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<Yummy Food recipe>
Technical Report

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Executive Summary

This report details the development of an Android application which is a social media application for food lovers. The app is developed using Java and Android studio. The report details the background of the application as well as all of the requirements considered when developing the application.

The design and architecture of the program details the application design and functions such as the shop, search bar and posting functions as well as detailing the GUI that the users will see when using the app.

After development, the app was thoroughly tested using JUnit and all functions were validated.

In conclusion the app is a fun and unique app for food lovers to connect and share recipes as well as engage with other users and order ingredients to make the selected recipes. In further development the app could incorporate a location service or a business registration for businesses to register and display their best recipes and sell ingredients or offer bookings for customers to come and eat.

The app has some drawbacks which include it is a social media app and in being so it competes with the giants of Facebook and Instagram which have a lot of users as well as similar features in terms of food communities, video and image hosting as well as liking and commenting features.

Consequently, it may be difficult to convince users to actually move their engagements to this app instead of those they are familiar with.

Furthermore, any social media app needs a lot of users in order to function effectively. If the app does not generate a lot of users a lot of the features are useless as users will want to engage and see engagements in order to keep posting, as well as that the app's content also relies on user generated recipes, so each user must be encouraged to provide their recipes which they may or may not have.

1.0 Introduction

1.1. Background

Consuming food is the primary of all human needs. In its development, food today is not only as a necessity & energy source, but now food has become an art form in itself.

Many forms of food are cooked, baked and prepared using a unique recipe. All recipes consist of at a minimum:

- a list of ingredients and quantities needed for the food
- a set of instructions telling you how to prepare and cook the ingredients.

Recipes may consist of several aspects including the name, steps, tools required, and ingredients, time and quantities of food prepared.

The problem is not everyone can remember and perfect the recipes they want. Many people continue to eat the same things over, and over which can lead to food boredom and lack of diet variety. That's where apps for iOS and Android come in, offering step-by-step instructions to help you prepare a hearty home-made meal or even create a weekly meal plan that goes with your diet goals.

There are other apps in this niche, including a mobile-based app like Cookpad, or Tasty that contains features to search for recipes based on the food desired by the user. However, there is still often the situation where the user cannot connect with fellow users to share recipes as a social aspect or nowhere to ask questions about recipes etc. None of the applications that exist before providing a solution to these problems. This app will solve those problems.

1.2. Aims

In a nutshell the proposed project is a food recipe application that provides a social platform for users and food lovers to communicate with each other. It also provides a seamless way of buying food and for users to order different ingredients. It tackles the problem of wasting time buying food in shops, trouble deciding what to cook at home and lack of answers to questions about the details of the recipes.

This project is primarily a social platform where users can leave comments with any questions or remarks about posted recipes. Users can also save their favourite recipes and like it as their favourites. All the orders placed in the app will return to database and users can check out by using a PayPal account or their card.

1.3. Technology

From the research, developing an android mobile app will require a choice of programming language, IDE, and software development KIT. In this application, Java programming language is

implemented throughout the whole project, android studio is used as the integrated development environment and android SDK is added in the software also.

<https://www.altexsoft.com/blog/mobile/key-approaches-to-mobile-development-explained/>

In Android studio application, it is required to set up Android Environment in the software by installing android SKD and android developer Tools plug-in. Moreover, various Android support libraries are also needed to be implemented in order to support the features that are used in the application.

In the application, the summary order table was built by using SQLite database and the payment function is used by implementing the PayPal SDK.

<https://commons.emich.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1762&context=theses>

Features that need to be implemented:

- Login and registration Activity
- Shop Activity
- Profile Activity
- Recipe Activity
- Home Activity
- Post Activity
- AddPost Activity
- Favourite Activity
- Menu bar Activity
- Order Activity
- Summary Activity
- Payment Activity

1.4. Structure

In this document the following aspects of the project will be described in detail:

Requirements, design and architecture, testing, conclusion and further development.

The requirements are extensive and include the system requirements, functional requirements, data requirements, user requirements, environmental requirements and usability requirements.

Each requirement is broken down into the following headings: Use case, Scope, flow description, Precondition, Activation, Main flow, Alternate flow, Exceptional flow, Termination, Post condition and accompanied by a use case diagram.

2.0 System

2.1. Requirements

Users shall be able to get an account by registering in the app, then users can use all the system functions after logging into their account. Such as editing posts, posting posts, browse all posts and recipes, comment or like posts and navigate to the menu bar to go to different pages.

Users can also edit profile page by uploading a profile picture and modify their username. After this, users are able to make online orders and check out through the shop page. After the purchasing products, user can navigate to the orders page so that all order summaries will be shown inside. Meanwhile, a list of featured recipes will be providing in the recipes page, users

can add various recipes to the favourite, they can navigate the favourite page, all their most liking recipes will be added, it will save more times for users.

2.1.1. Functional Requirements

Primarily, the programme is a social media and content platform for recipes.

The system must allow users to create an account (Login & registration)

The system must allow users to login in with third party account (google account)

The system must support text for recipe posting (create post)

The system must display images and videos (create post & list of feature recipe)

The system must allow users to share their content to other platforms (send post)

The system must allow for liking and commenting on posts

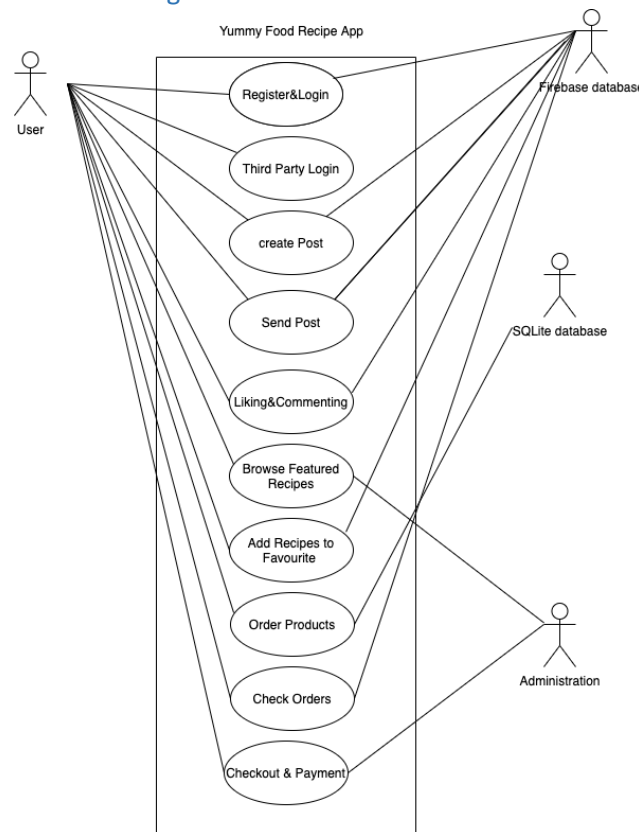
The system must allow users to upload profile pictures and names

The system must allow users to add recipes to favourites

The system must allow users to check order summary after orders being made

The system must allow users to make orders and check out

2.1.1.1. Use Case Diagram



2.1.1.2. Requirement 1: user create an account

2.1.1.3. Description & Priority

Description: User is required to register and create user email and password combination

Priority: It is very important for user create an account in order to get access to all systems

2.1.1.4. Use Case

Scope

The scope of this use case is to cover the user accessibility into using the app.

Description

This use case describes the actions of registering and creating email and password for the app.

Use Case Diagram



Flow Description

Precondition

The system is in initialisation mode and users have a valid email account and password for registration.

Activation

This use case starts when a user inputs a valid email address and sets a password in the right format.

Main flow

1. The system displays new user screen with options that should be included when creating a new user, for example, email address and password.
2. The user completes the input
3. The system will create a new user through firebase database

Alternate flow

1. The user will choose an existing Gmail or Facebook account to login.

Exceptional flow

1. The system can't accept the email address
2. The system can't accept the contained password
3. The user input is invalid

Termination

The account has been created by the firebase

Post condition

The system goes into a wait state, and user account has been registered from the firebase database by system.

2.1.1.5. Requirement 2: user create and send an post

2.1.1.6. Description & Priority

Description: User required to add images or text in the post and post will be shared on the home page.

Priority: It is very important for user to add images and text in order to create a post and deliver the content to post page and home page.

2.1.1.7 Use Case

Scope

The scope of this use case is to share posts on the platform by adding images and texts.

Description

This use case describes the actions of adding images and editing descriptions of posts on the app.

Use Case Diagram



Flow Description

Precondition

The system is in initialisation mode and post has to have images and texts.

Activation

This use case starts when a user is adding images and texts.

Main flow

- 1.The system displays create post page with options that should be included when creating a post, for example, requires inserting images or adding texts.
- 2.The user completes all contents.
- 3.The system will create a post content by system through firebase storage database and displays on home page

Alternate flow

none

Exceptional flow

- 1.The system can't accept uploaded images.
- 2.The system can't accept the text.
- 3.The user input is invalid.
4. The system can't display posts.

Termination

The post has been created by the user, stored in firebase and post will be displayed on home page.

Post condition

The system goes into a wait state, and post has been created and displayed.

2.1.1.8. Requirement 3: User commenting and liking post

2.1.1.9. Description & Priority

Description: User requires liking and commenting on their favourite content in the app.

Priority: It is important for user to add comments and like posts on the platform so that they can make connections, communicate and exchange their cooking experience.

2.1.1.10 Use Case

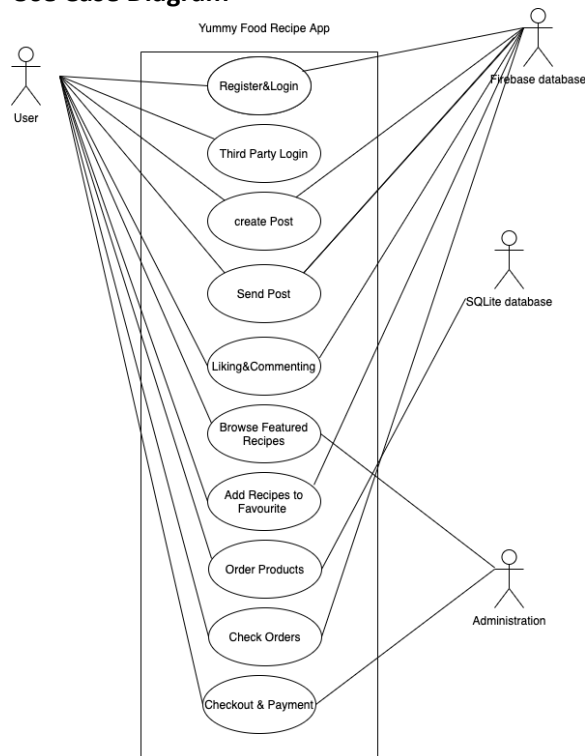
Scope

The scope of this use case is to add comments and likes under each post on the app.

