



LunchBox

Simple lunches for people in a hurry

Requirements Specification

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No comments

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1 Introduction

1.1 Purpose of the Document

The purpose of this document is to record the requirements specification for the Minor Project application by Team 23 - LunchBox.

The document defines the scope for the project and the functionality to be delivered to the client.

It will also serve as a shared and central reference point for the development team, defining functional and nonfunctional requirements.

The Document is split into nine sections.

1. Introduction	An introduction to the purpose of this document.
2. Identifying the Need	Competitor Analysis, and comparisons of core functionalities, possible users and their characteristics, and the target device and platform.
3. Requirements Overview	Initial Requirements and Creative Brief from the client, pen and ink wireframes.
4. Validating the Need	Research, further competitor analysis, how this has impacted requirements.
5. Assumptions, Issues and Risks	Any potential issues that need to be taken into consideration and any further information required.
6. System Requirements	Which existing infrastructure will our app rely on.
7. Requirements Definitions	High level overviews of the main functions of our app.
8. References	Any external references used in terms of research etc..

1.2 Document Conventions

Requirements stated in the document will be assigned priority levels based on the perceived importance of the function. This priority is subject to change, and the document will be amended to reflect changing priorities, circumstances, needs and resources as required. All amendments will be agreed upon between the team and client.

1.3 Intended Audience

This document is a business level document intended for all project members, the project stakeholders and potential users of the system. It is also intended for potential investors, and potentially for inclusion in a peer review process by students who are part of the Webelevate Program Facebook Group.

1.4 Definitions, Acronyms and Abbreviations

UCD : User Centred Design

Requirements Specification: A document that describes the high level functional requirements of the system to be developed.

2 *Identifying the Need*

2.1 Concept Overview

LunchBox is a product to assist parents, carers and others to quickly prepare healthy, light meals.

2.2 User Needs

LunchBox meets a confluence of needs experienced by people preparing lunches themselves or for others but are limited in time available, choice of available ingredients and/or ability or inclination to cook. In particular:

- Parents who wish to encourage their children to eat well at school and help prevent them from constantly eating snack-foods or unhealthy meals

- People short of time, especially parents rushing to get children out to school or people rushing to get out to work
- Busy people who want variety in their lunch choices but don't want to, or cannot, spend too much time researching alternatives
- People without much cooking experience or who dislike cooking but enjoy homemade food
- People who cannot afford alternative ingredients
- People bored with their lunch food choices and who want imaginative and tasty alternatives to sandwiches
- People who need help to combat obesity in children
- People with dietary restrictions who wish to eat tasty food at lunch time
- People who are looking for new ideas in their lunch choices

While these are separate needs that we have identified, in many cases they may well overlap and a user may find themselves in two or more of these categories.

2.3 Device Affordances

Smartphones & Tablets have been identified as the initial target devices because of the following affordances in terms of the user needs and behaviours:

- Large, easy to view screens
- Large typing area & keys
- Touch Screens
- Front facing cameras
- Barcode reading capability (via 3rd party app)
- Voice Recognition
- Internet connectivity via Wifi and or 3/4G

2.4 Competitor Analysis

Is there anything out there like this in the same domain or in a similar domain?

There is nothing out there that is exactly the same as LunchBox, but there are some similar applications which overlap our idea.

Are there combinations of functionality across existing applications and domains that are similar?

Many apps have the same premise, enter the ingredients you want and the application will deliver a recipe based on those ingredients. The apps also enable the user to save recipes and also create shopping lists from the desired recipe, as well as recipe sharing.

What have you learnt from reviewing these what functionality or approaches would you used or not use?

The Fridge Check app promises lots of functionality, but does not always deliver. Many of the users complained that when an ingredient was specified, the result did not always output a recipe including that ingredient. The result therefore could be somewhat erratic. We think that the application needs to deliver on its promises.

Lunch Recipes scores well with its users; its simplicity seems to be it's success, and this is something we are aiming for. Keeping the product simple but also doing what it "says on the tin". It needs to deliver everything it promises.

Competitors:

Fridge Check - <https://play.google.com/store/apps/details?id=com.fridgecheck>

Fridge Check is a very simple app that gives you a list of recipes to cook based on the ingredients you have in your fridge. There are 3 criteria in which the user is required to input:

1. The user must enter the ingredients they have in their cupboard and fridge.
2. Choose the category of meal they desire.
3. Select the time they have available to make the meal.

Fridge Check will then give the user a list of recipes based on the above criteria. It also allows the user to enter ingredients that they may be allergic to or don't like. So if they are vegetarian or perhaps a coeliac then this will be taken into account when generating the recipes.

Core Functionality:

- The user can browse and save recipes directly to their profile.
- The recipes for the most used ingredients will show at the top of the list.
- The user can avoid certain ingredients, for example if they have a nut allergy, the app will allow them to exclude this from the results.

- The user can create shopping lists, which can be used offline – while they shop in their local supermarket.
- The user can also save favourite recipes to their online profile, to be used on another occasion.

Lunch Recipes - <https://play.google.com/store/apps/details?id=com.cookware.lunchrecipes>

This is a step by step instructional app for cooking new and healthy dishes.

The user can find the recipe they want by a search tool, entering the recipe name or ingredients.

The user can view recipes offline by adding them to their profile.

Recipes can be bookmarked and put into a favourites section.

Users can add ingredients to their shopping list so they can buy it from the supermarket.

Core Functionality:

- Special of the day
- Search recipes by ingredients or a particular recipe
- Shopping list
- Search recipe by preparation time
- Offline recipe access
- Favourite recipes can be stored separately
- Nutritional facts
- Recipes can be shared to friends or family
- Recipes are provided with their nutritional value and calories
- Enables a search for a specific type of lunch, for example if the user wanted a “low carb” lunch then the app would generate the appropriate recipe.

3 Requirements Overview

3.1 Functional Scope

In this project the team are tasked with developing a mobile app that delivers recipes to users smartphones or tablets. Recipes will be based on the real time contents of users fridges and kitchens. The recipes will be simple, tasty and nutritious. Users will require almost no cooking skill, and cooking time is twelve minutes or under. The recipes will contain nutritional information, so users can assess the calorific and nutritional content of the food they are cooking. And users will be able to specify dietary requirements that the app will cater to in building recipes.

