Tribhuvan University

Faculty of Humanities and Social Sciences

ConnectFlavour (Recipe APP)

A PROJECT REPORT

Submitted to

Department of Math and ICT

Janamaitri Multiple Campus

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by

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BCA 6th Semester, III Year (2079/80)

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SUPERVISION RECOMMENDATION

I hereby recommend that this project prepared under my supervision by Shraddha Maharjan & Bina Tamang entitled **“ConnectFlavour” (Recipe App)** in partial fulfillment of the required for the degree of Bachelor of Computer Application is recommended for the final evaluation.

SIGNATURE

SUPERVISOR

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LETTER OF APPROVAL

This is of certify that this project prepared by BINA TAMANG, 6-2-263-8-2019 and SHRADDHA MAHARJAN, 6-2-263-31-2019 entitled **"ConnectFlavour" (Recipe App)** in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

SIGNATURE of the supervisor Mr. Kamal Tamrakar Department of Math and ICT Janamaitri Multiple Campus	**SIGNATURE of the HOD/Coordinator** Mr. Department of Math and ICT Janamaitri Multiple Campus
SIGNATURE of Internal Examiner	SIGNATURE of External Examiner

ABSTRACT

ConnectFlavour is a food recipe Android Application with image-based UI for searching, sharing, creating and saving recipes. This app helps users find and view different food recipes based on different categories, as well as allowing them to add their own recipes to the database. This is very handy application, which every user can search for recipes, save recipe as favorite, share recipe with friends on social media. This app is time saver providing recipes in few clicks. With recipes being added daily there will always be something new for user to crave. The app aspires to run efficiently, while having an intuitive a simple design that provides the user all the necessary functionalities. The project has been implemented using Flutter, Django and MySQL.

Keywords: Food, Recipe, Android Application, Flutter, Django, MYSQL.

ACKNOWLEDGEMENT

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At the end we would like to express our sincere thanks to all our friends and others who helped us directly or indirectly during the preparation of this project.

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LIST OF ABBREVIATIONS

API	Application Programming Interface
DFD	Data Flow Diagram
ER	Entity Relationship
UML	Unified Modeling Language

CHAPTER 1: PROJECT INTRODUCTION

1.1 Introduction

The advancement in technology has made people's lives easy like never before. Everything that it is required for fingertips. With a few taps on our smartphones, it can complete tasks in minimal time. From entertainment to learning and from fitness to cooking, there are various applications for everything that is needed.

Whether people love to cook or just love to eat, they have a collection of dishes and recipes they'd like to try. Maybe they have a bunch handed down from a loved one. In either case, they certainly need a better method to keep them organized for the long haul than a bunch of index cards in a file folder, which old and tedious. Therefore, cooking with your phone is a lot tastier when you have the right recipes.

ConnectFlavour application is a very useful app for people who love to cook and try out new recipes. This app helps users find and view different food recipes based on different categories, as well as allowing them to add their own recipes to the database

This application is a time saver providing recipes in few clicks. The interface is clean and simple. It makes use of Android image button capability to display options on home screen with image icons. This is very handy application, which every user can search for recipes view added favorite recipe list, share recipe with friends on social media. The user also has the option to filter, and favorite those recipes based on its preference. Moreover, the application also allows the user to add new recipes and ingredients to the application.

1.2 Problem Statement

Today Do It Yourself concept has become very popular in the world. Most consumers are wildly drawn to the idea of cooking meals from the comfort of their homes. Surely there are many good recipe apps which provide thousands of recipes but a good application lacks a small feature that prevents it from making it a great application.

We noticed a few things which were missing- offline availability of recipes, ability to create a customizable list of ingredients, or to sort the recipes based on specific ingredients or dietary preferences, also unstructured UI & UX. So, we have tried to overcome the limitations of existing systems to help the user gain a better experience.

We plan on using a content-based recommendation system that will learn from user's inputs and provide the user with refined recommended recipes which suit the user's needs.

1.3 Objectives

The objective of this capstone is to develop a "ConnectFlavour" mobile application to be used to elevate user kitchen skills and streamline grocery shopping, instead of using index cards in a file folder. In other words, ConnectFlavour will turn your phone into a pocket sous chef.

The objectives of this project are as follows:

- ❖ Search to view recipe by category or view all recipes.
- ❖ To guide the user to the recipe based on the user's choices and needs.
- ❖ Add/ Remove Favorite Recipe.
- ❖ Provides users with step-by-step recipes to make the task of preparing a meal less hectic

1.4 Scopes and Limitations

Scope of a Recipe Application:

1. **Recipe Creation and Management:** A recipe application can allow users to create and manage their own recipes, including adding ingredients, specifying cooking instructions, and setting serving sizes.
2. **Recipe Search and Discovery:** Users can search for recipes based on various criteria such as ingredients, cuisine, dietary preferences, and cooking time. The application can provide a rich collection of recipes for users to explore and discover new culinary ideas.
3. **Nutritional Information**: The application can provide nutritional information for recipes, including calorie counts, macronutrient breakdowns, and other relevant dietary information. This can help users make informed choices about their meals based on their dietary needs and preferences.
4. **User Interaction and Social Features:** Recipe applications can allow users to rate, review, and comment on recipes, as well as share recipes with friends and family. This can facilitate user interaction and community engagement within the application.

Limitations of a Recipe Application:

1. **Accuracy of Recipe Information**: The accuracy of recipe information, including ingredient quantities, cooking times, and nutritional values, depends on the quality and accuracy of the data input by users or obtained from external sources. Inaccurate or incomplete information can result in incorrect recipes and potentially undesirable culinary outcomes.

2. **Variability in Ingredient Availability**: The availability of ingredients may vary depending on geographical location, seasonality, and user preferences. A recipe

application may not always be able to provide accurate information on ingredient availability, which can affect users' ability to follow a recipe exactly as intended.

3. **Cooking Skills and Preferences**: The cooking skills and preferences of users may vary widely, and a recipe application may not be able to cater to all levels of cooking expertise or individual taste preferences. Users may need to adapt recipes based on their own skills, kitchen equipment, and personal preferences.

4. **Dietary and Allergen Restrictions**: Recipe applications may provide dietary information, but users with specific dietary restrictions or allergies should exercise caution and verify the accuracy of the information provided. It is always important for users with dietary restrictions or allergies to carefully review recipes and ingredients to ensure they are safe for their consumption.

5. **Legal and Copyright Issues:** Recipe applications should adhere to legal and copyright requirements, including obtaining proper permissions for using copyrighted recipes, images, or other content. Users should also be aware of any legal or copyright limitations when sharing or using recipes within the application.

6. **Technology Limitations**: Recipe applications may have limitations based on the technology used, such as limitations in recipe search algorithms, user interface design, or device compatibility. These limitations can affect the overall functionality and user experience of the application.

1.5Report Organization

- In “Chapter 1” includes introduction, problem statement, objective, scope and limitation, report organization.
- In “Chapter 2” we have discussed background study and literature review.
- In “Chapter 3” we have system analysis (which includes requirement analysis, feasibility analysis, data modeling and process modeling) and system design.
- In “Chapter 4” implementation and testing of system are included.
- In “Chapter 5” we discussed the outcome and conclusion.

CHAPTER 2: BACKGROUND STUDY AND LITERATURE REVIEW

2.1 Background Study

Cooking is a passionate job that allows people to turn an ordinary meal into a tempting and mesmerizing one and there are a number of people who take up this art as a hobby or make it their profession. Especially during the initial Covid19 phase when the entire world was locked up in their homes, the one thing they genuinely bonded over was cooking. It was especially during these times when people explored so many foods recipe mobile apps and understood their utility. Even today people love turning to these apps, especially foodies, to search for a wide range of food recipes. There is so much frenzy about food recipe mobile app that the people in the food profession or with a huge interest in this field, are considering launching their food recipe apps. And today more and more people are turning towards these apps to search for the food recipes, as the times for cookbooks are long now and today everything has been digitalized and here people like the idea that they can get all kind of cuisines and varieties under just one platform. In fact, there are more than **23** million people all across the USA, Canada, India, and Australia, that have searched for food recipe & cooking apps.[1]

With such a system in place, Foodie would be more competitive and adaptive to all types of users. The goal of this project is to create an Android software application that is accessible to everyone. The app will be easy to use with a variety of features available. This capstone is to develop a "ConnectFlavour" mobile application to be used to elevate user kitchen skills and streamline grocery shopping, instead of using index cards in a file folder. In other words, ConnectFlavour will turn your phone into a pocket sous chef.

2.2 Literature Review

In today's world, technology has taken over almost every aspect of our lives. And with most of us now using a smartphone or tablet, cooking, and recipe apps have become increasingly popular. Not only do these apps provide quick and easy access to thousands of recipes, solving the problem of what to have for dinner, but many also provide tips, tricks, and nutritional information that can help us lead a healthier lifestyle while enjoying our favourite foods. In the context of Nepal, there are few recipe apps which are: Hamro Bhanchha, All Nepali Food Recipes, YumYum.

Hamro Bhanchha – Nepali Recipe App is an app made by CreativeHub Australia. It has an average rating of 5 and has received 6 ratings. Hamro Bhanchha is your friend helping you in the kitchen to prepare delicious Nepali delicacies for your loved ones. Choose from hundreds of recipes from experienced Nepali home chefs like you. Discover the joy of home cooking with our easy-to-use recipe app designed for all the Nepalese residing inside and outside the country.[2]

Reviewing Existing System:

For this project, we researched and reviewed some of the related websites and applications. Some of the related websites are kitchen Stories, Tasty, SuperCook and CookPad that are popular on the play store. After some more researched we found some popular related websites which are Nepal based Hamro Bhanchha, All Nepali Food Recipes, YumYum are some of them. Through the research, we came to realize there were already few systems designed with similar ideology.

CHAPTER 3: SYSTEM ANALYSIS AND DESIGN

3.1 System Analysis

During analysis, data were collected on the available files, decision points and transactions handled by the existing system. System Analysis refers into this project process of examining a situation with the recipe management system project intent of improving it through better procedures and methods. System Analysis is ConnectFlavour food recipe project process of planning a new System to food management system project replace or complement an existing system. But before any planning is done food management system project old system must be thoroughly understood ConnectFlavour a food recipe project requirements determined.

Agile Methodology

Agile Methodology was used while building this project. This system would be commenced using the protocols of the evolutionary method and different phases will be set for the part completion of works. After setting aims and objectives of the project, we have to achieve the requirements and goals of the project. To achieve the expected outcome, we must use both qualitative and quantitative analysis. It is better for software products that have their feature sets redefined during development because of user feedback and other factors. With many models we have chosen the Agile Model for our mini project. The Agile Model helps stay to meet client requirement, meaning cost and timelines can be determined early on in our project.

The following picture shows the Waterfall Methodology of project management and the phase that were included during development of this system:

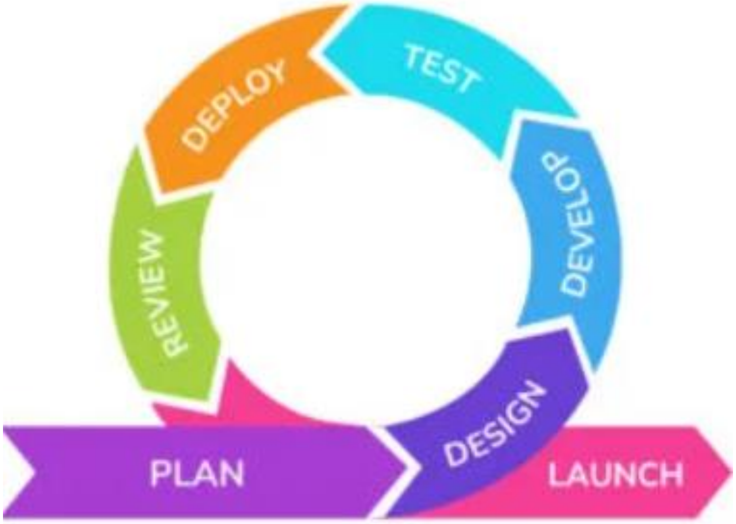


Figure 3.1: Agile model for ConnectFlavour

3.1.1 Requirement Analysis

Requirement analysis is done while developing a system and before implementing it, it is necessary to analyze the whole system requirement. It is categories into mainly 2 parts:

1. Functional requirements
2. Non-functional requirements

For any system, there are functional and non-functional requirements to be considered while determining the requirements of the system. The functional requirements are user" visible" features that are typically initiated by stakeholders of the system, such as generate report, login and register. On the other hand, nonfunctional requirements are requirements that describe how the system will do what it is supposed to do, for example, Usability, Reliability and Availability, Performance, Security and Maintainability.

