'Hands Off'
Application
Functional Specification

Introduction

Purpose

"Hands Off" is a sleek and innovative solution to home cooking designed with simplicity in mind, offering an easy-to-use and innovative interface where users can create, discover and share new recipes, making it easier than ever to add some spice into your life.

The use of slideshows present a new way for users to interact with recipes which, when combined with optional use of motion-sensing technology, removes the need to touch the device whilst cooking, allowing users to get their hands dirty.

Hands off also lets users develop and share their own recipes, making it the perfect platform to show off their culinary skills.

Deliverables

ID	Deliverable	Deadline
D1	Prototype Complete	-
D2	First Release Complete	Fri 16th March
D3	Final Release Complete	Mon 3rd June

Hardware & Platform Requirements

The first iterations of the app will be targeted at handheld devices (phones, tablets, and computers) that use the Windows and Android platforms.

Some features of the app will require a front-facing camera on the device to operate. The majority of Android and Windows handheld devices today, smartphones and tablets, have one included so this isn't an issue. These specific features are optional and are do not have an effect on the core functionality of the app.

An internet connection is required to update the recipe lists. Favourite recipes will be downloaded automatically onto the users local storage device. This means that it does not require an internet connection for the user to use their favourite recipes.

Future iterations may include a port to the iOS platform, though the initial release for the app will be for the Android and Windows platforms.

Please note that the following content may be subject to change in development.

Graphical User Interface and System Features

Please note that only the core pages are displayed in this section.

Main Pages

Figure 1

Figure 2

Header Bar

The Header bar as shown in figure 1 will be displayed at the top of most pages (Exception to when viewing a slide show). This contains the essentials for navigating around the app.
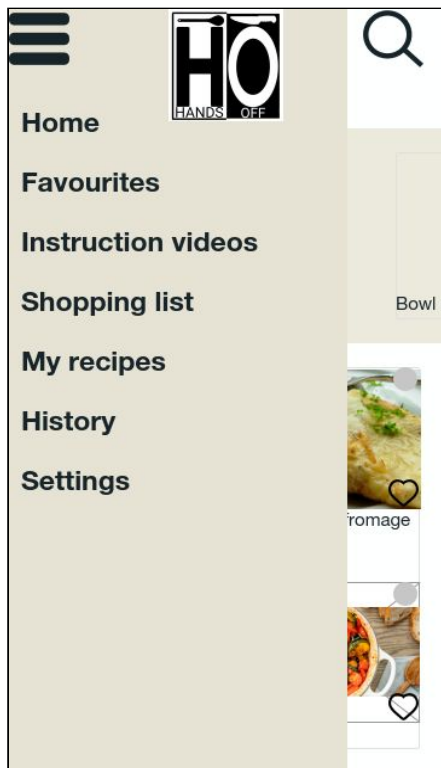
Menu

When the menu button is tapped, the menu appears from the left of the screen (Shown in figure 2). Here, users can quickly navigate to all the sections of the screen. For more information about each of these items, see the relevant sections below.

Logo

As well as being the face of the app, the logo button also allows the use to return to the Home page by tapping the logo displayed in the centre of the header bar.

Search

Tapping the magnifying glass (search) icon takes the user to the Search page (See the Search page section).
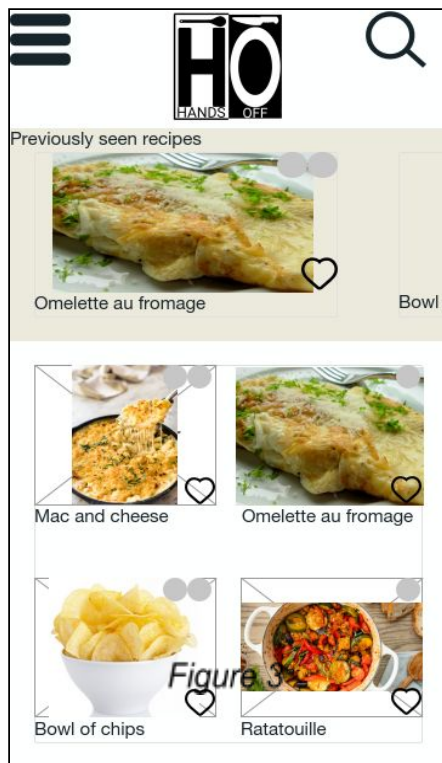
Figure 3

Home

The first page the user will see when entering the app is the Home page, shown in Figure 3. This page is the center of the app from which it should be easy to have a general overview of the app and also quickly access to other sections.