Users, based on the ingredients they input into the app, will receive step by step instructions while they are preparing food, to create meals from ingredients actually in their kitchens. Users will also be able to access recommendations for recipes based on the typical contents of Irish kitchens. The focus will be on meals that are tasty, nutritious, simple and quick.

Users will be able to create lists of favourite recipes. Users will be able to use the app to build shopping lists based on favourite recipes they have saved, and on recommendations the app makes.

3.2 Initial Specification

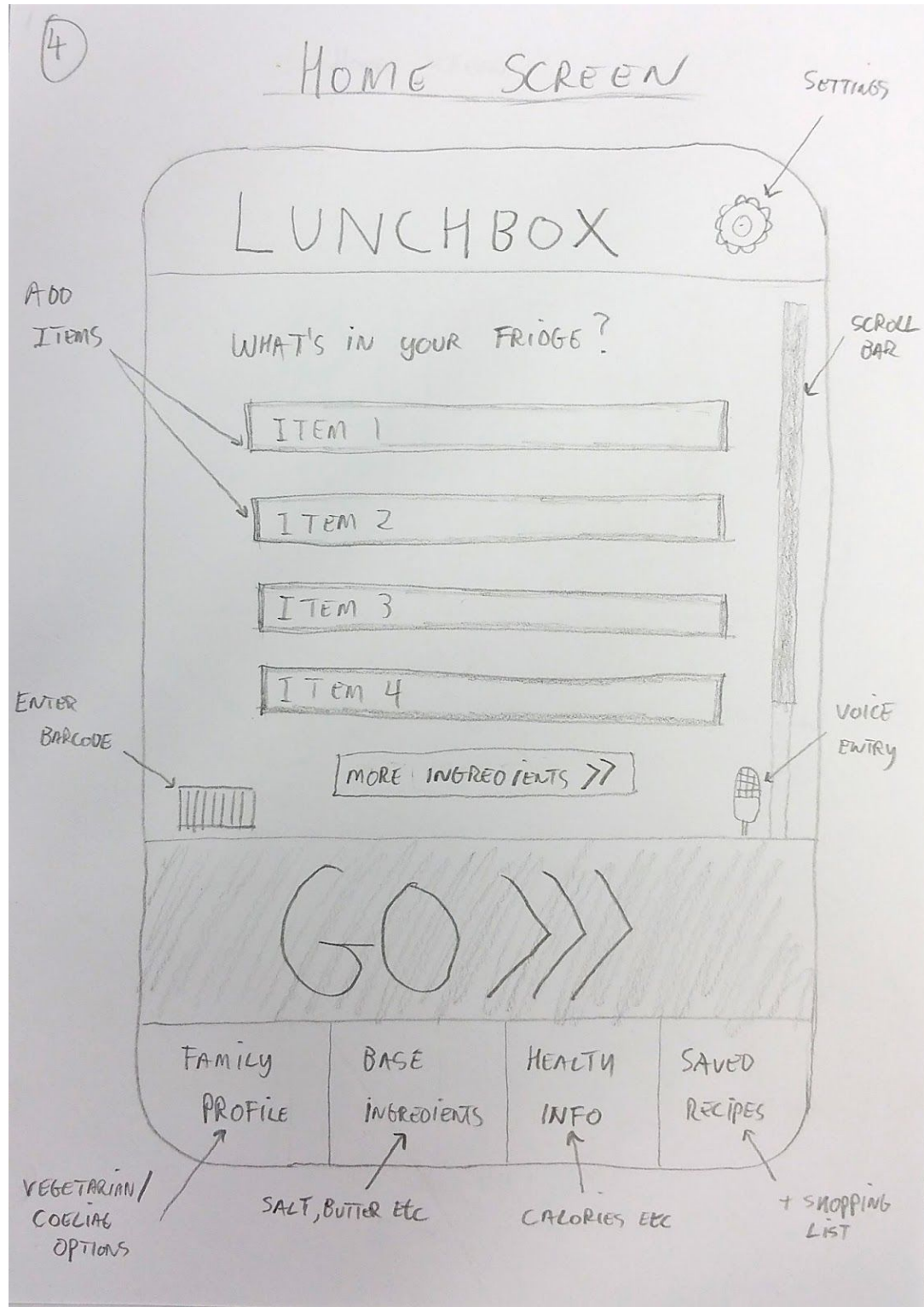
Lunchbox is a mobile app designed for use on smartphones and tablets.

Lunchbox will have the ability to enable busy people to create quick and easy snacks and lunches in under 12 minutes. With Lunchbox you can create healthy, imaginative alternatives to sandwiches by specifying a list of ingredients from your fridge. Food Allergy and restricted diets will be catered for.

Lunchbox will allow the user to create shopping lists, maintain a favorites list and view lists of recommended ingredients for purchase when using the app to create food.

The User Interface for Lunch box will be clear and easy to follow.

3.3 Wireframe



3.4 Initial Requirements List

Ref	Description
IR-0001	Phone/Tablet Mobile app The app should initially be made available for smartphones and tablets.
IR-0002	Add/Search ingredients The main home screen should have a simple search box where you can enter your fridge/cupboard contents into your app inventory. Food items will auto suggest as you type. A barcode scanner and voice recognition may also be included here for accessibility.
IR-0003	Recipes There will be a recipes button to view sample recipes based on typical Irish fridge/cupboard contents or recipes you've created or used in the past. Recipes will also be broken down into categories such as Preparation Time, Diabetic, Vegetarian, etc...
IR-0004	Follow recipe Easy to read recipe screen that stays on and allows you to follow along as you cook.
IR-0005	Calorie/Health info Calorie and health information is available to view for each food type or recipe.
IR-0006	Vegetarian/Coeliac/Diabetic options Recipe categories can be narrowed down with Vegetarian/Coeliac/Diabetic options as well as filter by low salt, fat & carbohydrates.
IR-0008	Add to Favourites & Shopping List Add any preferred recipe and it's ingredients to your bookmarks. Bookmarked recipes can also be visualised as a shopping list of ingredients.