Description

This use case describes the actions of commenting and liking on each post on the app.

Use Case Diagram



Flow Description

Precondition

User logged in

The system needs to display all posts for users

Activation

This use case starts when a user likes a post or leaves a comment on the post.

Main flow

- 1.The use will create a comment

2. The system displays created comments and likes.

Alternate flow

none

Exceptional flow

- 1.The system can't display created comments.
- 2.The system can't display the text.
- 3.The user can't read comments or like posts.

Termination

The comment has been created by the user and displays through the system.

Post condition

The system goes into a wait state, and comment or like has been created and showed on the system.

[2.1.1.11. Requirement 4: User browse featured recipe](#)

[2.1.1.12. Description & Priority](#)

Description: The way users can navigate the recipes featured on the app.

Priority: List of recipes can be accessed by users so that users can learn how to cook various food.

[2.1.1.13. Use Case](#)

Scope

The scope of this use case is to cover how customer can navigate and browse the recipes on the app.

Description

This use case describes the actions of users navigating the recipes featured on the app.

Use Case Diagram



Flow Description**Precondition**

User log into an account

Activation

This use case starts when a user reads a list of recipes

Main flow

1. The system displays a list of featured recipes

Alternate flow

- Browse posts from different users

Exceptional flow

- 1.The system can't display list of featured recipes.
- 2.The system can't display images or text.

Termination

The user navigates featured recipes through system.

Post condition

The system goes into a wait state, and recipes are browsed by users.

[2.1.1.14. Requirement 5: User edit profile](#)

[2.1.1.15. Description & Priority](#)

Description: User is required to add images for the profile picture and text for the name.

Priority: It is relatively important in order to recognise and distinguish users

[2.1.1.16. Use Case](#)

Scope

The scope of this use case is to distinguish users

Description

This use case describes the actions of adding images and editing names of profiles on the app.

Use Case Diagram



Flow Description

Precondition

The user logged into their account

Activation

This use case starts when a user uploads an image or changes a username.

Main flow

- 1.The system displays profile page with options that should be included when modifying user profile, for example, changing the profile image or username.
- 2.The user modifies all information.
- 3.The system will create a profile picture and username

Alternate flow

none

Exceptional flow

- 1.The system can't accept uploaded images.
- 2.The system can't accept the username.
- 3.The user input is invalid.
- 4.The system can't display profile image and username.

Termination

The user profile has been created by the user

Post condition

The system goes into a wait state, and user profile has been created and displayed.

[2.1.1.17. Requirement 6: User check out and payment](#)

[2.1.1.18. Description & Priority](#)

Description: User is required to add order in the cart and check out by connecting bank account

Priority: It is for user to purchase items

2.1.1.19. Use Case

Scope

The scope of this use case is to purchase products in the store activity on the app.

Description

This use case describes the actions of taking orders and purchase products on the app.

Use Case Diagram



Flow Description

Precondition

The user logged into account & navigated to store page

Activation

This use case starts when a user adds items in the cart and fill out bank card details to check out

Main flow

- 1.The system displays orders and bank card details
- 2.The user fills in bank card information, user information, orders wanted items.

Alternate flow

User can pay by PayPal instead of using bank card

Exceptional flow

- 1.The system can't accept bank card details.
- 2.The system can't accept user details.
- 3.The user input is invalid.
- 4.The system can't process user orders.

Termination

The user order has been sent to by system

Post condition

The system goes into a wait state, and user purchased successfully

1.1.1.Data Requirements

Data collection:

Data requirements includes collect Payment data, Camera data, Device or app usage data, User data. User data needs to be collected by setting up an account or granting device permissions. It also can be collected in the public posts page through firebase.

The system provides a list of featured recipes for all users to read and browse in order to help users to learn and improve cooking skills. In addition, the system will offer various products data (text and images) related to cooking fields for users to purchase.

Data protection:

Protect data by creating policies that describe how long user data will be stored and under what circumstances it will be deleted. Application will provide a method for users to revoke consent or request deletion of user data. It all can be explained in the privacy policy.

1.1.2.User Requirements

User details and information related to the app profile will require a valid email and password. In the profile, user must upload a profile image and username. User is also required provide valid bank card details when check out or purchasing any products from the store.

1.1.3.Environmental Requirements

Environmental requirements refer to the user and software application environment that needs to be correctly set up to enable the user to use the mobile application successfully. Should the environmental requirements not be met, the mobile software application will not work adequately or effectively, and the users will not be able to use the app fully and correctly.

The most essential requirements for the application to function:

- The user must have a mobile phone or device in order to access the application using the device.
- The device must have an internet connection capability via Wi-Fi or data transmission.
- An email address is required by the user to be able to login to the mobile app

The most essential requirements for the mobile device to function:

- The user's device must be powered by Android operating system.
- The user must download the app from the Google play store
- The device must be connected to the internet to download the app

1.1.4.Usability Requirements

Usability requirements are the requirements needed in order to have an effective user-friendly experience.

Some of the fundamental usability requirements are:

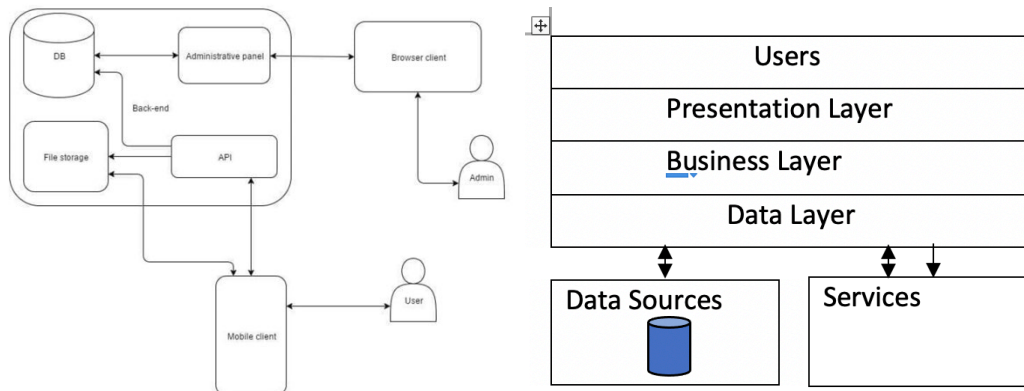
Ease-of-use: The system must be very easy to use in terms of navigation and interface in order to allow easy interaction with the app.

Learnability: The proposed software application should be developed in a way to improve users cooking skills and help them to learn while socialising with other users

Attractiveness: The app should have simplicity and a neutral colour palette in order to make it attractive to all users including those with colour blindness

Operability: The app must run effectively on the Android operating system in which it is developed on.

1.2. Design & Architecture



In a mobile app development architecture, the presentation layer is to present application to the end user (which is the user interface such as Login and registration Activity, Shop Activity, Profile Activity, Home Activity, AddPost Activity, Menu bar Activity, Order Activity, Payment Activity).

On the business layer, Logging, caching, validation, security aspects are concerned in the programme.

On the Data access layer, it includes application requirements and facilitates secure data transactions such as payment activity and posts activity.

1.3. Implementation

Implementation language: Java programming language

Functions:

login and register, login with google account, menu bar, loading image, (post, receive post data from firebase), add recipes to favourites, check orders

(comments, likes, share), make orders, check out, shop, search bar,

principal libraries:

google-services plugin is added for enabling Google APIs and Firebase services.

Login and Register: (Firebase library)

```
implementation 'com.google.firebase:firebase-auth:16.0.5'
implementation 'com.google.firebase:firebase-database:19.2.1'
implementation 'com.google.firebase:firebase-storage:19.1.1'
```

It provides the tools and infrastructure you need to develop apps, grow your user base. The Firebase Admin Java SDK enables access to Firebase services from privileged environments (such as servers or cloud) in Java. Currently this SDK provides Firebase custom authentication support, and Firebase Realtime database access.

Third party login- Google Account :

```
implementation 'com.google.android.gms:play-services-auth:19.0.0'
```

Menu Bar: (Drawer behavior Library)

```
implementation 'com.infideap.drawerbehavior:drawer-behavior:0.2.2'
```

```
private void navBar() {

    Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
    setSupportActionBar(toolbar);
    toolbar.setTitleTextColor(Color.WHITE);
    toolbar.setTitle("Home Activity");
    drawer = (DrawerLayout) findViewById(R.id.drawer_layout);
    ActionBarDrawerToggle toggle = new ActionBarDrawerToggle(
        activity: this, drawer, toolbar, "Open navigation drawer", "Close navigation drawer");
    drawer.addDrawerListener(toggle);
    toggle.syncState();
    NavigationView navigationView = (NavigationView) findViewById(R.id.nav_view);
    // navigationView.setBackgroundColor( getResources().getColor( R.color.colorPrimary ) );
    navigationView.setNavigationItemSelectedListener(HomeActivity.this);
    drawer.setViewScale( Gravity.START, percentage: 0.9f);
    drawer.setViewElevation(Gravity.START, elevation: 20);

}

@Override
public boolean onNavigationItemSelectedListener(@NonNull MenuItem item) {
    switch (item.getItemId()){
        case R.id.home:

            Intent intToHome = new Intent( packageContext: this, HomeActivity.class);
            startActivity(intToHome);
            break;
        case R.id.add_post:

            Intent add = new Intent( packageContext: this, AddPostActivity.class);
            startActivity(add);
            break;
        case R.id.profile:
    }
```

Drawer behaviour is a library use Android DrawerLayout Support Library as Parent Class [Easy to migrate], that provides an extra behaviour on drawer, such as, move view or scaling view's height while drawer on slide.

Loading image for each post: (Image Loading Library and Get Permission Library)

```
//library to load image
```

```
implementation 'com.github.bumptech.glide:glide:4.11.0'
```

```
annotationProcessor 'com.github.bumptech.glide:compiler:4.11.0'
```

Glide is an image loading library focused on smooth scrolling. Glide ensures image loading is both as fast and as smooth as possible by applying smart automatic down-sampling and caching to minimize storage overhead and decode times.

Post: (using firebase Realtime Database and Storage)

The firebase Realtime database is able to get the data from the user and save it in the storage then retrieve the data and shown on the post page.

Shop: (RecyclerView Library)

RecyclerView makes it easy to efficiently display large sets of data and how each item looks can be defined by a user.

Search Bar:

```
private void filter(String text) {  
  
    ArrayList<Recipes> filteredList = new ArrayList<>();  
  
    for(Recipes item : RecipeList){  
        if(item.getRecipeName().toLowerCase().contains(text.toLowerCase())){  
            filteredList.add(item);  
        }  
    }  
    recipeAdapter.filterList(filteredList);  
}
```

It helps user to find recipes in an easier way.

Orders: (SQLite and Firebase)

Order will be placed in SQLite, then it will be submitted in Firebase.

