

Design For **Mobile**

NAME GETHIN JONES

STUDENT NO 1422999

SUBMISSION DATE 17/01/2017

ASSIGNMENT TITLE Design For Mobile

NOTES The interactive walkthrough
for this submission can be
found at the link below...



Interactive walkthrough:
<https://invis.io/2S9Y7GEPH>

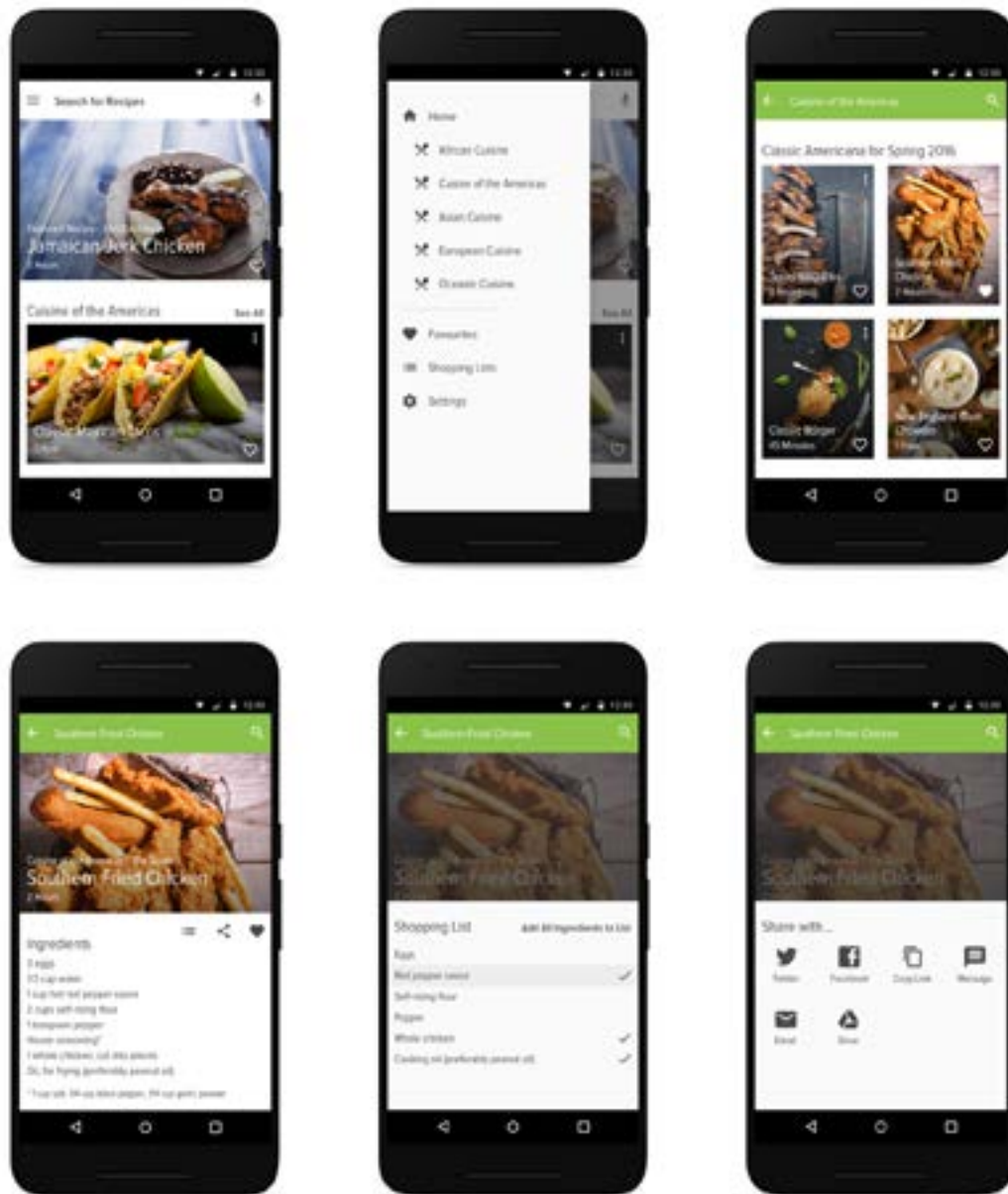
Introduction

In this project we have been tasked with researching, planning and designing a Mobile Application, throughout all stages of the design process. This includes user testing at each stage. This report will document the process from initial ideas to final designs and a critical evaluation.



01 Research

These pages document the initial stage of research into existing mobile apps and their design patterns, as well as the differences between iOS and Android platforms. It also includes market research on a number of apps to help me establish the potential users for my app and the functional requirements of the app.

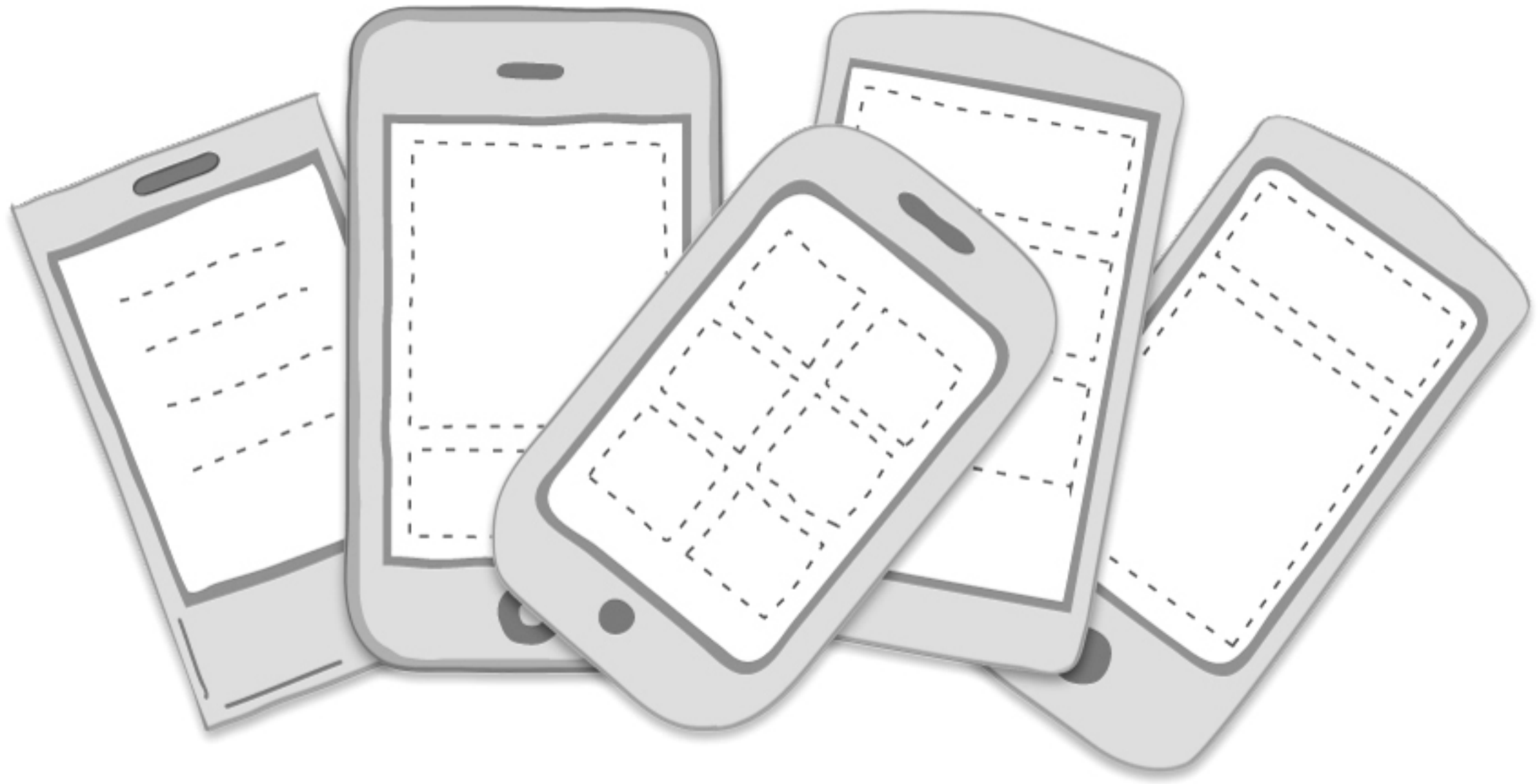


- **Mobile design patterns**
- **IOS vs Material Design**
- **Case study - Airbnb**
- **Market research**
- **Recipe app- Yummly**
- **Recipe app bigoven**
- **Establishing Requirements**

1.1 Mobile Design Patterns

As mobile has become widely adopted used as a platform, it is vital that as designers we keep up to date with current trends and maximise on usability. As the platform has evolved, users have become used to less traditional practices and standards have developed that are widely accepted. Traditional skeomorphic designs are now not only unnecessary, but restricting. Exploring and analysing trends, in unison with an awareness of the evolution of mobile design patterns, can lead us to remove these limitations and create designs which are not only aesthetic, but provide intuitive user-centered interaction in a variety of contexts.

Before designing an app it is important to understand the design patterns that users are accustomed to. These can be categorized into familiar groupings such as Navigation, Forms, Search etc. Each of these categories has numerous commonplace variations that we can study, combine and evolve to create new patterns. Major competitors have long been defining their own standards, which will continue to change. These well defined, data-driven practices and their mass usage provide some common ground for designers. Examples of these include Google's Material Design and Apple's Human Interface Guidelines, which provide a rich source of design guidelines.



1.2 Apple vs Google

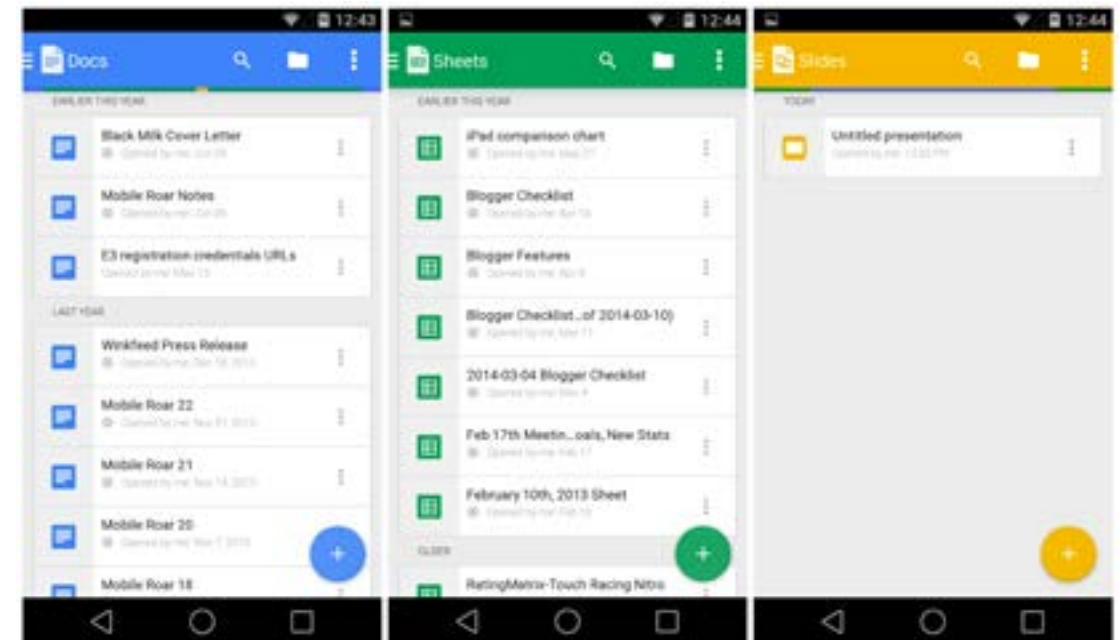
Apple Human interface



KEY DIFFERENCES

Flat design is great for users who are highly attuned to digital interaction, while material has more of a reactive response to a user's action. Material design brings the design a step further in its ability to communicate. Material design may be aesthetically flat, specifically the colors, but it is multi-dimensional: it takes the Z-axis into consideration. Both flat and material are minimalist approaches, but material is attempting to marry the real and digital worlds. Flat design has no skeuomorphisms while material design utilizes them subtly. Flat design is best for simplistic needs while material design is best for more complex needs. Flat design is overall easier to develop and faster to load than material design. Material design is an evolution of flat design. Material design is more robust than flat; it's an ecosystem not just a style. Material design is interactive and has a sense of physics.