IR-0009	Prep time There should be a maximum prep time of 12 mins for every meal.
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4 *Validating the Need*

4.1 Introduction

Potential users were provided with a detailed questionnaire containing a sketched wireframe of the app's home screen and asked a number of questions based on the following.

1. The app concept – is there a need for this?
2. Navigating the features on the wireframe – does our prototype satisfy user requirements, is it clear and comprehensible without additional guidance? and
3. Are there potentially critical features that may be missing or additional features that might be useful?

4.2 Interviews

Team members spoke with a number of these respondents in real time to assess the overall impressions of the app's viability as a concept.

4.3 Research

The following articles were found and read as a means of gathering more information on recipe applications and what users are looking and expecting from them.

https://food.thefuntimesguide.com/2009/03/recipe_software_programs.php

<http://lifehacker.com/five-best-meal-planning-apps-1533809184>

http://www.eatingwell.com/shop/healthy_in_a_hurry_app_for_iphone_and_ipod_touch_ipad_android

<https://play.google.com/store/apps/details?id=com.fridgecheck>

<https://play.google.com/store/apps/details?id=com.cookware.lunchrecipes>

4.4 Other data gathering methods used

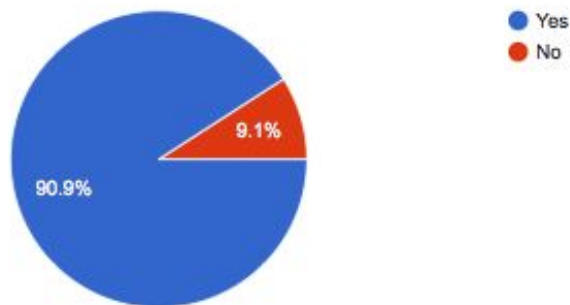
A number of similar products currently on the market were evaluated such as “[LunchRecipes](#)” and “[FridgeCheck](#)”. A number of popular apps were evaluated for ideas on appropriate user interface.

4.5 Validation Results

The results of the validation process resulted in the validation of the concept, rewriting the requirements, and shed a lot of light on the possible direction of future developments of the app.

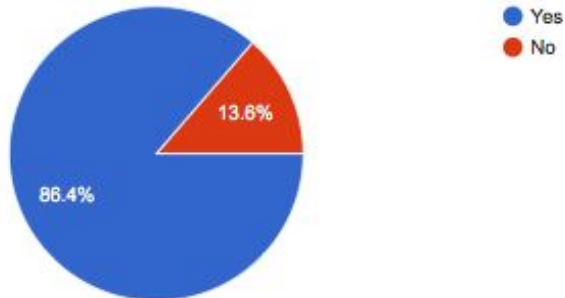
The following pie charts represent a sample of the feedback we got. A digest of the results with a summary and recommendations appears in the appendix ([User Feedback – What we learned](#)). We have also appended the responses in full should the reader wish to get a flavour of the comments.

Would you use an app to help give you lunch ideas? (44 responses)

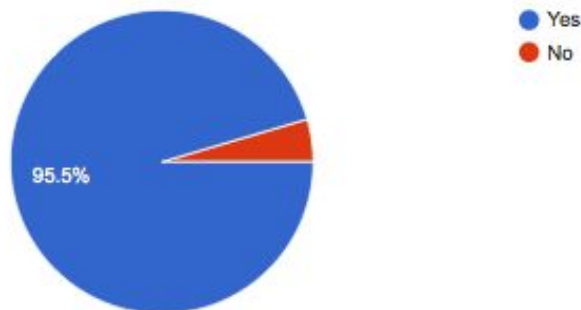


Do you think the sketched prototype above is easy to understand and use?

(44 responses)



Would you recommend an app like this? (44 responses)



Ref	Description
VR-0001	Respondents overwhelmingly validated for us that an app like this would be useful and well received (90.9%).
VR-0002	Respondents reacted well to the user interface for the primary function of finding a lunch recipe (86.4%).
VR-0003	Respondents had difficulty in negotiating how to generate a shopping list (43% could not figure it out clearly)

VR-0004	A number of suggestions were made on new features which could be incorporated into the app down the line - including potential commercial links with companies like Weight Watchers.
VR-0005	The ability to generate shopping lists proved to be considerable more popular than we had previously understood. As a result it has been incorporated as a critical success factor and is now part of a minimum viable product.
VR-0006	User responses indicated that there may be a market for a suite of similar apps down the line.
VR-0007	As a result of feedback we reduced the number of buttons/functions available on the home screen.
VR-0008	We clarified the on-screen language.
VR-0009	We simplified the data input process.
VR-0010	The create shopping list function was included among the Critical Success Factors.
VR-0011	Diabetic was added to dietary requirements filter.
VR-0012	More scope for rating, comparing and sharing recipes will now be considered.

4.6 Critical Success Factors

The factors we see as critical to the success of the app are:

Ref	Description	Priority
CSF-0001	It should function on a smartphone	1

CSF-0002	Deliver concise clear recipes based on the user's search preferences	2
CSF-0003	Deliver recipes capable of being completed in a standard kitchen in 12 minutes or less	3
CSF-0004	Provide recipes of sufficient variety to be relevant and interesting to the user	4
CSF-0005	Keep a record of ingredients used by the user for potential use in a shopping list	5
CSF-0006	Enable to user to store and recall their favourite recipes	6
CSF-0007	Use favourites to generate a weekly or fortnightly menu planner	7
CSF-0008	Enable the user to exclude recipes not suitable for diabetics and/or coeliacs.	8

CSF = Critical success Factor

4.7 Personas

Sifting through the feedback from users and potential users we were surprised to discover that a number of them had uses in mind for the app which we had not considered previously, including link ups with companies like Weight Watchers and Slimming World. However the research confirmed that our primary user would be busy parents who need to prepare lunches for their children regularly. Among secondary personas suggested were parents concerned about their teenage children's eating habits, young people catering for themselves, people living abroad, students and so on. We include some of these here and the remainder are including in the appendix.

PRIMARY PERSONA



Name: Jane Morgan

Age: 36

Location: Dublin

Interests: Independent movies, socializing when she can, facebooking.