3.1.1.1. Functional Requirement

There are a lot of software requirements specifications included in the functional requirements of the ConnectFlavour System, which contains various process, namely Create User, Add User, Add Admin, CRUD for showing and recent releases, Food details.

Use Case Diagram

There are mainly two actors in this project which are Admin and Customer. They perform different types of use case such as both Customer and Admin register first, after that Customer login, search and filter recipe. Moreover, customer can also add their own recipe, as well as edit and delete own recipe. Similarly, Admin manage account, add, edit and delete the recipe. The graphical representation of our system is represented below:

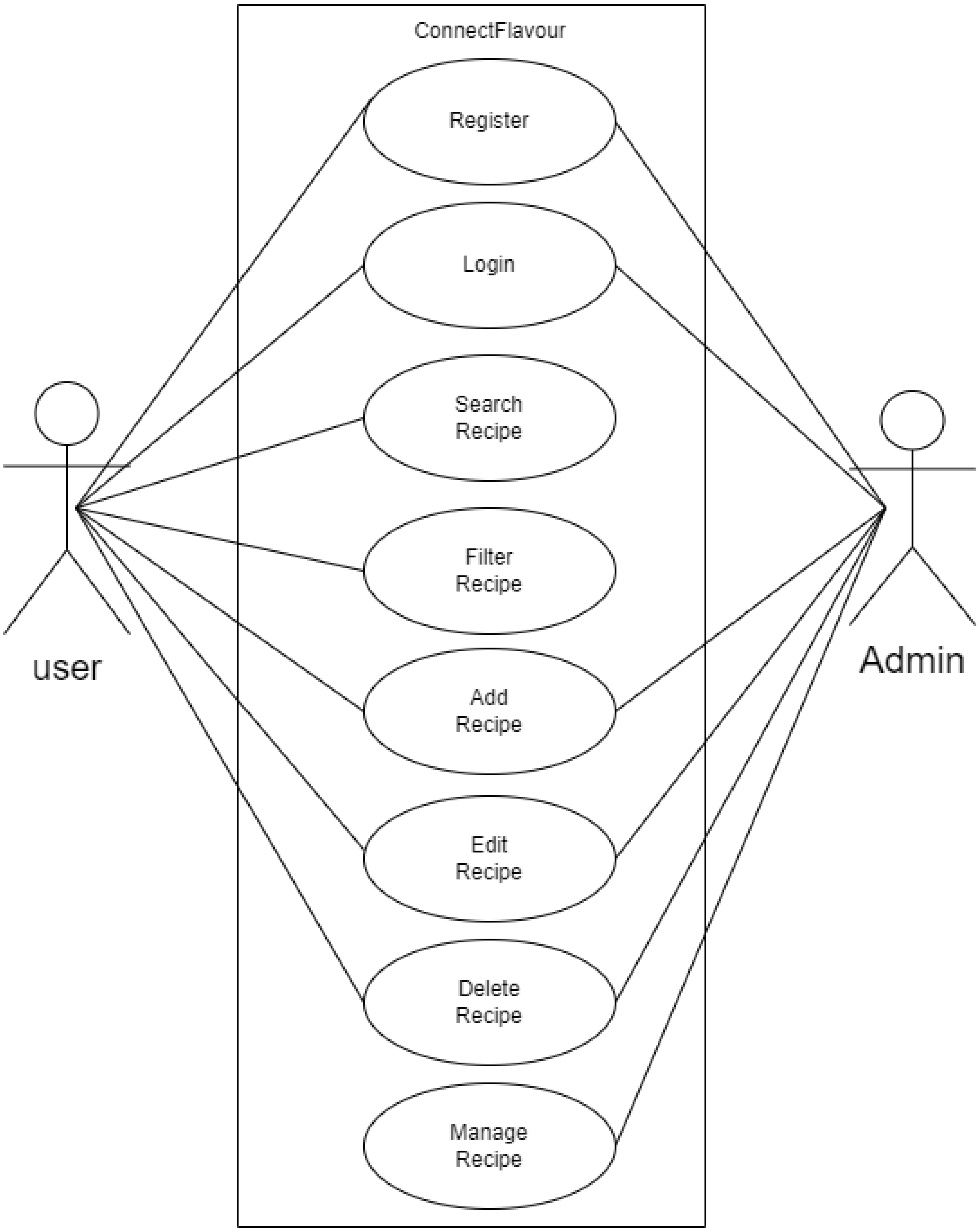


Figure 3.2: Use Case Digram for ConnectFlavour

3.1.1.2. Non-Functional Requirement

Non-Functional Requirement specifies the quality attribute of a software system. They judge the software system based on Responsiveness, Usability, Security, Portability, and other non-functional standards that are critical to the success of the software system. Some of the non-functional requirements of our system are given below:

- Reliability: This system will consistently perform its intended functions.

• Maintainability: It will be maintained from time to time.

• Availability: This project is online application so it can use in almost every part in the country.

• Security: Our system used passwords for security. Without login, the user is unable

to find any content of the app.

3.1.2. Feasibility Study

Feasibility study is one of the essential activities that need to be carried out in system engineering process. The objective of the feasibility study is to establish the reason for developing the software that is acceptable to users, adaptable to change and comfortable to establish standards. A feasibility study takes into account various constraints within which system should be implement and operate such as computing equipment, manpower, cost etc. It helps in taking decisions such as which software to use hardware combinations, etc.

3.1.2.1. Technical Feasibility:

This project "ConnectFlavour" is feasible on technical remarks also, as the proposed project is more beneficiary in terms of having a soundproof system with new technical components installed on the system. The proposed system can run on any machines supporting Android and Internet services and works on the best software and hardware that had been used while designing the system so it would be feasible in all technical terms of feasibility.

3.1.2.2. Economic Feasibility:

Before the development of a system, the proposed system should be studied whether or not it is within the budget estimated by the organization. The system does not require extra software and hardware i.e. it uses open-source technologies. So, there is no recurring cost than just the internet connection.

3.1.2.3. Operational Feasibility:

This application is very easy to operate as it is made user-friendly with the help of very effective GUI tools. Main consideration is user's easy access to all the functionality of the application. Another main consideration is here is that whether user organization is trained enough to use the newer application. Here, every functionality is as per previous operational strategy which is not expected to be cumbersome to the potential client.

3.1.2.4. Schedule Feasibility: The system that we developed is scheduling feasible as it does not require more time for the development phase. The data collection takes more time to collect the data about various products and their quality. After data is collected, the other development phase can be within months.

Gantt Chart

Generalized Activity Normalization Time Table (GANTT) chart is a type of bar chart that is used for illustrating project schedules. It can also help you view the start and end dates of a project in one simple chart. Gantt chart is a bar chart that provides a visual view of tasks scheduled over time. [3]

The Various Phases of the Project:

S.N.	PHASES TASK	DURATION
1	Market research	5 days
2	Define Specification	3 days
3	System Architecture	13 days
4	Project Planning	10 days
5	Details Design	14 days
6	Coding	18 days
7	Testing	4 days
8	Quality Assurance	3 days

Table 3.1 Gantt Chart for ConnectFlavour

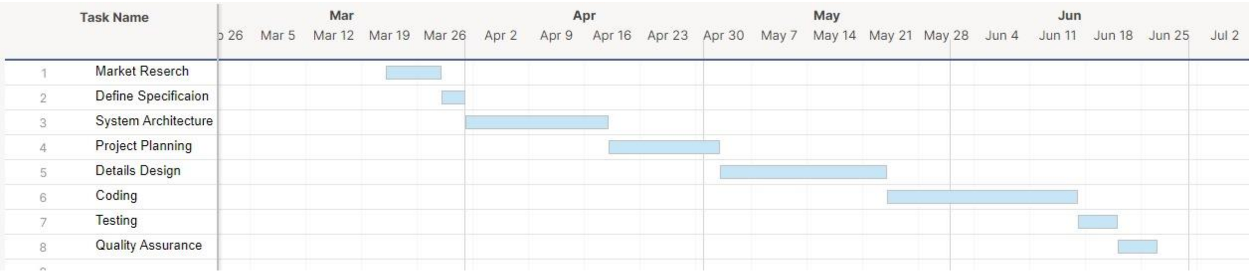


Figure 3.3: Gantt Chart for ConnectFlavour

During our project, we collected various requirements for our project and analyzed those requirements for about two-week duration. The next month we performed various activities related to system design such as database design, data modeling, process modeling and many more. We implemented our design into a working system in about the next six weeks and tested the system for any bugs and errors. We spent another week on deployment.

3.1.3. Data Modeling (ER-Diagram)

The ER diagram of this project shows all the visual instrument of databases tables and relation between Admin, Customer, Procedure, Recipe etc. They are related to each other. It used structured data and to define the relationship between structured data groups of this system functionalities. The main entities of this system are Account, Recipe_Category, Procedure, Recipe, Ingredients_detail, Ingredients, Unit, Wishlist, Followers along with their attributes are shown in the figure below:

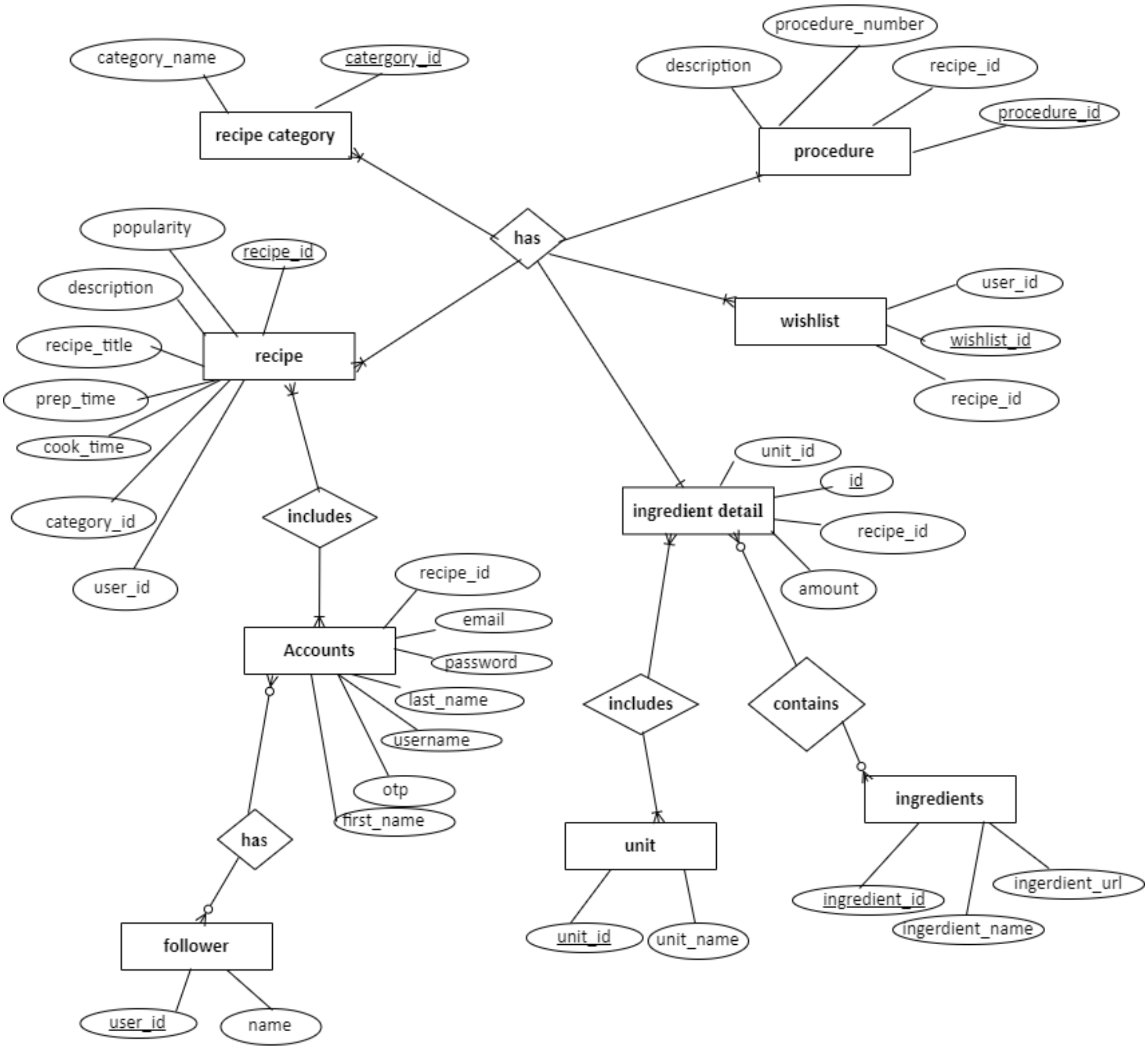


Figure 3.4: ER-Diagram of ConnectFlavour

3.1.4 Process Modeling (DFD)

Level -Zero DFD For Processing Modeling of this project, Level-0 DFD which is also known as context diagram was designed. The Context Level DFD provides s conceptual view of the process and its surrounding input, output and data stores. Below data flow diagram of this project shows the system as a single high-level process, with its relationship to external entities of ConnectFlavour.

