

Mysterious Frogs



(Flaticon 2018)

The Team

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Project Description

We are designing a mobile app called the Recipe Generator that displays a list of recipes when the user inputs a number of ingredients. Users will have a number of ways to input ingredients into the app:

1. Take pictures of ingredients which the app will recognise and enter it into the system.
2. Scan barcodes of ingredients which the app will recognise and enter it into the system.
3. Manually entering the names of ingredients into the system.

Whichever method is used, the app will generate a list of recipes that contains the ingredients entered and the user will be able to select any of the recipes to view them in more detail.

Other main features include the app calculating the calories of the ingredients entered and the recipes themselves along with the user manually accessing the recipe database and choosing any recipe that is to their liking.

We are also looking at adding extended features which includes:

1. A favourites section allowing users to view their favourite recipes.
2. Allow users to share their favourite recipes on social media such as Facebook.
3. A filter option allowing users to choose specific regional cuisines in the recipe database.
4. If a recipe is missing ingredients, users are able to select the missing ingredients showing them the nearest store that sells the missing ingredients.

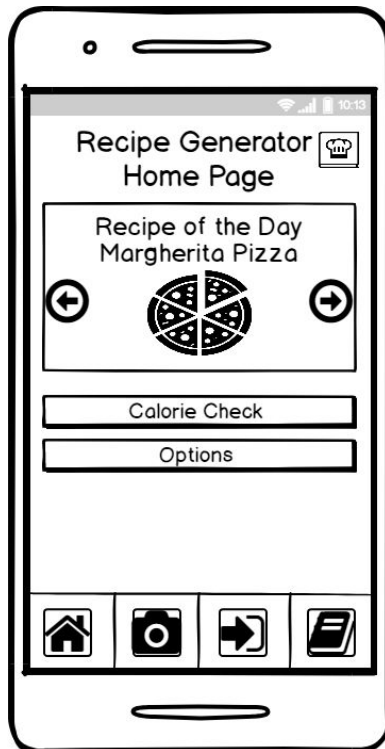
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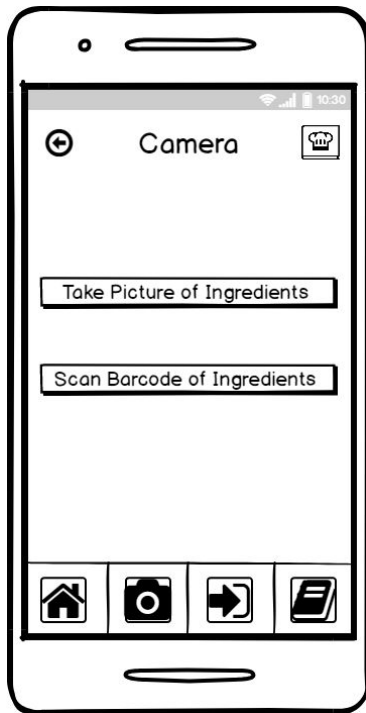
Core Features

Core Feature 1: Take pictures of ingredients to generate recipes

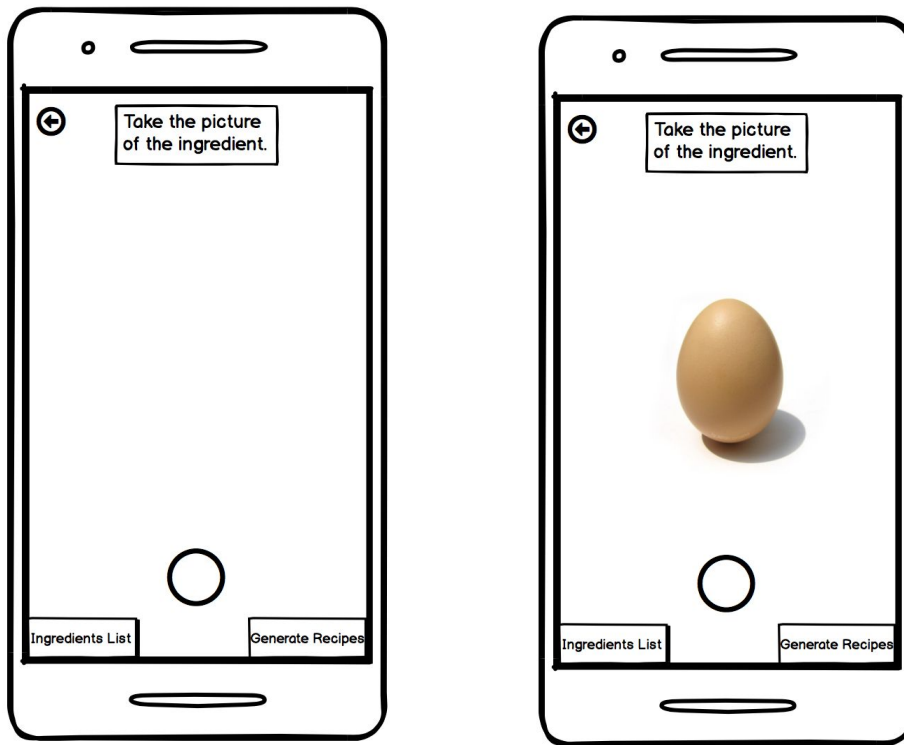
Step 1: Users can tap the 'camera' icon in the bottom navigation from any page to access Core Feature 1. In this instance the Home Page will be used.



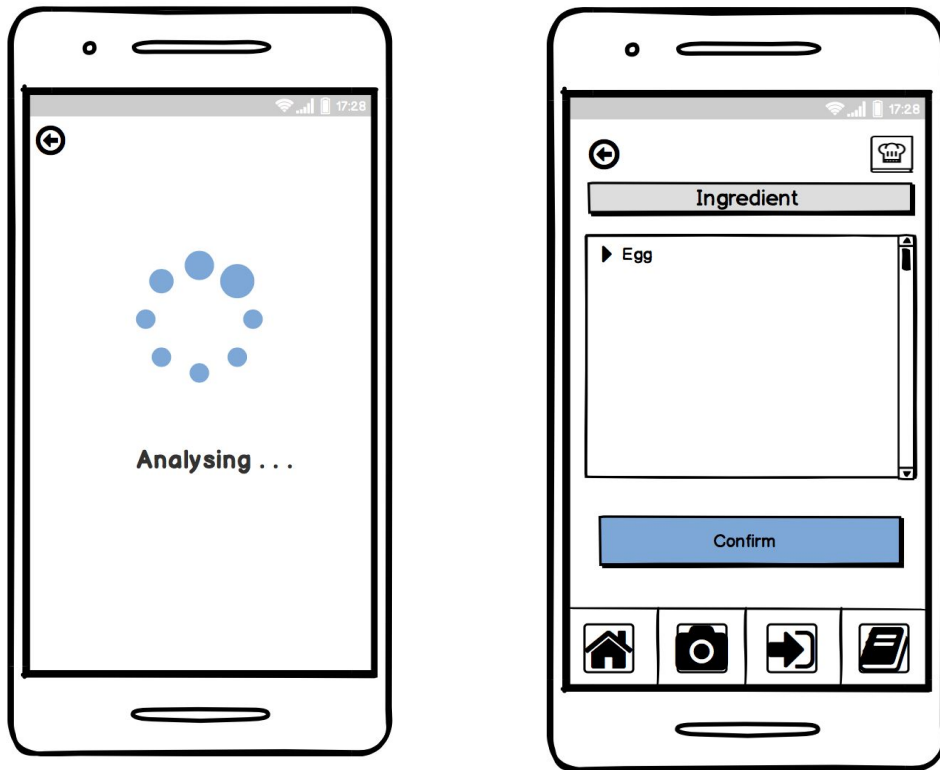
Step 2: In the 'Camera' page, the user taps 'Take Picture of Ingredients' to begin taking pictures of ingredients to generate recipes.



Step 3 : Tap the circle button to take the picture of the ingredient (e.g., egg). Furthermore, users can access the ingredient list directly via the 'Ingredients List' button in the bottom left hand corner and generate recipes directly via the 'Generate Recipes' button in the bottom right hand corner.



