. Then the user can upload a suitable image for his/her new recipe. By clicking on the more options menu right corner user can make changes to his/her recipes and also delete them.



Egg salad with my cream

My creamsalads may be marinated or sauced mix... They are commonly based on tomatoes, green be... mushrooms. Cole slaw is made of shredded or ch... or vinegar-based dressing.

...the consistency of a dense foam, composed of a ...stiffly beaten egg whites, whipped cream, or



Egg salad with my cream

My creamsalads may be marinated or sauced mixtures of raw or cooked vegetables. They are commonly based on tomatoes, green beans, cucumbers, beets, and mushrooms. Cole slaw is made of shredded or chopped cabbage with a mayonnaise or vinegar-based dressing.

Vanilla pancake

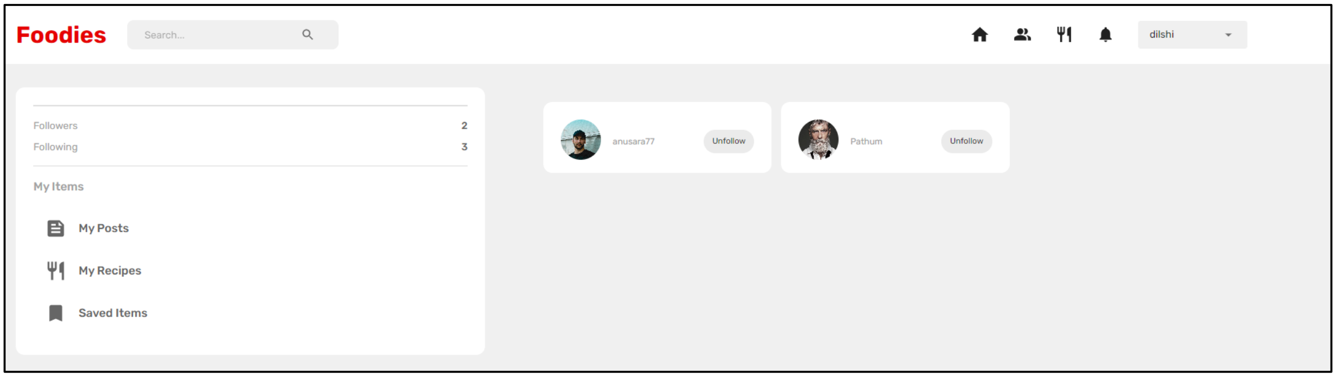
A pancake is a breakfast dish, a flat cake that's made by pouring batter into a hot pan and frying it on both sides. Many people like to eat their pancakes with a drizzle of maple syrup. While pancakes can be savory, they're more often a sweet breakfast food in the US

Strawberry moose

Mousse, savoury or sweet dish with the consistency of a dense foam, composed of a puréed chief ingredient mixed with stiffly beaten egg whites, whipped cream, or both.

Also the user is provided with a feature to save posts for later use. User can get this feature by clicking on the Flag icon at the bottom left corner of the post card. When the user clicks that icon post will be saved in to saved Items for later reference.