Google Material Design



So, should you be using just one of these design types and disregard the other?

Obviously, the answer is no. They both have their place based on the purpose of what you're building.

To simplify it all, we can say that classic skeuomorphic design is an imitation of how things used to be – a realistic impression of real-world items in order to make design interfaces feel more familiar.

Flat design, is a minimized environment that relies heavily on the user's familiarity with design interfaces overall, and gets rid of anything that doesn't serve a functional purpose.

And finally, material design tries to marry some of the ideas from skeuomorphic design to flat design. This is done to present an interface that is optimized for the digital, but also reminds us of the real world, but just enough to make the interface intuitive.

1.3 Case Study- Airbnb

Mobile App Analysis- Air Bnb Application

Each stage of the application- Navigation System

User experience

How consistent is the user interface?

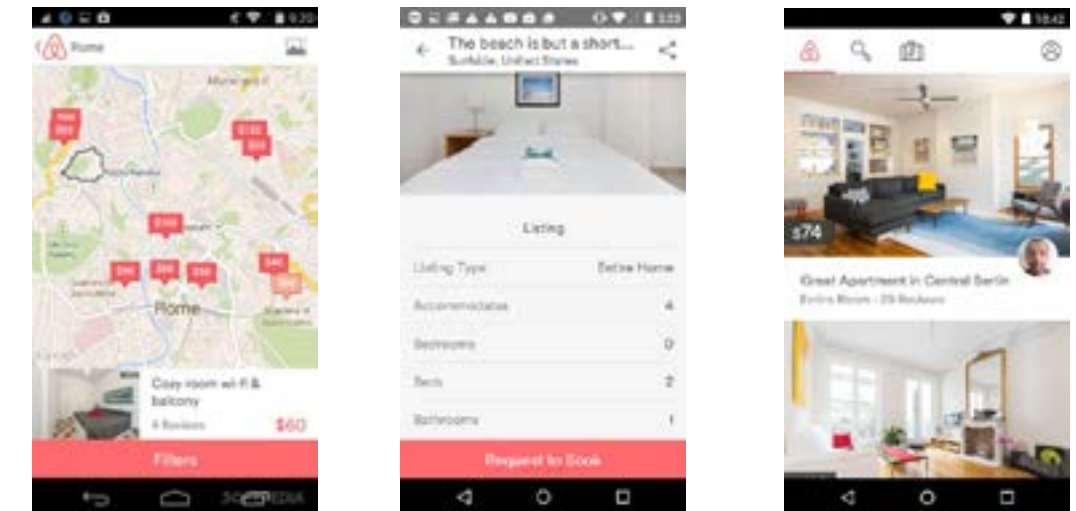
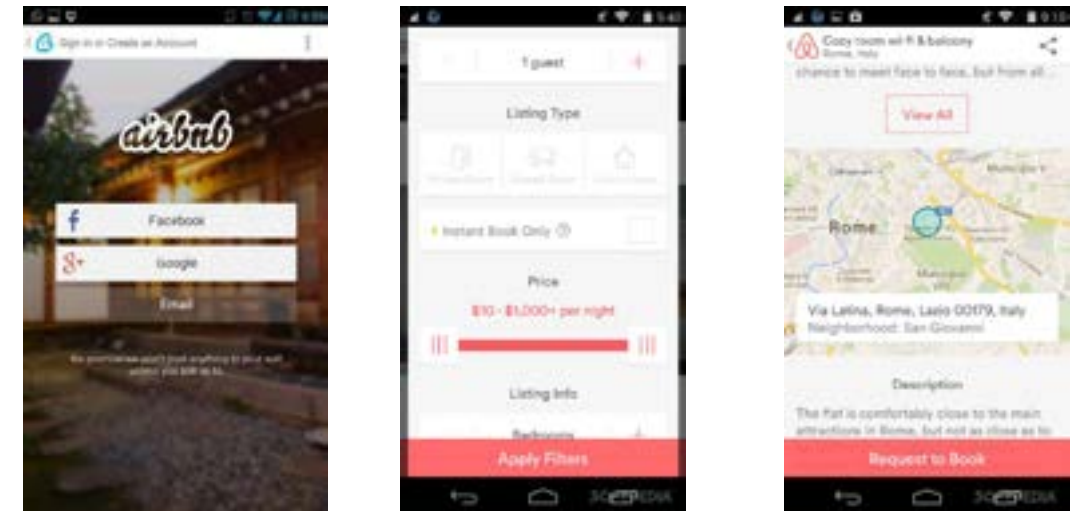
How easy is it to navigate the app?

How easy is it to achieve your goals? (Set a task using the app and screenshot pages to achieve task- commentary on how easy process was

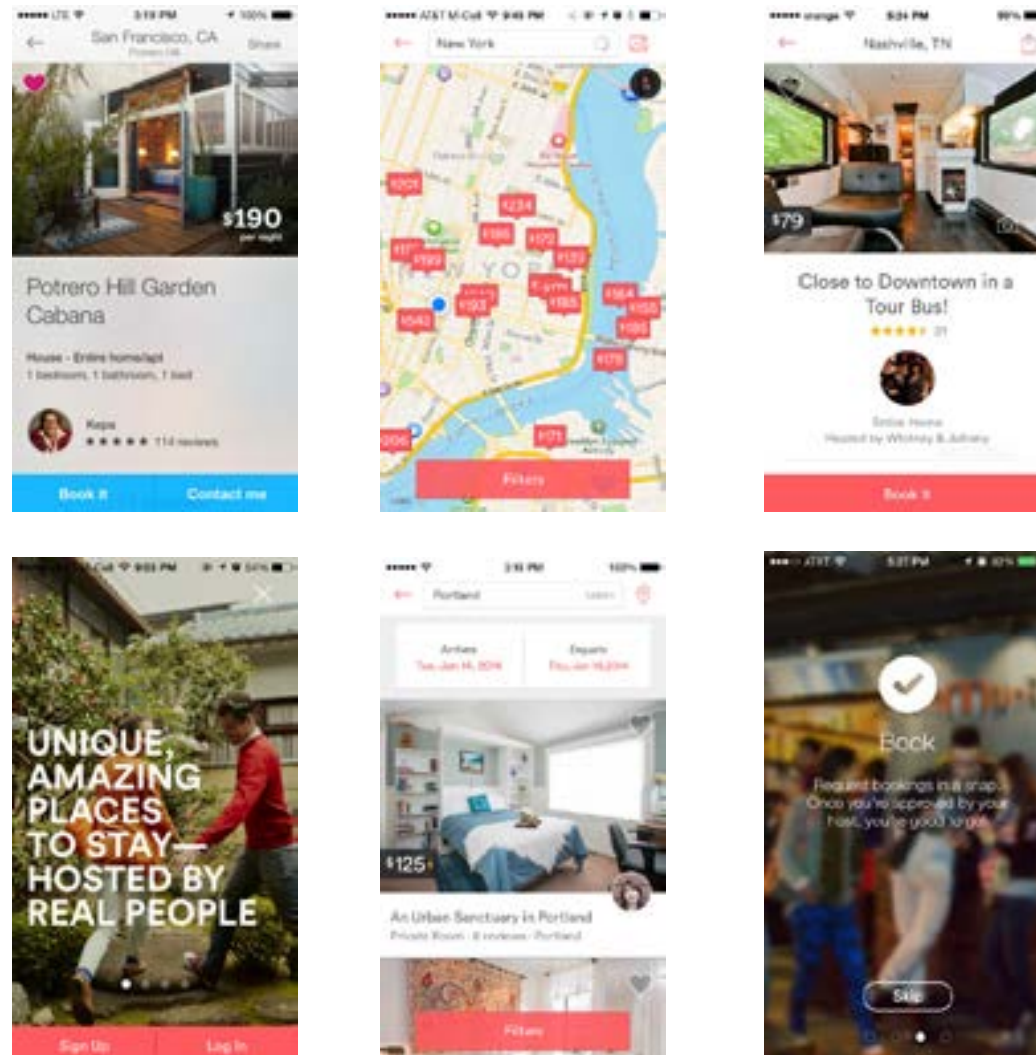
Start to notice the overall structure of a mobile application

Screen Captures- Airbnb - Android & Iphone version

Air Bnb- Android



Air Bnb- Iphone



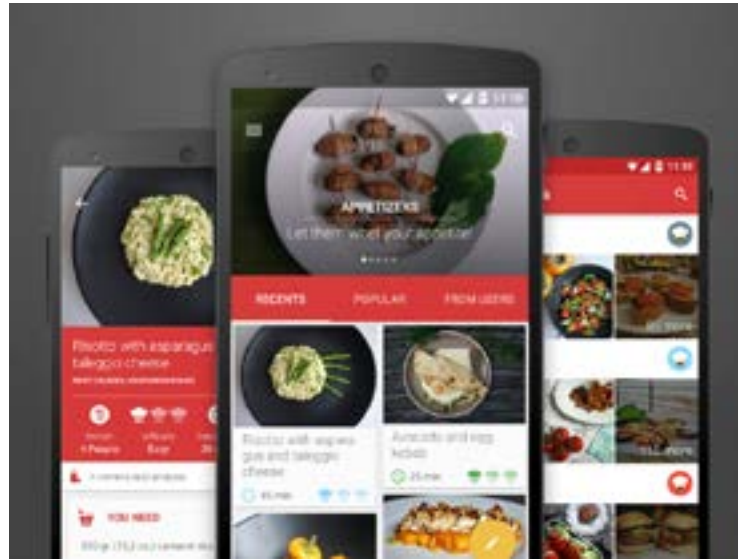
1.4 Market Research

Having chosen to design a recipe app, I now decided to look at a number of examples that can be found 'in the wild'. The aim was to establish the goals and requirements of the apps as well as gain a better understanding of the overall app. This also provided an opportunity to look at the kind of features that the apps have to help establish the functional requirements of my own app. As an android user, I decided to look in the play store for my examples, specifically those implementing Material Design. After looking at a number of examples I selected a few which had interesting features or were particularly user friendly or aesthetic.



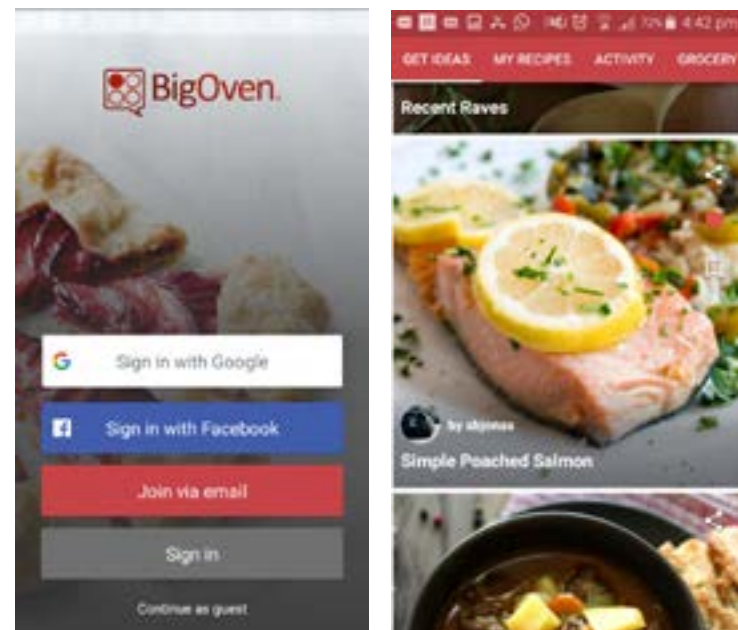
TASTY

Implements a material design side bar navigation, as well as a tab bar to easily switch between categories. I chose this app because of its great use of Google Cards, which link to full recipes and can be easily saved or dismissed as required.