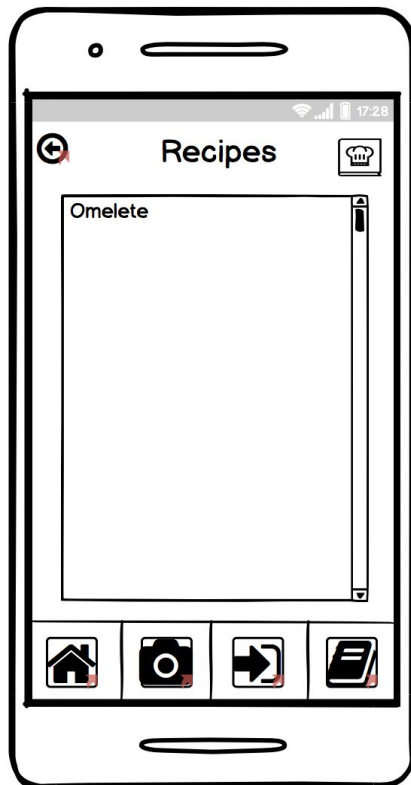
Step 4 : Once the image of the ingredient (e.g., egg) has been captured, wait for the app to analyse the ingredient and confirm if this is the ingredient you want added to the Ingredients List. This is done by pressing the 'Confirm' button.



Step 5 : The app will then take you back to the 'Take the picture of the ingredient' section. You can proceed with capturing more ingredients or in this case tap the 'Ingredients List' button to review the user's Ingredients List.



Step 6 : The user can then generate recipes via the 'Generate Recipes' button. They can also do this on the 'Take the picture of the ingredient' section.



Core Feature 1 Validation Testing:

To confirm that Core Feature 1 is working as intended:

- It will be confirmed that the user can access this function via the 'camera' icon in the bottom navigation on all sections that contain the bottom navigation.
- Make sure that tapping on 'Take Picture of Ingredients' leads the user to the camera capture section.
- The camera capture function will be tested using a variety of ingredients to confirm that the app can properly analyse and recognise the correct ingredient.
- The 'Ingredients List' button will be tested to make sure that it links to the Ingredient List section and contains ingredients that only have been added.
- The 'Generate Recipes' button will be tested to make sure that it generates the correct recipe(s) depending on the ingredient(s) added to the Ingredients List.

Author: {Lun Yang / Designer }

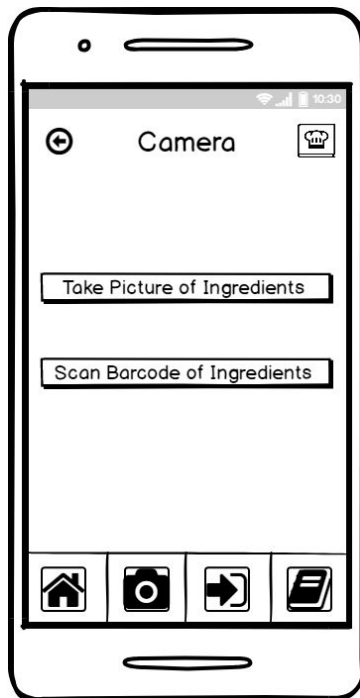
Create Date: { 15/09/2018 }

Core Feature 2: Scan barcodes of ingredients to generate recipes

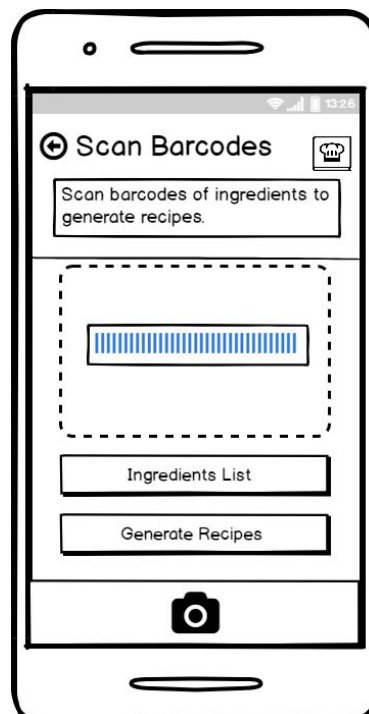
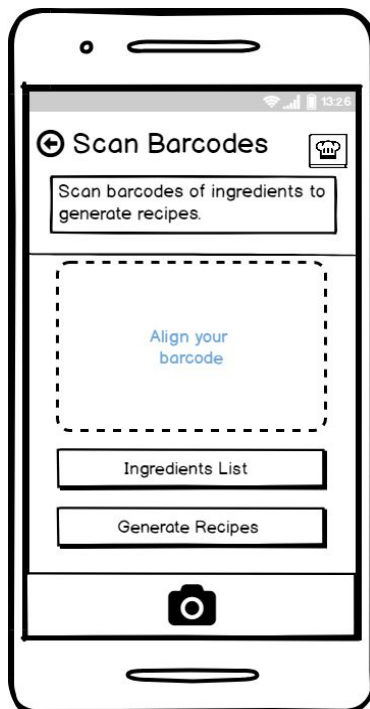
Step 1: The user will access the 'Camera' section via the 'camera' icon in the bottom navigation from any section. In this instance the Home Page will be used.



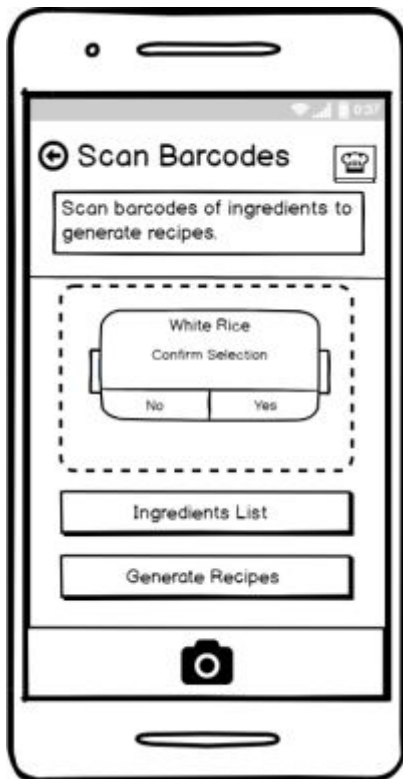
Step 2: In the 'Camera' page, the user is able to choose 'Scan Barcode of Ingredients' to access the scanning barcode function.



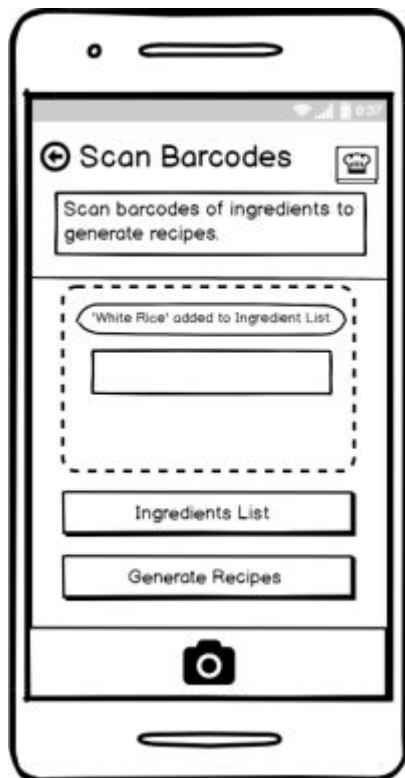
Step 3: In this section, the user aligns the barcode of the ingredient and captures it via the camera icon. The app will check the validity of the barcode.



Step 4: If the barcode is valid and corresponds to an ingredient, a pop-up message box will allow the user to confirm if this is the ingredient they want added to the Ingredients List. This is done by tapping 'Yes'.



Step 5 : After confirmation, the app will briefly show a message that the ingredient has been added to the Ingredients List e.g., 'White Rice added to Ingredients List'.



Step 6: The user taps on 'Ingredients List' to go to the Ingredients List and can review the ingredients and/or generate recipes. The user can also add more ingredients manually via the plus icon. To generate recipes, the user taps on 'Generate Recipes' and the recipe list will display recipes that have 'white rice' as an ingredient. This can also be done on the 'Scan Barcodes' section.