Kularathna D.G.J.C – IT21 5103 80

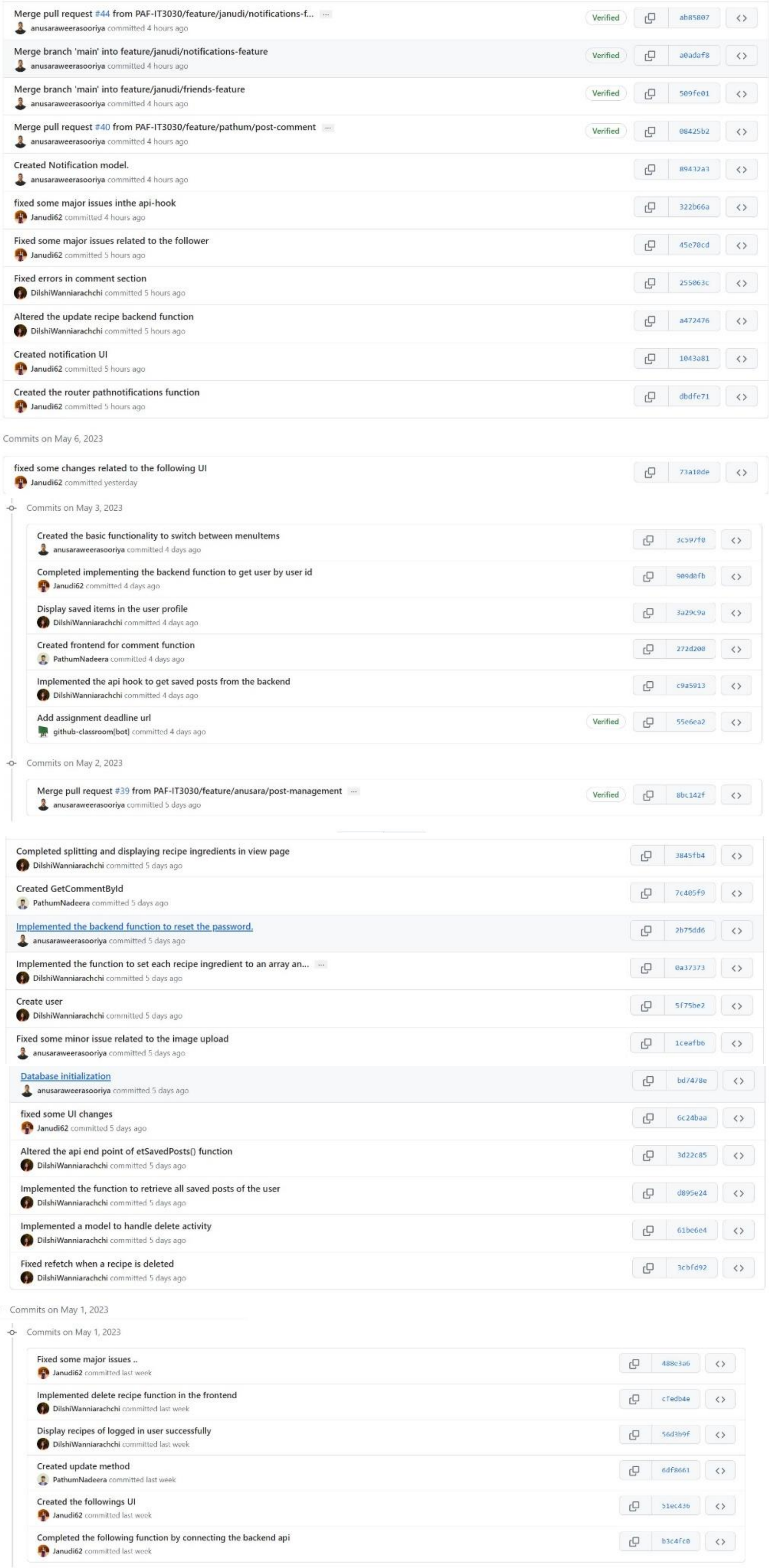


Followers	2
Following	3

Users can follow other users to increase their connections with them on the social media platform. All the followers will display in the user profile and the user can unfollow them by clicking on the unfollow button. Also, the user's follower and following count will be displayed in the user profile widget. Users can follow other users by clicking on the follow button.

5. GitHub clickable link

https://github.com/PAF-IT3030/paf-assignment-2023-2023_078_team.git



Merge pull request #44 from PAF-IT3030/feature/janudi/notifications-f... ···
anusaraweerasooriya committed 4 hours ago
Verified ab85807

Merge branch 'main' into feature/janudi/notifications-feature
anusaraweerasooriya committed 4 hours ago
Verified a0adaf8

Merge branch 'main' into feature/janudi/friends-feature
anusaraweerasooriya committed 4 hours ago
Verified 509fe01

Merge pull request #40 from PAF-IT3030/feature/pathum/post-comment ···
anusaraweerasooriya committed 4 hours ago
Verified 08425b2

Created Notification model.
anusaraweerasooriya committed 4 hours ago
89432a3

fixed some major issues inthe api-hook
Janudi62 committed 4 hours ago
322b66a

Fixed some major issues related to the follower
Janudi62 committed 5 hours ago
45e70cd

Fixed errors in comment section
DilshiWanniarachchi committed 5 hours ago
255063c

Altered the update recipe backend function
DilshiWanniarachchi committed 5 hours ago
a472476

Created notification UI
Janudi62 committed 5 hours ago
1043a81

Created the router pathnotifications function
Janudi62 committed 5 hours ago
dbdfe71

Commits on May 6, 2023

fixed some changes related to the following UI
Janudi62 committed yesterday
73a10de

Commits on May 3, 2023

Created the basic functionality to switch between menuItems
anusaraweerasooriya committed 4 days ago
3c597f0

Completed implementing the backend function to get user by user id
Janudi62 committed 4 days ago
909d0fb

Display saved items in the user profile
DilshiWanniarachchi committed 4 days ago
3a29c9a

Created frontend for comment function
PathumNadeera committed 4 days ago
272d208

Implemented the api hook to get saved posts from the backend
DilshiWanniarachchi committed 4 days ago
c9a5913