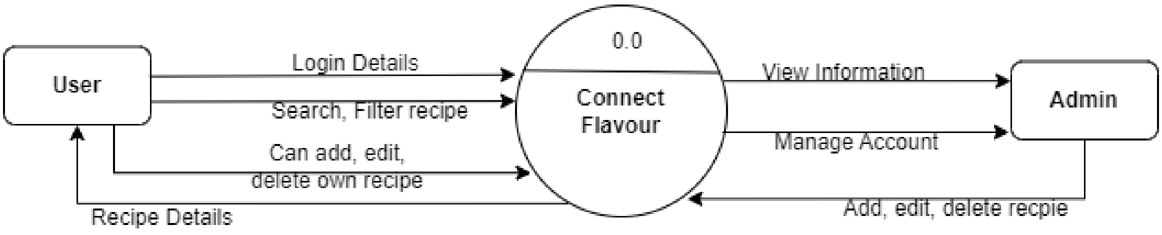


Figure 3.5 DFD Level-0 of ConnectFlavour

LEVEL-1 DFD

DFD Level-1 provides a broad overview and greater depth of the context diagram. This means that the single process node forms the zero-level diagram is broken down into its sub-processes in level-1 DFD. In DFD Level-1, the diagram also reveals further processing information. The below diagram gives you the included data in completing the whole process of this project. This is to determine what are needed data and in what process would they be used. These processes shown in the DFD were all based on the concept of this project which is shown below:

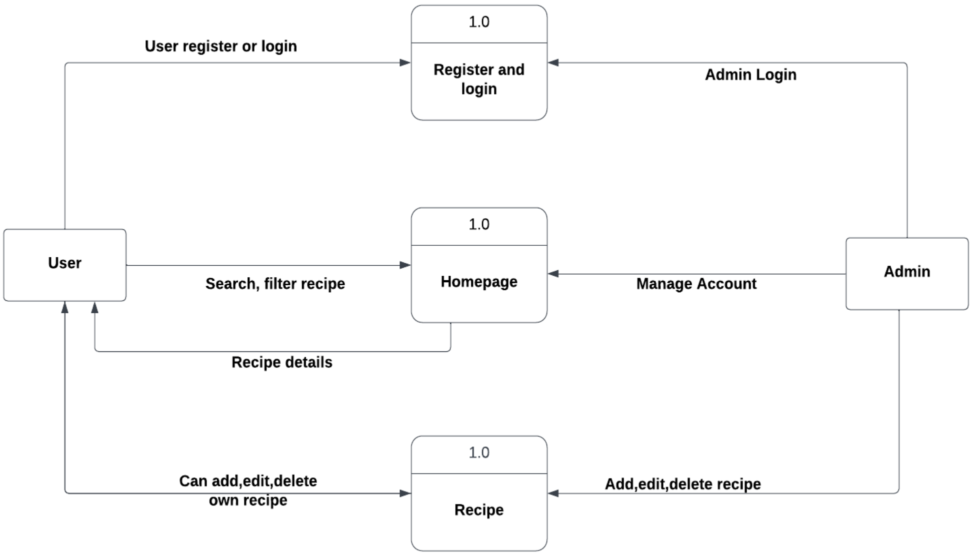


Figure 3.6 DFD Level-1 of ConnectFlavour

Level -2 DFD

The DFD Level-2 goes deeper into the concepts of DFD Level-1. The below diagram shows where does the data inputs goes and inputs comes. The presented level not onlshows you the detailed processes of system but also gives you precise destination of the data flows in the system. And the destination of data inputs goes to the databases and from the databases, the system produces the output. The detailed DFD provides a more detailed and below comprehensive view of the interaction among the sub processes within the system which is explained below in figure:

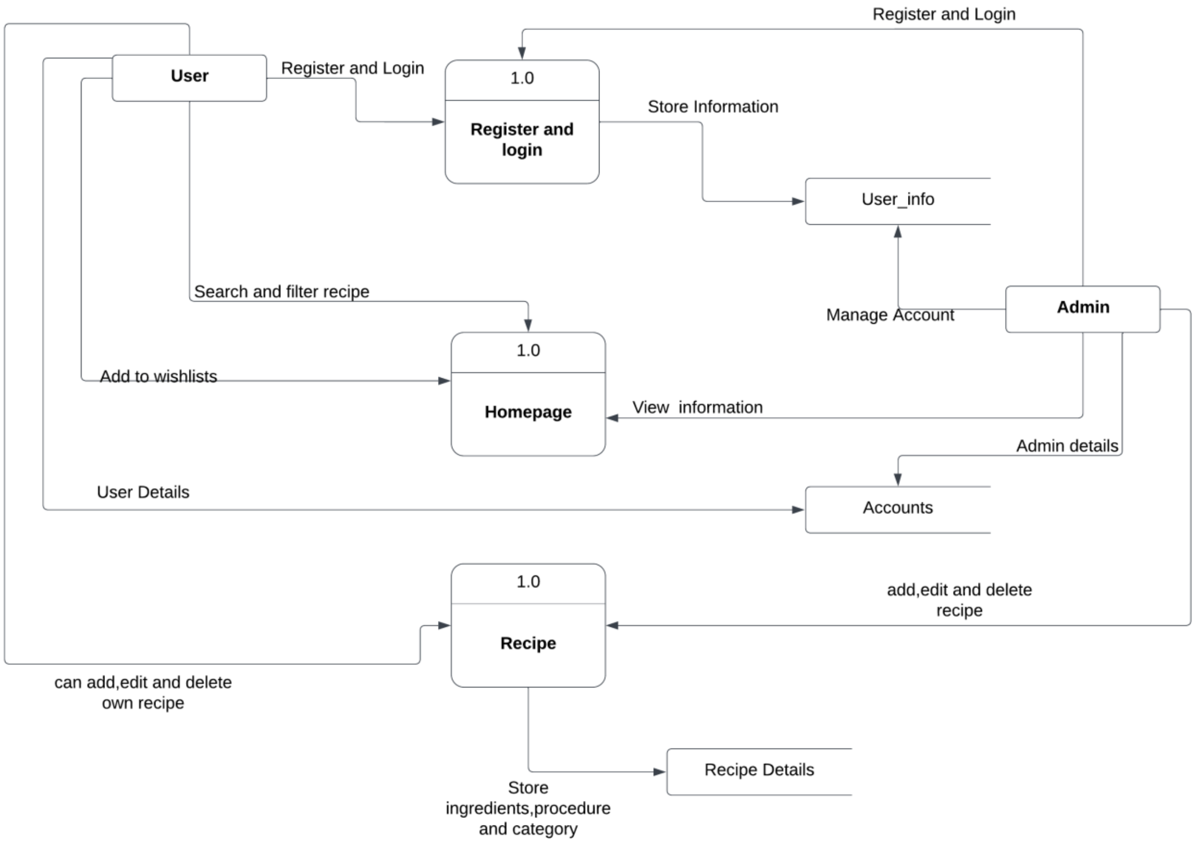


Figure 3.7 DFD Level-2 of ConnectFlavour

3.2 System Design

It is a process of planning a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements. System Design focuses on how to accomplish the objective of the system. In the System Designing stage, the architecture of the system, database schema, interface and the physical DFDs were designed. Each of those phases are explained below.

3.2.1. Architectural Design

In this project, users interact with the system through a simple user interface. Architectural design is the simple framework to show the entire mechanism of this project. It shows the different sections of the system through the architectural design. It defines the relationship between the different components of the ConnectFlavour app. This design is also important to know how the entire system works. The process of defining a collection of data, software components and their interfaces to establish the framework for the development of ConnectFlavour app.

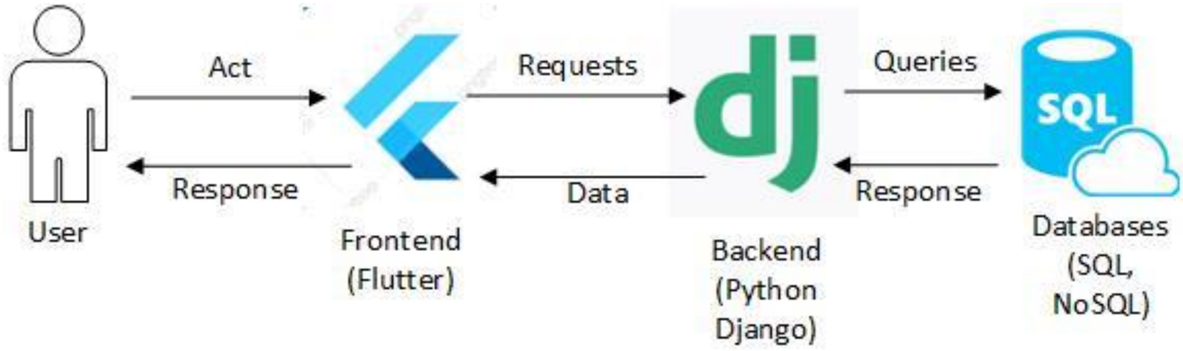


Figure 3.8: Architectural Design of ConnectFlavour

3.2.2 Database Schema Design

Database schema design provide the complete information of the product to the customer, with the use of this website customer can easily order for the desired product.[4]

Firstly, we identified the conceptual classes in this project. Then, we included the attributes of the conceptual classes and finally the associations between these concepts were identified. Here, the list of classes is Recipe, Recipe_category, Procedure, Ingredients, Ingredient_details, Unit, Wishlist, Follower, and Accounts. In domain model, classes are interconnected to each other. Primary key is denoted by (PK).