Previously Seen Recipes

Here, the user can scroll through their history of recipes. This enables the user to quickly return to a recipe when needed.

Suggested Recipes

Displayed below the Previously Seen Recipes is a list of suggested recipes, allowing the user to easily browse recipes at their leisure.
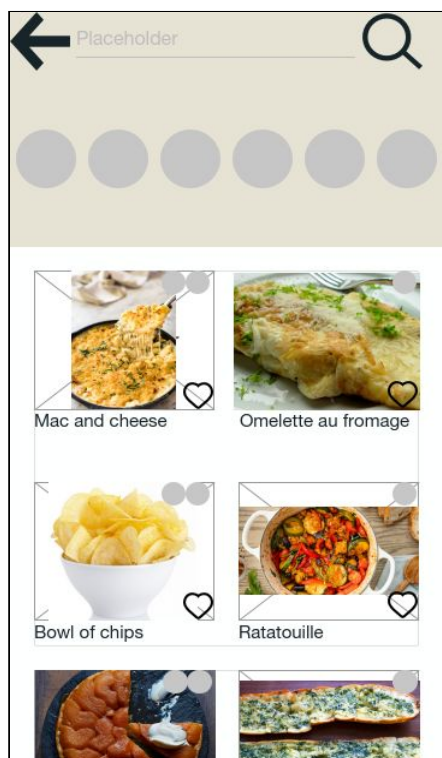
Figure 4

Search Page

The Search page contains an important feature of our app; quick and easy filtering of recipes. In Figure 4, it can be seen that below the search bar there are six icons which are highlighted when selected. These icons represent a filtering system which will influence the suggestions and searches on the app. The filters available to the user are Vegetarian, Vegan, Lactose Free, Gluten Free, Spicy food and Nut Free; this flexibility of choice will allow the user to easily find a suitable recipe.

Completed icons for the filtering options are shown in the Multimedia section of the Functional Specification.
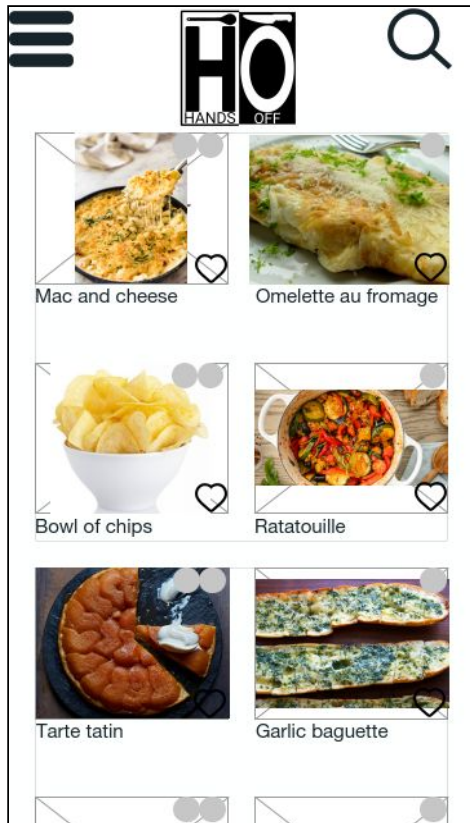
Figure 5

Favourites

Figure 5 shows the Favourites page, where the user will be able to scroll through their favourited recipes. Recipes can be favourite using the heart icon in the Recipe page (See the Recipe section).
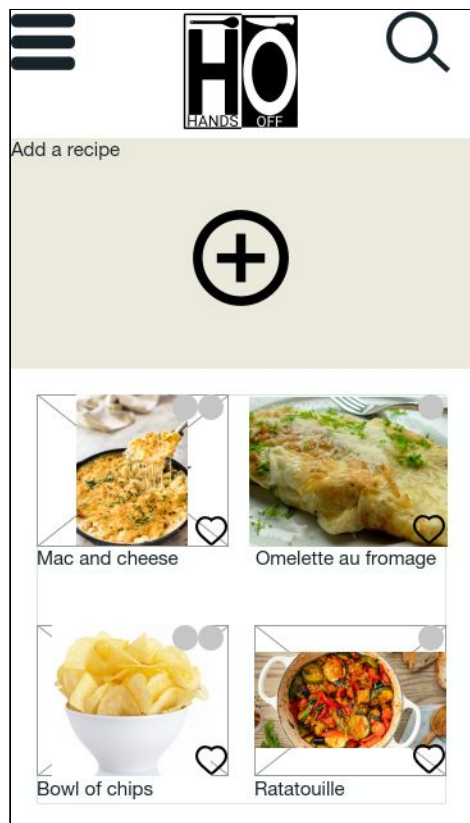
Figure 6

My Recipes

The My Recipes page (shown in figure 6) gives the user the ability to easily find and manage their personal recipes, as well as create new recipes. User-created recipes can be published (uploaded), so that other users can view and use them.