Checkout (Payment Library)

PayPalX payment SDK allows you to accept payments from customers within your mobile application.

```
//paypal  
implementation 'com.paypal.sdk:paypal-android-sdk:2.15.3'
```

```
private void processPayment() {  
    // amount = "10";  
    int a=SummaryActivity.totalPrice;  
    PayPalPayment payPalPayment = new PayPalPayment(new BigDecimal(String.valueOf(a)), s: "USD",  
        s1: "Purchase Goods", PayPalPayment.PAYMENT_INTENT_SALE);  
    Intent intent = new Intent( packageContext: this, PaymentActivity.class);  
    intent.putExtra(PayPalService.EXTRA_PAYPAL_CONFIGURATION,config);  
    intent.putExtra(PaymentActivity.EXTRA_PAYMENT,payPalPayment);  
    startActivityForResult(intent,PAYPAL_REQUEST_CODE);  
}
```

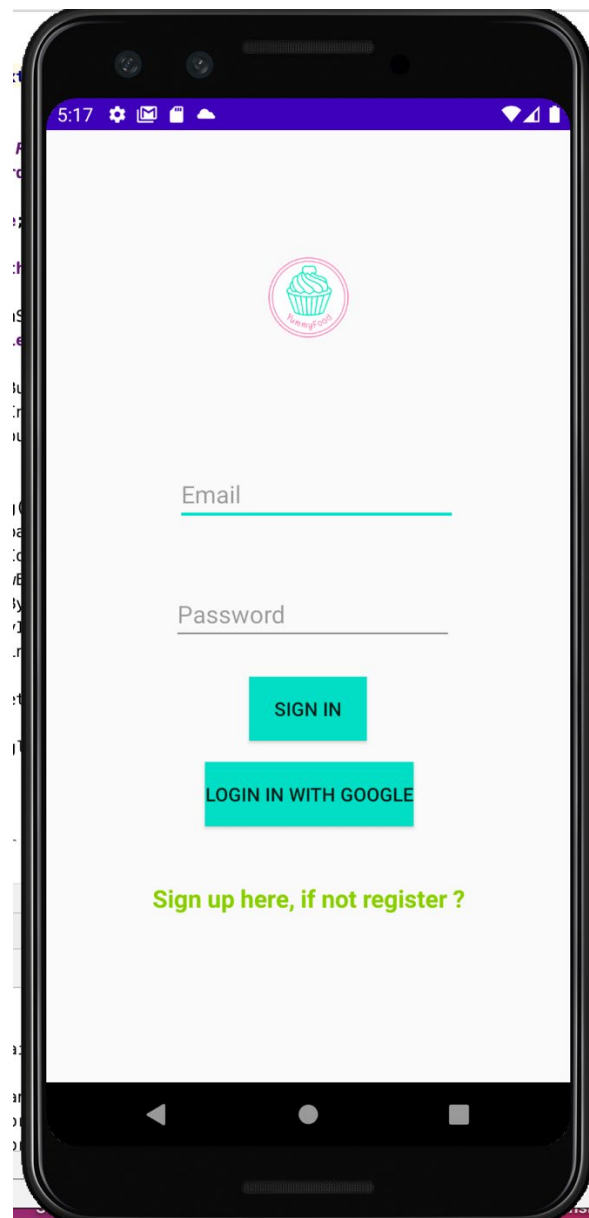
```
private static final int PAYPAL_REQUEST_CODE = 7777;
```

```
private static PayPalConfiguration config = new PayPalConfiguration()  
    .environment(PayPalConfiguration.ENVIRONMENT_NO_NETWORK)  
    .clientId(Config.PAYPAL_CLIENT_ID);
```

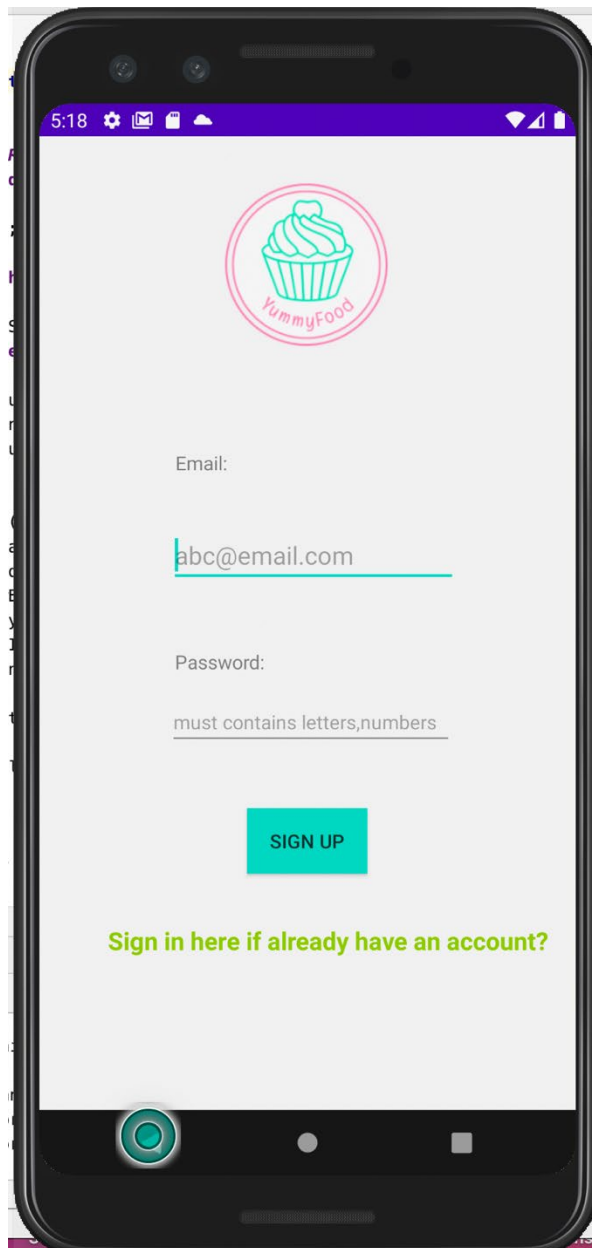
Testing:

Testing is simply executing a software with the aim of finding bugs, JUnit and Espresso were used in the application. JUnit is a framework used for unit testing. Unit testing is a type of testing where individual units of the source code are tested. Espresso framework allows us to create user interface tests for our Android apps. This means that, with Espresso, we can write tests that can check if the text of a TextView matches another text. In addition, an unit testing and integration testing are written for each functions

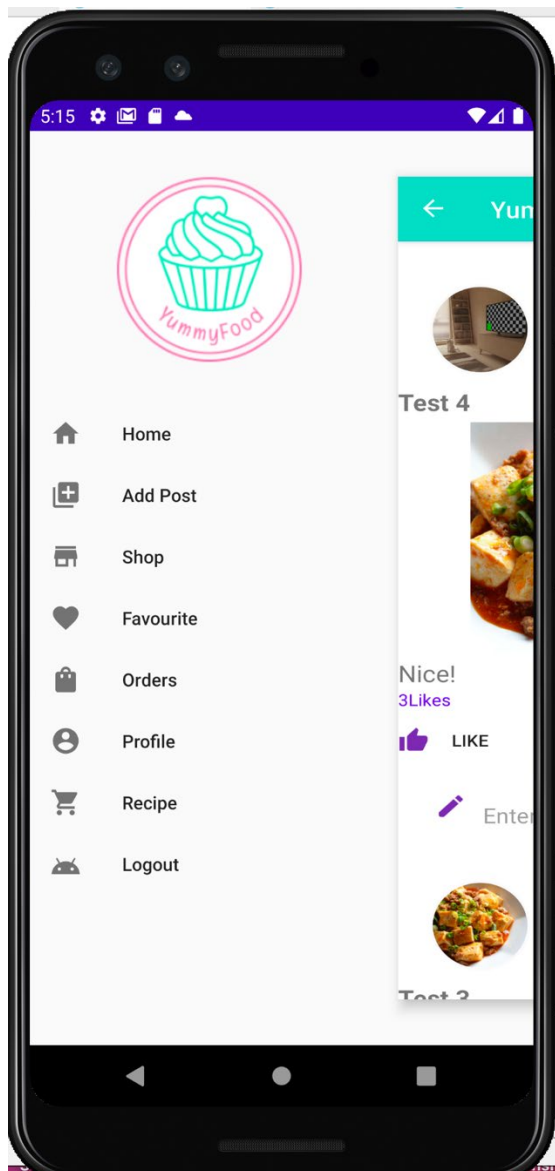
1.4. Graphical User Interface (GUI)



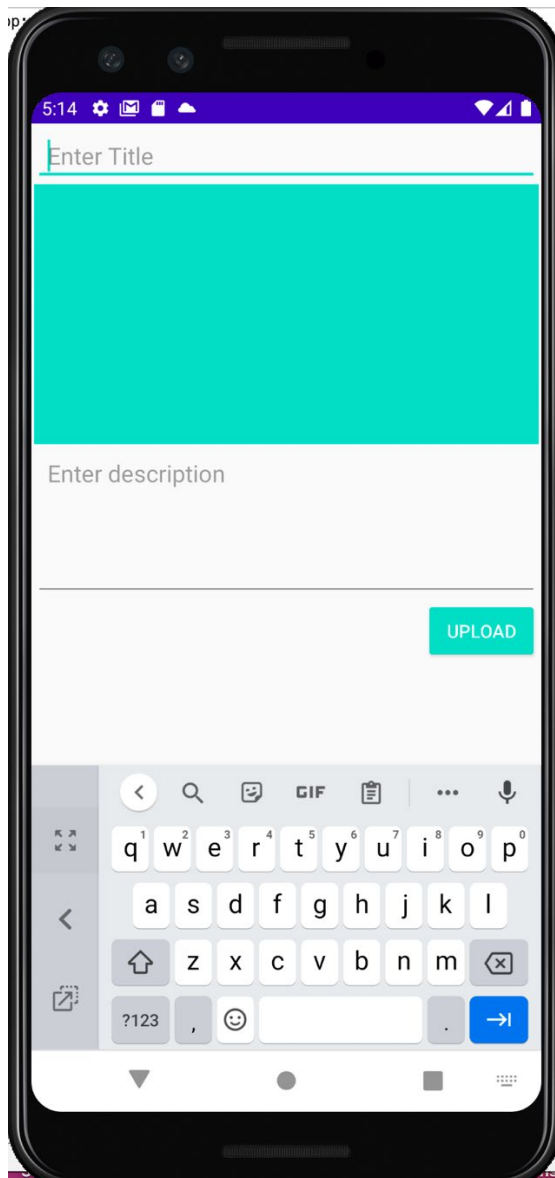
Sign in page requires user's email address and password. It also includes a sign in button and allows user to switch to the register page.