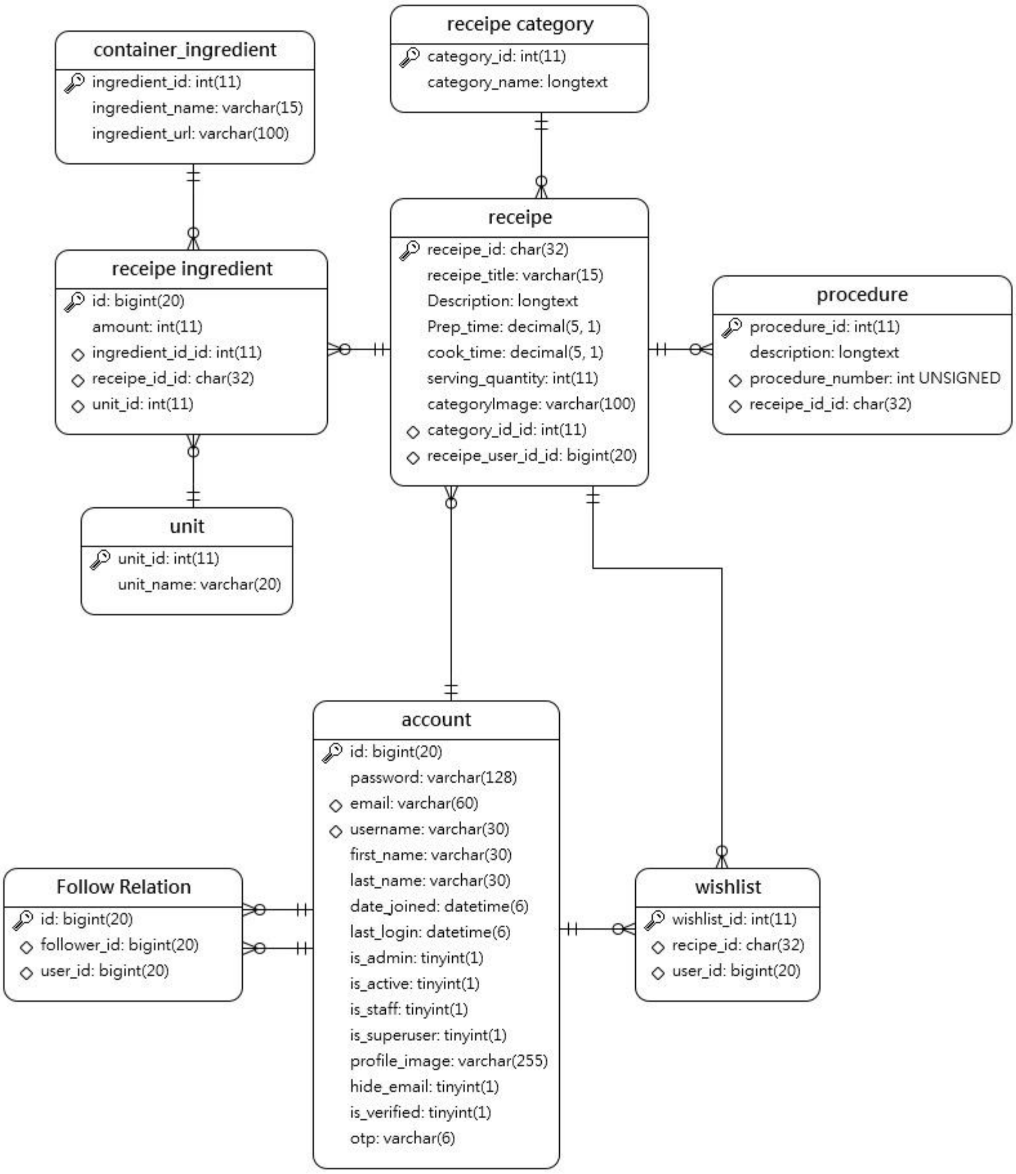
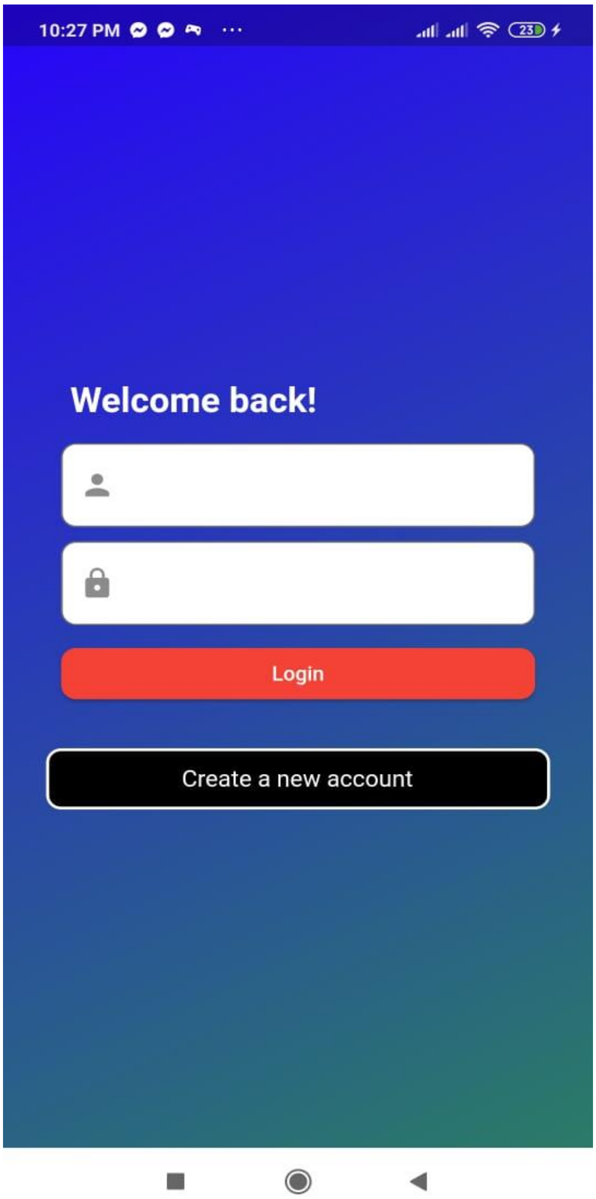
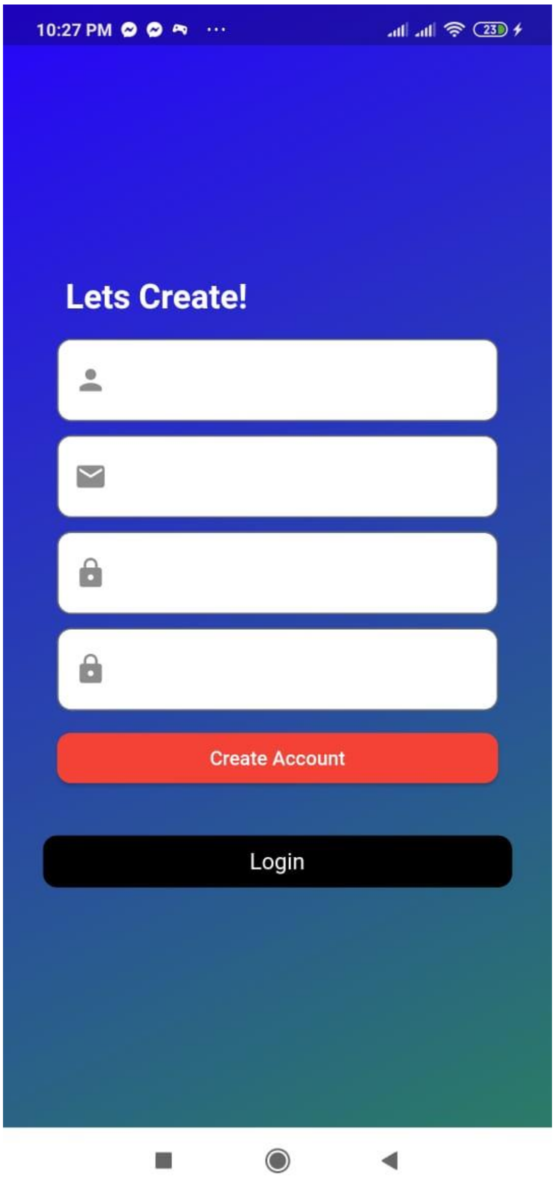


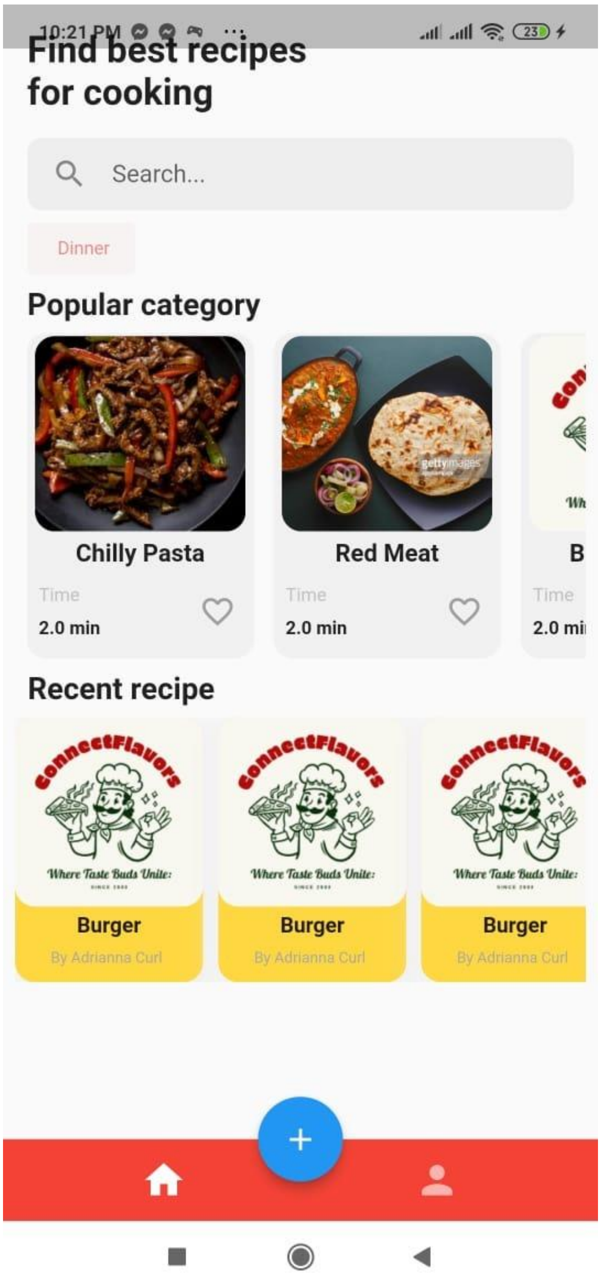
Figure 3.9: Domain Model of ConnectFlavour

3.2.3 Interface Design (UI Interface)

UI plays an essential role in the user experience. For this project we have decided to use Figma for the UI design tool to design the different user interface of our project. Various mock-ups designed for the interfaces of the ConnetFlavour Recipe App System are shown below:


10:27 PM
Welcome back!
Login
Create a new account


10:27 PM
Lets Create!
Create Account
Login


10:21 PM
Find best recipes for cooking
Search...
Dinner
Popular category
Chilly Pasta
Time
2.0 min
Red Meat
Time
2.0 min
B
Time
2.0 mi
Recent recipe
Burger
By Adrianna Curl
Burger
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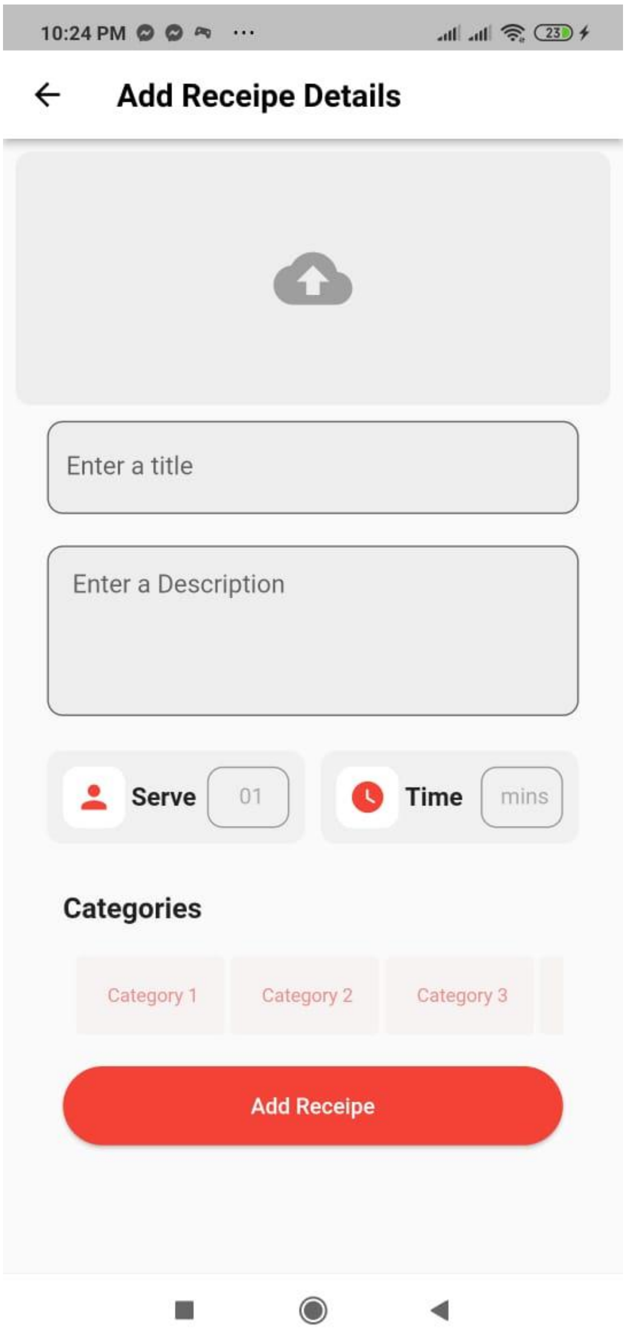

10:24 PM
Add Receipe Details
Enter a title
Enter a Description
Serve
01
Time
mins
Categories
Category 1
Category 2
Category 3
Add Receipe

3.2.4 Physical DFD

LEVEL-1

For physical DFD this project, context diagram (Level-0 DFD) and Level-1 DFD of the system was designed. The figures below show the context diagram and level-1 DFD for this project. First level DFD of Ticket Booking System shows how the system is divided into sub systems(processes)each of which deals with one or more of the data flows to or more an external agent and which together provide all of this project as a whole. We can understand this system from the below diagram which provides a more detailed breakout of pieces of the 1st level DFD. In our system, as in the Level-0 DFD, there are two external entities: User and Admin. Each of the entities need to perform login in order to access the services of the system. Users create accounts in our system and search and filter recipes. Also, user can create their own recipe. Admin can add recipe and edit and delete recipe according to the needs.