Core Feature 2 Validation Testing:

To confirm that Core Feature 2 is working as intended:

- The 'camera icon in the bottom navigation will be tested that it correctly links to the 'Camera' section.
- The 'Scan Barcode of Ingredients' button will be tested that it correctly links to the 'Scan Barcodes' section.
- Barcodes will be scanned to confirm that the app can recognise and process barcodes of ingredients.
- The confirmation box will be tested by scanning any random ingredient barcode and confirming that the confirmation message corresponds to the barcode ingredient scanned.
- Adding ingredients to the Ingredients List will be tested by:
 - Inputting an ingredient via the scan barcode function and tapping yes when the confirmation box appears.
 - Checking the Ingredients List via the 'Ingredients List' button to confirm that the ingredient has been added.

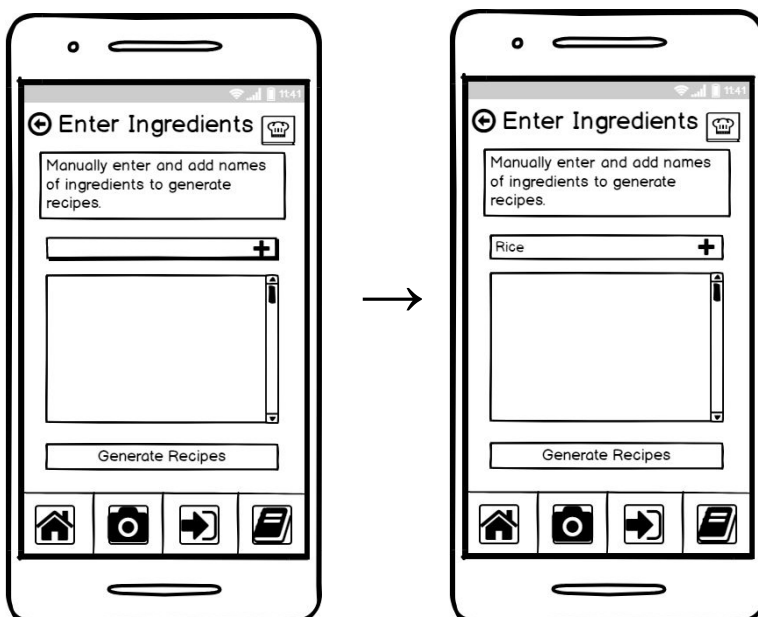
- The 'Generate Recipes' function will be tested by tapping the 'Generate Recipes' button to make sure that the recipes generated correspond to the ingredients added to the Ingredients List.

Core Feature 3: Manually enter names of ingredients to generate recipes

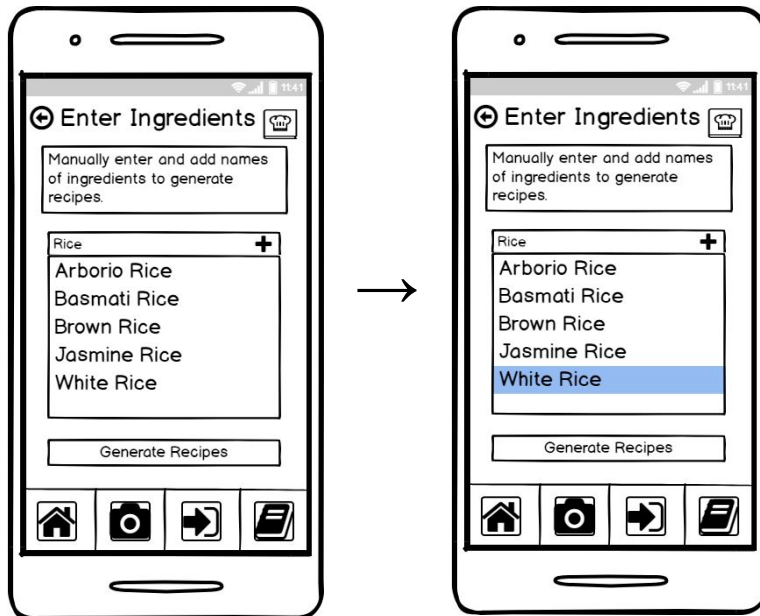
Step 1: The user will access the 'Enter Ingredients' page via the 'Enter' icon in the bottom navigation from any page. In this instance the Home Page will be used.



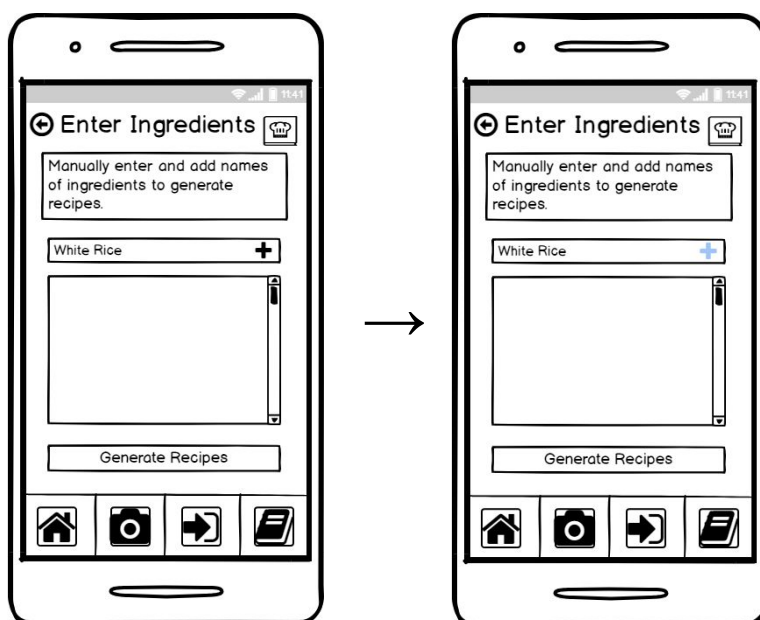
Step 2: Upon accessing the 'Enter Ingredients' page, the user is able to click on and type into the search bar the ingredient(s) they wish to input into the list.



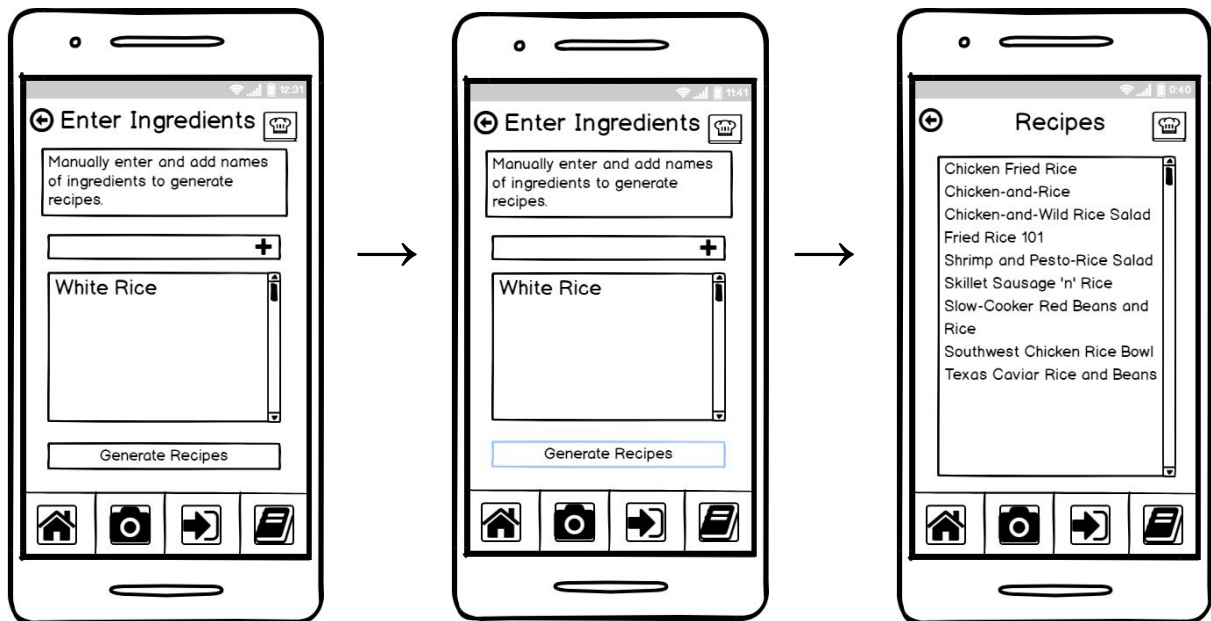
Step 3: In this example, the user wishes to add 'rice' into their list of ingredients. The system then shows the user a list of all matching/related items with their search where the user can then select the option they desire, in this case, the user selects 'white rice'.