Social media accounts: Facebook, Instagram, LinkedIn

Biog: Jane is an ambitious social marketer with a daughter, Amy, aged 7. Jane drops off Amy at school and picks her up from the after-school club at 6.30pm most evenings. Jane wants Amy to grow up with good eating habits. Jane provides Amy with two light snacks to supplement what she gets at school, which is often high-carb and processed food. Amy is a good eater but Jane wants to add as much variety as she can to her diet but she doesn't have much time in the mornings.

Scenario 1

Jane has had a hectic week. A co-worker is out with flu and she has had to take on his workload to ensure that project deadline will still be reached. She hasn't seen much of Amy in the last 3 days, she wants to fill her lunchbox today with her favorites. She remembers that Amy loved the chicken wraps she made last

week but not sure what else she put in them. Thankfully she saved it as a favourite on Lunchbox. She loads the app, finds the recipe and is preparing food in seconds.

With lunch made, she calls Amy for school and puts work out of her mind for the next 30 minutes to enjoy breakfast with her daughter.

Scenario 2

Occasionally Jane runs short on her menu ingredients and when this happens she uses the app to come up with something quick by tapping her available ingredients into the app. She usually keeps a pack of individually packed wraps in the freezer for just such emergencies.

PERSONA 2



Name: Mags Geaney

Age: 44

Location: Cork.

Interests: Reading, community volunteering, walking.

Social media accounts: Facebook, Pinterest

Biog: Mags is the mother of three kids, a 15 year old – Tom – and twins aged 12. While the twins are happy to eat what's in front of them, Tom can be a bit fussy with what he eats. He frequently skips breakfast, often leaves his lunchtime sandwiches and banana behind him or Mags finds his uneaten sandwiches in his schoolbag. Now Tom is falling behind at school. Mags suspects that he's finding it hard

to concentrate on an empty stomach. She knows that while that is probably not the primary reason Tom is falling behind, Tom won't be able to catch up unless he can focus at school and she wants to give him a tasty lunch that he will *want* to eat and encourage him to have breakfast. She's getting up 30 minutes earlier than normal to give herself more time to get it right.

Scenario

Mags has bought a Thermos food pot for Tom, this means she can select hot meals as an option when she is using the app. The app provides a list of handy recipes for hot food, based on pasta, quick-boiled potatoes and hearty soups that can all be prepped in under 12 minutes. Mags always cooks a larger portion than needed so that Tom can have some for breakfast too and she can gauge his reaction to the food. Mags is happy that she can see how much of the meal Tom has eaten when she cleans his thermos every evening. When she finds his Thermos empty she 'favourites' the recipe. She wants to get a dozen favourite recipes that she can rotate through. She mixes up the hot lunches with wraps, like spicy chicken and mango, during the week.

PERSONA 3



Name: Elizabeth Ryan

Age: 35

Location: The Congo

Social media: Facebook

Biog: Elizabeth is an aid worker for GOAL. She loves travel and experiencing new cultures. She is living in an unfamiliar area and does not have access to standard supermarkets. It has been recommended to her to eat fresh produce only.

Scenario

It's market day and Elizabeth needs to stock the fridge with fresh ingredients. She buys avocados, onions, peanuts, palm oil, pumpkin leaves, lettuce, sweet potatoes and tinned tuna. She get back home tired, hot and very hungry. What is she going to make for lunch with these ingredients ? Elizabeth grabs a coke from the fridge and remembers Lunchbox, an app her sister downloaded for her on her phone before she left. She loads the app, clicks the microphone and calls out 3 ingredients, the app returns a list and she filters on cold. Lunchbox app returns a recipe - Avocado Salad - 5 mins preparation time, perfect, what a handy little app.

More personas and attendant scenarios are included in the appendix.

Images: <https://www.flickr.com/photos/gregpc/6147165922>

License: <https://creativecommons.org/licenses/by-nc-sa/2.0/>

5 Assumptions, Issues and Risks

5.1 Introduction

In the following sections we set out the parameters of the app in the broadest sense.

5.2 Assumptions

Ref	Description
0001	The app assumes users have access to standard kitchen utensils, the usual pots and pans and a cooker.

0002	The app assumes that users have a specific and frequent requirement to prepare a packed lunch for themselves or others.
0003	Recipes will be simple as they are designed primarily for and marketed to, people who have a significant time constraint.
0004	Many recipes will require access to common flavour enhancing sauces eg mayo, soy, mustard etc, so this is assumed by some recipes.
0005	The app assumes users have a touchscreen smartphone with internet access.

5.3 Constraints

Ref	Description
0001	The app is written entirely in English.
0002	The app relies on an internet data link to function.
0003	The recipes are simple and designed primarily to be quick and easy to prepare. Recipes are not designed to provide a healthy balanced daily diet, though of course they may form part of one.
0004	The number of recipes required to be held in the database may cause a big storage demand on the device. Storing the database in the cloud may prevent the app from working as a standalone.

5.4 Issues

Ref	Description
0001	The range of potential inputs is virtually unlimited so the database of recipes must be well populated.
0002	The recipes database must be capable of being updated regularly with fresh ideas.
0003	Access to third party recipe databases may incur additional costs to avoid copyright infringements.

5.5 Risks

Ref	Description
0001	It's possible that a user may use exotic food items for which we have few or no useful recipes.
0002	Information the app can provide on allergens, calorific content etc is limited to the food type rather than the actual product in the user's possession.
0003	Once users have established their favourites and menus, they may decide to dispense with the app.
0004	Users may share the best recipes on social media thereby reducing demand for the app
0005	During our interviews with potential users it was raised that an intelligent google search would likely do most of what our app does. We need to ensure, therefore, that our results are consistently more relevant to our users than a google SRP.

5.6 Dependencies

Ref	Description
0001	The app is built around a relational database that is searchable via the GUI
0002	This database is stored in the cloud so internet access is required
0003	The database will require regular updates of new recipes

5.7 Further information required

Ref	Description
0001	The number of recipes required to be held in the database may cause a big storage demand on the device. Storing the database in the cloud may prevent the app from working as a standalone. We will need further information on the optimum arrangement of data available to the app.
0002	Where will we find or how will we generate recipe content?