Shopping List

On this page the user can store an ingredient list needed for recipes. When looking through the initial page of the recipes, the user can easily add the ingredients needed for the recipe to this page. In Figure 7 it can be seen that the ingredients will be listed in this page and the user will be able to tick off the ingredients they have already purchased.

Figure 7
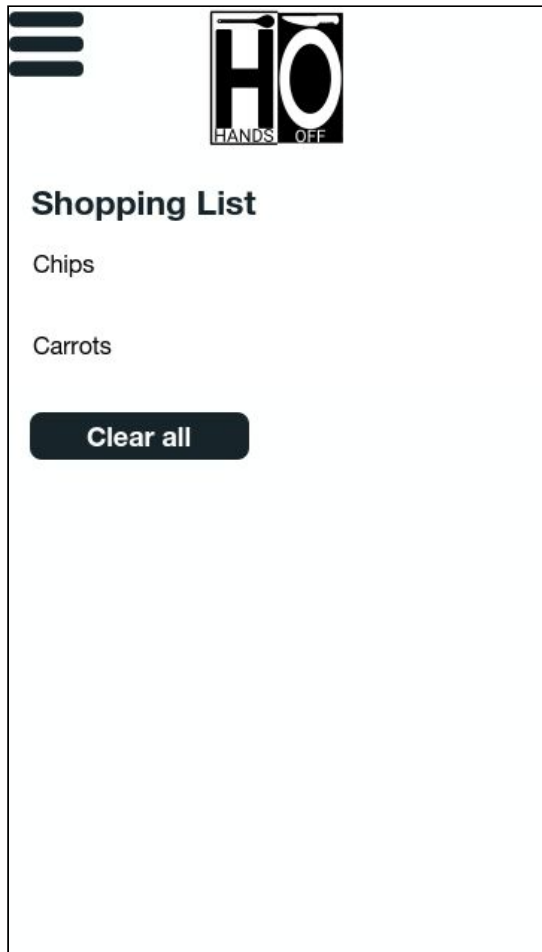
Ticking an item

Items in the shopping list can be ticked by the user to keep track of what has been purchased or is no longer needed.

Remove item

Any item can be removed at any point by the user.

Clear All

There will be a button that allows the user to clear their entire shopping list.

Initial Recipe Page

This is the screen (shown in Figure 8) that the user will see when they select a recipe from the Home page / Favourites page / My Recipes page / Search page. It provides an overview of the chosen recipe and provides the start button for following the actual recipe.
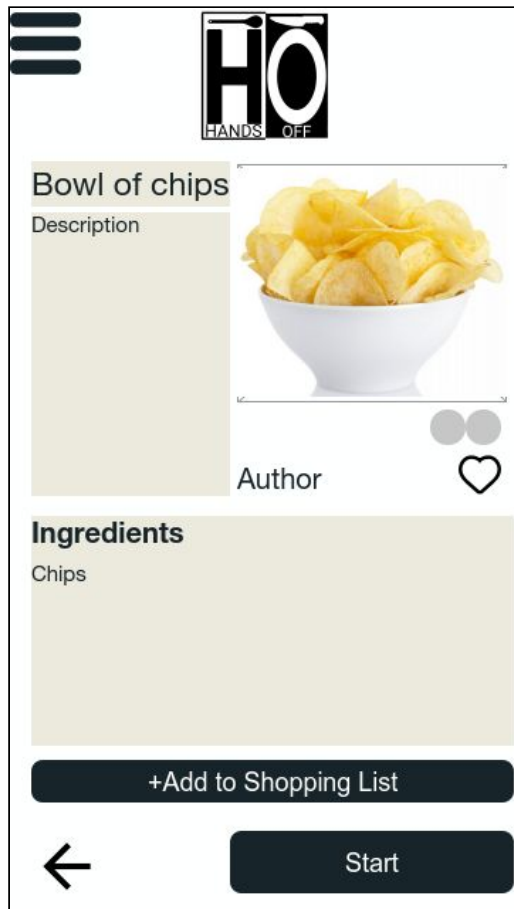
Figure 8

Title & Description

The name of the dish is given and a short and snappy description of the dish is presented.