Step 4: After selecting the desired ingredient, the system registers the ingredient into the search bar, where the user then presses the 'add' button.



Step 5: After doing so, the system stores the ingredient into the 'ingredients list', after that the user gets to either add more ingredients into the list or proceed to the generator via the 'submit' button. In this case, the user submits the list with just white rice, whereupon a list of recipes containing white rice as an ingredient is displayed for the user to choose from.



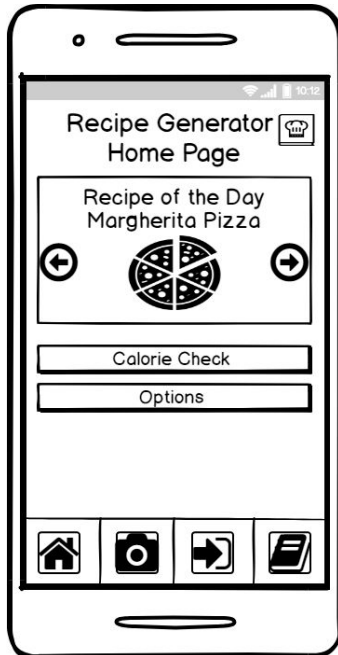
Core Feature 3 Validation Testing:

To confirm that Core Feature 3 is working as intended:

- The 'enter' icon in the bottom navigation will be tested that it correctly links to the 'Enter Ingredients' page.
- The search function will be tested by entering random relevant key terms to make sure that the 'prediction/matching box' will display ingredients with matching terms or 'concepts'.
- Adding in random ingredients into the ingredients list to test whether the box is correctly displaying the ingredients or not.
- Submitting the ingredients list and checking that the recipes generated are relevant and/or reasonably matched with the ingredients provided and needed for the recipe(s).

Core Feature 4: Calculate calories of ingredients entered and the recipes themselves

Step 1: The user will access the 'Calorie Check' page via the 'Calorie Check' menu item on the Home page.



Step 2: On the 'Calorie Check' page, users are able to check calories of any ingredients and recipes. through the search bar. Any recent search will be displayed in the 'Recent Search' window.



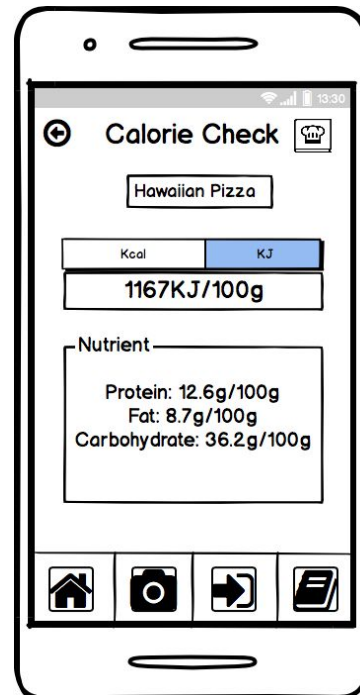
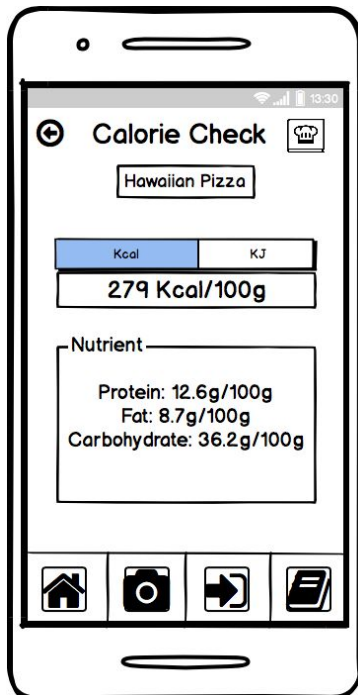
Step 3: Through the search bar, users can input any ingredients and recipes they want to find calorie information for. In the search bar, a drop down menu will show some related searches for users. Users can touch the cross button to reset the search bar.



Step 4: Users can choose one option to access this recipe calorie check page.



Step 5: When entering the calorie interface, the user can view each 100g of kcal and kilojoules of this ingredient/recipe.



Step 6: Back to the 'Calorie Check' page, what users just searched will appear in the recent search box.



Core Feature 4 Validation Testing:

To confirm that Core Feature 4 is working as intended:

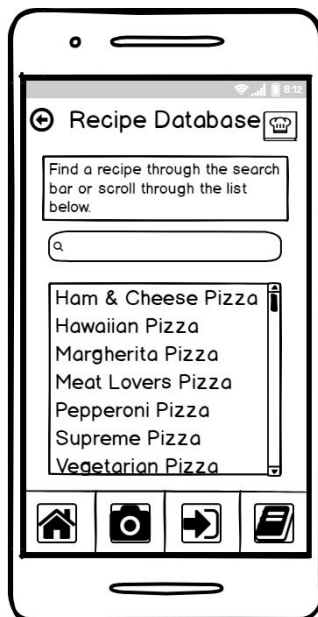
- The button in the home page will be tested that it correctly links to the 'Calorie Check' page.
- The search function will be tested by entering random relevant key terms to make sure that the related options will show up and these options are linked to the correct page.
- The cross button will be tested that make sure it will clean all input.
- The button bar in the 'Calorie Check' page will be tested to make sure it will show up correct content.

Core Feature 5: Manually accessing the recipe database without the need to enter ingredients

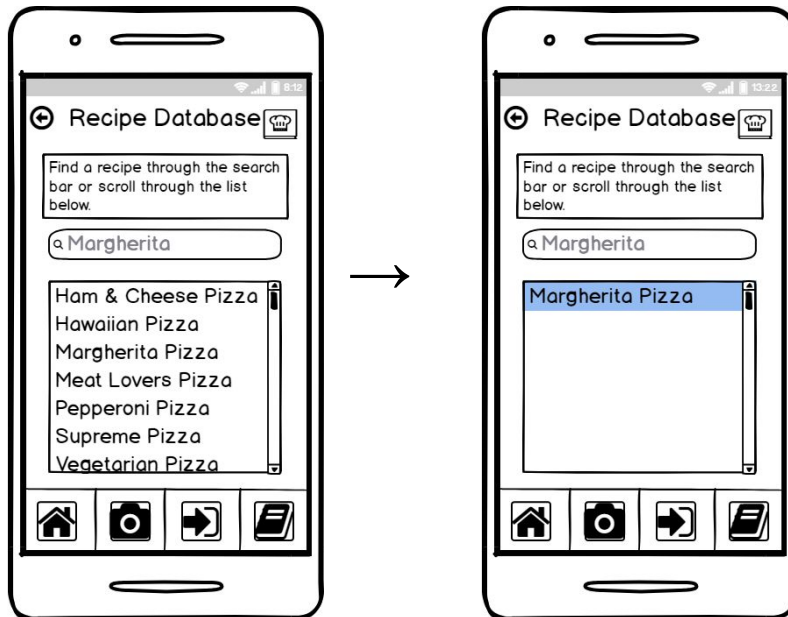
Step 1: The user will access the Recipe Database via the Book icon in the bottom navigation from any page. In this instance the home page will be used.