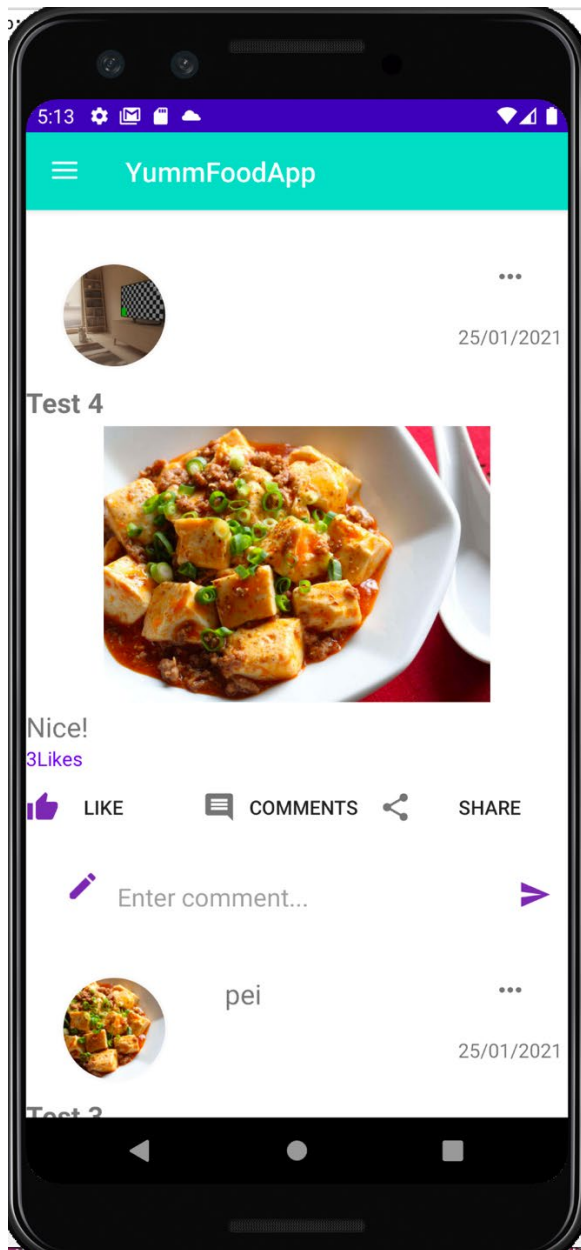
In the signup page, it shows the valid email, password format. Also, a sign-up button is included and allows users to switch to sign in page.



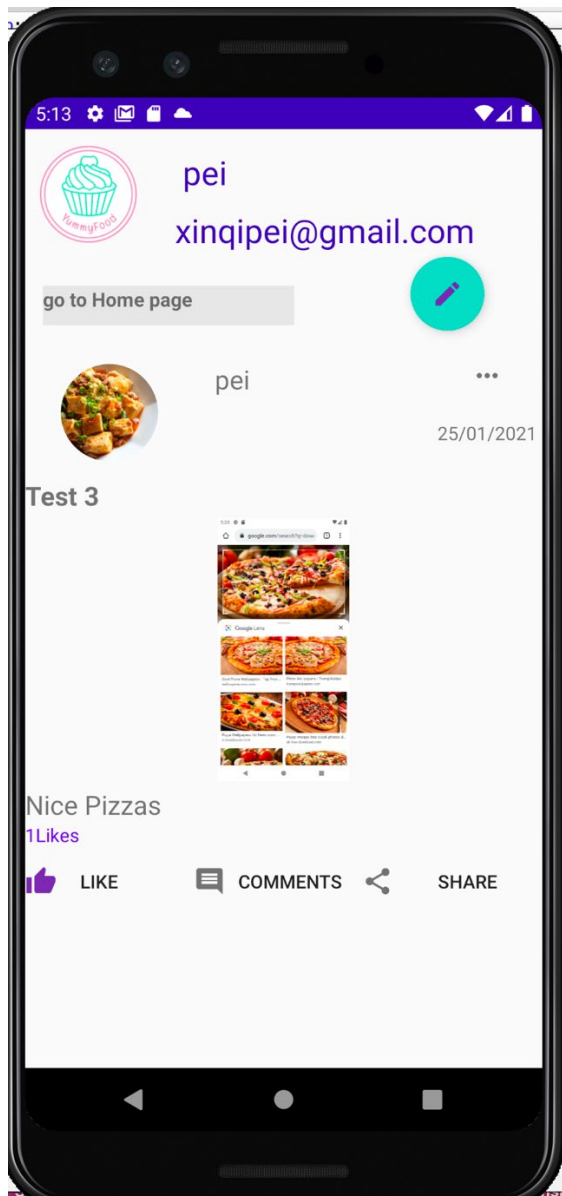
Menu bar shows different activity pages e.g., Post page, add post, shop, etc...



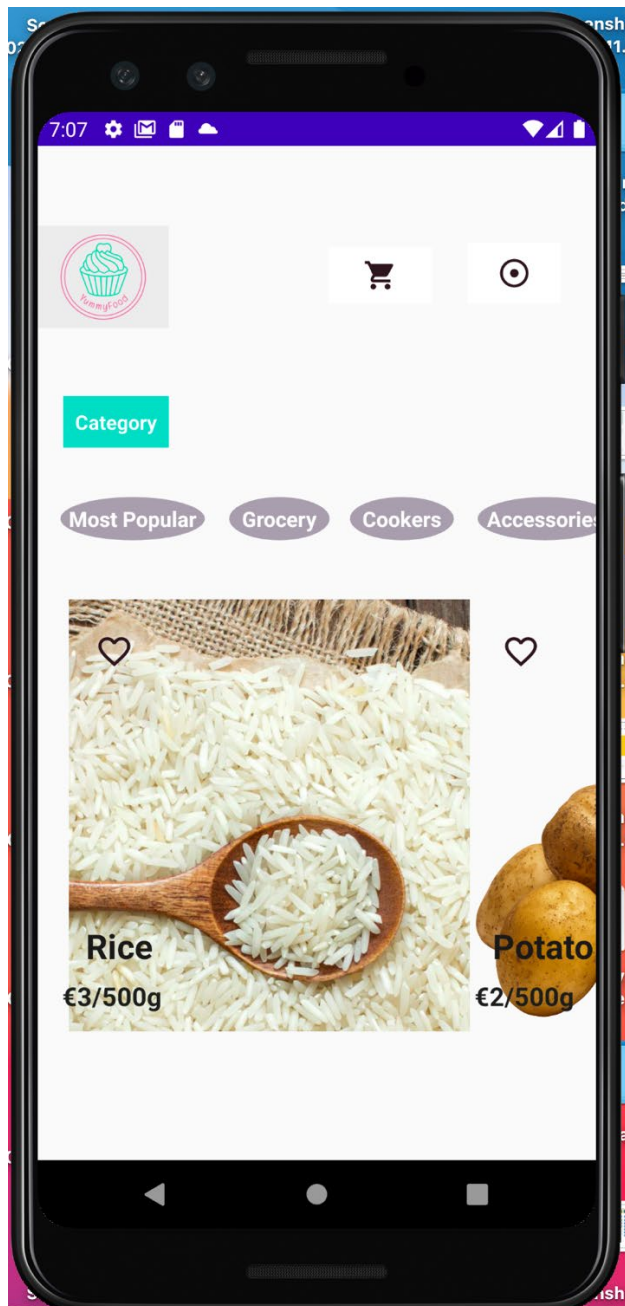
Add post page shows enter title and description fields and requires adding images.



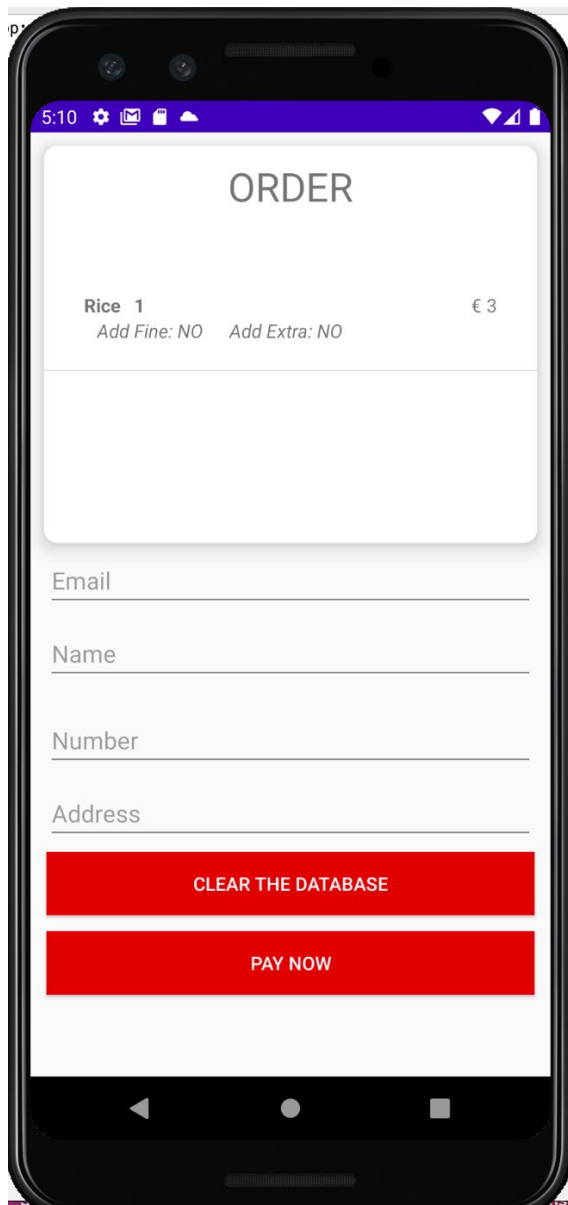
Home page shows all the posts, with likes and comments that users posted.