Thumbnail Image

An example image of the completed recipe is displayed on this page to the user.

Rating

The heart icon seen below the thumbnail image will either be unshaded or shaded, depending on whether the user has previously favourited this recipe. It will also allow the user to favourite/unfavourite the recipe by clicking on it

Nutritional Info / Filters

Nutritional information images will be present next to the thumbnail image. Currently represented by the grey outlines.

Ingredients

An ingredients list for the recipe is shown on this screen.

+Add to shopping list is a button on this page, shown in Figure 8, that interacts with the Shopping List page through this button. When the user presses this button all items in the ingredients list are added to the shopping list.

Recipe Slideshow

Figure 9 shows an example of a slideshow containing a recipe. This will have multiple steps in the final design (as shown by the shaded circles at the bottom of the figure). The user will navigate their way through them whilst completing the recipe. To progress from stage to stage the user can either tap the screen or use hand gestures.

Figure 9

Recipe Slideshow Endscreen

The screen shown in Figure 10 appears once the recipe has been completed (the final page of the slideshow has been reached). The user can also return from this page to the Main Menu.

Figure 10

Favourite Button

The user is given the option of favouriting the recipe, by clicking the heart, once it has been completed . This will add it to their Favourites page for easier use.

Sharing Buttons

The user is also given the option of sharing the recipe to various social media websites by clicking on their respective logos. (Facebook, Twitter and Instagram). Promoting this at the end of the recipe encourages social media interaction by the user.

Multimedia and Content

"All images, audio and video shown in this section are subject to change and are only shown as concepts at the current stage of development. All images were hand drawn using the 'Sketch' app on the Play Store and are my own original content."
            - Multimedia and Content Manager

Images:
Users see images as visual cues and associate them with certain aspects of the product. For example, a search icon would be easily identified if the image used was a magnifying glass. This type of association is what we as a company look to establish between the images we use and the services within the product.

The logo is often the first thing a user will see when browsing for an application so it is important that it is chosen well. The logo should portray the company ethos and style, enticing users into looking into our application. The current logo design is shown below:

This was drawn with a professional look in mind. Using plain colours such as black and white and keeping the image free of clutter and easy to read gives a feeling of professionalism to a potential user.

Within the product there are many images for the user to interact with. Mainly the filters, shopping list and navigation buttons. Each of the images assigned to the filters will be easily identifiable so that the user can recognise and apply the filters without confusion. Current filter designs are shown below:

The navigation buttons used in the application include the menu and search icons which will be drawn to be easily identifiable by users and to fit with the style of the company.

Video:

The tutorials section of the application will feature a series of videos aimed at teaching the user important culinary skills. These videos will be of high quality and the visuals and audio will be clear and engaging so that the user does not get bored whilst watching the video. The video will be recorded in such a way that users can complete tasks only by listening to the audio or watching the video, not necessarily needing both at the same time. This allows for a greater range of ways that the user can interact with the media. For example, if the user is busy focusing on another task and so cannot look at the screen, they can still complete tasks just by listening to the audio in the video and visa versa.

Audio:

Users will interact with audio cues to be able to navigate around the application. It is important that the user can build up a relationship with a certain audio clip and a certain interaction. For example; Within the recipe slideshow, the user interacts with the instruction list by tapping once to move onto the next instruction and tapping twice to move back to the previous instruction. Audio feedback here will be useful to certify to the user that their interaction has been acknowledged by the application. A small 'ding' or 'beep' could be used to signify a single tap and a different sound to indicate a double tap. This immediately gives the user the ability to relate the sounds to the application controls which can make the app easier to learn and use. Sounds will not be harsh on the ears and will fit with our style and ethos that is present in the rest of the product. The buzzing of an egg timer, food crunching and cutlery clinking are all examples of cooking related audio that the user could expect to hear as they interact with the application.

User Stories & Requirements

The majority of the requirements can be illustrated through and extracted from user stories. Each user requirement has a given priority assigned to it:

MP = Mandatory Prototype requirement. It must be in the prototype and all iterations of the app.
M = Mandatory requirement. It must at least be in the final iteration of the app.
D = Desirable requirement. It will be in the app but dependent on the cost and time needed.
O = Optional requirement. It isn't needed but it can be useful to the user.