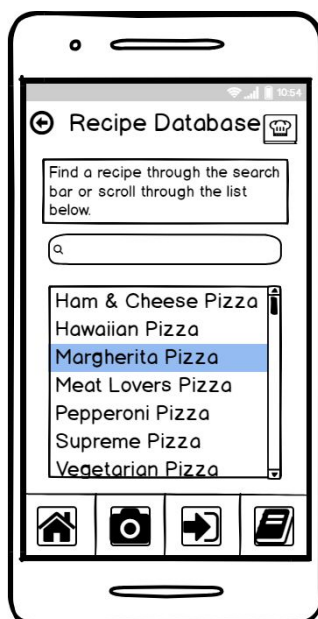
Step 2: Upon accessing the Recipe Database page the user has the option of either searching for a specific recipe via the search bar or can scroll through the box and select the recipe directly.



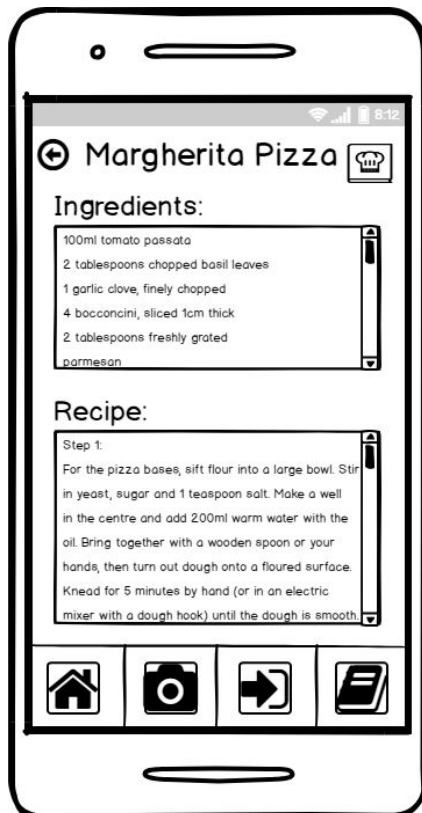
Step 3 Option 1: In this instance, the user will be manually entering 'Margherita' in the search bar. The scroll box below will update to just show the 'Margherita Pizza' recipe. Then the user will directly select the recipe.



Step 3 Option 2: Alternatively, in this instance the user will directly select 'Margherita Pizza' in the scroll box below to access the recipe.



Step 4: Either way, the user will be able to see the 'Margherita Pizza' recipe in more detail.



Core Feature 5 Validation Testing:

To confirm that Core Feature 5 is working as intended:

- The Book icon in the bottom navigation will be tested that it correctly links to the 'Recipe Database' page.
- The search function will be tested by entering random relevant key terms to make sure that the scroll box below will display recipes that contain the entered keywords.
- The scroll box function will be tested by scrolling through the box to make sure that all recipes are displayed along with selecting each recipe to make sure that the respective links work as intended i.e., Margherita Pizza links to Margherita Pizza recipe page.

Project Estimation

{Include estimation spreadsheet and justify}

Technology Listing

Collaborative Workspaces

- Trello: The group uses the Trello Board to organise and set up an agenda for each week and delegate individual tasks that make up the agenda to each group member to complete.

<https://trello.com/b/gP2KkC94/tr-mysterious-frogs>

- GitHub: The GitHub repository is used to back-up the work that has been completed by the Mysterious Frogs.

<https://github.com/S3707735/Building-IT-Systems-Assignments/tree/master>

- Google Drive: The group folder titled 'Mysterious Frogs' contains all work relating to assignments that are completed or ongoing.

<https://drive.google.com/drive/folders/1lv5fnROM032qdkJUCA-sVfbuyABoORCN>

Software

Balsamiq: <https://balsamiq.cloud>

- Allows the construction of low fidelity mockups of each page/screen of the Recipe Generator mobile app before making the actual Recipe Generator mobile app itself.
- Allows us to visualise how the Recipe Generator mobile app will look like and be able to make the necessary changes to ensure good user-centered design.
- Specific version - N/A and 30 day free trial, upon expiry, \$9 a month for 2 projects (cheapest plan).

Invision: <https://www.invisionapp.com/>

- Allows us to link the Balsamiq screens to simulate actual usage of the Recipe Generator mobile app.
- Through user testing we will examine how the user will navigate the app and test the features. If there are any problems with how the user uses the app then the relevant changes will be applied.
- Specific version - N/A and free for students upon redeeming promotion code.

Tools...

Resources

Code Academy: <https://www.codecademy.com/>

- Provides tutorials on coding and programming.

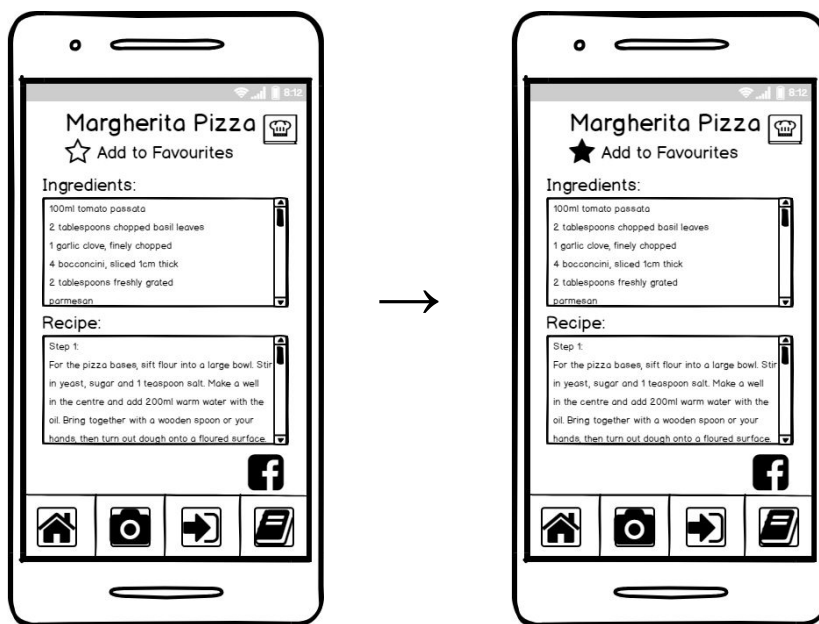
- Each group member has basic experience with coding and programming, therefore, the use of Code Academy will help us extend our coding and programming knowledge.
- Specific version - N/A and zero cost.