Add assignment deadline url
github-classroom[bot] committed 4 days ago
Verified 55e6ea2

Commits on May 2, 2023

Merge pull request #39 from PAF-IT3030/feature/anusara/post-management ···
anusaraweerasooriya committed 5 days ago
Verified 8bc142f

Completed splitting and displaying recipe ingredients in view page
DilshiWanniarachchi committed 5 days ago
3845fb4

Created GetCommentById
PathumNadeera committed 5 days ago
7c405f9

Implemented the backend function to reset the password.
anusaraweerasooriya committed 5 days ago
2b75dd6

Implemented the function to set each recipe ingredient to an array an... ···
DilshiWanniarachchi committed 5 days ago
0a37373

Create user
DilshiWanniarachchi committed 5 days ago
5f75be2

Fixed some minor issue related to the image upload
anusaraweerasooriya committed 5 days ago
1ceafb6

Database initialization
anusaraweerasooriya committed 5 days ago
bd7478e

fixed some UI changes
Janudi62 committed 5 days ago
6c24baa

Altered the api end point of etSavedPosts() function
DilshiWanniarachchi committed 5 days ago
3d22c85

Implemented the function to retrieve all saved posts of the user
DilshiWanniarachchi committed 5 days ago
d895e24

Implemented a model to handle delete activity
DilshiWanniarachchi committed 5 days ago
61be6e4

Fixed refetch when a recipe is deleted
DilshiWanniarachchi committed 5 days ago
3cbfd92

Commits on May 1, 2023

Commits on May 1, 2023

Fixed some major issues ..
Janudi62 committed last week
488e3a6

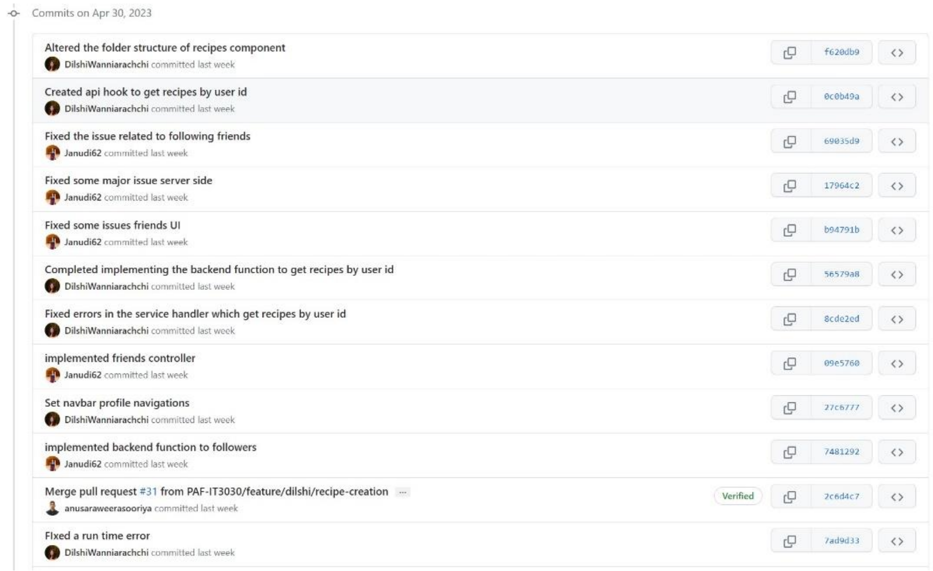
Implemented delete recipe function in the frontend
DilshiWanniarachchi committed last week
cfedb4e

Display recipes of logged in user successfully
DilshiWanniarachchi committed last week
56d3b9f

Created update method
PathumNadeera committed last week
6df8661

Created the followings UI
Janudi62 committed last week
51ec436

Completed the following function by connecting the backend api
Janudi62 committed last week
b3c4fc0



Commits on Apr 30, 2023

Altered the folder structure of recipes component
DilshiWanniarachchi committed last week
f620db9

Created api hook to get recipes by user id
DilshiWanniarachchi committed last week
0c0b49a

Fixed the issue related to following friends
Janudi62 committed last week
69035d9

Fixed some major issue server side
Janudi62 committed last week
17964c2

Fixed some issues friends UI
Janudi62 committed last week
b94791b

Completed implementing the backend function to get recipes by user id
DilshiWanniarachchi committed last week
56579a8

Fixed errors in the service handler which get recipes by user id
DilshiWanniarachchi committed last week
8cde2ed