Typical users

TRXX = Typical user requirement

User story/ Requirement no.	What the typical user wants	Requirements to satisfy the user	Priority of requirement
TR01	A recipe search feature so they can find recipes easily.	Add a search bar for user input and allow the users to search through the recipes on the server from the given input.	MP
TR02	A way of filtering recipes for specific dietary needs.	Add separate drop-down lists or icons to filter out the search results and only display the matching results to the user.	MP
TR03	A way of searching through recipes with a set of given ingredients.	Program the search bar to also account for ingredient inputs and display the matching results to the user. Or have an interchangeable search bar that the user can select from the dropdown list which can searches via ingredients or recipe title.	D
TR04	A clear display of the recipes from the search results so they can find a recipe with ease.	Position the recipes clearly with a two recipe per row layout and large thumbnail icons.	MP
TR05	A way of selecting one or multiple recipes and placing them in a	Holding a recipes icon down will bring up a selection overlay that	MP

	Favourites page for future use and recommendations.	allows the user to select multiple recipes and save them to their favourites.	
TR06	A display on the Home page showing a recipe history for an easier way to get to a previously viewed recipe.	Add a horizontal scroll bar at the top of the Home page that shows the most recently viewed recipes.	MP
TR07	A way of removing a previously viewed recipe from the history if they aren't interested in the recipe.	Holding a recipes icon down in the History page, or the recently viewed Recipe section, will bring up a selection overlay that allows the user to select multiple recipes and remove them from their history.	MP
TR08	A way of removing a favourite recipe if they aren't interested in the recipe.	Holding a recipes icon down in the Favourites page will bring up a selection overlay that allows the user to select multiple recipes and remove them from their favourites.	MP
TR09	A display on the Home page showing recipe suggestions based on previously viewed recipes so they can try out different recipes.	Add a horizontal scroll bar below the recently viewed bar on the Home page that shows suggested recipes based on recently viewed recipes.	M
TR10	A top bar with access to settings, history etc. that allows for easy navigation to specific app pages and features.	Add a small menu button that can be pressed on all pages of the app. It will bring up a side menu with links to different pages and features of the app.	MP
TR11	A way of navigating to a Favourites page that stores and displays their favourite recipes.	Add a selectable text option in the side menu that redirects the user to the app Favourites page.	MP
TR12	A way of navigating to an instructional videos page for tutorials on various cooking techniques.	Add a selectable text option in the side menu that redirects the user to the app instructional videos page.	MP

TR13	A way of navigating to a Shopping List page so they can view the ingredients they need for a recipe.	Add a selectable text option in the side menu that redirects the user to the app Shopping List page.	MP
TR14	A way of navigating to a Recipe History page for an easier way to get to a previously viewed recipe.	Add a selectable text option in the side menu that redirects the user to the app Recipe History page.	MP
TR15	A heading or tag next to each ingredient in the shopping list with the recipe names, so they know what ingredients are needed for a specific recipe.	Add a small tag next to each ingredient showing the user which ingredients belong to what recipe. Or a heading above the ingredients for each recipe to distinguish each recipe ingredients from one another.	D
TR16	A way of marking ingredients as 'done' so the user knows they have already have that ingredient for the recipes.	Tapping an ingredient in the shopping list will cross and grey out the text. Tapping it again will undo the changes. Or a checkbox next to each ingredient.	M
TR17	A way of clearing the ingredients list after all of the ingredients have been obtained.	Adding a clear button will clear the shopping list of all ingredients.	M
TR18	A way of navigating to the Settings page to change app preferences for their needs.	Add a selectable text option in the side menu that redirects the user to the app Settings page.	MP
TR19	A feature that mutes and stops the apps notifications for no notification spam.	Add a checkbox in the app settings that turns on/off the app notifications from display. Or add multiple checkbox options so the user can select app events that trigger an app notification.	D
TR20	A feature that mutes the apps sounds for a no sound experience.	Add a checkbox in the app settings that turn on/off sounds made by the app.	M
TR21	A feature that enables or disables Haptic feedback	Add a checkbox in the app settings that turn	M