6 System Requirements

6.1 Overview

The Lunchbox app is designed to run on Android and iOS touchscreen smartphones and tablets. The app is designed as a frontend for a relational database stored in the cloud. Therefore the user device will need wifi internet access. The database will be hosted on infrastructure by a cloud Infrastructure As A Service (IaaS) provider.

6.2 Out of Scope

The long term aim of the app is ambitious, but, as this is the initial development phase, we will clarify what aspects of the app are for later development cycles, or are not at present under consideration for development.

LunchBox has, in this development cycle, a clearly defined and limited demographic - Irish working mothers. It has a slim set of features.

Below are a list of features scheduled for consideration in later development cycles that are not in scope for this cycle. The features below are under consideration for later development, but do not make the cut for our Minimum Viable or Shippable Product.

- Leveraging the shopping list feature for partnership with food retail outlets
- In app Social Sharing of recipes, across and outside the app community
- Recipe ratings and comments
- User contributed/uploaded recipes.
- In app ads.
- Sponsored recipes/content.

- Linking with companies like Weight Watchers and Slimming World

6.3 Objectives

The following table outlines the functional objectives (not project objectives) of this specification.

Ref	Description	Priority
DO-0001	Application will run on mobile devices.	1
DO-0002	Application will display simple, concise recipes based on user input.	2
DO-0003	Application will display recipes that have a preparation time of 12 minutes or less.	3
DO-0004	Application will provide a filter for finding recipes based on ingredients, dietary restrictions, preparation time, calorific content, nutritional content, hot or cold.	4
DO-0005	Application will provide for and maintain a shopping list.	5
DO-0006	Application will provide for and maintain a favourite list.	6
DO-0007	Application will provide for the entry of ingredients by barcode and voice. (in addition to typing)	7

DO = Delivery Objectives

6.4 Principles

These are the principles with which we as a team have agreed on and also that our product adheres to our agreed principles. Our motto is to KISS - “Keep It Simple Stupid”. We want our product to do exactly what it says on the tin.

6.5 Security requirements

We do not have a login with password in this version, therefore a security requirement is not warranted.

6.6 Audit requirements

We feel an audit requirement is not warranted, generating reports is not needed for this application.

6.7 Localisation requirements

The user Interface for this application will initially be developed in English. It will be possible to localise all strings to a language and a variance of the language .

6.8 Accessibility requirements

Target users for Lunchbox are parents, students, young workers and busy people with little time to prepare full meals. As limited time is a factor for this target audience the application will provide two additional mechanisms for inputting ingredients which may also help users with accessibility issues to navigate and use our app :

1. **By Voice:** An inbuilt microphone will be required for this feature.
2. **By Barcode:** An inbuilt camera will be required for this feature.

6.9 Integration requirements

Lunchbox is a standalone application which uses a backend database to store recipes. This database will be stored in the cloud. Access to third party recipe databases could be an integration requirement for the future but is not being considered for this release.

6.10 Report requirements

We would not need to generate reports on a regular basis initially except the number of app downloads.

6.11 Monitoring requirements

We would hope to detect and resolve issues with application performance and bugs and have included a Help screen in the app's settings where users can contact us, submit feedback and send bug reports etc..

6.12 Publication requirements

This is not a requirement as the app does not export anything to FB or Twitter for example.

6.13 Infrastructure requirements

- For iOS devices the application will require version 6.0 or later.
- For Android devices the application will require version 5.0 or later.
- The application will query a database hosted in the cloud and therefore require a Wifi connection to the internet.

6.14 Documentation requirements

We will provide a simple help screen with text on how to use the apps main features, accessible from the Settings - Help screen in the app itself. This screen will also have support contact details and links to our website and blog where people can access FAQs, How To articles and Screencasts/Tutorial videos of the app in use.

7 Requirements Definition

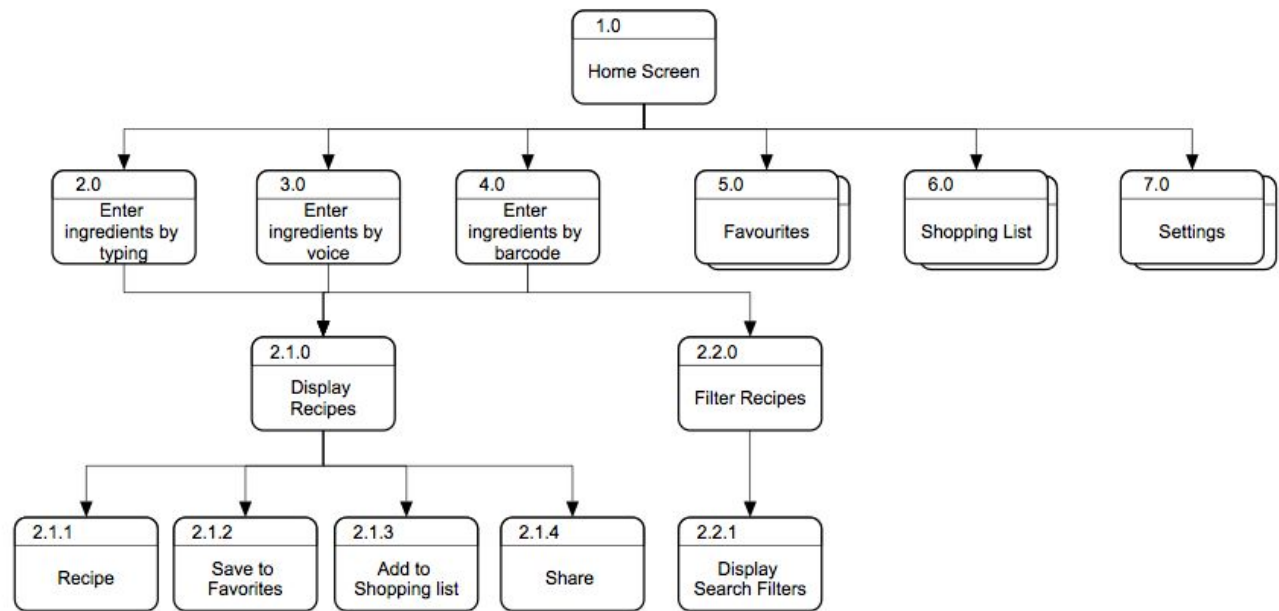
7.1 High Level overview

Based on our requirements gathering and analysis phases described above we have derived the following high level model of our LunchBox app. Upon running our app the user will be presented with a Home Screen with the following high level options:

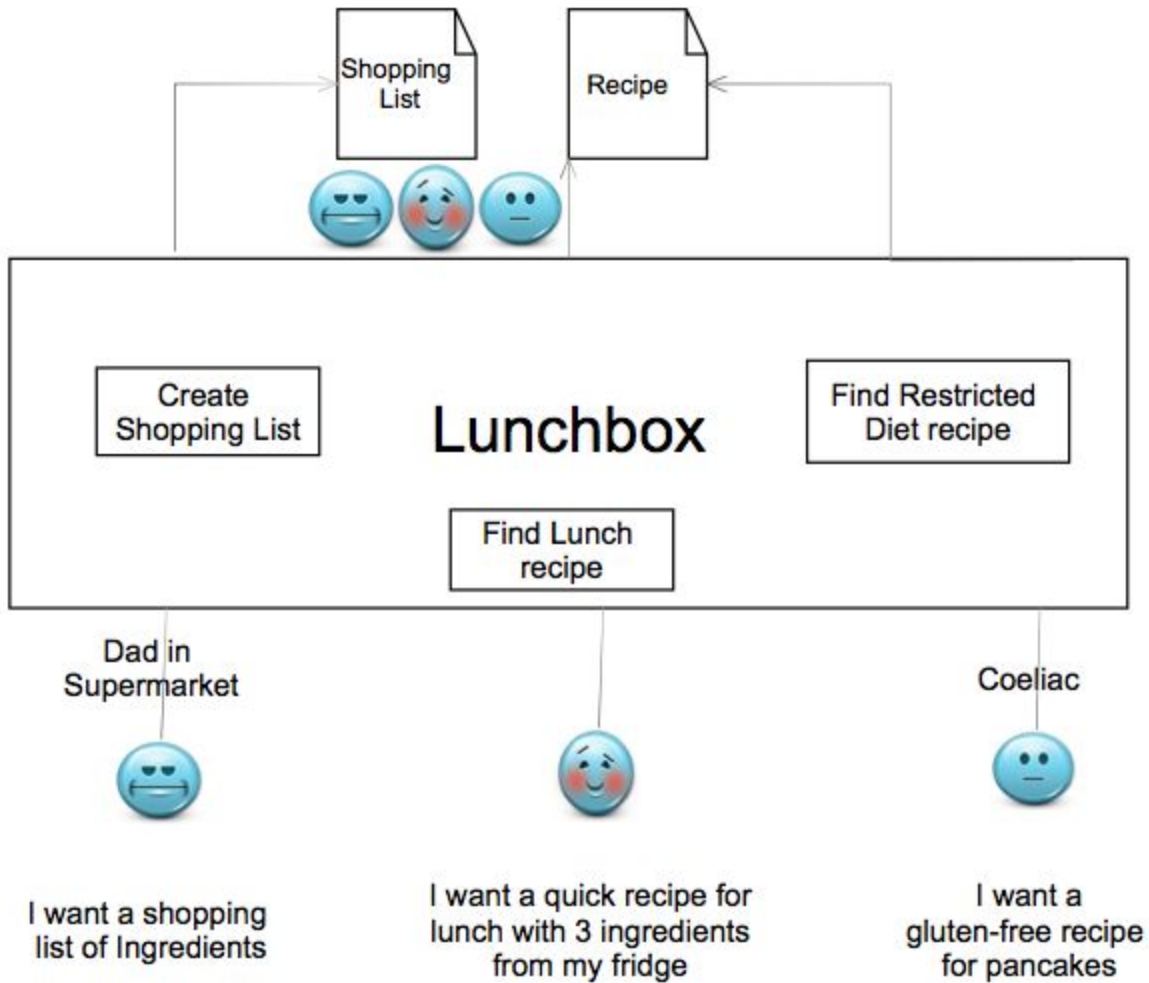
1. Add ingredients
2. Find Recipes
3. View Favourite Recipes
4. View Shopping List
5. View App Settings

Here are some diagrams which outline our main functionalities and user goals.

App Sitemap Diagram



Goal Achievement Diagram



7.2 Functional Modules

The functional modules describe the main functional clusters within our app.

Ref	Name	Description	Complexity
FM-001	Find Recipe	Find and display a Recipe/Recipes based on user specified criteria (user entered ingredients, dietary restriction, preparation time, calorific content, nutritional content, hot or cold)	H
FM-002	Favourites	Create, view, update, add recipe to Favourites.	M
FM-003	Shopping List	Create, view, update, create shopping list from recipe.	M
FM-004	Settings	Allow settings to be viewed and updated for user profile, default recipe filter and social media accounts.	L

Rate the complexity of the functional module H = High, M = Medium, L = low

7.3 Functional Module Breakdown

7.3.1 LunchBox - Find a Recipe

The app will provide a main screen. The main screen will house, amongst other things, the recipe search functions. The recipe search functions are listed below. The search, when initiated, will bring the user to a search results screen. That's detailed below. The user will be able to select a recipe to view from the search screen, will be able to filter the search results, and will be able to favourite the recipes and add the ingredients to a shopping list from the search results and recipe display screens.