APPENDIX

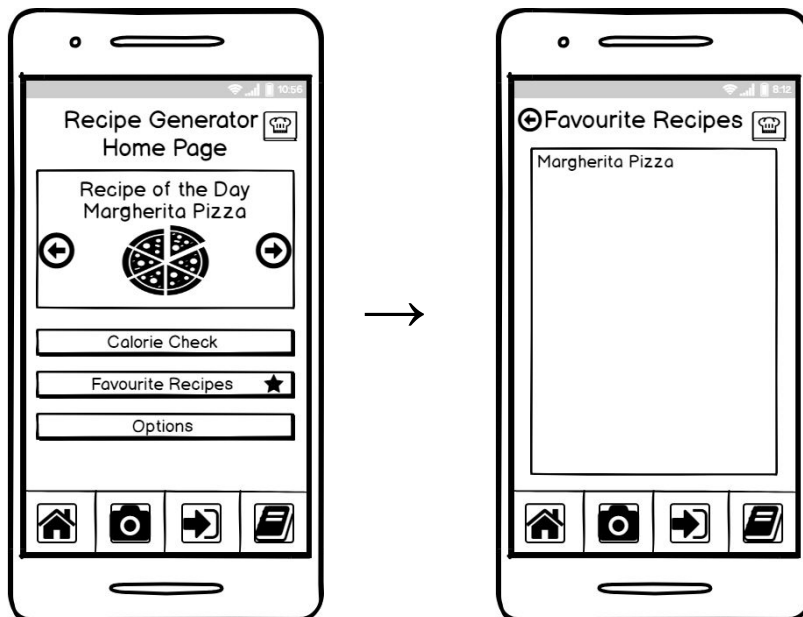
Extended Features

Extended Feature 1: A favourites section containing users' favourite recipes

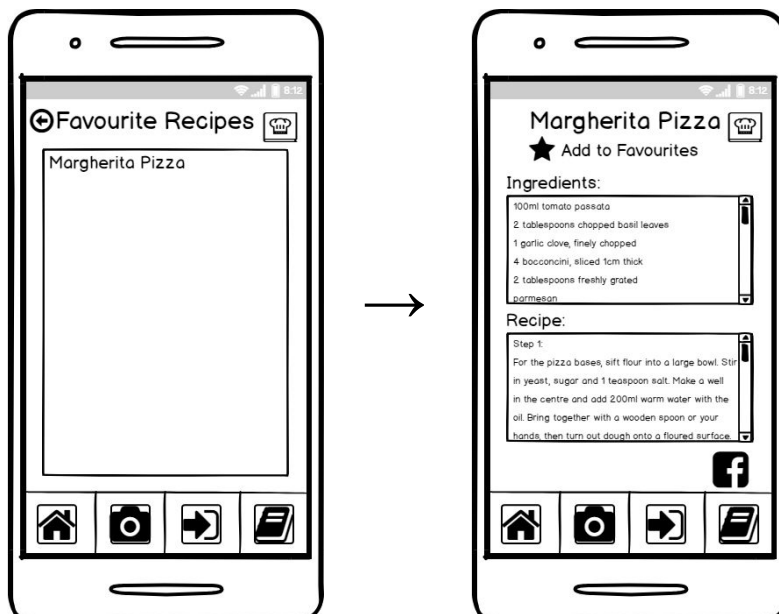
Step 1: On each recipe page, there is the option of adding a recipe to the 'Favourites Section' by tapping the star next to 'Add to Favourites'. It will be confirmed that the recipe has been added to the 'Favourites Section' upon the star changing colour.



Step 2: To access the 'Favourite Recipes' section, the user will navigate back to the Home Page by tapping the home icon in the bottom navigation. Then the user will tap the 'Favourite Recipes' item to access the 'Favourite Recipes' section



Step 3: The user can then select any recipe under the 'Favourite Recipes' section to directly access the recipe's details. In this instance, it will be the 'Margherita Pizza' recipe.



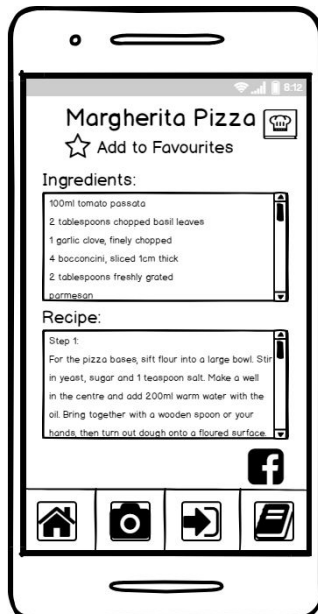
Extended Feature 1 Validation Testing:

To confirm that Extended Feature 1 is working as intended:

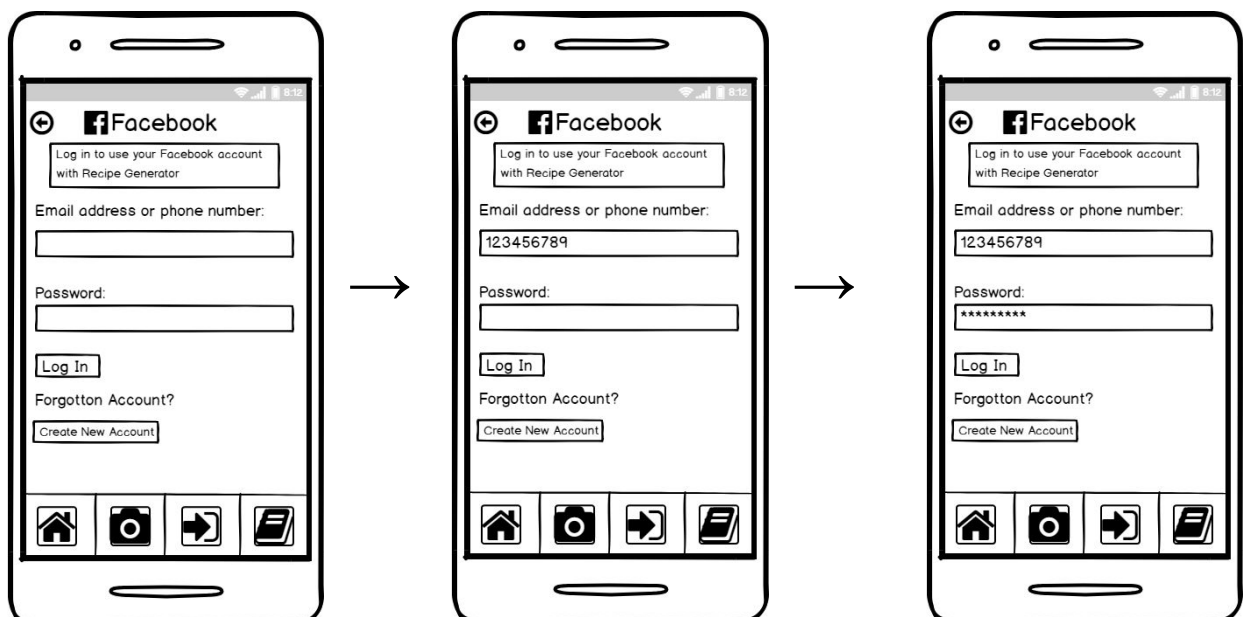
- The star icon next to 'Add to Favourites' which is located on each recipe page will be tested to make sure that the star icon changes colour upon tapping.
- Upon this, it will be checked that the recipe that has been favourited will be added to the 'Favourite Recipes' list.
- It will also be tested that the recipe(s) listed under the 'Favourite Recipes' list will lead to their respective page i.e., 'Margherita Pizza' leads to the 'Margherita Pizza' recipe.

Extended Feature 2: Share recipes on social media such as Facebook

Step 1: Users will have the option of sharing recipes with their friends on Facebook. To start this process, users will tap the Facebook icon in the bottom right hand corner.



Step 2: The user will be prompted to enter their Facebook details and tap 'Log In' to go into their Facebook account.



Step 3: The user can then post the recipe onto Facebook by tapping the 'Post to Facebook' button.



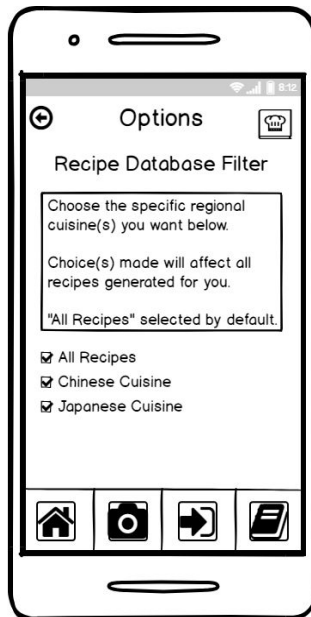
Extended Feature 2 Validation Testing:

To confirm that Extended Feature 2 is working as intended:

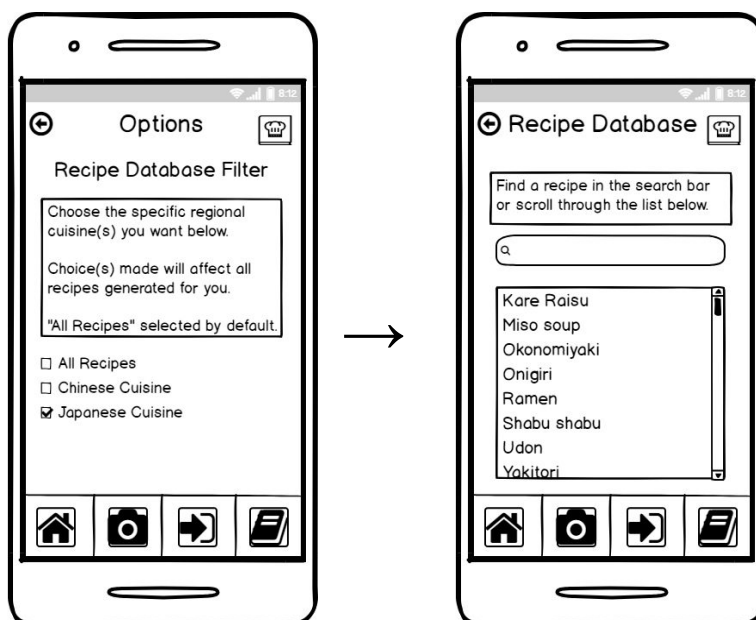
- The Facebook icon will be tested so that it will link directly to the Facebook login page.
- The developers will go through the process of logging into Facebook through the app using their Facebook account details to make sure there are no problems logging in.
- The developers will share the recipe onto Facebook by tapping the 'Post to Facebook' button to determine that there are no problems sharing the recipe on Facebook.