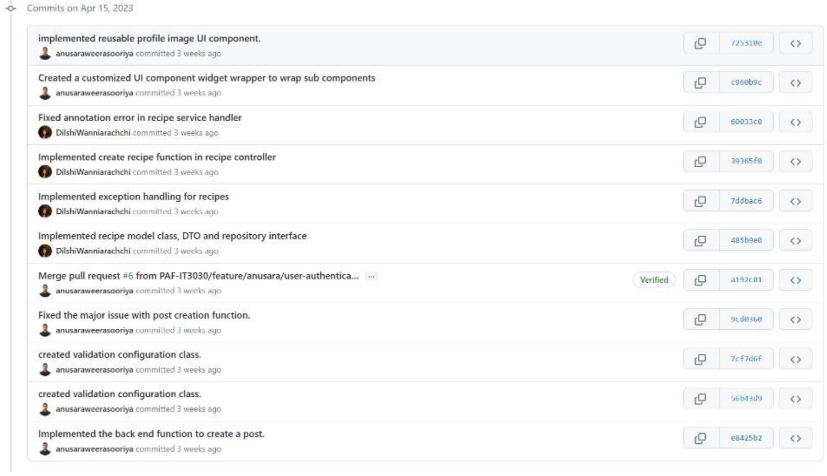
implemented friends controller
Janudi62 committed last week
09e5760

Set navbar profile navigations
DilshiWanniarachchi committed last week
27c6777

implemented backend function to followers
Janudi62 committed last week
7481292

Merge pull request #31 from PAF-IT3030/feature/dilshi/recipe-creation …
anusaraweerasooriya committed last week
Verified
2c6d4c7

FIxed a run time error
DilshiWanniarachchi committed last week
7ad9d33



Commits on Apr 15, 2023

implemented reusable profile image UI component.
anusaraweerasooriya committed 3 weeks ago
725310e

Created a customized UI component widget wrapper to wrap sub components
anusaraweerasooriya committed 3 weeks ago
c960b9c

Fixed annotation error in recipe service handler
DilshiWanniarachchi committed 3 weeks ago
60033c0

Implemented create recipe function in recipe controller
DilshiWanniarachchi committed 3 weeks ago
39365f0

Implemented exception handling for recipes
DilshiWanniarachchi committed 3 weeks ago
7ddbac6

Implemented recipe model class, DTO and repository interface
DilshiWanniarachchi committed 3 weeks ago
485b9e0

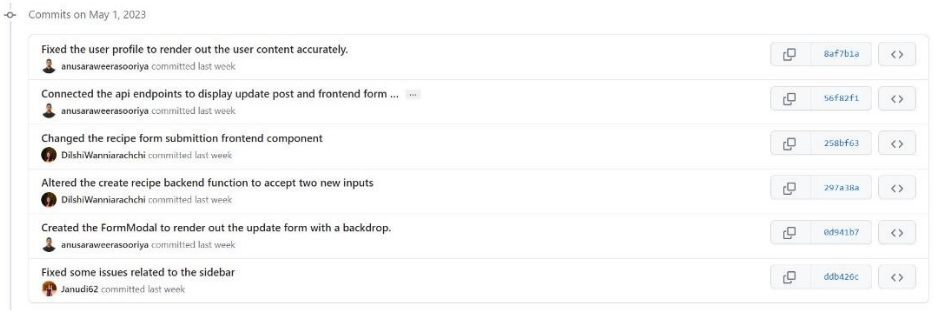
Merge pull request #6 from PAF-IT3030/feature/anusara/user-authentica… …
anusaraweerasooriya committed 3 weeks ago
Verified
a192c01

Fixed the major issue with post creation function.
anusaraweerasooriya committed 3 weeks ago
9cd0360

created validation configuration class.
anusaraweerasooriya committed 3 weeks ago
7cf7d6f

created validation configuration class.
anusaraweerasooriya committed 3 weeks ago
56b43d9

Implemented the back end function to create a post.
anusaraweerasooriya committed 3 weeks ago
e8425b2



Commits on May 1, 2023

Fixed the user profile to render out the user content accurately.
anusaraweerasooriya committed last week
8af7b1a

Connected the api endpoints to display update post and frontend form … …
anusaraweerasooriya committed last week
56f82f1

Changed the recipe form submittion frontend component
DilshiWanniarachchi committed last week
258bf63

Altered the create recipe backend function to accept two new inputs
DilshiWanniarachchi committed last week
297a38a

Created the FormModal to render out the update form with a backdrop.
anusaraweerasooriya committed last week
0d941b7

Fixed some issues related to the sidebar
Janudi62 committed last week
ddb426c