Ref	Description	Cross Reference
FR-1.010	Recipes should be searchable using text input. Users will input ingredients they want to use into a textbox in the app home screen. Ingredients should auto-suggest as the user types. The search should default to 4 textboxes, with one ingredient per textbox. The user should be able to increase the number of textboxes using an "add ingredients button"	IR-0002
FR-1.020	Recipes should be searchable by scanning product barcodes to specify ingredients to be used. Users should be able scan a product barcode, get a recognition beep, and scan the next barcode. The text input screen should be updated for each item. Users should be able to specify that the barcode recognition says what the ingredient is, or fills in the textbox with text.	IR-0002

FR-1.030	Recipes should be searchable by voice. Users will be able to speak into the phone microphone. Users should signify input is ended by a pause and the app should confirm the ingredient and then input it into the text field.	IR-0002
FR-1.040	Users should be able to combine the three available input types. Users should be able to switch between modes by pressing the microphone or barcode buttons, or tapping in the textbox.	IR-0002
FR-1.050	The app should suggest the user type the ingredient if the barcode or voice recognition inputs fail.	
FR-1.060	Users should be able to press a search button to initiate a recipe search based on their input.	IR-0002
FR-1.070	The app should check inputted ingredients against the user ingredients preferences, and should flag any inputted ingredients that contravene this list (eg someone with a peanut allergy inputting an ingredient with peanuts).	IR-0006
FR-1.080	Recipe search results should display in a separate search results screen.	IR-0003, IR-0004
FR-1.090	Users should be able to filter search results from the search results screen. There should be options to filter out high fat, high sugar high carb and high salt recipes, to include only hot or cold food, to specify by diet type, ie - Coeliac, Diabetic, Vegetarian, etc.. The user should be able to tap a box for each filter and hit a go button to filter.	IR-0003, IR-0006
FR-1.100	Users should be able to tap on a recipe result in the results screen to bring up a recipe.	IR-0003, IR-0004

FR-1.110	User should be able to tap a button on a displayed recipe and share the recipe to a chosen social media account.	
FR-1.120	User should be able to tap a button on a displayed recipe and view health/calorie information.	IR-0005
FR-1.130	Users should be able to hit/swipe back to exit the recipe, or recipe search results screen, or the main screen back to previous screens or tap forward/swipe to go forward to a screen they have just navigated back from.	

7.3.2 LunchBox – Favourites List

From the recipe detail display screen the user will be able to add the recipe to his/her favourites to re-use.

Ref	Description	Cross Reference
FFL-1.010	User should be able to tap a button on a displayed recipe and save it to favourites list.	IR-0008
FFL-1.020	App should confirm that a recipe has been successfully favourited.	IR-0008
FFL-1.030	User should be able to access their favourite recipes from all app screens.	IR-0008

7.3.3 LunchBox - Shopping List

From the recipe detail display screen the user will be able to add the entire recipe ingredients to his/her shopping list to use while next going food shopping.

Ref	Description	Cross Reference
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FSL-1.010	User should be able to tap a button on a displayed recipe and save it's ingredients to their Shopping List.	IR-0008
FSL-1.020	App should confirm that recipe ingredients have been successfully added to the shopping list.	IR-0008
FSL-1.030	User should be able to add ingredients to shopping list.	IR-0008
FSL-1.040	User should be able to access their shopping list from all app screens.	IR-0008
FSL-1.050	User should be able to create custom shopping lists from their favourites screen, by selecting recipes, or from the recipe search results and recipe display screens.	IR-0008

7.3.4 LunchBox – Settings & Customisation

The main focus here is to enable users to tell the app what their food needs, restrictions, allergies or preferences are, and those of their family and friends, to allow the app to filter returned recipes using this information.

Ref	Description	Cross Reference
SC-1.010	User should be able to create a profile that frames and filters all recipe search. There should be tickboxes for allergies, dietary requirements, and medical conditions that automatically filter all search results.	IR-0006
SC-1.020	User should be able to set multiple profiles (for family members, friends) and enable/disable them to switch those search filters on and off.	IR-0006
SC-1.020	Users should be able to set default recipe search results display. It should be possible to specify that recipe search results are displayed with basic nutritional information, following established	IR-0005

	Irish (and UK) labelling on the front of foods. It should be possible to specify that results display kcal, grams of fat (and saturates), sugars and carbohydrates per 100g/100ml.	
SC-1.030	Users can connect to their favourite social media accounts from the settings screen to make sharing recipes easier and quicker.	
SC-1.040	Auto Updates can be turned on or off to help keep recipes and app updated as well as specifying whether updates happen via WiFi or 3G if applicable.	
SC-1.050	A help/documentation screen is also included in the settings in case users have any difficulty using the app and require support and also to help us monitor performance.	

7.4 Minimum Viable Product

The MVP is an initial paper prototype that can be put into the hands of users for Alpha testing. Our key aim here is Learning. The paper prototype will be released, tested, feedback assessed and reviewed. The feedback will be incorporated into the product backlog, as bugs, suggested changes, new features, and we'll use the feedback to rewrite aspects of the product backlog and re-prioritise existing user stories.

The features and functionality being tested are described in detail in the functional module and functional modules breakdown sections of this document.