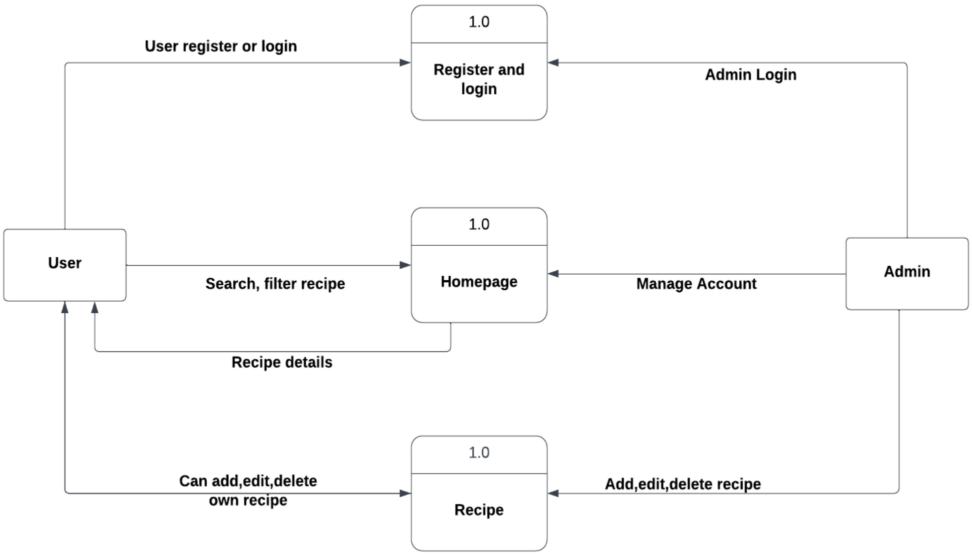


Figure 3.10 Physical DFD of ConnectFlavour

3.3 Algorithm Details

3.3.1 Sorting Algorithm

In this recipe app, a sorted algorithm based on popularity is implemented to enhance the user experience. The Recipe model features a popularity field, capturing the popularity score for each recipe. This score is dynamically adjusted by incrementing it whenever a user interacts with a recipe, be it through views or clicks. When retrieving recipes for a specific category, the app leverages Django's order by function, utilizing the popularity scores to sort them in descending order. This systematic sorting mechanism ensures that the most popular recipes within a category take precedence, presenting users with a curated list when exploring that category.

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1. Implementation

We utilized Django as the backend framework, implementing APIs with Django Rest Framework. Flutter was employed for the frontend, offering an android-platform UI. The app's data was managed using MySQL, integrating Django and Flutter seamlessly. Visual Studio Code and Android Studio served as code editors, while Navicat facilitated MySQL database interactions. Postman was used to test API endpoints, ensuring smooth communication between frontend and backend components. This comprehensive tech stack streamlined development and ensured a user-friendly experience.

4.1.1. System Tools Used

For our project the following Tools used:

Operating system: Windows10

Technology [Front-End] : Flutter Framework

Technology [Back-End] : Django

Database : Mysql

Tool : Visual studio code, Android Studio, Postman, Navicat

Server : xampp database server

Software Specification

Flutter:

Flutter is an open-source UI software development toolkit created by Google. It is used for building natively compiled applications for mobile, web, and desktop from a single codebase. Flutter allows developers to use a single codebase to create applications that run on both Android and iOS devices, as well as on the web and desktop platforms. Flutter is commonly used for developing mobile applications, but its versatility allows developers to target a variety of platforms, including the web and desktop. It has gained popularity in the developer community for its ease of use, speed of development, and the ability to create visually appealing and performant applications.[5]

Django:

Django is a high-level, open-source web framework written in Python that encourages rapid development and clean, pragmatic design. It follows the Model-View-Controller (MVC) architectural pattern, but in Django, it is commonly referred to as the Model-View-Template (MVT) pattern. Django is widely used for building a variety of web applications, ranging from small projects to large-scale, complex applications. Its "batteries-included" philosophy means that many common web development tasks are handled out of the box, allowing developers to focus on building unique and feature-rich applications

Postman:

Postman is a popular collaboration platform for API development. It is widely used by developers, testers, and other stakeholders involved in building and consuming APIs. Postman provides a user-friendly interface for creating, testing, and managing APIs, making it easier to develop and understand how APIs work. Postman is available as a desktop application and as a web-based version. It is valuable tool for developers working with APIs, offering a comprehensive set of features to streamline the API development and testing process.[6]

Navicat:

Navicat is a series of graphical database management and development tools designed for database administrators, developers, and analysts. It provides a user-friendly interface to connect, manage, and work with various relational database management systems (RDBMS). Navicat supports a wide range of database systems, including MySQL, PostgreSQL, Oracle, SQL Server, SQLite, and more. Navicat is a series of graphical database management and development tools designed for database administrators, developers, and analysts. It provides a user-friendly interface to connect, manage, and work with various relational database management systems (RDBMS). Navicat supports a wide range of database systems, including MySQL, PostgreSQL, Oracle, SQL Server, SQLite, and more.

4.1.2. Implementation Details for Modules

Admin Module:

The admin module has options to configure the complete functionality of the recipe that includes ingredients, procedure, category, wishlists and other information. The admin also has the power to delete any user who tries to violate the rules and regulations of the apps.

Login Module:

The user and admin both will use this module. Both will get access to the system only after the login and based on the login ID they will get options in the system. This module includes a sub module which is Registration module through which users can create an account to access the content of the app to view recipe, search and filter their favorite recipe.

User Module:

The user will use this module and through this module, the users can search, filter a recipe. Users can add their own recipe available with them. Also edit, delete that recipe.

Admin add and delete recipe Module:

In this module, the admin has to add, edit, delete recipes.

User add and delete recipe Module:

In this module, the user can add their own recipe, delete and edit the recipes.

Add to Wishlist:

End-user can add their favorite recipe to the wishlist.

4.1.3 Algorithm Implementation

4.1.3.2 Displaying popular category on their popularity

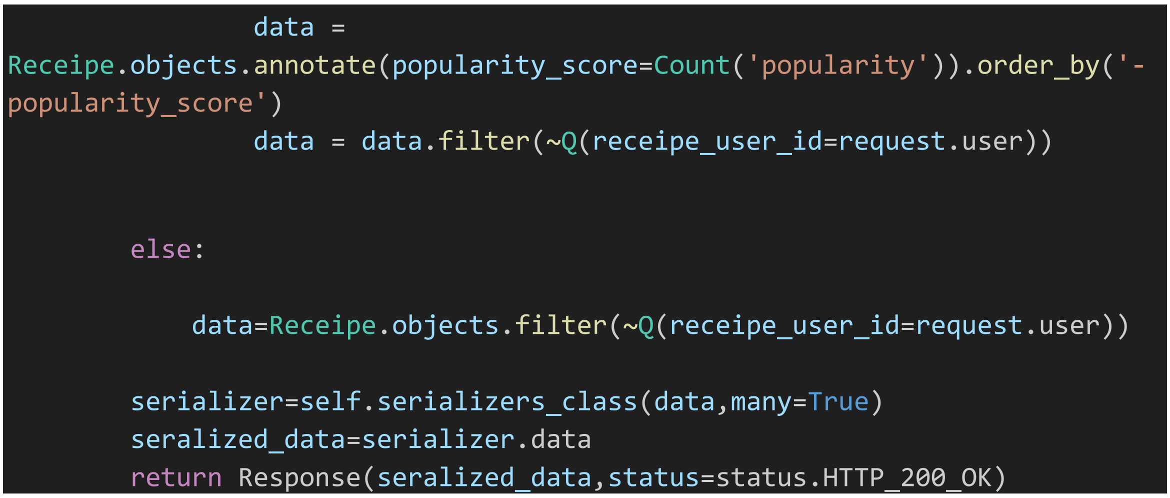
In this recipe app, a sorted algorithm based on popularity is implemented to enhance the user experience. The Recipe model features a popularity field, capturing the popularity score for each recipe. This score is dynamically adjusted by incrementing it whenever a user interacts with a recipe, be it through views or clicks. The implementation of this sorted algorithm not only provides users with a visually appealing and user-friendly display but also highlights recipes that resonate well with the community, offering a more personalized and engaging culinary experience.

```
class checklistapi(APIView):
    permission_classes=[IsAuthenticated,IsOwner]
    serializers_class=ReceipeItemSerializer
    def get(self,request,format=None):
        category_choice = request.query_params.get('category', None)
        uid_choice = request.query_params.get('id', None)
        user_receipe = request.query_params.get('user', None)
        choice_type=request.query_params.get('usertype', None)


        if category_choice:
            try:

                data =
Receipe.objects.filter(Q(category_id=category_choice) &
~Q(receipe_user_id=request.user))
                print(data)
            except:
                error_response = {'error': 'Invalid category'}
                return JsonResponse(error_response, status=400)
        elif uid_choice and user_receipe:

            data = Receipe.objects.filter(Q(receipe_user_id=user_receipe) &
~Q(receipe_id=uid_choice))
        elif choice_type:
            if choice_type=="self":
                data =
Receipe.objects.filter(Q(receipe_user_id=request.user))
            elif choice_type=="other":
```



```
        data =
Receipe.objects.annotate(popularity_score=Count('popularity')).order_by('-
popularity_score')
        data = data.filter(~Q(receipe_user_id=request.user))


    else:

      data=Receipe.objects.filter(~Q(receipe_user_id=request.user))

    serializer=self.serializers_class(data,many=True)
    seralized_data=serializer.data
    return Response(seralized_data,status=status.HTTP_200_OK)
```

4.2. Testing

Testing is important phase to ensure that the system meets the requirements that guided its design and development responds correctly to all kinds of inputs and achieves the general result its stakeholder's desire. The system was tested for normal condition, primarily. Testing was performed on each unit[6]

4.2.1. Test Cases for Unit Testing

We have performed some basic test on system and it is given in the below table:

SN	Unit Test	Test	Expected Result	Test Outcome	Evidence	Result
1	Log In	Used Invalid Login Credentials to check login functionality	Invalid Username or Password	Invalid Username or Password	Test 1.1	Pass
2	Log In	Used Valid Log in Credentials to Check Login as Admin	Redirect to homepage	Redirect to homepage	Test 2.1	pass
3	registration	Registered to the application but password is weak	Get registered as user	Password is weak	Test 3.1	Pass

4	registration	Made Password strong	Login successfully	Pop up message as login successful	Test 4.1	Pass
5	New user needs to verify their email	Verifying email	Verified	Back to profile	Test 5.1, Test 5.2	Pass
6	Add recipe	Added one recipe	Recipe saved	Recipe saved	Test 6.1	Pass
7	Add to wishlists	Added 3 recipes	Sucessfull	Sucessfull	Test 7.1 Test 7.2	Pass

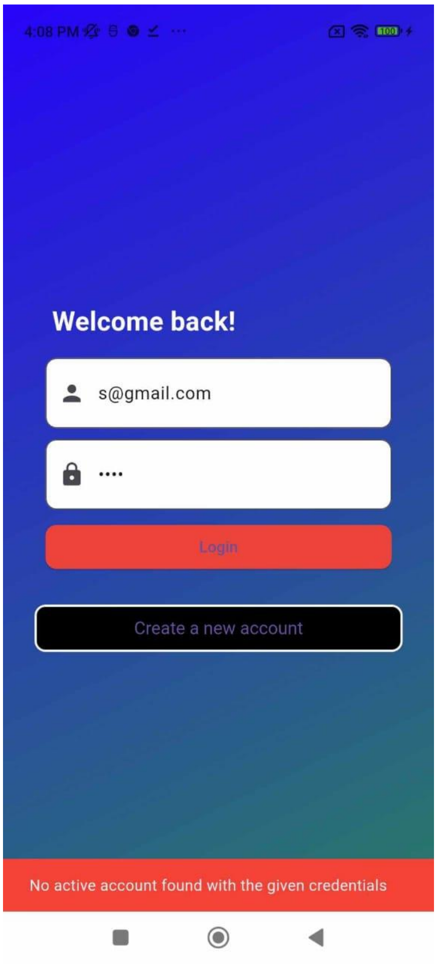
Table 4.2 Test case for Unit Testing

Evidence 1: Test 1.1

Input: invalid username and password

Expected result: incorrect username or password.