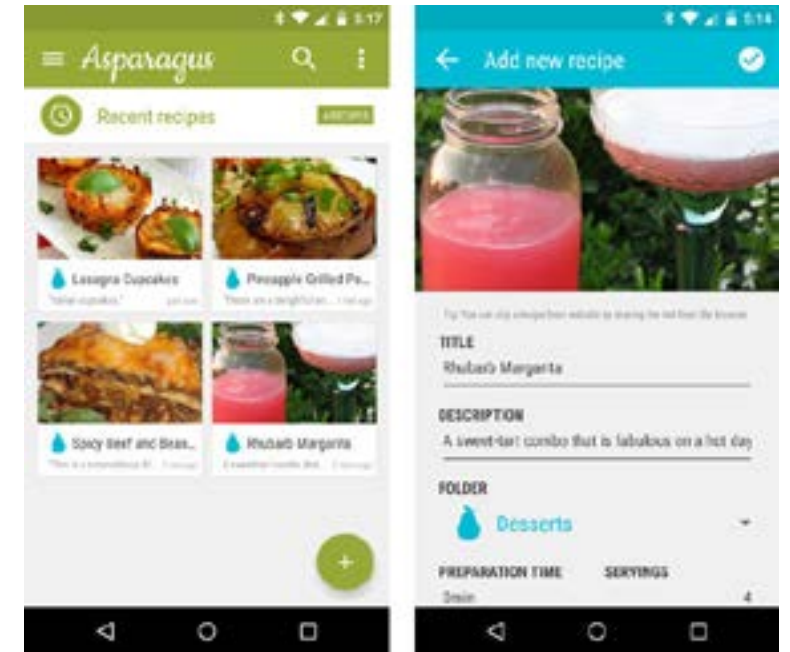
BIGOVEN

One of the most popular apps in the play store, this recipe app is packed with features. I like the clean and clear login screen, and the way that the recipes are presented in a news feed of sorts, something I am considering in my own designs.



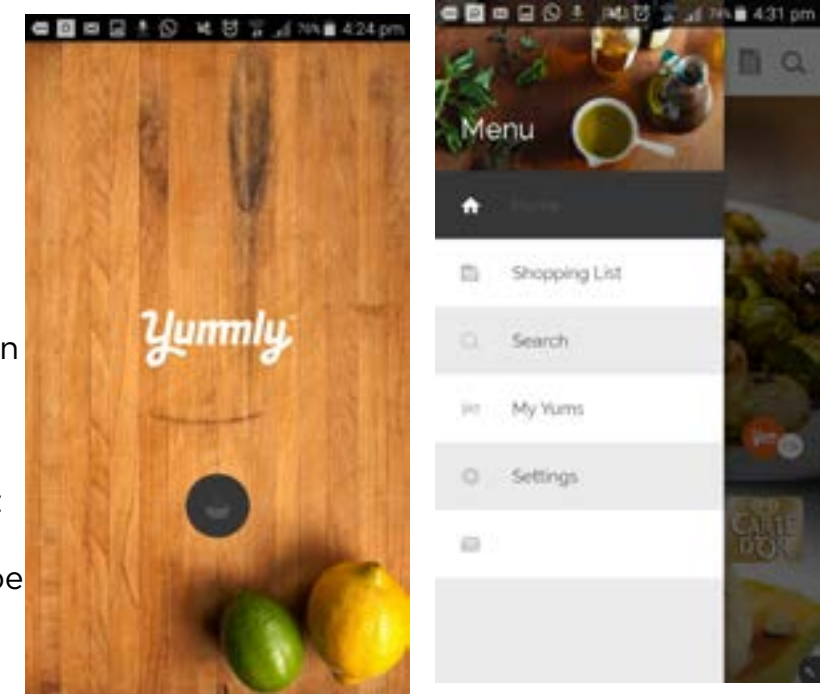
ASPARAGUS

This simple app is very easy to use, handling just the most necessary features with a simple



TASTY

Implements a material design side bar navigation, as well as a tab bar to easily switch between categories. I chose this app because of its great use of Google Cards, which link to full recipes and can be easily saved or dismissed as required.



This stage of research helped me identify what already existed in the marketplace, what worked well and not so well for competitor apps and established an initial feature list. Using this data, I created a poll of features which was to be

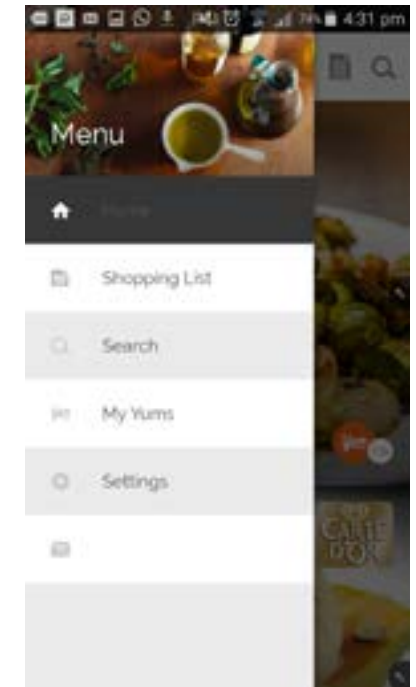
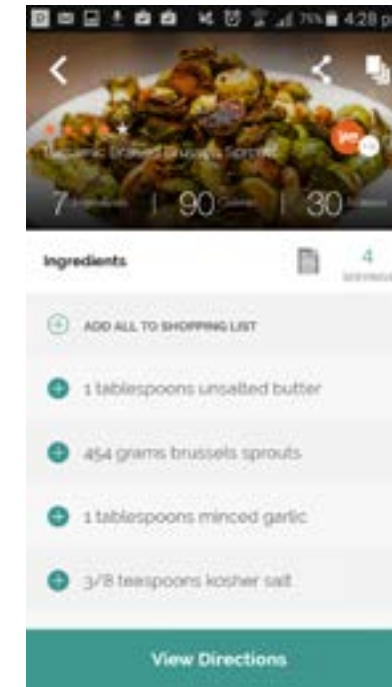
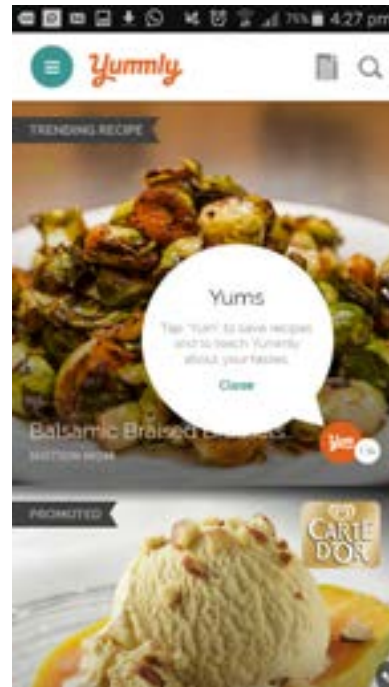
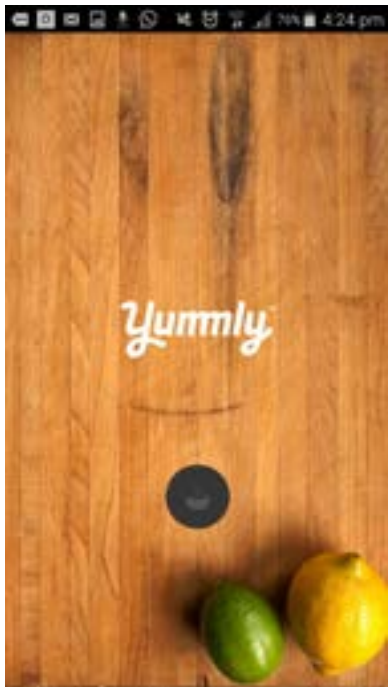


Key Features

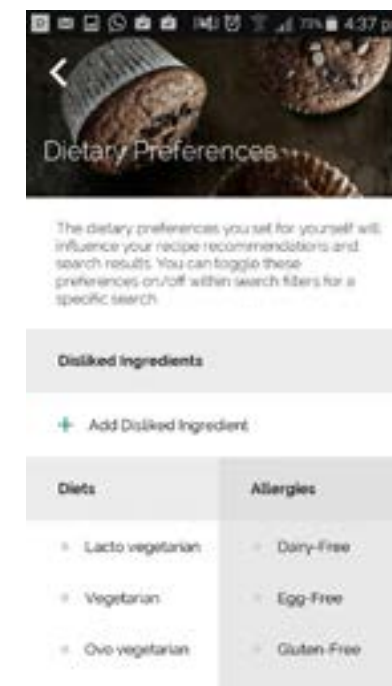
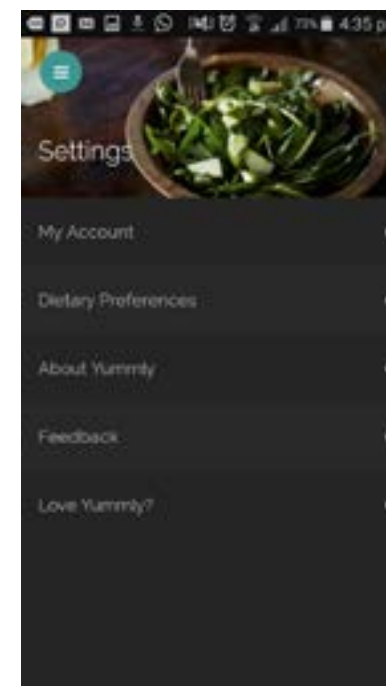
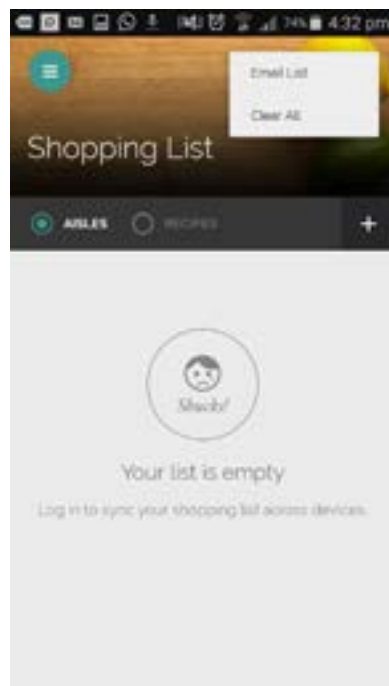
Goals:

Requirements

1. Splash Screen

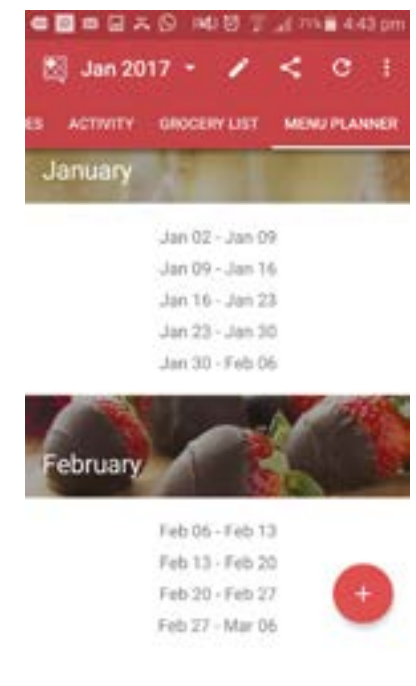
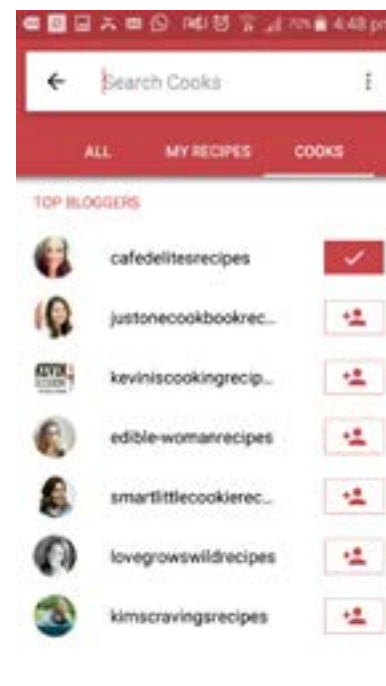
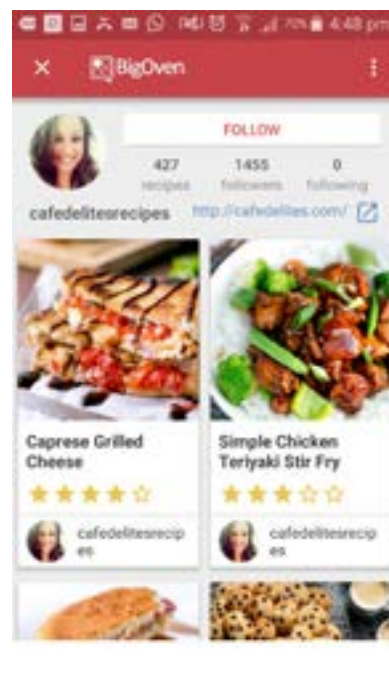
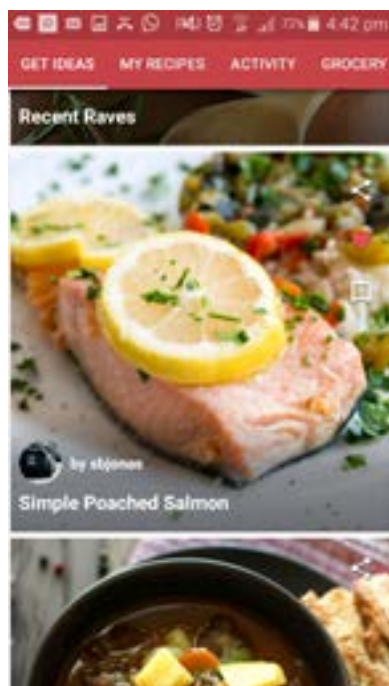
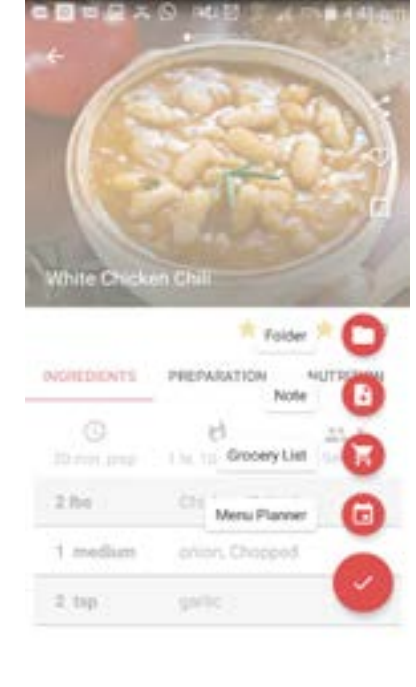
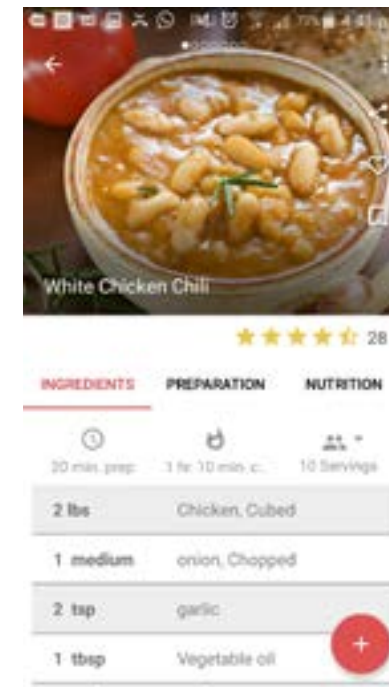
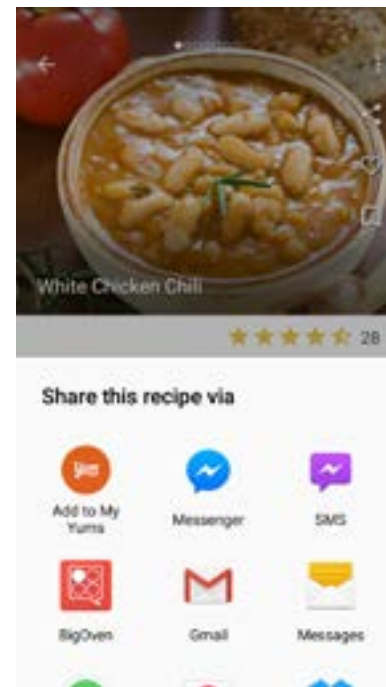
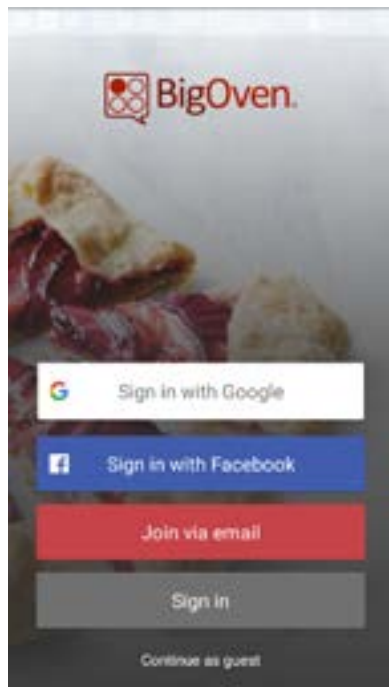


6. Shopping list





big oven



1.5 Establishing Requirements

Overview

- Needs analysis and requirement gathering.
- Extracting needs from target audience to generate system ideals and the functional requirements of my app.

Eat green is an app specifically for vegetarian and vegan apps. Although these recipes were featured on the apps I looked into, none of them were dedicated apps and the examples I found were lacking in aesthetic appeal.

I conducted a poll on a facebook group of vegetarian users in order to ask what features they would like to see represented in an app. From my results, the most interest was in there being a social feature in which users could share and save one another's recipes. Another popular feature was being able to upload photos of other people's recipes once you have made your own version.

Goals:

- Allow users to browse or search recipes.
- Allow users to sort and filter recipes.
- Ability to upload your own recipes.
- Allow users to connect with one another, save and share one another's recipes.
- Allow users to upload images of meals they have cooked to the recipe page.
- Allow users to create a collection of snapshots.
- Allow users to easily communicate with one another.

Requirements:

- Smartphone
- Internet Connection

Target Audience

One of the first considerations I had to make when designing the app was the user group who would be using it so I could cater exclusively for their needs. The recipe app could be used by anyone, but there is a specific target audience I have identified from my initial research.

- Interest in a Vegetarian/ Vegan diet
- Aged 18-50
- Smartphone user
- Social network users

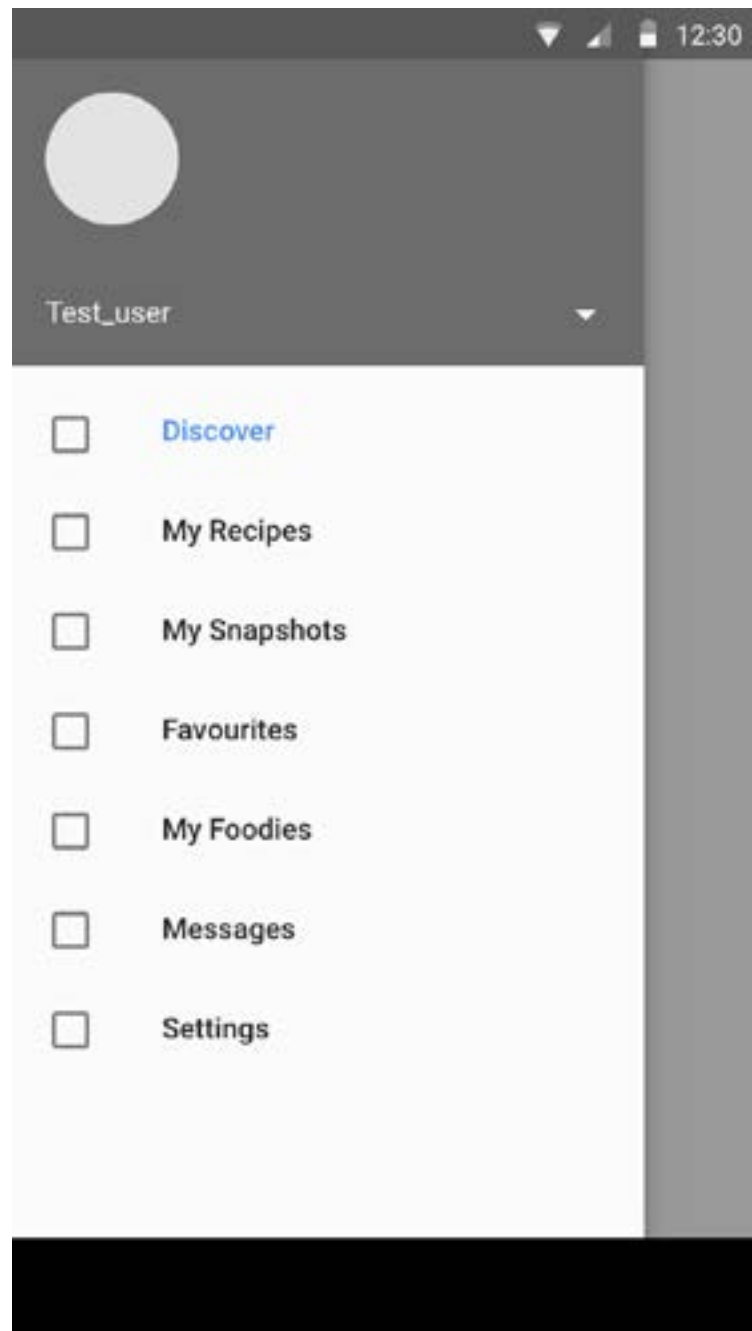
Functional Requirements/ Initial Features

- API Link to recipe database
- Ability to search and filter recipes
- User interaction through messaging
- Ability to connect with other users
- Camera access
- Database store of uploaded recipes and images
- Database storing of user profiles

System Ideals (Heuristic)

- Clear visibility of system status- provides feedback on each step of process.
- Intuitive across all platforms- Easy to navigate design.
- Predictable- actions can be planned to reach desired states.
- Consistent system image
- Functional/ visual consistency- same behaviours across different instances.
- Transparent design- content viewable without interface interfering.
- Design principles- TOG, Nielsen

02 Planning



- Designing for usability
- Conceptual design

Designing for usability

Overview

Having established my target audience and functional requirements, I was able to move into the planning phase of my project to begin prototyping and moving from requirements to conceptual design. This section highlights the planning process, incorporating the feature set into a coherent design, using existing guidelines for usability to ensure that the app meets the requirements of my users.

Before creating my final invasion walkthrough, I spent a lot of time planning how I could make my app. This would be an iterative cycle, with user testing at each phase of the process. To establish the main pages of the application, I split the functional requirements into distinct categories.

- News feed- Page highlighting recipes.
- Connected users
- Collection of saved recipes.
- Messages