Extended Feature 3: Recipe Database Filter to select different regional cuisines

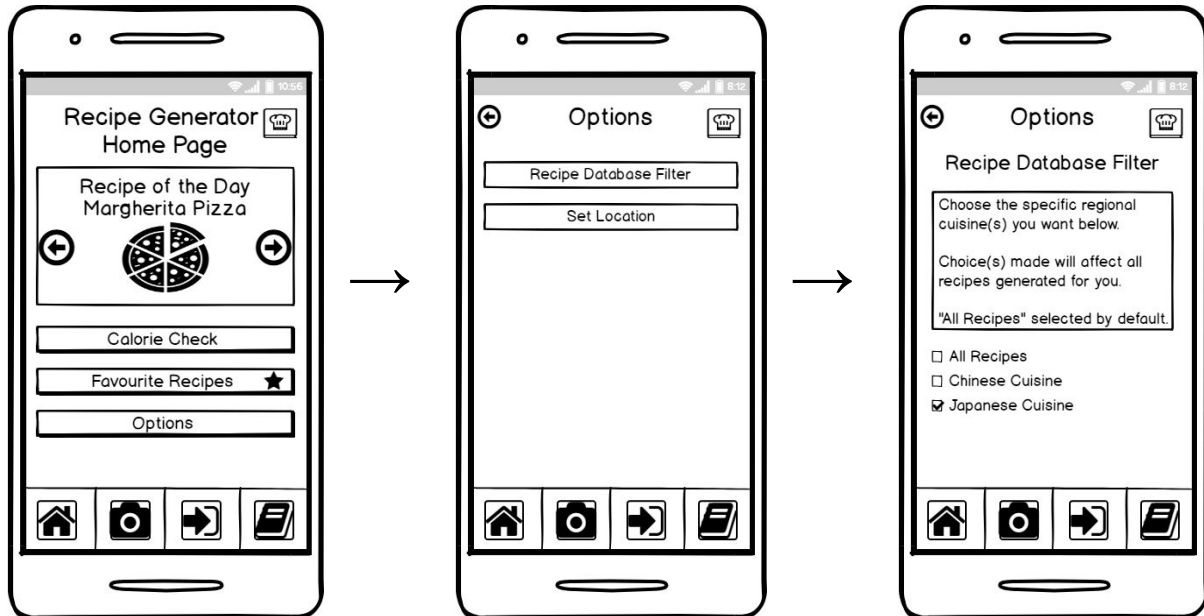
Step 1: Users will have the option to specifically choose the regional cuisines they want the app to generate recipes from. In this instance, 'All Recipes' has been selected but users can either specifically choose 'Chinese Cuisine' or 'Japanese Cuisine'.



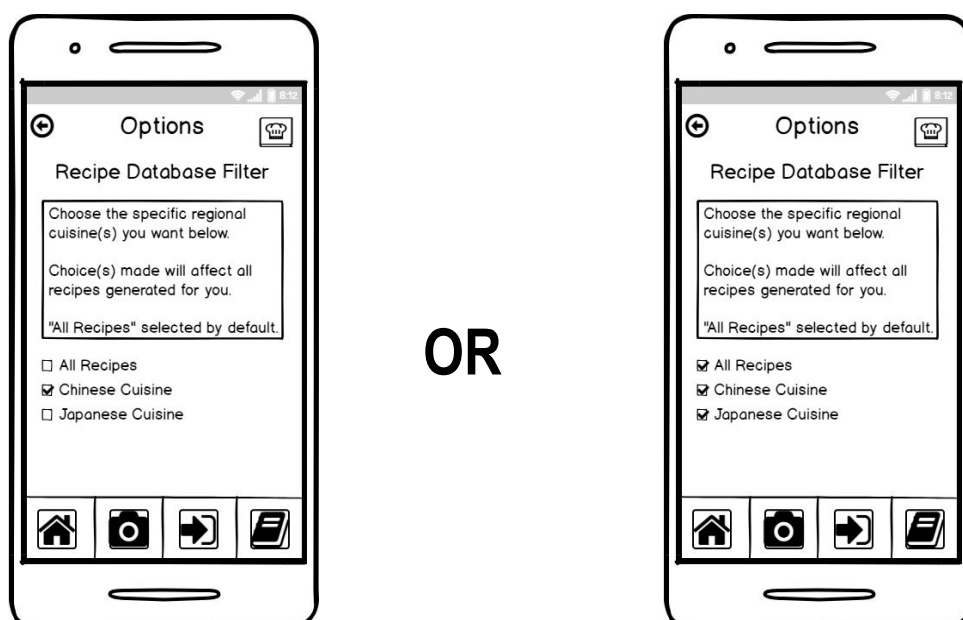
Step 2: In this instance, the user has only selected 'Japanese Cuisine', therefore, the app will **ONLY** generate recipes that are classified as Japanese Cuisine. An example below can be shown that accessing the Recipe Database (Core Feature 5) will only show Japanese recipes.



Step 3: To reverse the change or make further changes, the user can go back to the Home Page, tap the 'Options' item, and select the 'Recipe Database Filter' item to go back to the 'Recipe Database Filter' page.



Step 4: In this instance, the user can either choose 'Chinese Cuisine' or go back to 'All Recipes' causing the respective changes to be applied affecting the recipes generated by the app e.g., Ticking 'Chinese Cuisine' will result in the app **ONLY** generating Chinese recipes.



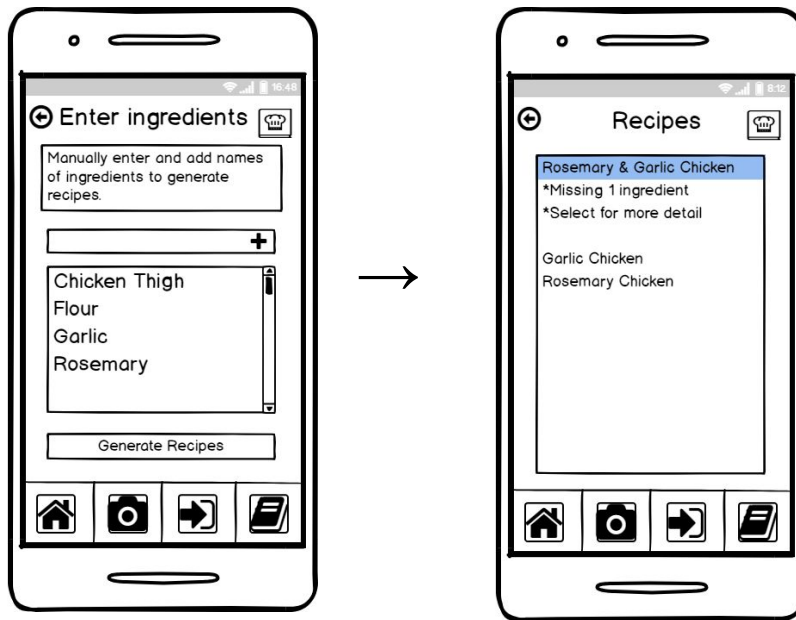
Extended Feature 3 Validation Testing:

To confirm that Extended Feature 3 is working as intended:

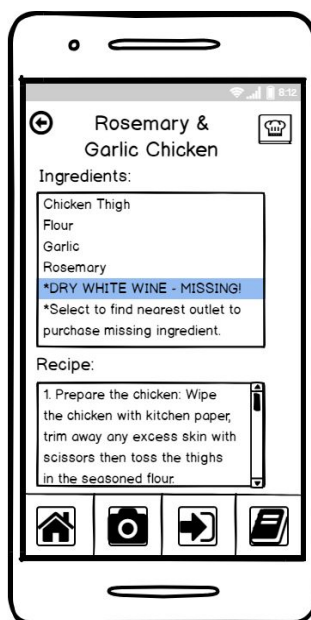
- Each filter option (i.e., All Recipes, Chinese Cuisine, Japanese Cuisine) will be individually selected so that the developers can determine that the app is only generating recipes according to the filter selected.
- If the developer only selects the 'Chinese Cuisine' filter then the app will be tested so that Core Features 1, 2, 3, and 5 will only generate Chinese recipes.
- This will be repeated for the 'Japanese Cuisine' filter and the 'All Recipes' filter separately.