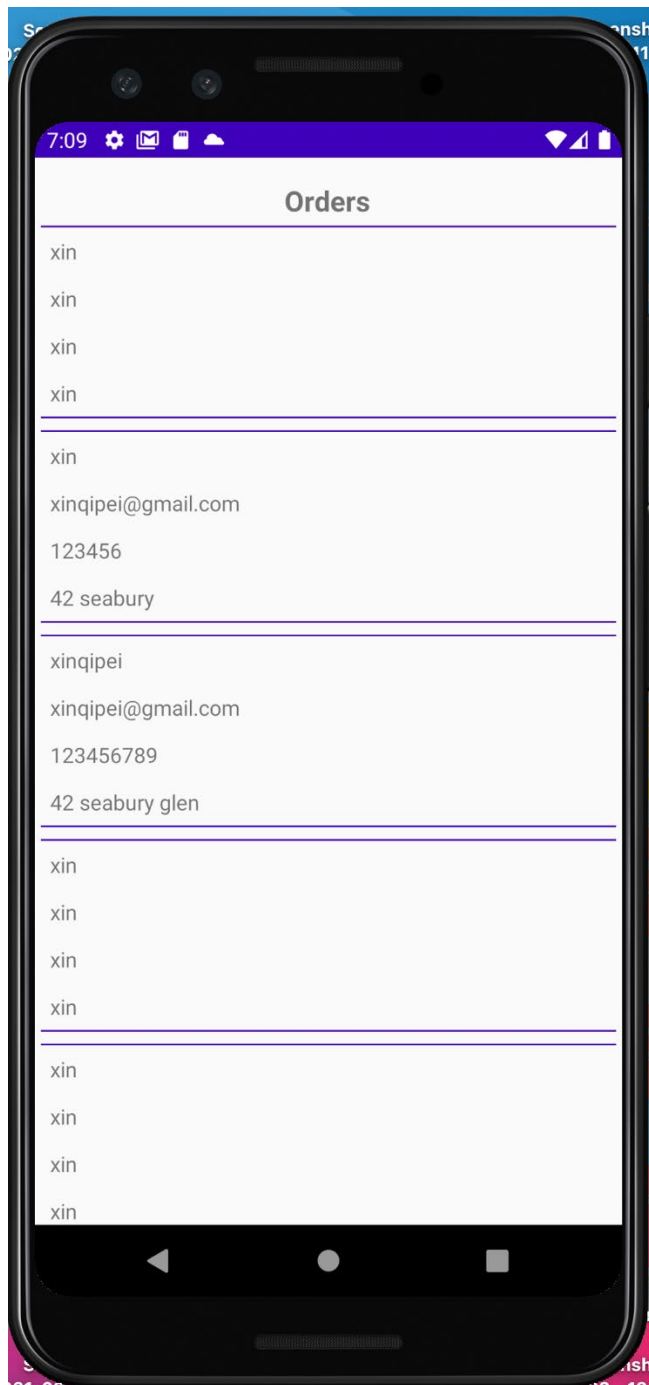
Profile page will display the email address and profile picture, the floating action button will provide options for user to edit the profile picture and name.



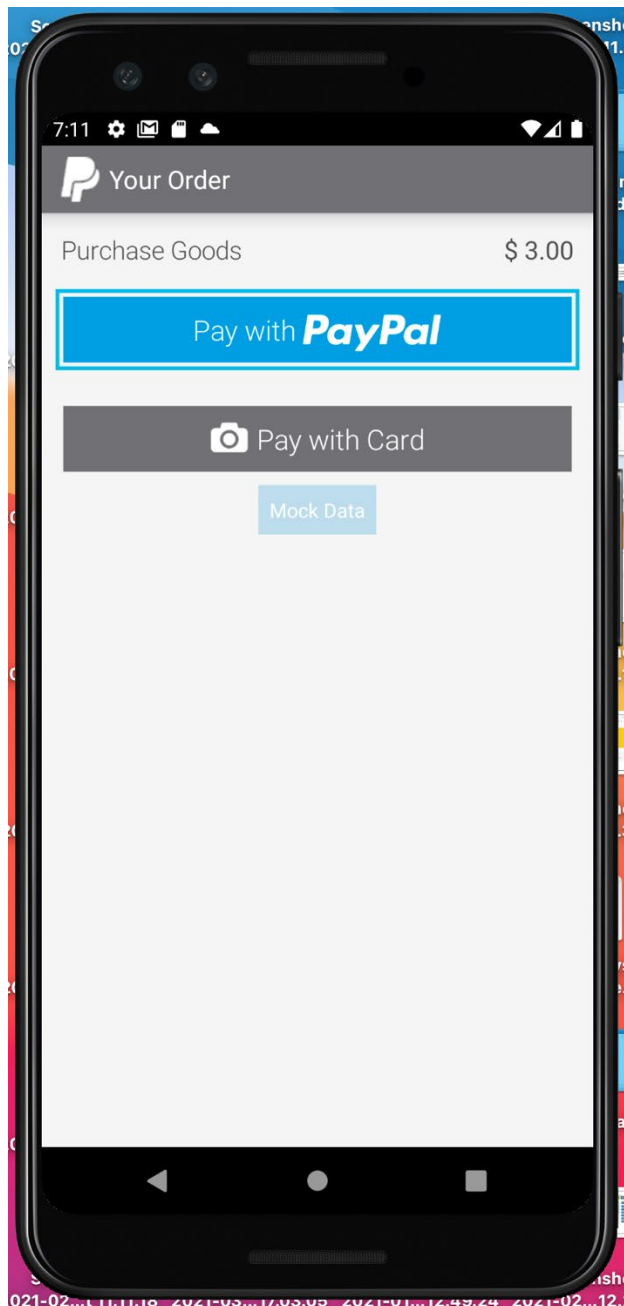
Shop page will show different category products and the price, all images are clickable in order user need to get more details.



Order page will require user's email, name, phone and address as well as bring the payment page once user click on pay now button.



In the order summary page, it will display the user info and order u have been made.



The checkout page will allow user to choose the payment method, either they can pay with bank card or using PayPal account.

1.5. Testing

Test plan: testing java code in the android studio project platform by using test cases and test the functions of the app by different users.

Testing java code: (Android Testing Support Library)

Testing is simply executing a software with the aim of finding bugs, JUnit and Espresso were used in the application. JUnit is a framework used for unit testing. Unit testing is a type of testing where individual units of the source code are tested. Espresso framework allows us to create user interface tests for our Android apps. This means that, with Espresso, we can write tests that can check if the text of a TextView matches another text.

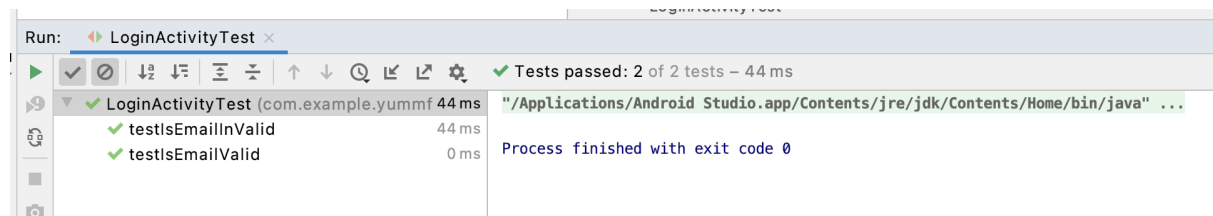
Software testing is a process, to evaluate the functionality of a software application with an intent to find whether the developed software met the specified requirements or not and to identify the defects to ensure that the product is defect free in order to produce the quality product. In this regard, Test case writing is a major activity and considered as one of the most important parts of software testing. It is used by the testing team, development team as well as the management. If there is no documentation for an application, we can use test case as a baseline document. Below are the test cases:

Unit Test:

Test case for each of the usage scenario provided in initial phases are following below:

Login Unit Test Case

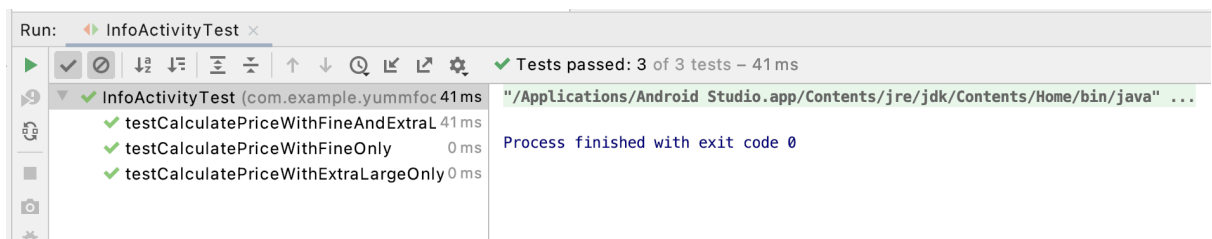
Test Case ID:	TC-01
Test Description:	This test will verify the user's entered email.
Test Case Priority:	High
Test Date:	04/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> Email text entered by the user.
Test Steps:	<ol style="list-style-type: none"> 1. Initialize string variable named input with wrong format. 2. Declare Login class object and call the method isEmailValid(input). 3. Evaluate result with false Boolean value. 4. Initialize string variable named input with right format. 5. Declare Login class object and call the method isEmailValid(input). 6. Evaluate result with true Boolean value.
Test Data	Email text.
Expected Results:	<ol style="list-style-type: none"> 1. Method should return false in first case. 2. Method should return true in 2nd case.
Actual Results:	As above
Status: (Pass/Fail)	Pass



Calculate Price Unit Test Case

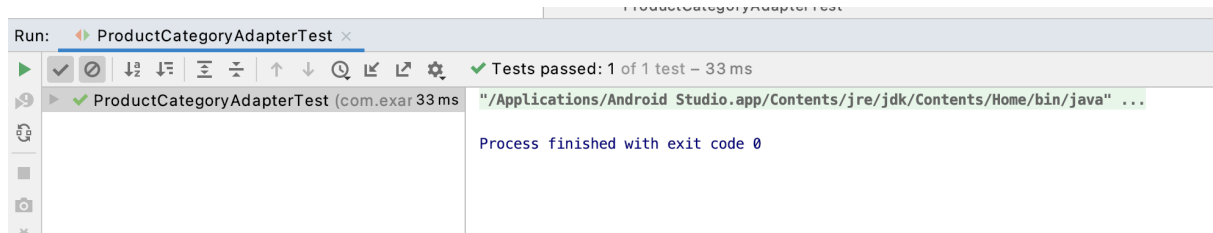
Test Case ID:	TC-02
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Test Description:	This test will verify the Calculate Price method present in infoActivity.
Test Case Priority:	High
Test Date:	04/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> infoActivity class object should be declared.
Test Steps:	<ol style="list-style-type: none"> 1. Initialize values of price=40, quantity=3, isExtraLarge=true and isFine=false variables. 2. Call CalculatePrice() on InfoActivity object and pass the variables as parameters. 3. Evaluate Result. 4. Change variables values and evaluate result accordingly.
Test Data	price, quantity, isExtraLarge and isFine variables
Expected Results:	<ul style="list-style-type: none"> Method should return 123.
Actual Results:	As above
Status: (Pass/Fail)	Pass



Product Category Adapter Unit Test Case

Test Case ID:	TC-03
Test Description:	This test will verify the getItemCount() method present in Product Category Adapter.
Test Case Priority:	High
Test Date:	04/05/2021
Test Steps:	<ol style="list-style-type: none"> 1. Initialize List of Product Category. 2. Insert two items in it. 3. Declare Product Category Adapter object. 4. Call getItemCount() on it. 5. Evaluate result.
Test Data	List of Product Category
Expected Results:	<ul style="list-style-type: none"> Method should return 2.
Actual Results:	As above
Status: (Pass/Fail)	Pass