Neilsens Heuristics

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation

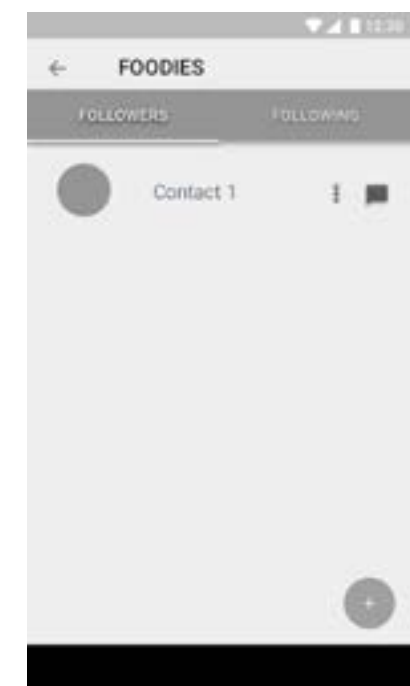
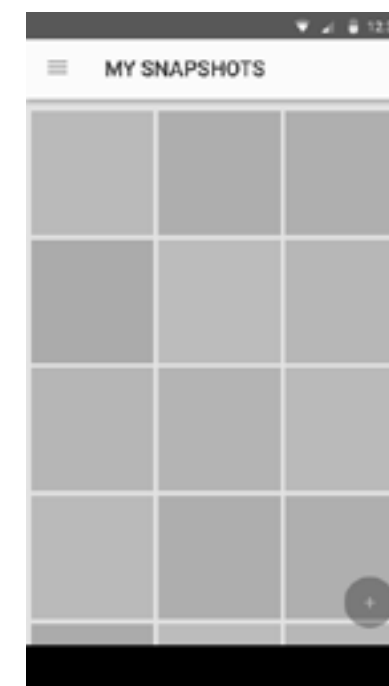
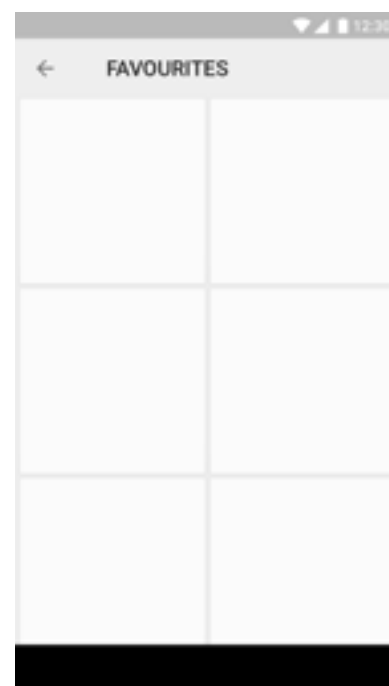
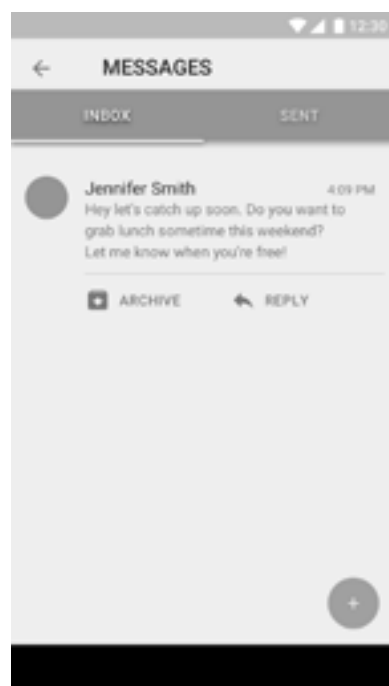
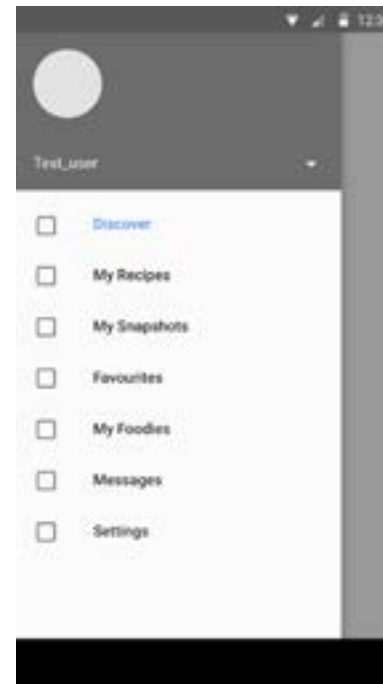
Conceptual Design

Having established the requirements of my app I can begin to form the first draft of my conceptual design and begin testing

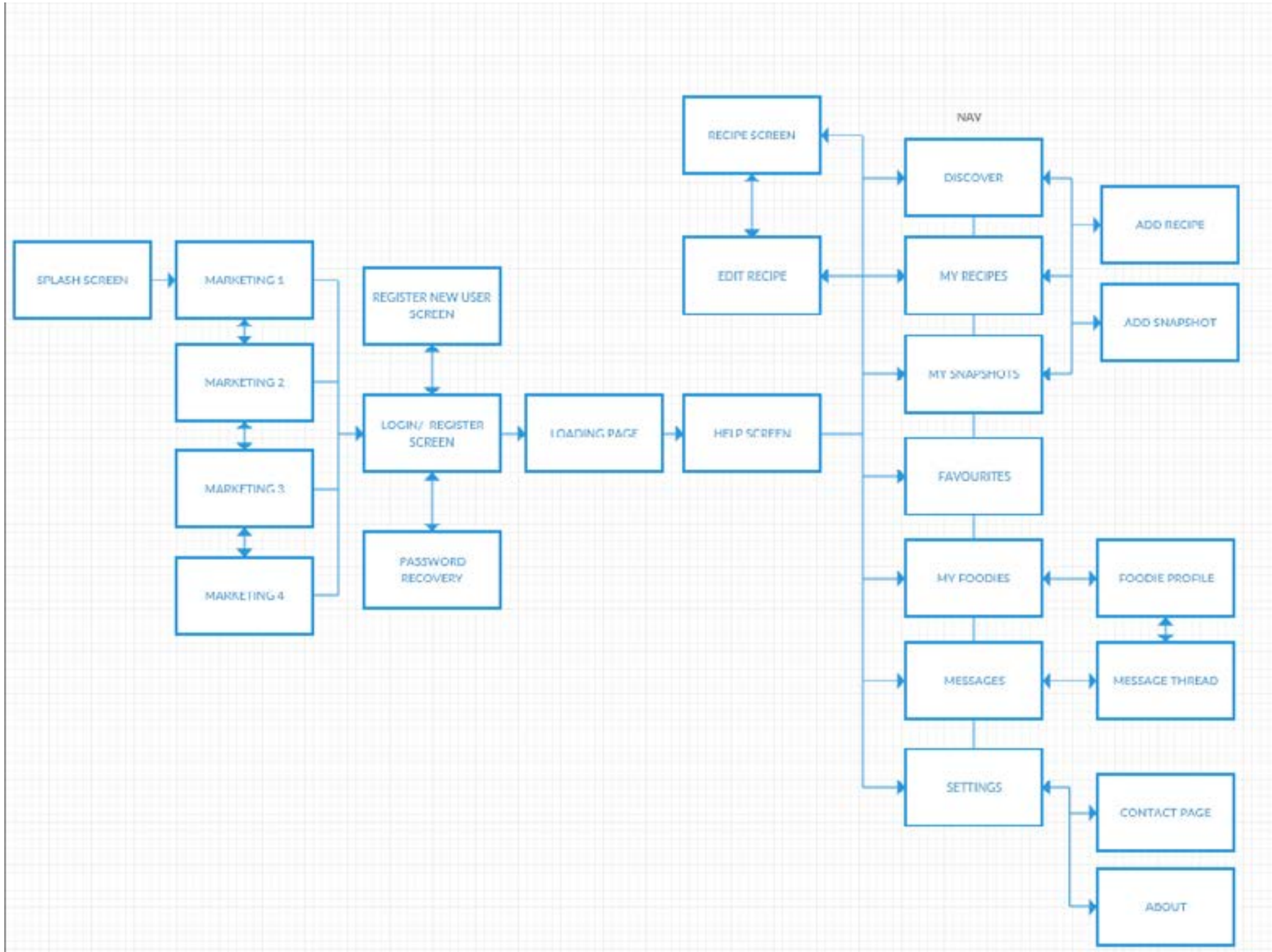
Wireframes

Conceptual design

Moving from requirements into a conceptual model



03 Navigation System



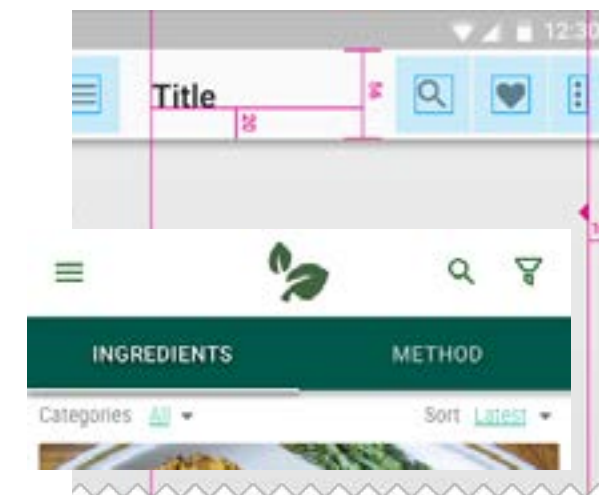
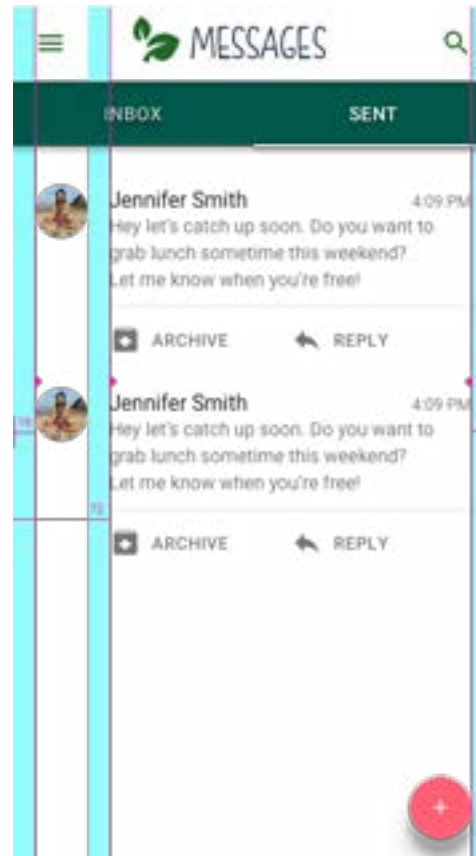
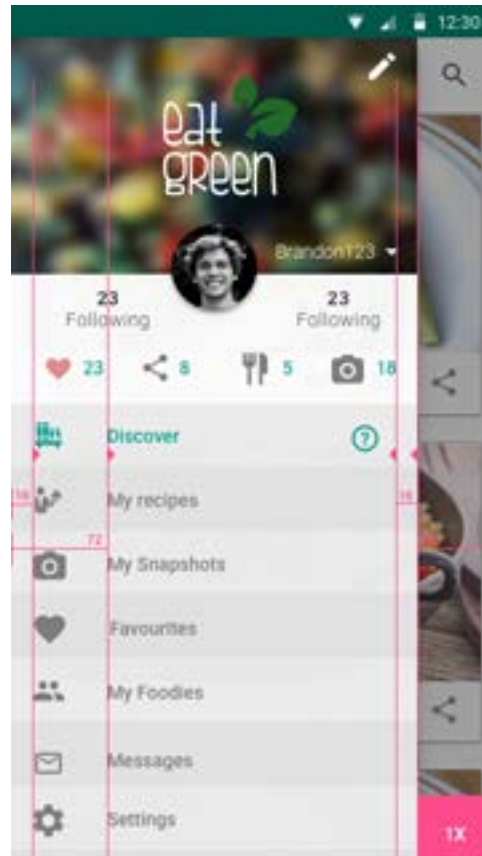
04 Design