Extended Feature 4: Link to online food stores to buy missing ingredients

Step 1: In this instance, the user will enter a number of ingredients using Core Feature 3 and press 'submit' so that the app can generate a list of recipes. However, the app shows that one the recipes 'Rosemary & Garlic Children' is missing an ingredient.



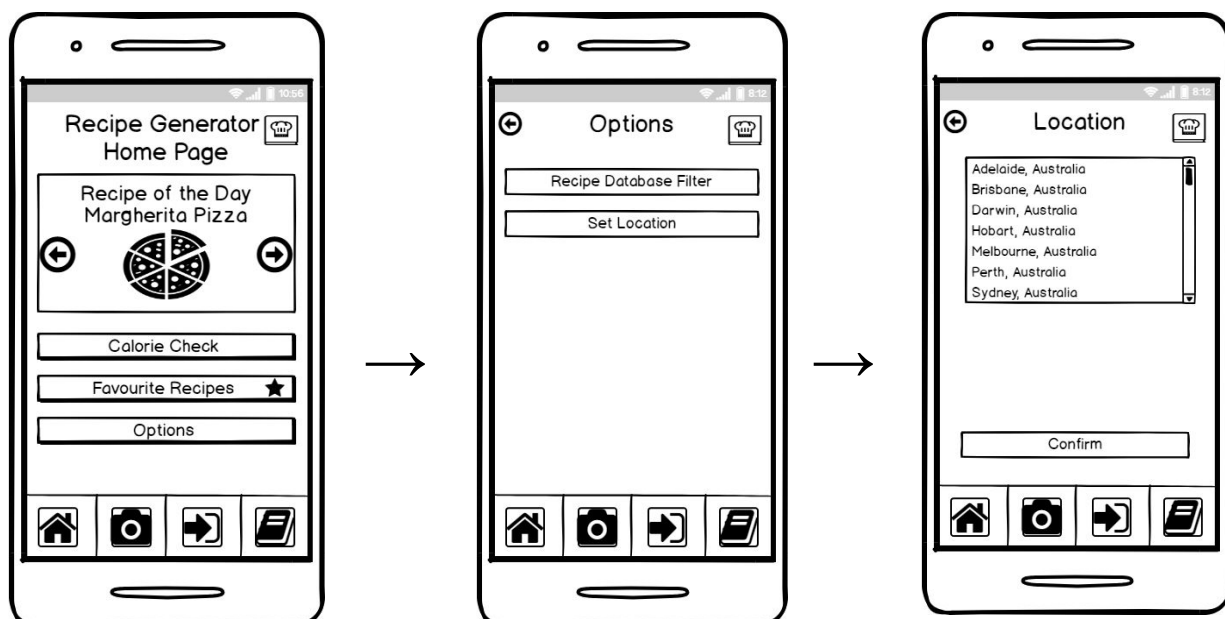
Step 2: Upon selecting the 'Rosemary & Garlic Chicken' recipe, there is a warning indicating to the user that the ingredient 'Dry White Wine' is missing. To solve this issue, the app provides the user information where to purchase the missing ingredient in question by tapping on it.



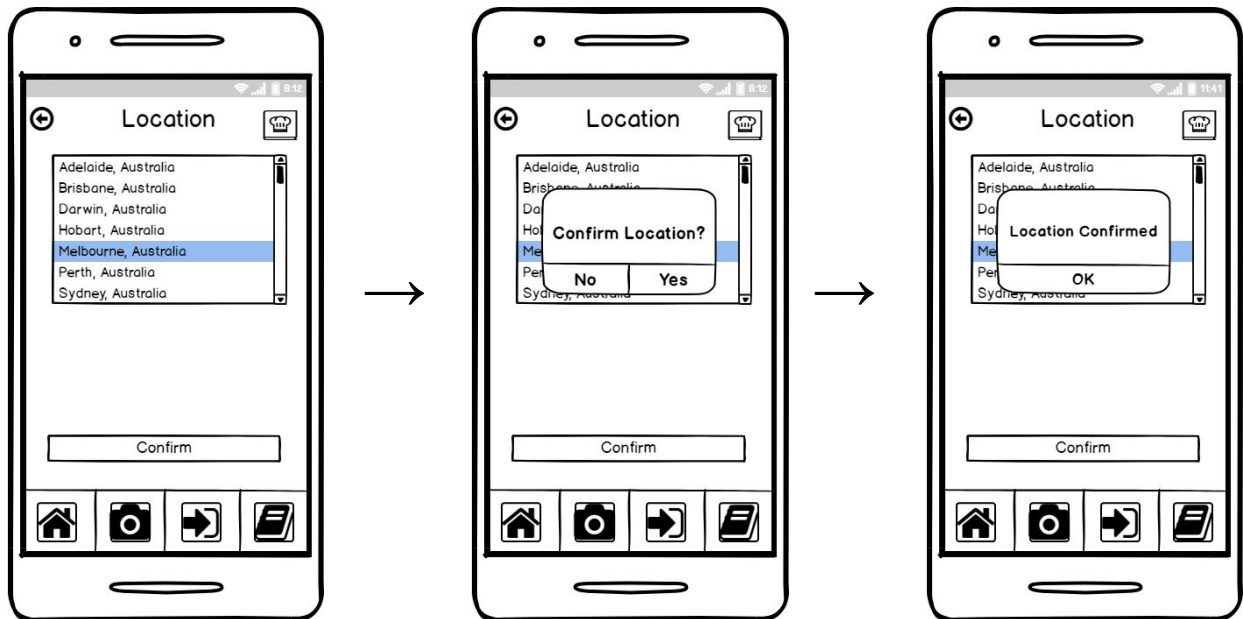
Step 3: Upon tapping the missing ingredient in question, the integrated in-app browser will show a Google Search of the closest shops (location set manually in the Options menu) that has the missing ingredient available for purchase.



Related Extended Feature 4 Step 1: The user can manually set the location via the Options Menu from the Home Page by tapping the 'Set Location' item.



Related Extended Feature 4 Step 2: On the 'Location' page, the user can tap the desired location and follow the prompts to confirm the location.



Extended Feature 4 Validation Testing:

To confirm that Extended Feature 4 is working as intended:

- The developers will intentionally miss out on an ingredient(s) when inputting the ingredient(s) using Core Features 1, 2, and 3 (conducted one at a time to minimise variability).
- Once the recipe list has been generated, the developers will determine that the recipe being tested is clearly displaying that there are missing ingredient(s).
- The developers will access the recipe page with the missing ingredient(s) and will test to see if tapping on the missing ingredient(s) will properly link to the Google search page using the integrated in-app browser.
- The Google search page in question should display where the missing ingredient(s) can be purchased in stores closest to the location that has been set in the 'Location' page.
- The 'Location' option will be validated by testing all locations available (limited to Australian Capital Cities) to make sure that the Google searches when prompted only display stores closest to the location set in the 'Location' page.

Author: { Viet R Tran / Designer }

Create Date: { 10/09/2018 }

Reference List

Cults 2018, *3D Egg*, image, viewed 14 September 2018,
<<https://cults3d.com/en/3d-model/various/3d-egg>>.

Flaticon 2018, *Recipe free icon*, image, viewed 10 September 2018,
<https://www.flaticon.com/free-icon/recipe_287000>.