	on the app (e.g. vibrate on touch) for accessibility.	on/off vibrations made by the app.	
TR22	An optional feature that enables gesture control with the camera instead of tapping the screen to get to the next stage of the recipe, which avoids their phone/tablet screen getting messy.	Add a checkbox in the app settings that turn on/off the hand gesture option. It will also use the front camera of the device. Off by default.	O
TR23	A display of the recipe details, description, nutritional value, ingredients etc. after selecting a recipe to provide more information for them.	Pull the recipe data from the server and display the details clearly on a new page after selecting the recipe.	MP
TR24	A feature that allows them to add the ingredients of the recipe into the shopping list feature of the app, so they know what ingredients they must acquire for the recipe.	Add a button at the bottom of the selected Recipe page to allow the user to add the selected recipe's ingredients to the shopping list.	M
TR25	A feature that allows a rating and a review of the recipe so other users can make their own judgement on the recipe before committing to it.	Add a favouriting system on the selected Recipe page. The user can then rate the recipe and their choice will be pushed to the server. Add a commenting system will be added to app below the recipe selection screen.	D
TR26	A way of going through each recipe instruction one by one by tapping the screen. (Or a hand gesture.)	Add a button at the bottom of the selected Recipe page that transitions the screen to the first instruction of the recipe. Tapping the screen will transition to the next instruction of the recipe.	MP
TR27	An instructional video/GIF to show them how to do each step of the recipe clearly.	Add a video player/GIF in the centre of the screen accompanied by the instruction at the bottom of the screen. The video/GIF will play after the transition of the screen has finished.	M

TR28	A way of controlling the video/GIF by allowing them to pause and play it in case they don't want it playing after already playing once.	Program the video player/GIF to repeat itself after finishing. Tapping the player will play/pause it.	O
TR29	A way of going back to the previous step so they can go back a step if needs be.	Double tapping the screen transitions it back to the previous step of the recipe. Or pressing the back button on the	MP
TR30	A way to enable subtitles on the video/GIF for each of the recipe steps and instruction videos if the user does not want sound to be enabled and for accessibility.	Add a checkbox in the app settings that turn on/off subtitles for video media by default.	O
TR31	A resume recipe feature after the app gets closed so they can go back to their current recipe after accidentally pressing the home button or turning off their device for example.	Add a pull-down notification once the app has opened, promoting the user to tap it and resume where they left off. Keep the current screen open for when the user switches apps.	M
TR32	A way of cancelling the current recipe and returning to the recipe selection screen.	Add a cancel recipe button at the bottom of the instruction screen. When pressed, it will return the user back to the recipe Search page.	MP
TR33	A prompt that informs them on how to control the step by step features, so they don't get confused on how to use it.	Add a popup window that shows the user the controls of the step by step instructions, tap for going to the next step and double tap for going back. At the bottom of the popup window, there will be a 'Got it' button to confirm that they understand how to use it. Additionally, prompt small hints at the bottom of the screen to help the user if they forget.	M

TR34	An option in the settings menu that downloads all saved recipes to the local device for faster access and viewing recipes without access to Wi-Fi or Data.	Add a checkbox in the app settings that turn on/off recipe storage. Prompt the user after completing a recipe if they want to turn this option on for future use.	D
TR35	A feature in the settings for an offline mode that allows them to view recipes stored in their local storage device in case the user doesn't have access to Wi-Fi or data at the time.	Add a checkbox in the app settings that turn on/off offline mode. If the app cannot detect a connection at all, it will default to this setting for the duration of no connection.	O

Advanced users

ARXX = Advanced user requirement

User story/ Requirement no.	What an advanced user wants	Requirements to satisfy the user	Priority of requirement
AR01	A way of navigating to a My Recipes page so they can create their own recipes.	Add a selectable text option in the side menu that redirects the user to the app My Recipes page.	MP
AR02	A display on the My Recipes page that shows all their created recipes, so they can view and edit them.	Display the details of the user created recipes on the screen clearly, similar to the Home page display style.	M
AR03	A way of removing the user made recipes if they do not want them anymore.	Holding a recipes icon down will bring up a selection overlay that allows the user to select multiple recipes and remove them.	M
AR04	A way of creating a new recipe and adding descriptions, titles, images, ingredients, nutritional info etc.	Add a button on the My Recipes page that takes them to a create a recipe page. The create a Recipe page will allow the user to add descriptions, pictures, instructions etc. on the recipe. It will then be stored on their device. (Or profile.)	M
AR05	A way to edit the created recipes so they can keep them up to date or change features of the recipe.	Add a small button in the corner of the recipe icon to give the user the option of removing it or editing it. Tapping edit will transition the screen to the Edit Recipe page.	M
AR06	A feature that allows them to make their recipe/recipes public and viewable by other users for sharing. (Requires profiling system.)	Add a button at the bottom of the Edit Recipe page allowing the user to make the recipe public. This will send it to the server and must first be approved by a server moderator/admin to be	D