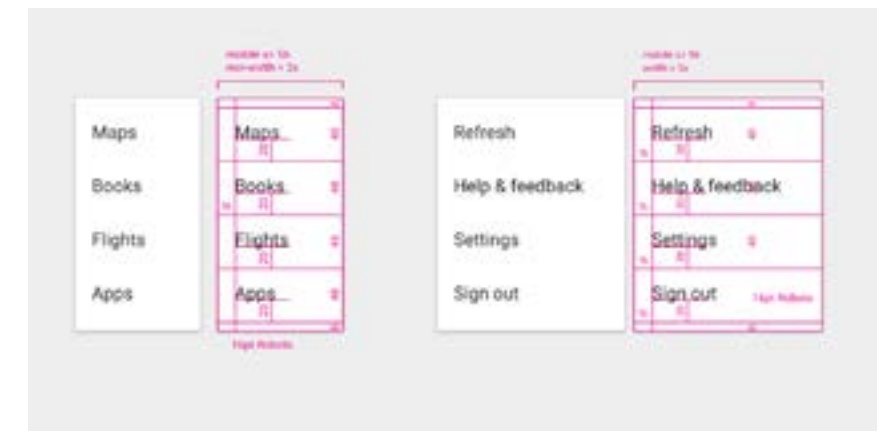


- Layout
- Components
- Depth
- Icons
- Colour choices
- Typography

Layout

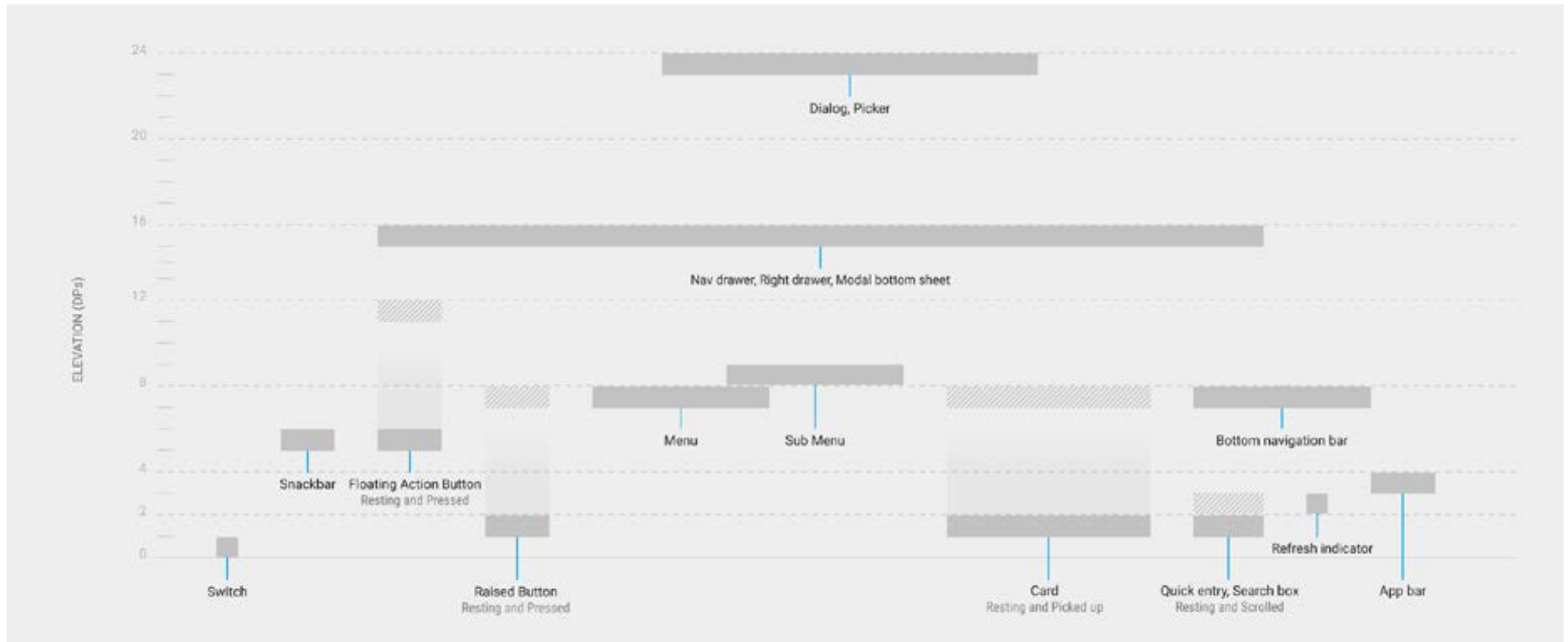
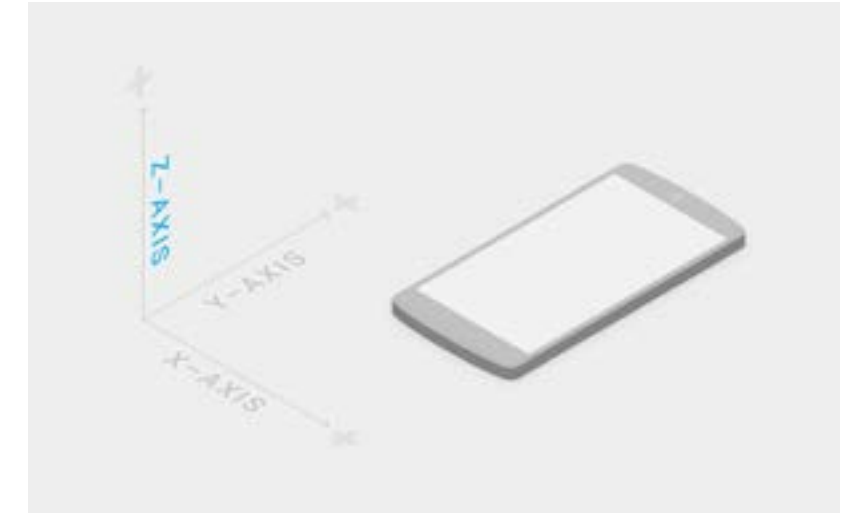
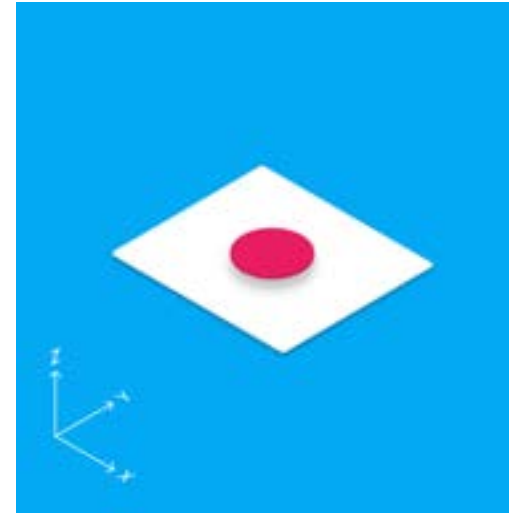
When designing my app, I ensured that all of my page layouts adhered to the material design specifications. I used careful measurements on all aspects of the designs in regard to spacing etc.





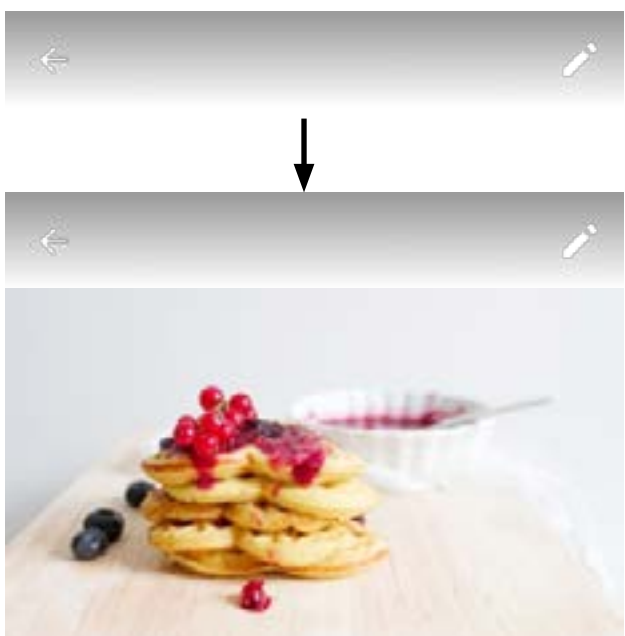
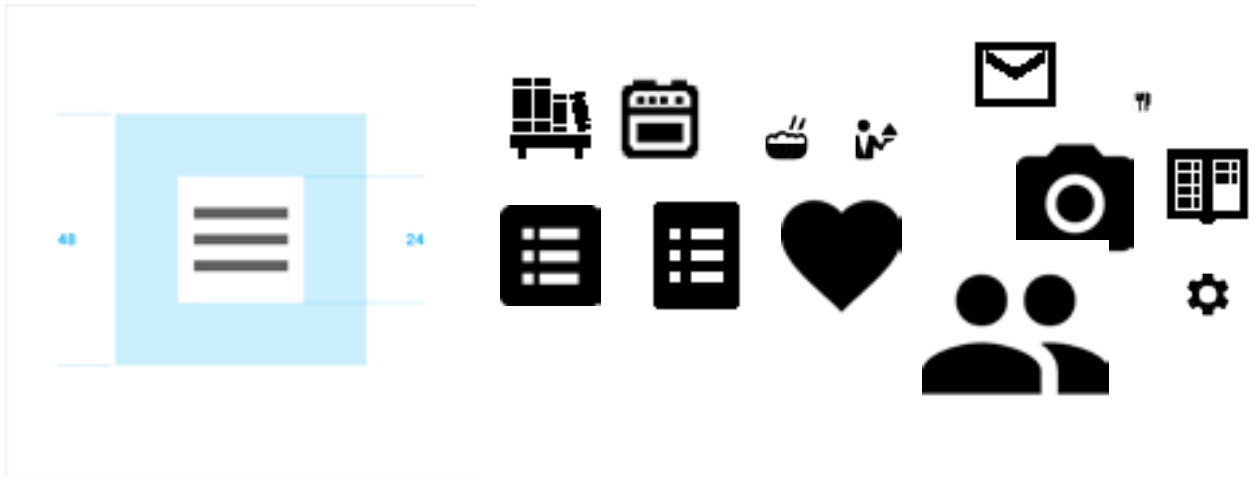
Depth

As Material Design utilizes the Z- Axis, I had to ensure that all elements were layers correctly. All of the elements of my app adhere to this structure, using shadows to indicate the depth.

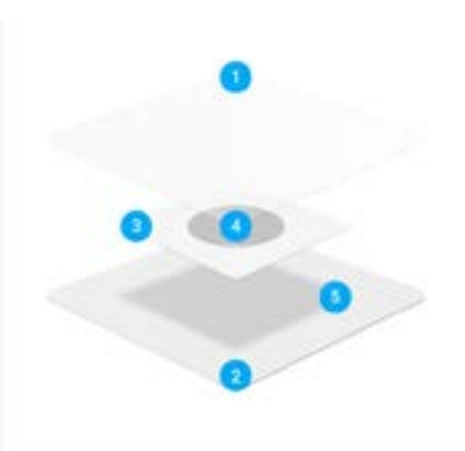


Icons

Features / Navigations Icons



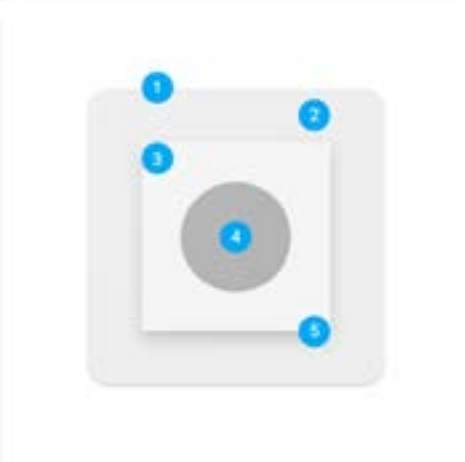
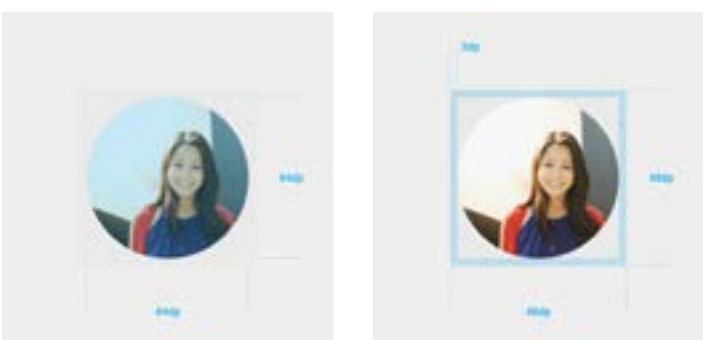
Adding a background gradient to help visibility