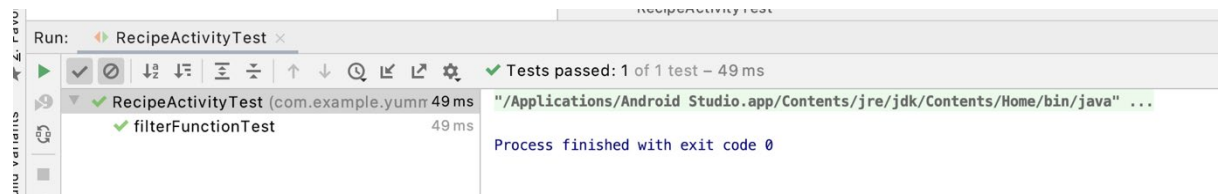
Recipe Filter Unit Test Case

Test Case ID:	TC-04
Test Description:	This test will verify the filter() method present in Recipe Activity.
Test Case Priority:	High
Test Date:	04/05/2021
Test Steps:	<ol style="list-style-type: none"> 1. Initialize List of Recipes. 2. Insert first item1 named "Fish pie" in it. 3. Insert second item2 named "Fish Fry" in it. 4. Declare Recipe Activity object. 5. Call filter("pie") on it. 6. Check whether returned list contains item1. 7. Check whether returned list contains item2. 8. Evaluate result. 9. Change filter() parameter value and evaluate result accordingly.
Test Data	List of Recipes.
Expected Results:	<ul style="list-style-type: none"> • True as returned list from filter method contains item1. • False as item2 does not has pie in its recipe name.
Actual Results:	As above
Status: (Pass/Fail)	Pass

Order Class Unit Test Case

Test Case ID:	TC-05
Test Description:	This test will verify the getters of order class.
Test Case Priority:	High
Test Date:	04/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> • Order class object should be declared with values.
Test Steps:	<ol style="list-style-type: none"> 1. Declare and Initialize values in constructor of model class object named testingOrder. 2. Call getters method on object and evaluate results.

Test Data	Order class object.
Expected Results:	<ul style="list-style-type: none"> Method should return values which are passed to constructor while declaration.
Actual Results:	As above
Status: (Pass/Fail)	Pass



Login Test Case

Test Case ID:	TC-6
Test Description:	This test will verify the login process of admin.
Test Case Priority:	High
Pre-Conditions:	<ul style="list-style-type: none"> Login Activity Should be Launched. User must be registered.
Test Date:	05/05/2021
Dependencies:	Internet Availability
Test Steps:	<ol style="list-style-type: none"> Click Sign In Button. Enter alii@gmail.com in e-mail box. Click Sign In Button. Enter mine99 in password. Click Sign In Button.
Test Data	Email, Password
Expected Results:	<ol style="list-style-type: none"> System should show error empty email or password. System should show error empty password. System should open Profile Page.
Actual Results:	As above
Status: (Pass/Fail)	Pass

Signup Test Case

Test Case ID:	TC-7
Test Description:	This test will verify the signup process.
Test Case Priority:	High
Test Date:	05/05/2021

Pre-Conditions:	<ol style="list-style-type: none"> 1. Run the application. 2. Email should not be registered.
Dependencies:	Internet Availability
Test Steps:	<ol style="list-style-type: none"> 1. Click Sign Up Button. 2. Enter Email in email box and click Sign Up Button. 3. Enter Password in password box and click Sign Up Button.
Test Data	Email, Password
Expected Results:	<ol style="list-style-type: none"> 1. System should open Main Activity. 2. System should show error empty email or password. 3. System should show error empty password. 4. System should open Profile Page.
Actual Results:	As above
Post Conditions:	System shows Profile page of signed up user.
Status: (Pass/Fail)	Pass

Product Info Activity Test Case

Test Case ID:	TC-8
Test Description:	This test will verify the increment or decrement quantity function in product info Activity.
Test Case Priority:	High
Test Date:	05/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> • InfoActivity should be launched.
Dependencies:	Internet Availability
Test Steps:	<ol style="list-style-type: none"> 1. Click - button. 2. Click + button. 3. Click – button. 4. Click + button. 5. Click + button.
Test Data	Email, Password
Expected Results:	<ol style="list-style-type: none"> 1. System should show message “Can’t decrease anymore”. 2. System should show quantity 1. 3. System should show quantity 0. 4. System should show quantity 1. 5. System should show quantity 2.
Actual Results:	As above
Status: (Pass/Fail)	Pass

Logout Test Case

Test Case ID:	TC-9
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Test Description:	This test will verify the logout process.
Test Case Priority:	High
Test Date:	05/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> • Run the application. • User should be logged in.
Dependencies:	Internet Availability
Test Steps:	<ol style="list-style-type: none"> 1. Open Navigation drawer by clicking button on toolbar. 2. Click Logout option from navigation drawer.
Expected Results:	<ol style="list-style-type: none"> 1. System should open navigation drawer. 2. System should logout the current user and show Login Page.
Actual Results:	As above
Status: (Pass/Fail)	Pass

Shop Activity Test Case

Test Case ID:	TC-10
Test Description:	This test will verify the open Summary Activity from Shop Activity.
Test Case Priority:	High
Test Date:	05/05/2021
Pre-Conditions:	<ul style="list-style-type: none"> • Shop Activity should be launched.
Dependencies:	Internet Availability
Test Steps:	<ol style="list-style-type: none"> 1. Click cart icon present on top of screen.
Expected Results:	<ol style="list-style-type: none"> 1. System should show order detail form.
Actual Results:	As above
Status: (Pass/Fail)	Pass

End users will create an account and using different functions like create and send a post, browse different featured recipes and take orders, etc. User can test each feature in the app.

1.6. Evaluation

System test:

In the application, registration and login function has to be checked first. It should be validated by clicking register or login button after entering the email address and password then jump to the home page. The results of the case is passed. It should be validated with add post button on the menu bar then load image, edit title and description then clicking on post button then it will be shown on the home page. Likes, share, commenting functions also should be validated by clicking on each button then it will be shown on the post.

When the menu bar is validated, each function bar like shop, profile, post, etc will go to its specific page. In the case of making an order, it should be validated by clicking the order button after filling in the order details and add products, then the order can be sent to the system. the

results of this test case is passed as well when executed. When validating the payment button, after entering user and bank details, the transaction can go through.

Integrated test:

In both login and registration page there is a button implemented that users can login through their Facebook account or Gmail account. It should be validated for other login methods button then allow Facebook to sign in and type in the account details like email address and password.

3.0 Conclusions

This project has the advantage of being a unique app for food lovers to learn how to create new dishes, connect with fellow food lovers in a social aspect, and order the exact ingredients required to make the recipe without having to travel to a shop.

The disadvantages of the app are that it competes with other social media applications that offer similar features such as groups or photo/video posts and users must download this app and use it in addition to other apps such as Facebook or Instagram.

The strengths of the project include the ease in which users can browse each recipe and discover new things to create, accompanied with videos and images to describe the final recipe and an easy way to order the required ingredients in a shop.

The disadvantages are the fact that as with any social media app it requires users to function, which means it must reach a critical mass in terms of users for it to function properly. Users are required to add recipes as well as engage with other users and recipes. Without many users the app will not be attractive to use.

4.0 Further Development or Research

With additional time and resources, the project could:

- Adding GPS Location so that user can share their locations.
- Provide a public business platform like eBay that seller can register a business account to sell different goods on a regular basis.

5.0 References

Bibliography

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Srivastav, S., August 7, 2020. Explained: Mobile App Architecture – The Basis of App Ecosystem.

termsfeed, 21 July 2020. *Sample Mobile App Privacy Policy Template*. [Online]

Available at: <https://www.termsfeed.com/blog/sample-mobile-app-privacy-policy-template/#2-Identify-What-Data-Your-App-Collects>

6.0 Appendices



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National College of Ireland

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<BSHC> <Software Development> <Academic Year 2020/2021> <Xinqi Pei> <x14102722>
<x14102722@student.ncirl.ie>

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1.0 Objectives

The proposed project is a food recipes application that provides social platform for user to communicate with each other. It also provides an easy way of buying food and for users to order different ingredients. It overcomes the problem of wasting time buying food outside, deciding what to cook at home and questions about the details of the recipes. Therefore, this project offers a platform where user can leave comments of any questions about posted recipes. Users can also save their favourite recipes and like it as their favourites. In addition, this application provides a grocery store that help users making order different products and give an option for customer to select a suitable delivery time. All the orders will return to database and users can check out by using PayPal account or their bank account. In the main page, it offers users with a clean and nice GUI interface shown a list of food recipes with a search bar on the top. From the search bar, the filter function can capture all the key words that u would like to find from all list of food recipes. When user login to their profile page, it allows users

2.0 Background

Food is the primary of all human needs. Energy is obtained through the consumption of food. In its development, food today is not only as a necessity & filler of energy, but more so food has become an art form in itself. A wide variety of innovative creations in food have been developed and continue to evolve. Many of the finest foods are created using a recipe, often the simplest recipes can produce delicious food. A recipe is a set of instructions telling you how to prepare and cook food, including a list of ingredients needed and instructions for Cooking. Recipes consist of several

aspects including the name, steps, tools required, and ingredients, time and quantities of food prepared.

Not everyone can remember and perfect the recipes they want. Their lack of ingredients is also an obstacle in cooking, especially for someone who does not have passion for cooking. That's where apps for iOS and Android come in, offering step-by-step instructions to help you prepare a hearty home-made meal or even create a weekly meal plan that goes with your diet goals.

In the current age of gadget technology, innovations have been created to help people gather and search for the recipes they want, including a mobile-based app like Cookpad, Tasty that contains features to search for recipes based on the food desired by the user. However, there is still often the situation where the user has only limited ingredients for cooking, limited time to go out shopping or nowhere to ask questions about recipes etc. None of the applications that exist before providing a solution to these problems.

3.0 Technical Approach

Development Tools & Technologies

- Java
- XML
- Firebase
- Google API Service
- Database

From the research, developing an android mobile app will required to decide to choose programming language, IDE, and software development KIT. In this application, Java programming language is implemented throughout the whole project, android studio is used as the integrated development environment and android SDK is added in the software also.

In Android studio application set up Android Environment is required in the software by install android SKD and android developer Tools plug-in. Moreover, various Android support libraries also needs to be implemented in order to support the features that used in the application.