Actual result: incorrect username or password



s@gmail.com

····

No active account found with the given credentials

Figure 4.1 Test Case Evidence 1

Evidence 2: Test 2.1

Input: valid user name and password Expected

Result: show homepage

Actual result: show homepage

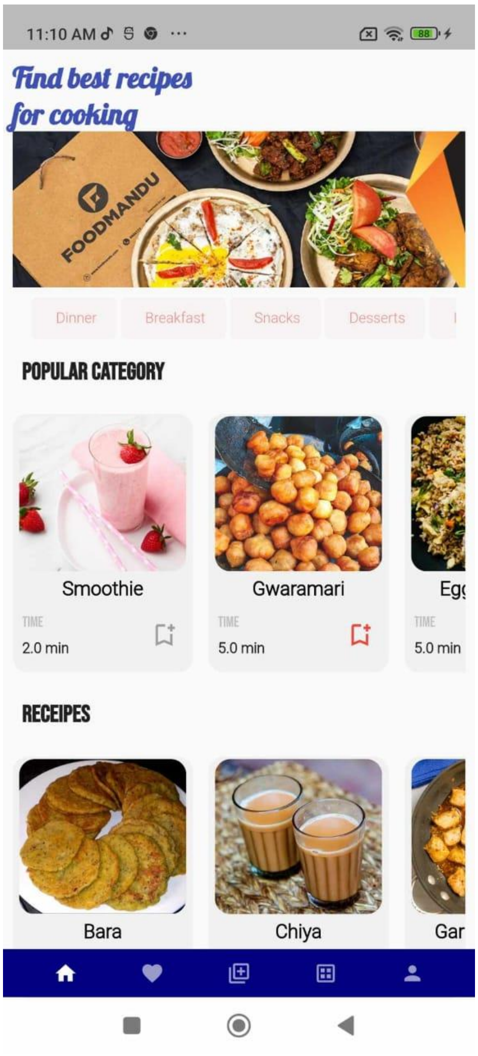


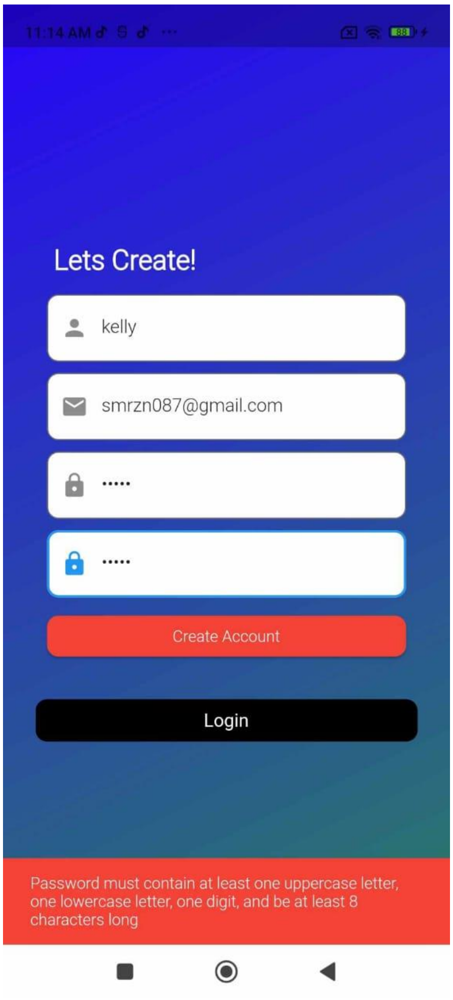
Figure 4.2 Test Case Evidence 2

Evidence 3: Test 3.1

Input: weak password into Correct Password Field

Expected result: Password is weak

Actual result: Password is weak



Password must contain at least one uppercase letter, one lowercase letter, one digit, and be at least 8 characters long

Figure 4.3 Test Case Evidence 3

Evidence 4: Test 4.1

Input: Correct password into Correct Password Field

Expected result: Successfully login

Actual result: pop up successfully login message

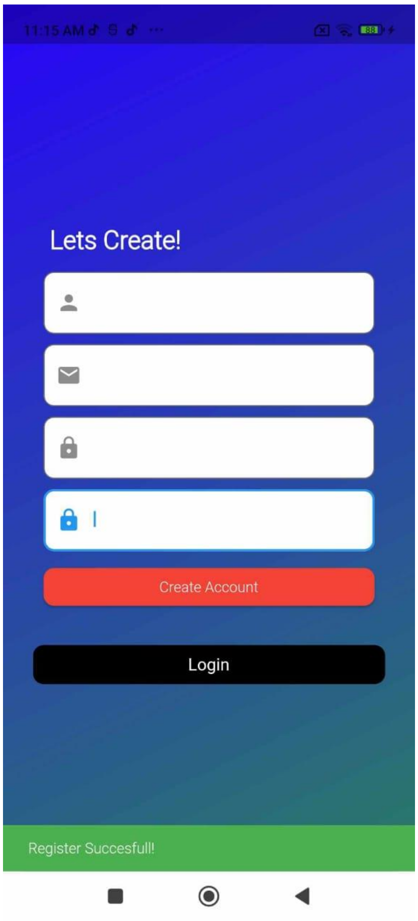


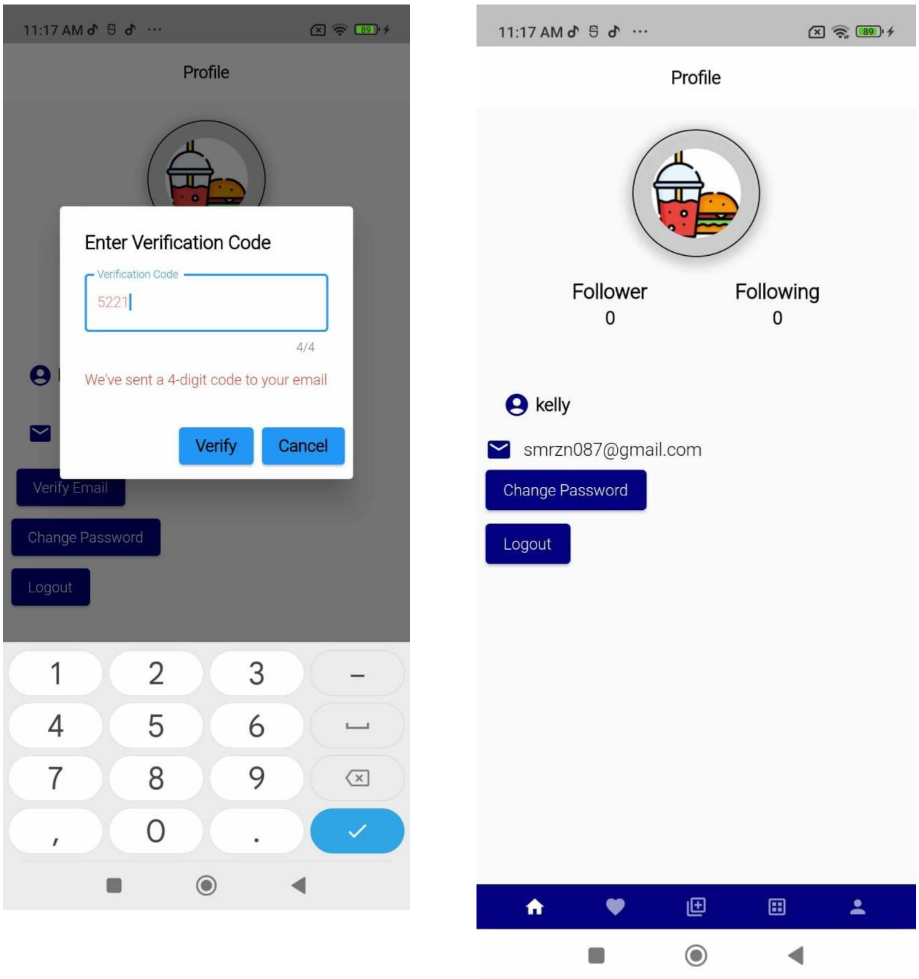
Figure 4.4 Test Case Evidence 4

Evidence 5: Test 5.1,5.2

Input: Verifying user’s email

Result: Verified

Actual Result: Back to profile



Enter Verification Code

Verification Code: 5221

4/4

We've sent a 4-digit code to your email

kelly

smrzn087@gmail.com

Follower 0

Following 0

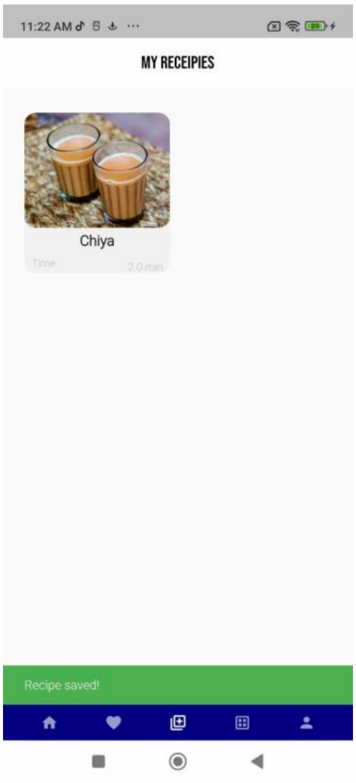
Figure 4.5 Test Case Evidence 5.1,5.2

Evidence 6: Test 6

Input: Added one recipe

Result: Recipe saved

Actual Result: Recipe saved



Recipe saved!

Figure 4.6 Test Case Evidence 6

Evidence 6: Test 6.1,6.2

Input: Added 3 recipe to wishlists

Result: Successful

Actual Result: Successful

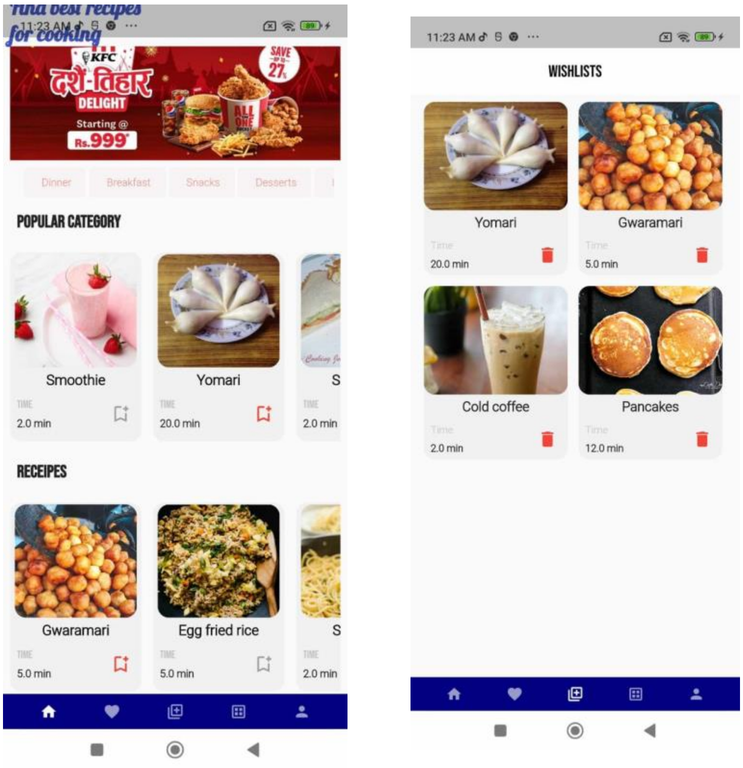


Figure 4.7 Test Case Evidence 7.1,7.2

4.2.2 Test Cases for System Testing

System testing is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a large computer-based system.

We performed this phase of testing as follows:

Navigation between pages was tested.

Registration for customer and admin was tested.

Login for customer and admin was tested.

Verifing new user email was tested.

Add recipe and update part also tested.

Add to wishlists was also tested.

CHAPTER 5: CONCLUSION AND FUTURE RECOMMENDATIONS

5.1 Conclusion

From this we can conclude that ConnectFlavour Recipe App can be of great help to user, especially very useful app for people who love to cook and try out new recipes. After developing the application, we have got a clear idea on how to develop an app, especially with versatile designed features, got a clear idea on use pros and cons of technology and how a database generation takes place. People prefer easy, quick and safe in every part of life. The development of a recipe app that allows users to add their own recipes presents a valuable and engaging platform for cooking enthusiasts. We believe that we have accomplished our goal and are satisfied with the code we developed.