		made public. This feature will require the user to have a publishing license.	
AR07	A feature in the Settings page that allows the user to store the data through a profiling system, so they can switch devices without having to port over the data from the previous device.	Add a profiling system onto the server so users can log in and access their recipes, preferences etc. from various devices. (Optional Facebook login integration.)	D
AR08	A feature that allows them to create a profile using their Google or Facebook account, so there is no need to create their own account specifically for the app.	Add the Facebook Login and Google sign-in features when the user wants to create a profile.	D
AR09	A feature that allows them to change profile settings, so they can personalise their own profile.	In the Settings page, add a profile settings link.	D
AR10	A feature in the Profile Settings page that allows them to change their profile picture, so publishers of recipes can be identified easily and make the profile personal.	In the app profile Settings page, add a feature that allows the user to edit their profile picture with a custom image of their choosing. If they use the Facebook/Google login feature, the profile picture will be automatically changed to the current picture on their Facebook/Google profiles (this can be changed).	D
AR11	A feature in the Profile Settings page that allows them to change their display name.	In the app Profile Setting page, add a feature that allows the users to change their display name.	D
AR12	A feature in the profile settings that allows them to delete their account if the user doesn't want to use the app profiling feature.	In the app Profile Setting page, add a feature that allows the user to delete their profile with multiple confirmation message before committing to their decision.	D

AR13	A feature that allows them to purchase a license to publish their recipes on their profile with the public recipe feature.	In the app Profile Setting page, there will be an option to go to purchase the license. This will allow the user to publish their recipes onto the app publicly and grant the user a special status (a chef's hat) in their profile.	D
AR14	A feature that allows them to purchase a premium version of the app to remove the adverts contained in the app.	In the app Profile Setting page, there will be the purchasable premium version of the app which removes all the adverts for the user.	M
AR15	A feature in the settings that allows for low data usage for users who don't have access to Wi-Fi currently and have a low data plan.	Add a checkbox in the app settings that turn on/off low data usage. This feature will make server synchronisation less frequent, video/GIF playing requiring a tap to play/display, less recipe pull requests from the server.	O
AR16	A way of paying for the app features through other payment methods like Android pay or PayPal.	At the payment screen, the user will be given the option to pay through other services like PayPal, Android pay etc.	D
AR17	An automatic synchronisation feature to fetch new recipes and updates from the server.	Add an automatic query request to the server after a specified time interval. If successful, the app will request a pull from the server (if there are any updates) and obtain the up to date data.	M
AR18	A manual refresh/resynchronise feature in case the automatic synchronisation does not update in time.	Pulling the app down on the Home page will manually query the server and pull the new data from the server if there are any updates.	M
AR19	Export ingredients from the shopping list into other	Add a button in the Shopping List page that	O

	apps such as Google Keep or other list making apps for some users who want to combine their own shopping lists with the one our app provides.	exports the data from the shopping list to other apps.	

Appendices

Further User Stories

System administrators/moderators

SRXX = System administrator/moderator requirement

User story/ Requirement no.	What a system administrator/moderator wants	Requirements to satisfy the user	Priority of requirement
SR01	Access to server data containing recipe lists for monitoring.	Implement an easy way to access the server data for the administrators of the app.	D
SR02	Monitor server space and storage in case the storage medium runs out from, for example, long videos for each instruction.	Restrict the premium users by only allows a GIF or a 10 second video to be recorded and uploaded to the server. Program a feature that informs the server maintainer to upgrade their storage.	D
SR03	Monitor and approve the recipes being made public to prevent inappropriate content.	Implement a way for the administrator to review and approve/reject the public requests for adding new recipes to the server.	D
SR04	Update recipe lists by adding, removing, and editing content to keep the information up to date and reliable.	Implement an editing feature for the administrator to use on the server data.	D
SR05	Monitor bug reports, server errors etc. and address the developers about the bug for future updates.	Implement a bug reporting system so the administrator can inform the developers about the current issues.	D