Features that need to be implemented: Login and registration Activity
Shop Activity
Profile Activity

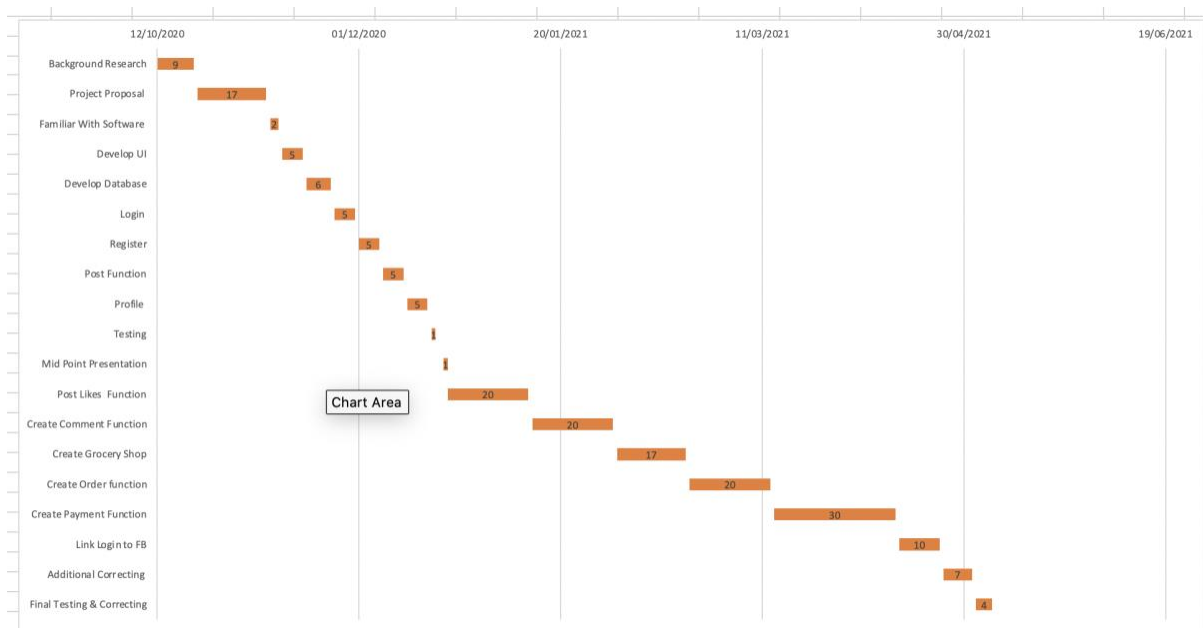
Home Activity AddPost Activity Menu bar Activity Order Activity Payment Activity

4.0 Special Resources Required

Application can be tested by using hardware devices and virtual emulator, if using a personal Android device as a debugging tool, USB debugging need to be turned on, install a USB driver for ADB on Windows, the plug in a device through USB, build and run the app on the device.

- SQLite
- Firebase

5.0 Project Plan



6.0 Technical Details

Implementation language: Java programming language

Functions:

login and register, menu bar, loading image, (post, receive post data from firebase),

(comments, likes, share), make orders, check out, shop, search bar.

principal libraries:

google-services plugin is added for enabling Goggle APIs and Firebase services.

Login and Register: (Firebase library)

It provides the tools and infrastructure you need to develop apps, grow your user base. The Firebase Admin Java SDK enables access to Firebase services from privileged environments (such as servers or cloud) in Java. Currently this SDK provides Firebase custom authentication support, and Firebase realtime database access.

Menu Bar: (Drawer behavior Library)

Drawer behavior is a library use Android DrawerLayout Support Library as Parent Class [Easy to migrate], that provide an extra behaviour on drawer, such as, move view or scaling view's height while drawer on slide.

Loading image for each post: (Image Loading Library and Get Permission Library)

Glide is an image loading library focused on smooth scrolling. Glide ensures image loading is both as fast and as smooth as possible by applying smart automatic down-sampling and caching to minimize storage overhead and decode times.

Post: (using firebase Realtime Database and Storage)

The firebase Realtime database is able to get the data from the user and save it in the storage then retrieve the data and shown on the post page.

Shop: (RecyclerView Library)

RecyclerView makes it easy to efficiently display large sets of data and how each item looks can be defined by a user

Search Bar: (Material Searchbar Library)

It helps user to find recipes in an easier way.

Orders: (SQLite and Firebase)

Order will be placed in SQLite, then it will be submitted in Firebase.

Checkout(Payment Library)

payment SDK allows you to accept payments from customers within your mobile application.

Testing: (Android Testing Support Library)

Testing is simply executing a software with the aim of finding bugs , Junit and Espresso were used in the application. JUnit is a framework used for unit testing. Unit testing is a type of testing where individual units of the source code are tested. Espresso framework allows us to create user interface tests for our Android apps. This means that, with Espresso, we can write tests that can check if the text of a TextView matches another text.

7.0 Evaluation

System test:

In the application, registration and login function has to be checked first. It should be validated for clicking register or login button after entering the email address and password then jump to the home page. It should be validated with add post button on the menu bar then load image, edit title and description then clicking on post button then it will be shown on the home page. Likes, share, commenting functions are also should be validated for clicking on each button then it will be shown on the post. When the menu bar is validated, each function bar like shop, profile, post, ect will go to its specific page. In the case of making order, it should be validated for order button after filling in the order details and add products, then order can be sent to the system. When validating the payment button, after enter user and bank details, the traction can go through.

Integrated test:

In both login and registration page are implemented a button that user can login through their Facebook account or Gmail account. It should be validated for other login method button then allow Facebook to sign and type in the account details like email address and password.

6.1. Ethics Approval Application (only if required)

National College of Ireland
**Ethical Guidelines and Procedures for Research
involving Human Participants**



SEPTEMBER 2020

Ethics Application Checklist

To be submitted alongside the ethics application.

Please complete the below checklist, ticking each item to confirm that it has been addressed.

1. I agree to obtain informed written consent from all human participants aged over 18 who are involved in this research (or if circulating digitally, I will ensure that informed consent is completed, and will have the participants indicate their informed consent by continuing with their study engagement).	<input checked="" type="checkbox"/>
2. I agree to obtain informed written consent from the parents of anyone aged under 18 in this research (or from the schools if appropriate), and informed written assent from those under 18 in this research.	<input checked="" type="checkbox"/>
3. I include a letter of agreement from a clinically responsible individual agreeing to (where appropriate) help me recruit/provide clinical support in the event that participants become distressed/host the study data collection.	<input checked="" type="checkbox"/>
4. I append a letter of agreement from an external institution or organisation agreeing to host the study.	<input checked="" type="checkbox"/>
5. I agree to comply with NCI's Data Retention Policy.	<input checked="" type="checkbox"/>
6. I have appended a) information sheet, b) consent form/assent form, c) debriefing sheet.	<input checked="" type="checkbox"/>
7. I have provided details of how non-anonymised data will be stored, in a safe and encrypted manner.	<input checked="" type="checkbox"/>
8. I have included my contact details and those of my supervisor (where appropriate). I have only included my NCI email address and not included any personal contact information.	<input checked="" type="checkbox"/>
9. I have given sufficient details on the proposed study design, methodology, and data collection procedures, to allow a full ethical review, and I understand that my failure to give sufficient detail may result in a resubmission being required.	<input checked="" type="checkbox"/>
10. I understand that if I make changes to my study following ethical approval, it is my responsibility to seek an ethics amendment if the change merits ethical consideration.	<input checked="" type="checkbox"/>
	<input type="checkbox"/>

National College of Ireland

Human Participants Ethical Review Application Form

All parts of the below form must be completed. However in certain cases where sections are not relevant to the proposed study, clearly mark NA in the box provided.

Part A: Title of Project and Contact Information

Name

xinqi pei

Student Number (if applicable)

x14102722

Email

x14102722@student.ncirl.ie

Status:

Undergraduate
Postgraduate
Staff



Supervisor (if applicable)

Cristina Hava Muntean

Title of Research Project

MyGarage: A Mobile application for car services

Category into which the proposed research falls (see guidelines)

Research Category A ☒
Research Category B ☐
Research Category C ☐

Have you read the NCI Ethical Guidelines for Research with Human Participants?

Yes ☒
No ☐

Please indicate any other ethical guidelines or codes of conduct you have consulted

N/A

Has this research been submitted to any other research ethics committee?

Yes ☐
No ☒

If yes please provide details, and the outcomes of this process, if applicable:

N/A

Is this research supported by any form of research funding?

Yes ☒
No ☐

If yes please provide details, and indicate whether any restrictions exist on the freedom of the researcher to publish the results:

N/A

Part B: Research Proposal

Briefly outline the following information (not more than 200 words in any section).

Proposed starting date and duration of project

October 2020 – May 2021

The rationale for the project

More and more people quite often order junk food and take away in result of limited ingredients and time, people who love home cooking get tired of using same recipes all the time. Therefore, a mobile app that provide support for ordering and delivering ingredients.

The research aims and objectives

Yummy food is a mobile application design for everyone who love cooking and develop new skill at home and it allows people to create an account and post food they made, sharing food recipes. The customer also can buy fresh ingredients in a online store with personalized delivery time for example they can choose when it need to be delivered.

The aim of the project is to design, implement, test and evaluate this mobile app.

The research design

The application will be tested and checked for errors

The evaluation will involve human participants (over 18 years old) that will provide feedback regarding the functionality of the application.

Participants permission for data gathered in this project to be used for research purpose is obtain.

The feedback will be collected through an online survey. The survey is anonymised and therefore no personal data is collected.

The collected feedback will be analysed and used to improve the application. An overall description of the answers received in the survey will be presented in a report.

The research sample and sample size

Please indicate the sample size and your justification of this sample size. Describe the age range of participants, and whether they belong to medical groups (those currently receiving medical treatment, those not in remission from previous medical treatment, those recruited because of a previous medical condition, healthy controls recruited for a medical study) or clinical groups (those undergoing non-medical treatment such as counselling, psychoanalysis, in treatment centres, rehabilitation centres, or similar, or those with a DSM disorder diagnosis).

The mobile application will be available for download to anyone who chooses to participate in this study and he/she is over the age of 18.

A target of 10 participants that use the application and answer the survey is aimed.

Social media (e.g. facebook) and email will be used to invite people to take part in this study. The participants are selected on a voluntary basis.

If the study involves a MEDICAL or CLINICAL group, the following details are required:

- a) Do you have approval from a hospital/medical/specialist ethics committee?
If YES, please append the letter of approval. Also required is a letter from a clinically responsible authority at the host institution, supporting the study, detailing the support mechanisms in place for individuals who may become distressed as a result of participating in the study, and the potential risk to participants.
If NO, please detail why this approval cannot or has not been sought.
- b) Does the study impact on participant's medical condition, wellbeing, or health?
If YES, please append a letter of approval from a specialist ethics committee.
If NO, please give a detailed explanation about why you do not expect there to be an impact on medical condition, wellbeing, or health.

The nature of any proposed pilot study. Pilot studies are usually required if a) a new intervention is being used, b) a new questionnaire, scale or item is being used, or c) established interventions or questionnaires, scales or items are being used on a new population. If no such study is planned, explain why it is not necessary.

N/A

The methods of data analysis. Give details here of the analytic process (e.g. the statistical procedures planned if quantitative, and the approach taken if qualitative. It is not sufficient to name the software to be used).

The survey consists of yes/no questions as well as questions with answers
Quantitative data will be collected via the survey and analysed.

Reporting of results is done after data is aggregated across all participants.