5.2. Lesson Learnt / Outcome

While doing this project we have improved our programming language and writing skills well as our time management skill. It was difficult at the beginning because everything was new. We would like to add some new features in this system in the upcoming days. We have designed a simple UI which is easy to use normal people can use easily register, login and view the recipe. We also learnt about proper time management as we had the deadline to submit our project along with the documentation. I came to know about a lot of new things and technology that I did not know existed. The project faced some issue with time management because mobile development was a completely new field for us and had to learn our way around it before diving deep into the project. But we completed the project on time. This also helped us to learn about project management in environment of stress and pressure. Below are listed few important things that I learned while developing this system:

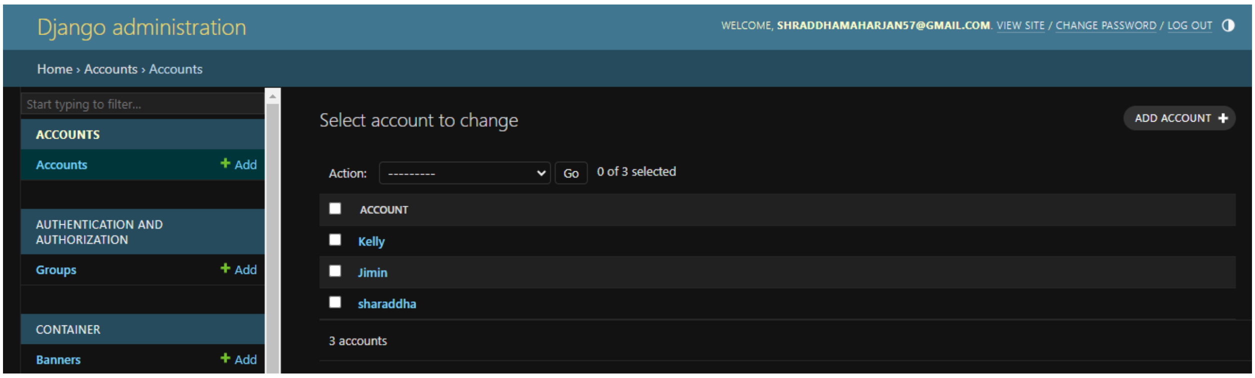
- ✓ Time Management
- ✓ Using different frameworks
- ✓ Using postman for APIs
- ✓ Using Navicat

5.3. Future Recommendation

The project has a lot of aspects where improvements can be done. There can be so many additional features that can improve this project further more.

This project might be studied in greater depth, and more work could be done to convey other abilities. For the future, we can add a lot of functionalities. We can make user’s profile more attractive by adding some more features. Additional features like video, more photos can be added in their recipe.

APPENDICES


Django administration
WELCOME, SHRADDHAMAHARJAN57@GMAIL.COM. VIEW SITE / CHANGE PASSWORD / LOG OUT
Start typing to filter...
ACCOUNTS
Accounts + Add
AUTHENTICATION AND AUTHORIZATION
Groups + Add
CONTAINER
Banners + Add
ADD ACCOUNT +
Go