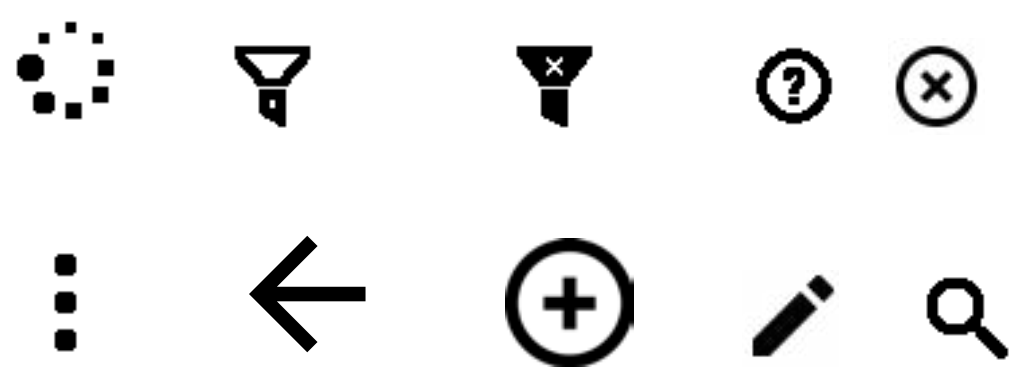
Dietary Requirements Icons



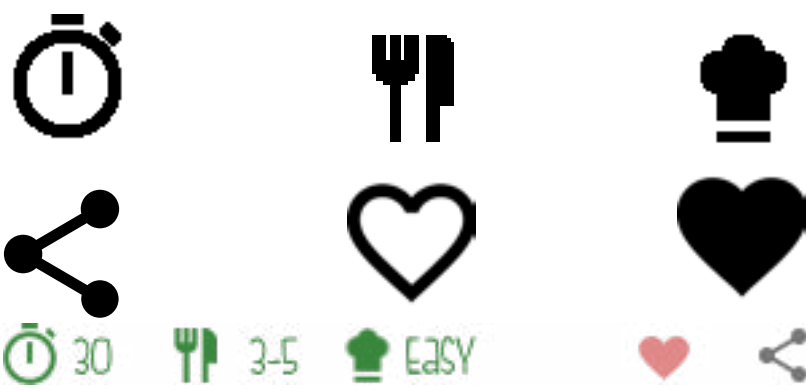
Google avatar specifications



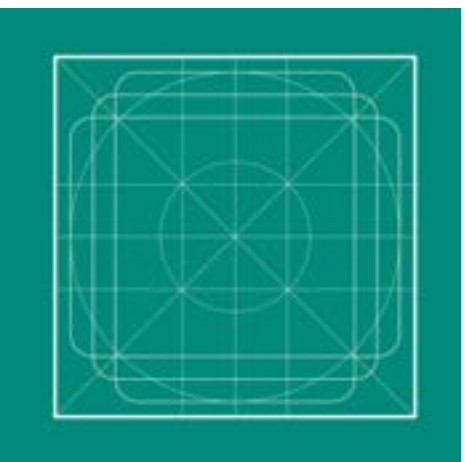
System Icons



Recipe details and user action icons



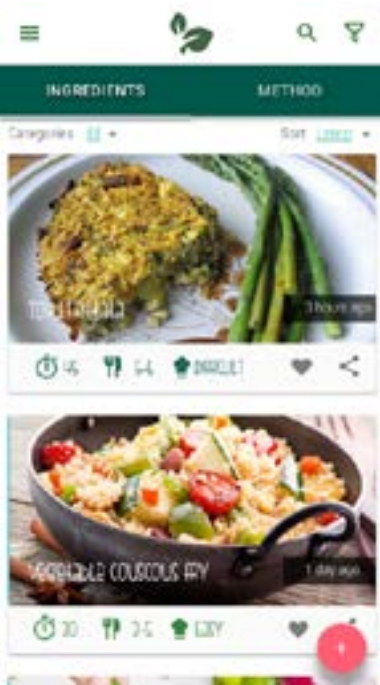
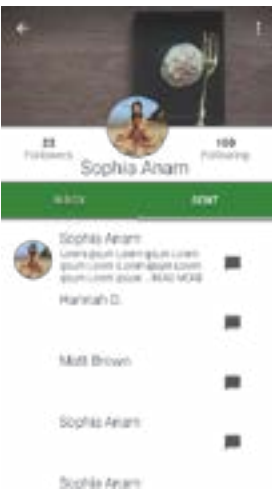
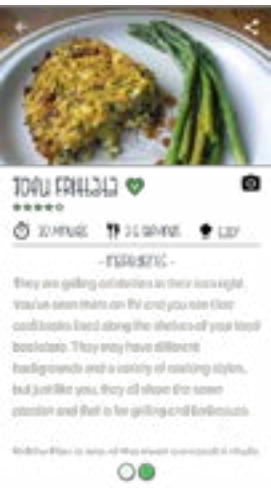
Buttons left with black/ white and opacity chaged to 54% as in Material Design guidelines to aid visibility on coloured back-grounds.



Colour

Green		
500		#4CAF50
50		#E8F5E9
100		#C8E6C9
200		#A5D6A7
300		#81C784
400		#66BB6A
500		#4CAF50
600		#43A047
700		#388E3C
800		#2E7D32
900		#1B5E20
A100		#B9F6CA
A200		#69F0AE
A400		#00E676
A700		#00C853
Deep Orange		
500		#FF5722
50		#FBE9E7
100		#FFCCBC
200		#FFAB91
300		#FF8A65
400		#FF7043
500		#FF5722
600		#F4511E
700		#E64A19
800		#D84315
900		#C53929

While designing my app I changed the colour styles many times. I wanted something professional, which also stuck with the brands colour identity. As it is a vegetarian app I decided it would be best to stick with green. I experimented with colour pallettes and eventually decided to use colours from the material design specifications. I used shades of Teal, with an accent taken from the Red for action buttons and system messages.



Black		#000000
White		#FFFFFF
Teal		
500		#009688
100		#B2DFDB
900		#004D40
A200		#FF5252

Teal		
500		#009688
50		#E0F2F1
100		#B2DFDB
200		#80CBC4
300		#4DB6AC
400		#26A69A
500		#009688
600		#00897B
700		#00796B
800		#00695C
900		#004D40
A100		#A7FFE8
A200		#64FFDA
A400		#1DE9B6
A700		#00BFA5
Red		
500		#F44336
50		#FFEBEE
100		#FFCDD2
200		#EF9A9A
300		#E57373
400		#EF5350
500		#F44336
600		#E53935
700		#D32F2F
800		#C62828
900		#B71C1C
A100		#FF8A80
A200		#FF5252
A400		#FF1744
A700		#D50000

Typography

While working on my designs, I experimented with a number of different type faces. I wanted to keep with the material design specifications but also add some brand identity. I tried out several options before settling on these 3 type faces to be used in different parts of the design.



FISH FINGERS- This font was used to bring the brands identity across the app. It was selected because I think it gives the app a playful feel.

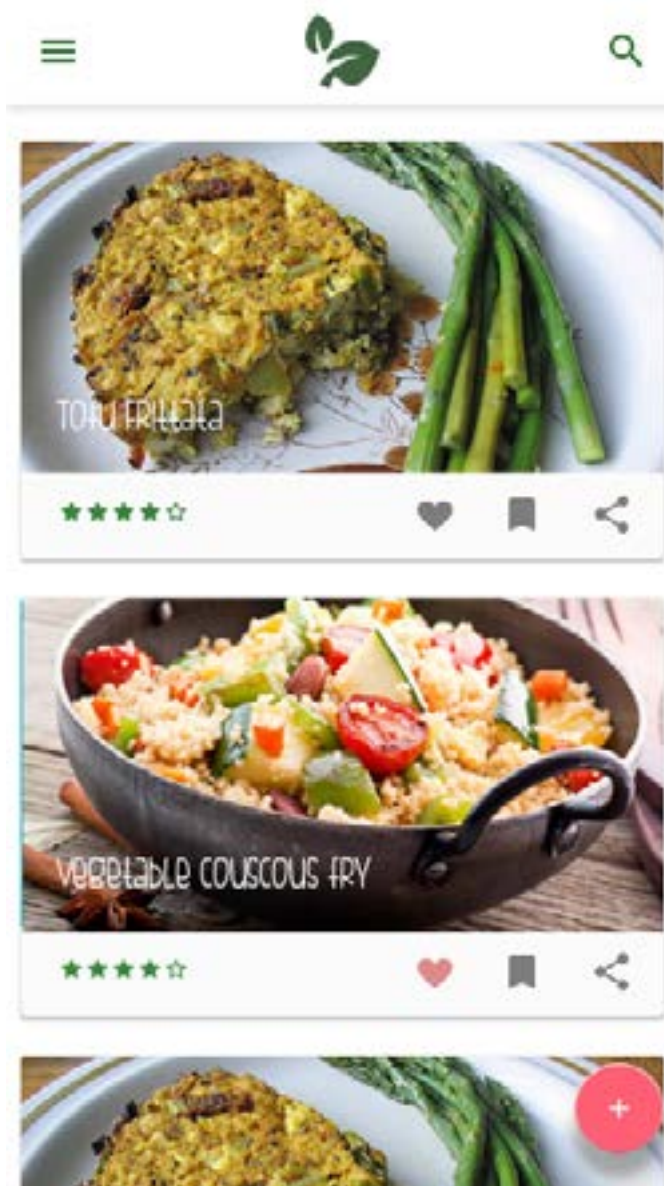
Roboto - This is the default android font which is in the material design guidelines. I used this font for all recipes and images to give a familiar feel.

ROBOTO CONDENSED - This is the font used in settings pages to keep within the established guidelines of material design.

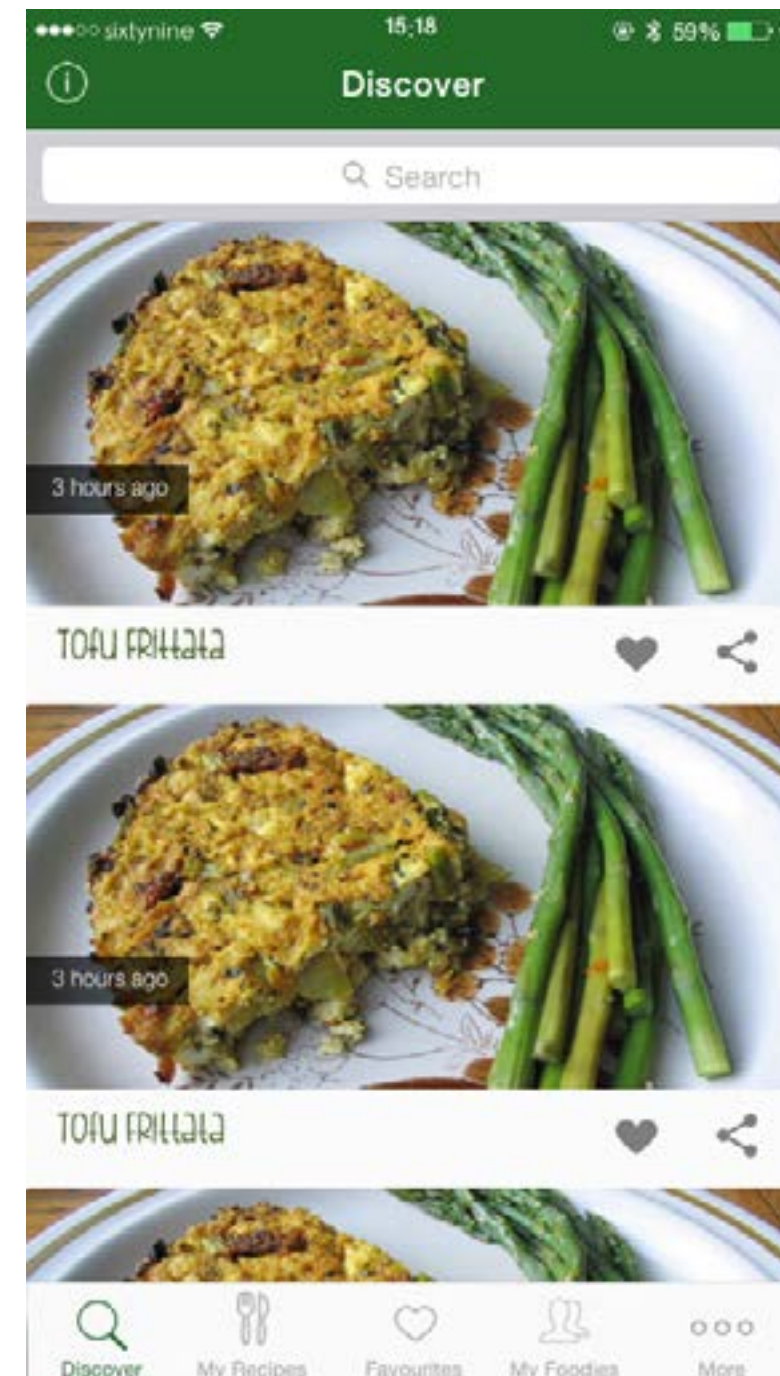
05 Development

My designs are based around google Material Design and as such at the development stage my app will be launched on the Android Platform in the Play Store. It will be developed in JAVA. Below is an example of how the page will look on an android device, alongside a potential IOS variation which could be developed in swift for the app store.