No data or quotes will be attributed to any individual participant.

Microsoft Excel will be used for statistical analysis and graphical representation of the results.

Study Procedure

Please give as detailed an account as possible of a participant's likely experience in engaging with the study, from point of first learning about the study, to study completion. State how long project participation is likely to take, and whether participants will be offered breaks. Please attach all questionnaires, interview schedules, scales, surveys, and demographic questions, etc. in the Appendix.

A brief description of the purpose of the study is provided to the participants at the beginning of the study. Their consent to take part in the study is requested and collected.

The participants are asked to download the application and use it on their mobile. The participants are given three tasks to perform that involve the use of the application.

Once the tasks are completed, they are asked to answer the survey.

It is envisaged that the entire evaluation process of the application will not take more than 20 minutes.

The survey to be answered by the participants and the consent request are provided in Appendix A and Appendix B respectively.

Part C: Ethical Risk

Please identify any ethical issues or risks of harm or distress which may arise during the proposed research, and how you will address this risk. Here you need to consider the potential for physical risk, social risk (i.e. loss of social status, privacy, or reputation), outside of that expected in everyday life, and whether the participant is likely to feel distress as a result of taking part in the study. Debriefing sheets must be included in the appendix if required. These should detail the participant's right to withdraw from the study, the statutory limits upon confidentiality, and the obligations of the researcher in relation to Freedom of Information legislation. Debriefing sheets should also include details of helplines and avenues for receiving support in the event that participants become distressed as a result of their involvement in this study.

It is not envisaged that there is any risk of harm or distress to participants.

Participants are allowed to withdraw from this study anytime if they wish to do so.

Do the participants belong to any of the following vulnerable groups?
(Please tick all those involved).

- ☐ Children;
- ☐ The older old (85+)
- ☐ People with an intellectual or learning disability
- ☐ Individuals or groups receiving help through the voluntary sector
- ☐ Those in a subordinate position to the researchers such as employees
- ☐ Other groups who might not understand the research and consent process
- ☐ Other vulnerable groups

How will the research participants in this study be selected, approached and recruited? From where will participants be recruited? If recruiting via an institution or organisation other than NCI please attach a letter of agreement from the host institution agreeing to host the study and circulate recruitment advertisements/email etc.

Social media and email will be used to invite people to take part in this study. The participants are selected on a voluntary basis.

What inclusion or exclusion criteria will be used?

Participants must be at least 18 years old

How will participants be informed of the nature of the study and participation?

An invitation email or a text sent via the social media (e.g. facebook) describing the study purpose and procedure will be sent to the invited participants.

Does the study involve deception or the withholding of information? If so, provide justification for this decision.

N/A

What procedures will be used to document the participants' consent to participate?

The online survey will include a question requesting the consent to take part in the study.

Can study participants withdraw at any time without penalty? If so, how will this be communicated to participants?

Yes. This will be communicated in the invitation email/text.

If vulnerable groups are participating, what special arrangements will be made to deal with issues of informed consent/assent?

N/A

Please include copies of any information letters, debriefing sheets, and consent forms with the application.

Part D: Confidentiality and Data Protection

Please indicate the form in which the data will be collected.

☐ Identified

☐ Potentially Identifiable

☒ De-Identified

What arrangements are in place to ensure that the identity of participants is protected?

No personal data will be collected in the survey.

Will any information about illegal behaviours be collected as part of the research process? If so, detail your consideration of how this information will be treated.

No such information will be collected.

Please indicate any recording devices being used to collect data (e.g. audio/video).

No recording devices are used.

Signature of Supervisor (where appropriate):

Date _____

Any other information the committee should be aware of?

N/A

APPENDIX A – SURVEY QUESTIONS

What your favourite feature? what is your least favourite feature?

Are you happy with the design of user interface?

Do you think the app is helpful?

Would you recommend it to other people?

APPENDIX B – CONSENT REQUEST

The purpose of this study is to gain a better understand about how users feel about the YummFood App in general with in-app feedback, it also going to help us to find bugs and any problems when user is testing the app in order to bring a better user experience in the future. All the subjects can decide to withdraw from the study at any time.

Do you consent to YummFood processing your user data in order to make improvements to the app?
You can withdraw your consent at any time.

Please describe the procedures for securing specific permission for the use of these recording devices in advance.

N/A

Please indicate the form in which the data will be stored.

☐ Identified

☐ Potentially Identifiable

☐ De-Identified

Who will have responsibility for the data generated by the research?

The applicant for the Ethics approval.

Is there a possibility that the data will be archived for secondary data analysis? If so, has this been included in the informed consent process? Also include information on how and where the data will be stored for secondary analytic purposes.

No.

If not to be stored for secondary data analysis, will the data be stored for 5 years and then destroyed, in accordance with NCI policy?



☐ No

Dissemination and Reporting

Please describe how the participants will be informed of dissemination and reporting (e.g. submission for examination, reporting, publications, presentations)?

The participants will not be informed about the project report.

If any dissemination entails the use of audio, video and/or photographic records (including direct quotes), please describe how participants will be informed of this in advance.

N/A

Part E: Signed Declaration

I confirm that I have read the NCI Ethical Guidelines for Research with Human Participants, and agree to abide by them in conducting this research. I also confirm that the information provided on this form is correct (Electronic signature is acceptable).

Signature of Applicant _xinqi pei

Date 8th Nov 2020

6.2. Reflective Journals

Reflective Journal

Student name: Xinqi Pei

Programme: BSHCSD4

Month: Novmber 2020

My achievements

I felt the time is quite tight and as a result of that there are plenty of projects going on for each subject and time is limited. I also noticed most students in our group have chosen to develop web applications rather than a mobile app.

After class, I had to make plans for each project and improve my time management in order to have all projects progressing equally.

Even though I'm confident with android mobile app development, I still will implement more interesting and useful features in the app so that I will improve my skills continuously and learn something new.

Supervisor Meeting

The first meeting with our supervisor Cristina was a group meeting, we all explained our own project in terms of ideas and highlights of the project we are willing to develop, what techniques are going to be used and how we want to complete it, then she gave us some feedback on each project and talked about what we can improve, how we can improve and some advice about our projects.

One of the students in our group asked how far the project should be progressed by mid term presentation, Cristina said, we should be almost finished the project by then so we will have enough time to test or create new interesting features in order to get a higher marks.

Date of Meeting: 1st November 2020

Meeting discussed: project plans and feedback of each project ideas.

Reflective Journal

Student name: Xinqi Pei
Programme: BSHCSD4
Month: December 2020

My Achievements

The month, my progress on the project started quite slow because I was focusing on other four modules assignment before the Christmas deadline. I have completed my first draft of project plan and have a clear idea what I am going to do and what technology I'm going to use for the software project.

First of all, I did some researches of android platform regards to develop a mobile application that will help me get familiar with the software which is android studio I'm going to use. I was able to improve my proposal after the researches and updated my Gantt chart according to my project plan. I have set up and connected firebase in android studio and decided to utilize firebase as my primary database to storage all the user data by following the steps from a tutorial online. I have also created registration page and sign in page successfully in android studio and I have been built a profile page that user can edit the profile picture and name.

Intended Changes

Next month I will continue working on my next deliverable, which is commenting, liking functions on the post page

Supervisor Meeting

Date of Meeting: 18 December 2020
Meeting discussed: technical report, advice of improvement of current project

Reflective Journal

Student name: Xinqi Pei
Programme: BSHCSD4
Month: Jan 2021

My Achievements

This month, I didn't do much coding on the project because I was focusing on other four modules assignment and TABA exams before the 6th of Jan deadline. I have fixed and completed my project plan and my first version of the technical report of the software project.

However, I watched some tutorial and found some resources about how I will program the rest of the mobile app in terms of payment function and orders page.

Intended Changes

Next month I will continue working on my next deliverable, which is commenting, liking functions on the post page and try to catch up as much as I can during the break.

Reflective Journal

Student name: Xinqi Pei
Programme: BSHCSD4
Month: February 2021

My Achievements

This month, I'm able to finish the goal that I set up before, I started catch up the part that I left from last semester. After the Christmas break, I have already set up and implement a shop with different products and a featured recipes function is created in android studio. Everything is working fine so far with all functions I created. However, I'm quite stuck where I am at the moment. It is quite difficult to figure out the payment function for me. I have to do more study about how I can integrate PayPal in the app as well as connect with my order summary, then return order information into the back-end server through firebase database. So really, this is what I'm focusing working on for the next month. It is more complicate than I thought.

Intended Changes

Everything is working fine so far with all functions I created. However, I'm quite stuck where I am at the moment. It is quite difficult to figure out the payment function for me. I have to do more study about how I can integrate PayPal in the app as well as connect with my order summary, then return order information into the back-end server through firebase database. So really, this is what I'm focusing working on for the next month. It is more complicate than I thought.

I also need to get contact with my supervisor and get some feedback of my current process of my project.

Reflective Journal

Student name: Xinqi Pei
Programme: BSHCSD4
Month: March 2021

My Achievements

This month, I have implemented a shop and a featured recipe in my application. I have also made a summary order table with SQLite and made a function that after checking out, the summary will be return into firebase Realtime database. It will allow the administrator and business owner to see and send the orders to customers. Along the payment process, I have overcome various difficulties such as, after I integrated the PayPal API, it kept getting errors when try to login PayPal account and won't allow user to pay. I have fixed the problem by implementing different methods and onActivityResult when user completes the payment you can get payment status and also extract PayPal transaction Id.

Intended Changes

I have few features left to do for the next two months, such as add your recipes as your favourite and implement the google account as a way for user to login.

In regard to technical report documentation, I haven't made any progress on that since the mid term presentation. Many deadlines for other modulus are coming by the end of march and start of April, so I'm trying to focus on them at the moment.

Supervisor Meeting

Date of Meeting: 22 March 2021

Meeting discussed: testing and evaluation session in technical report, advice of improvement of current project, and some feedback of mid-term project.

Reflective Journal

Student name: Xinqi Pei

Programme: BSHCSD4

Month: April 2021

My Achievements

After come back from easter break, I have added an order summary page that user can browse all the details of their orders that including address, products, names, phone numbers and total costs. Another function I have implemented in order to make easier for user to use is google integration. Users can login in with their google account if they are not willing to create an account within the app. It will give user an option to sign in. as same time, user can add and save any recipes that they like into the favourite page so that will save some time for them if they would like to use it again. Meanwhile, I have went over again with my final project report and had an meeting with my supervisor, she went more details about how we need to conduct the testing session.

Intended Changes

I have finished all my features for my final software project, I have finished my showcase profile as well, only things left to is my project poster, it is in processing. As to the final report I need to add more screenshot and more details of the implementation and finish off the documentation of testing.

Supervisor Meeting

Date of Meeting: 8 May 2021

Meeting discussed: testing and evaluation session in technical report, advice of improvement of current project.