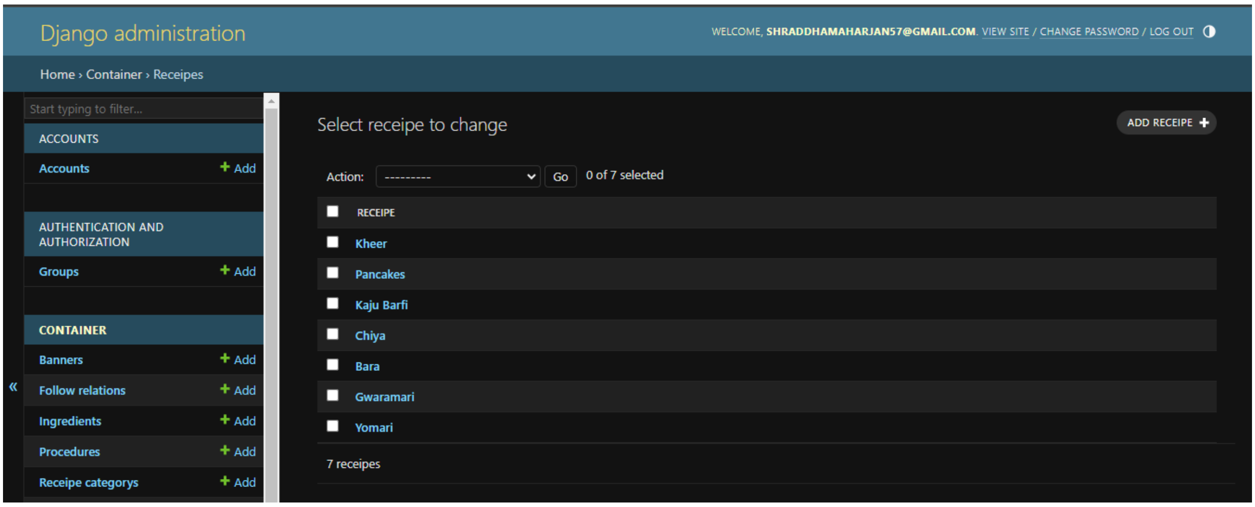
Home › Accounts › Accounts

Select account to change

Action: --------- 0 of 3 selected

□	ACCOUNT
□	Kelly
□	Jimin
□	sharaddha

3 accounts



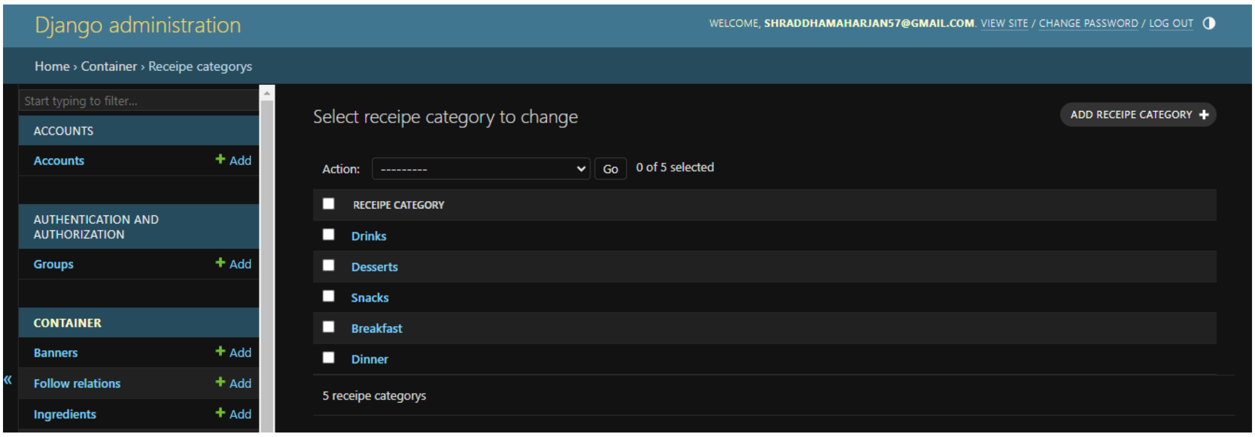
Home › Container › Receipes

Select receipe to change

Action: --------- 0 of 7 selected

□	RECEIPE
□	Kheer
□	Pancakes
□	Kaju Barfi
□	Chiya
□	Bara
□	Gwaramari
□	Yomari

7 receipes



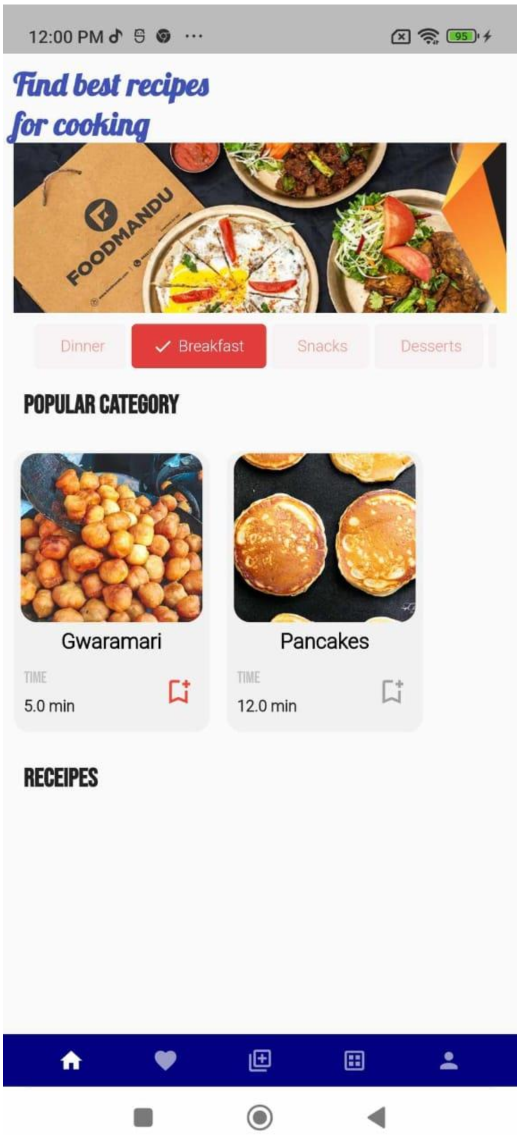
Home › Container › Receipe categorys

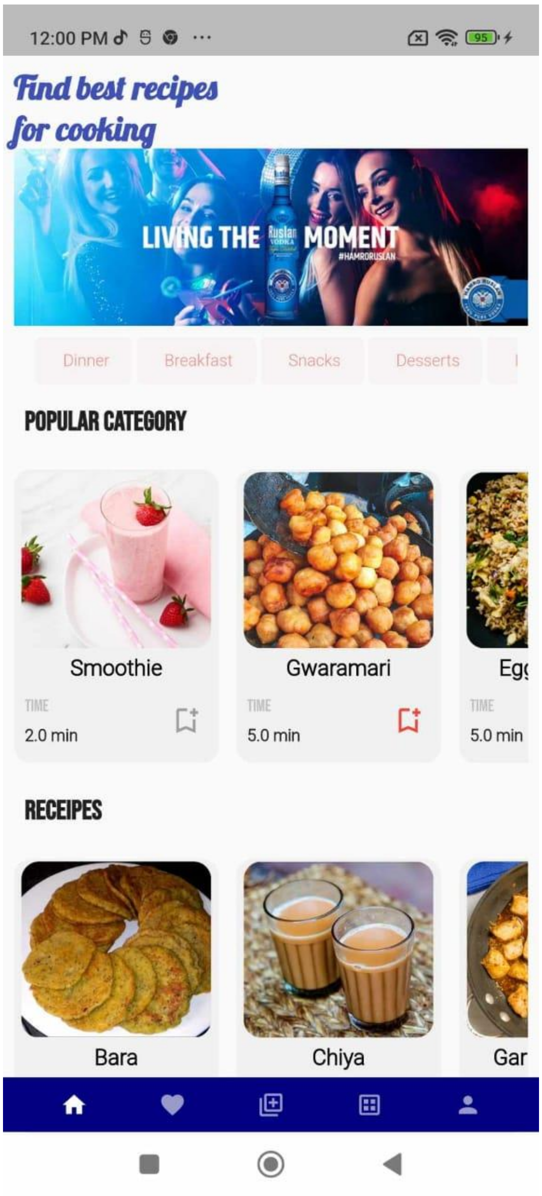
Select receipe category to change

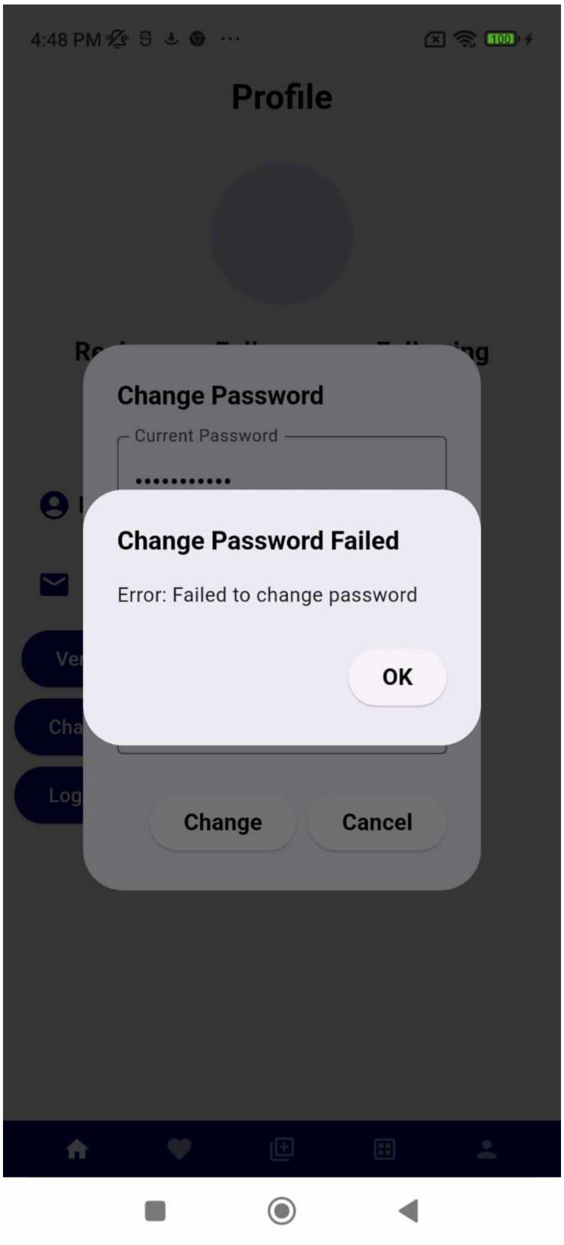
Action: --------- 0 of 5 selected

□	RECEIPE CATEGORY
□	Drinks
□	Desserts
□	Snacks
□	Breakfast
□	Dinner

5 receipe categorys

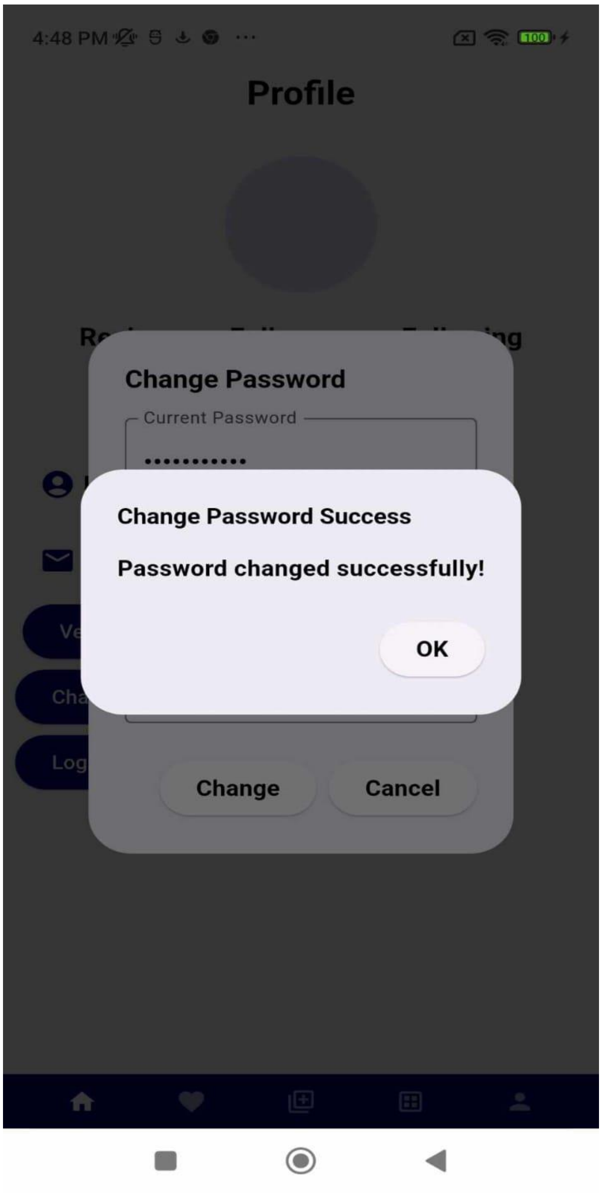

12:00 PM
Find best recipes for cooking
FOODMANDU
Dinner
Breakfast
Snacks
Desserts
POPULAR CATEGORY
Gwaramari
TIME
5.0 min
Pancakes
TIME
12.0 min
RECEIPES


12:00 PM
Find best recipes for cooking
LIVING THE MOMENT
#HAMRORUSLAN
Dinner
Breakfast
Snacks
Desserts
POPULAR CATEGORY
Smoothie
TIME
2.0 min
Gwaramari
TIME
5.0 min
Egg
TIME
5.0 min
RECEIPES
Bara
Chiya
Gar



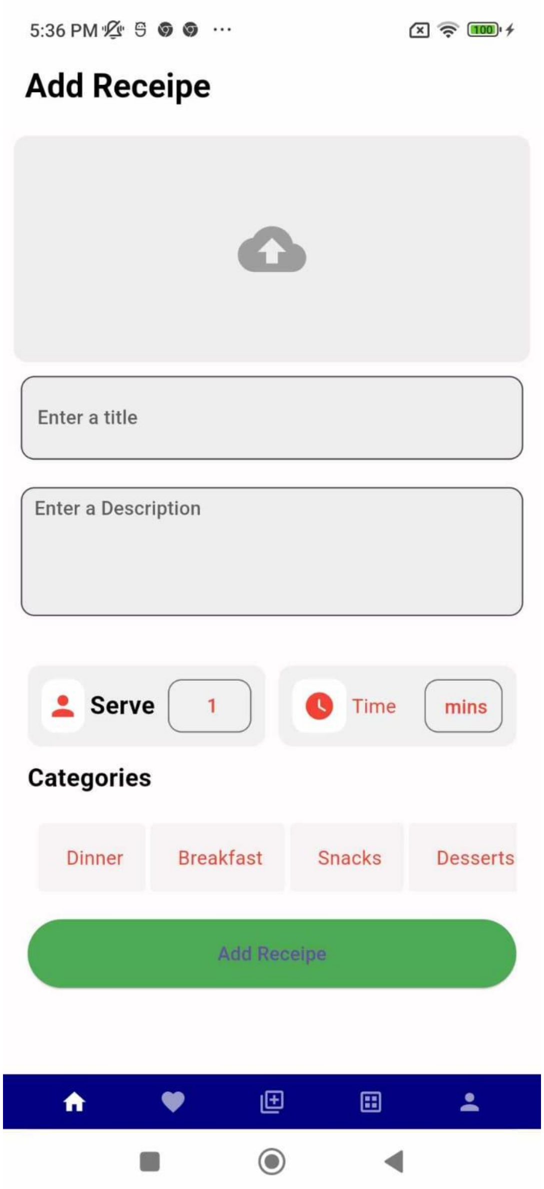
Change Password Failed

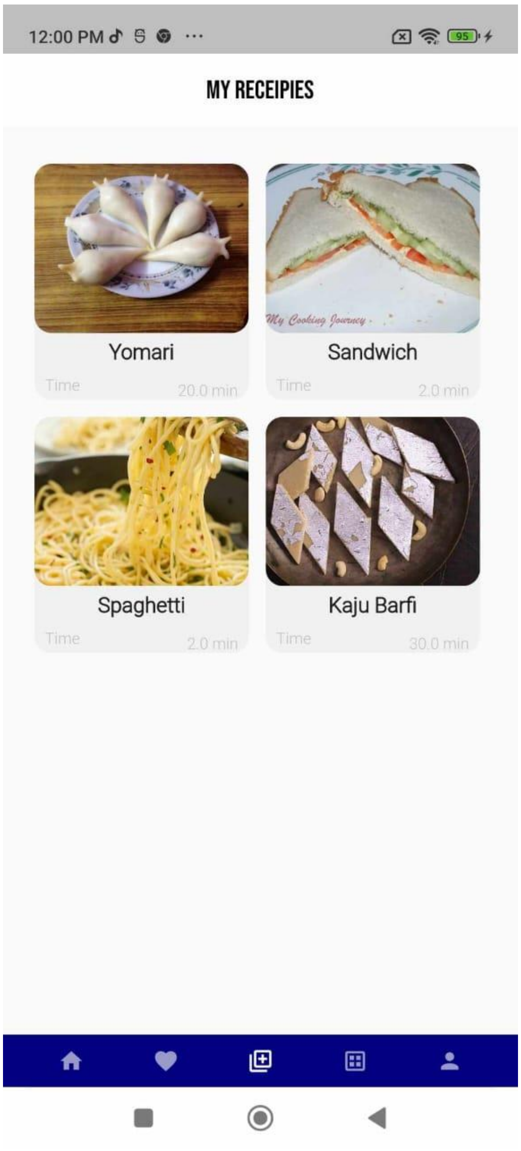
Error: Failed to change password

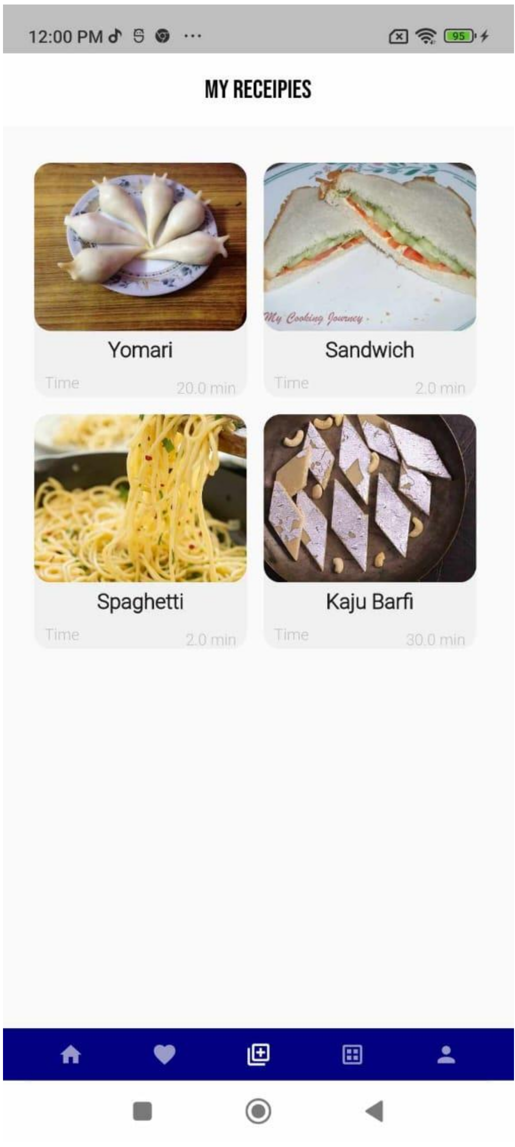


Change Password Success

Password changed successfully!


5:36 PM
Add Receipe
Enter a title
Enter a Description
Serve
1
Time
mins
Categories
Dinner
Breakfast
Snacks
Desserts
Add Receipe


12:00 PM
MY RECEIPIES
Yomari
Time
20.0 min
Sandwich
Time
2.0 min
Spaghetti
Time
2.0 min
Kaju Barfi
Time
30.0 min



12:00 PM

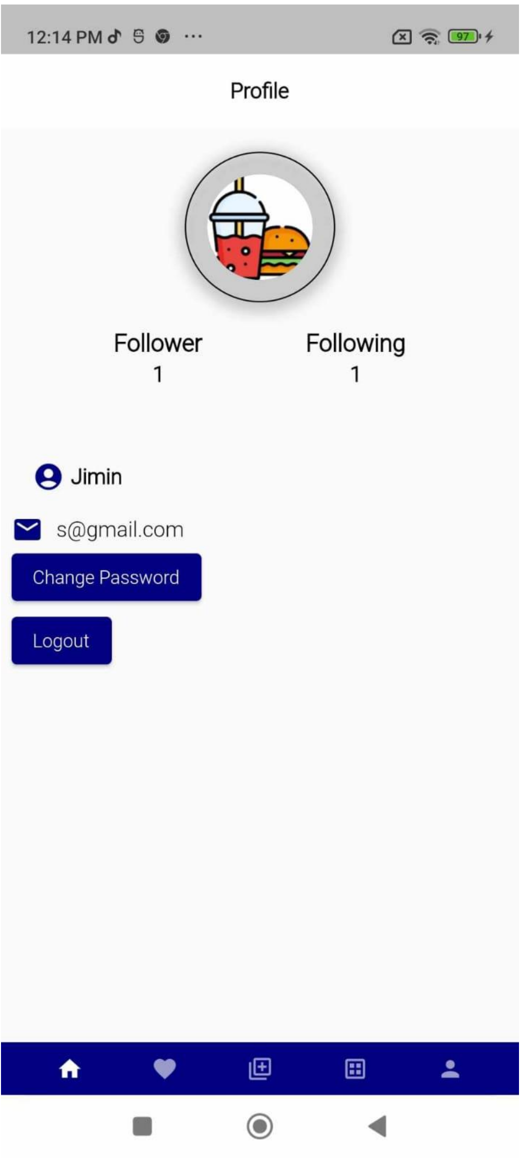
MY RECEIPIES

Yomari
Time 20.0 min

Sandwich
Time 2.0 min

Spaghetti
Time 2.0 min

Kaju Barfi
Time 30.0 min



12:14 PM

Profile

Follower
1

Following
1

Jimin

s@gmail.com

REFERENCE

[1] “Cooking, Food Recipe App Development” [Online] Available at https://www.emizentech.com/blog/how-to-develop-a-food-recipe-mobile-app.html [Accessed: March,3-2023]

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[4] “Thomas Hamilton, “Unit Testing Tutorial: What is, Types, Tools & Test EXAMPLE,” [Onlilne] Available at https://www.guru99.com/unit-testing-guide.html [Accessed: April,20-2023]

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