Android



IOS



06 User Testing



- Guerrilla & Online User Testing
- End user questionnaire

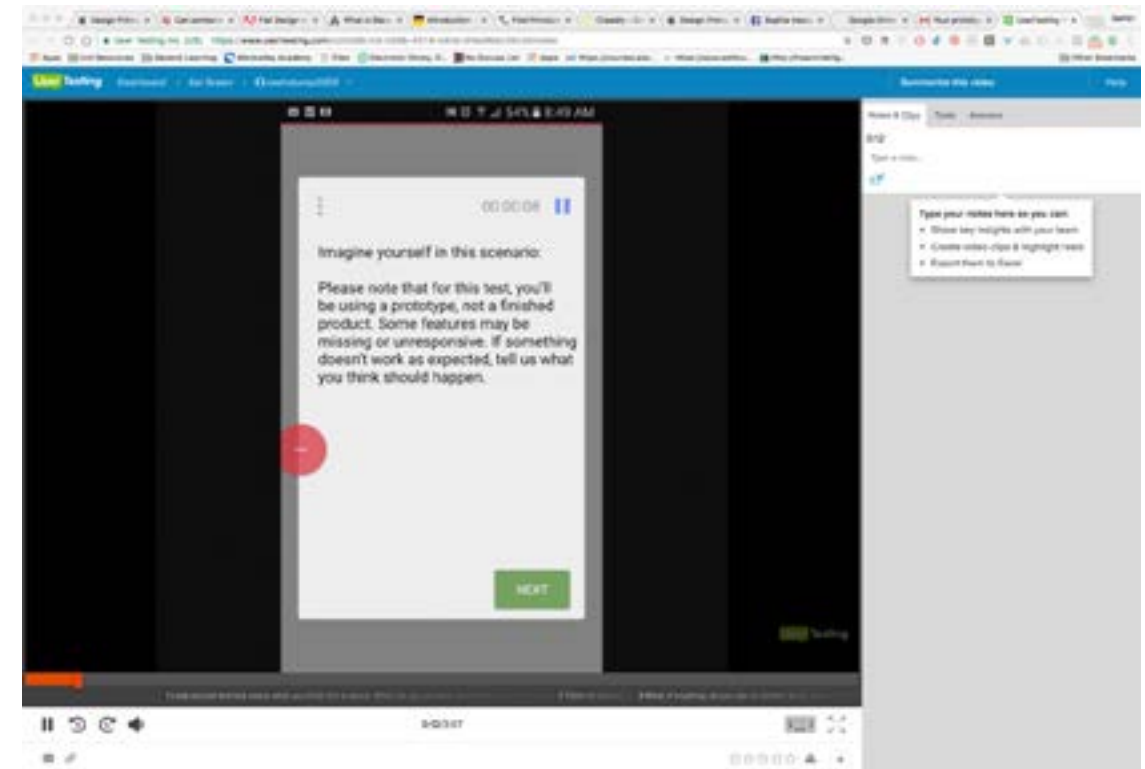
Geurilla & Online User testing

Online Video Feedback

After uploading my initial drafts to invision and adding the interactivity, I was able to make use of the User Test functionality provided by User Testing. This allowed me to watch users interact with my app in real time as well as listen to feedback given by them. I set up questions which they would be asked along the process asking for general feedback on the apps design and usability aswell as offering tasks for them to complete so I could watch for any stages which users may find more difficult to follow.

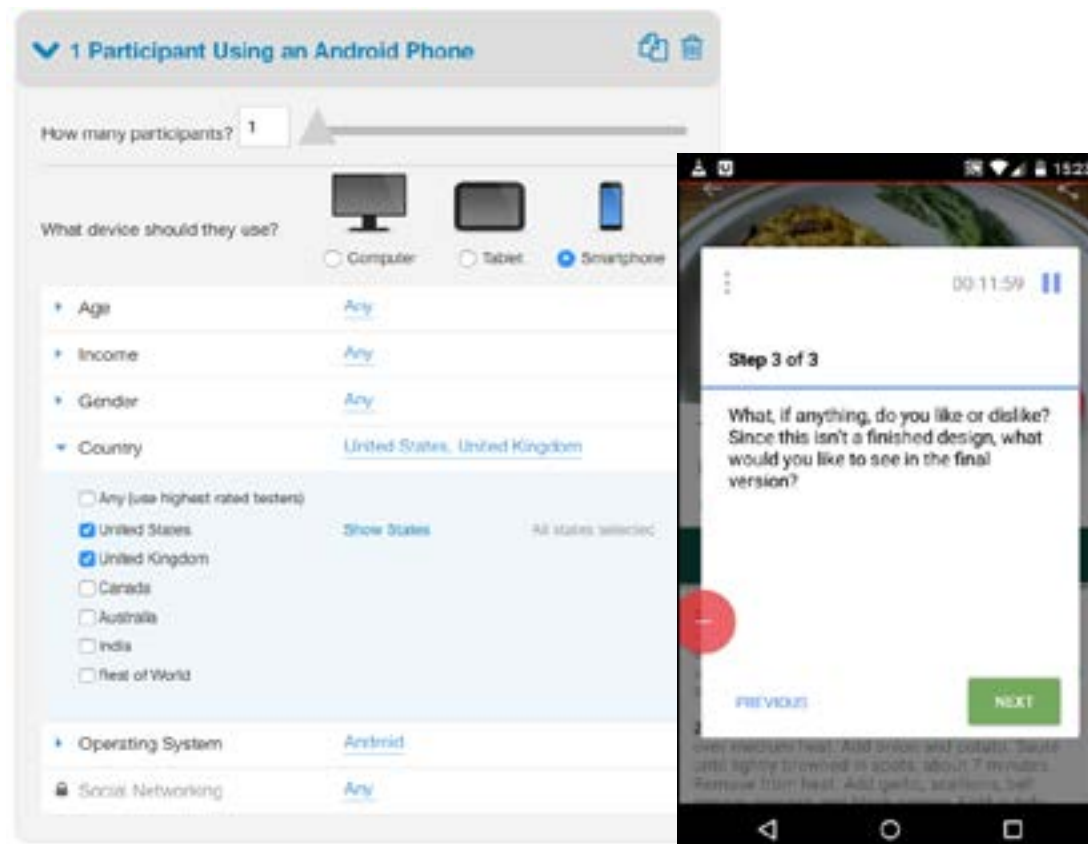
In addition, the users were asked to provide feedback for any changes they would like to see made to the prototype. Overall, this provided me with some great feedback and I was able to make several iterations of the design based on feedback from the users. Some of the key points taken from my notes on the video were:

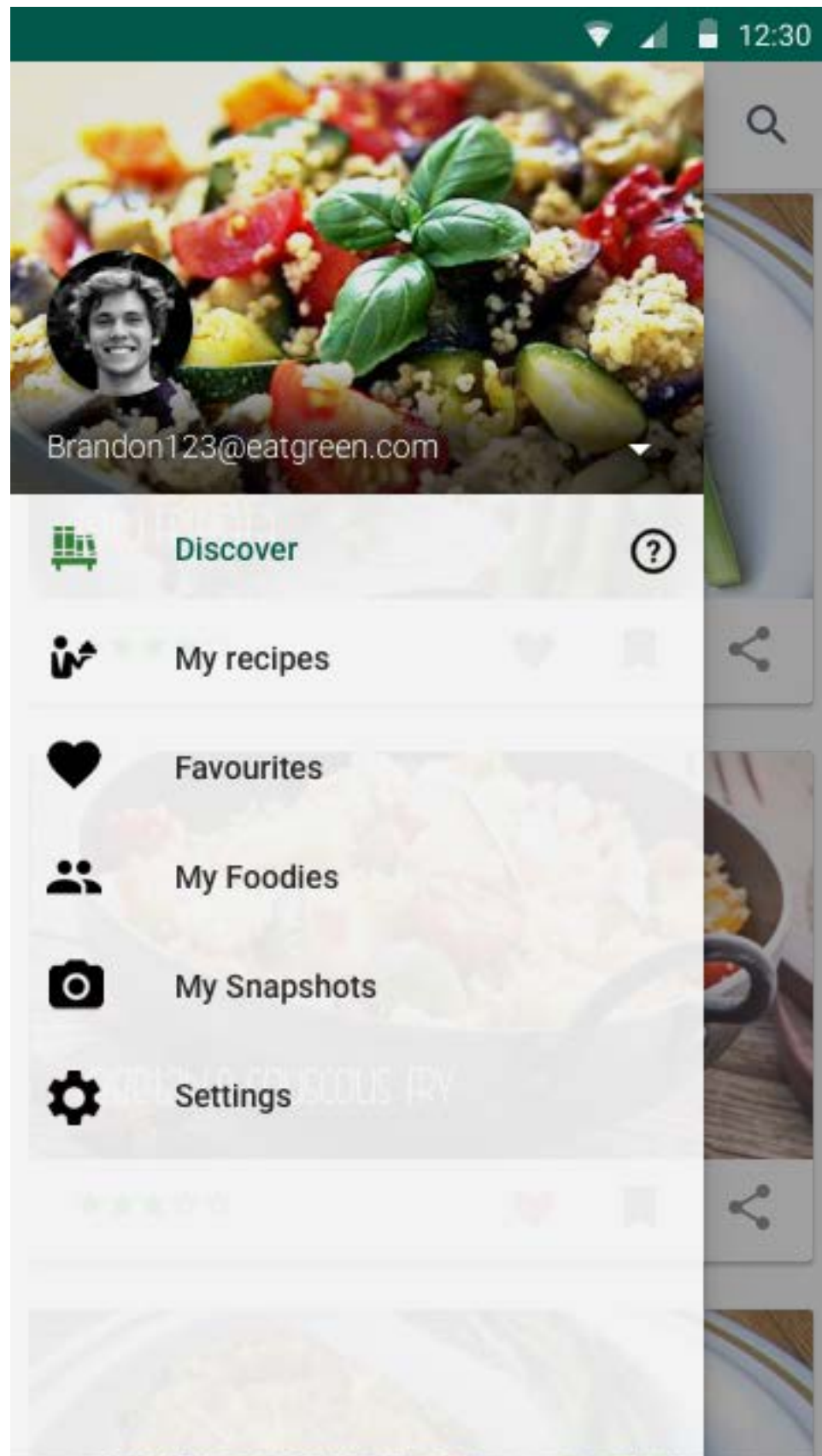
-



Geurilla Usability Testing

After uploading my initial drafts to invision and adding the interactivity, I was able to make use of the User Test functionality provided by User Testing. This allowed me to watch users interact with my app in real time as well as listen to feedback given by them in response to the general design of the app,





07 Critical Evaluation

Having looked at numerous HCI and web design principles, I aimed to create designs which utilize the best parts of the existing apps I have examined, as well as adding some new and intuitive interface components which I feel make solid improvements on some of the downfalls that I found in the existing designs. We can measure efficiency of interfaces at a high level using the GOMS model (Card, Moran & Newell, 1983), however one key limitation being it's dependency on user skill level. Existing design principles (J. Nielsen, 1995; B. Tognazzini, 1978) provide guides for how we can measure usability for a wider audience. My aim was to provide instinctive usability, in line with established HCI design and evaluation techniques.

I have tried to follow guidelines and principles on user interaction, considering how the typical user will use my app when selecting where to place certain key elements. Eg the placement of my navigation and filters, to provide an intuitive order of events for the user to progress through the app.

The app features a minimalistic design throughout and through use of colour and type face I hope to create a sense of professionalism that can relate to food. Plenty of white space and means leading the users attention is easy.

Limitations

From my final stages of user testing, I was able to highlight a number of limitations with the app which could be addressed in later versions.

-Ingredients and method being on separate tabs makes it difficult for users to flick between while cooking.

Evaluation against Heuristics

Clear visibility of system status- I tried to ensure consistent feedback with confirmation and error alerts.

Match between system and real world- By using the mental model of a recipe book and terminology from real world

User control and freedom- Provided clear cancel options and the use of a clickable overlay to click off and return to previous state.

Error prevention- Verification of form inputs to be in correct format

Consistency and standards- Use of clear terminology.

Fitts Law- Located elements in practical locations to reduce the distance between clicks- Floating action button

Flexibility and efficiency of use- There are different ways to achieve the same goal eg customizing a pizza can be clicked in nav or for each menu item.

Accelerators- Favourites and filters to quickly find items for power users.

Minimalist design- The text is minimal and to the point and helps removing cluttered interfaces.

Help and Documentation- Default values used as cues to user.

Predictable- Well labelled icons make actions predictable.

Consistent system image

Functional/ visual consistency- same behaviours across different instances.

Transparent design- content viewable without interface interfering.

08 Final App Screens