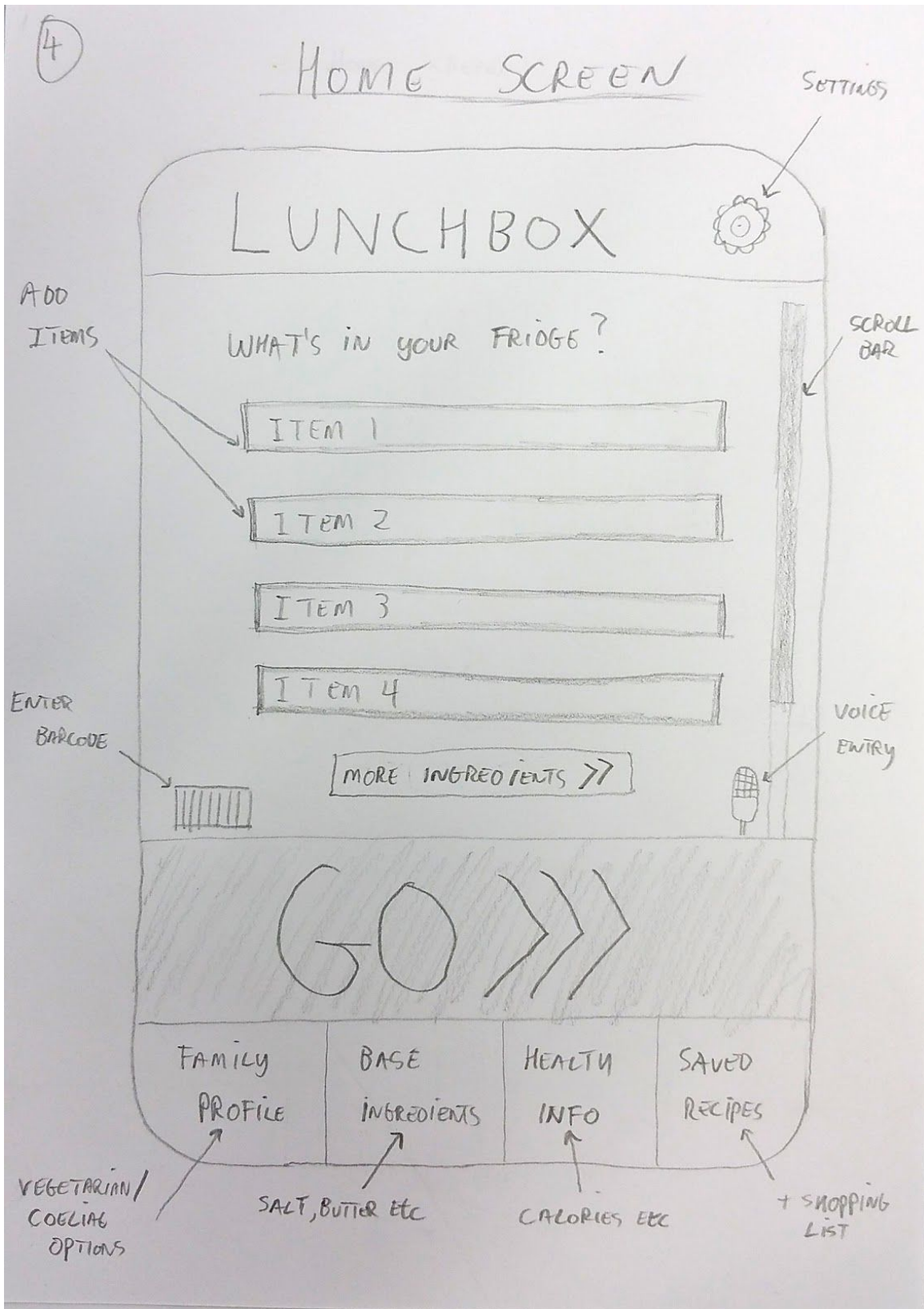
We'll build, so we can test, and learn. We intend to test early on in our project and test it often throughout the project for maximum benefit. The prototypes will give us the insights into how people will naturally use the product.

The core, unique functionality of the app is that it delivers recipes that can be cooked in under 12 minutes. The recipes require little or no skill to prepare. The recipes can be customised and filtered in several ways.

It's these aspects we are building the paper prototype to test, and to learn about.

Build

As stated, we are building a paper prototype for alpha testing. Here it is.



For this cycle we are focusing on the App UI, and user feedback about the core functionality and features. We'll be testing, in paper prototypes the flow through the interface, and the desirability of the functionalities described below (for a deep dive into features and functionality, please refer to the Functional Modules Breakdown Section)

- A database of recipes that take under 12 minutes to prepare.
- Recipe search facility.
- Recipe Favouriting
- Recipe filtering (in settings based on user input about dietary requirements, in search results based on nutritional information, prep time, most ingredients input used, or hot or cold food)
- Ingredient input using text, voice or barcodes
- Simple, easy to follow recipes onscreen
- The ability of the UI to work effectively for all the above, and in a context where the user is using the app while cooking.
- Shopping lists based on favourite recipes

We'll be presenting that mockup as paper sheets, for hands on face to face interviews and in powerpoint presentations on the development website and in person.

Testing

The initial stage of testing - questionnaires, interviews, forum posts and discussions has already occurred, and has fed into and shaped this MVP. Based on that round, we altered an existing paper prototype, and it's this altered prototype we'll be testing.

We're using a hand drawn paper prototype. It's cheap, quick, and easy, and users may feel more comfortable giving detailed, critical or disruptive feedback for a drawing on paper

We'll present the prototype in three formats for Alpha testing.

Storyboards

We'll be using the wireframes as part of storyboards, with text explanations to elicit user feedback. This will be in live powerpoint presentations, and also as embedded presentations on the website. We'll use both structured and unstructured formats to elicit open and closed feedback.

Presentations

We'll be using the wireframe in presentation as the spark for user brainstorming sessions. Here we'll be asking people what they would use this kind of app for. How should they be able to filter ingredients. Who do they think would use it. Whats easy and what's difficult about using an app like this while you are cooking.

Hands on User feedback

We'll be putting paper versions of the prototype in to user hands and asking for feedback on look, feel, and functionality, and we'll be asking users to achieve specific tasks with the paper prototype.

- Search for a recipe.
- Filter the recipe search result by what's in your fridge, or by dietary needs.
- Search for a recipe using just the ingredients in your fridge.
- Search for a recipe and tell the app you are vegan, or vegetarian, or coeliac.
- Favourite recipes.
- Build a shopping list from the app.
- Search for a recipe with 5 ingredients or more.
- Search for a recipe and find out it's nutritional information.

Learning

Based on the feedback, we'll adjust product backlogs, enter new items, and possibly develop alternate UI and navigation for re testing as paper prototypes. We're looking for depth of feedback, hence the lo fi approach, and breadth, so we'll target a broad base of users.

We'll take this feedback, and use it to inform the next iteration, to inform building and rebuilding the product backlog, and to help with prioritising users stories in the backlog. We may also take feedback to help design another round of paper prototyping.

Minimum Feature Set

The Minimum feature set is detailed in the Critical Success Factors section. The paper prototype was determined by the Critical Success Factors, and the features described in the Critical Success Factors (CSF-0001 to CSF-008) can be considered to be the Minimum Feature Set.

8 References

Articles consulted

https://food.thefuntimesguide.com/2009/03/recipe_software_programs.php

<http://lifehacker.com/five-best-meal-planning-apps-1533809184>

http://www.eatingwell.com/shop/healthy_in_a_hurry_app_for_iphone_and_ipod_touch_ipad_android

Apps/websites in a similar space to LunchBox

<http://www.cookingforbusymums.com/blog/lunch/>

<https://play.google.com/store/apps/details?id=com.fridgecheck>

<https://play.google.com/store/apps/details?id=com.cookware.lunchrecipes>

<https://itunes.apple.com/us/app/suchef/id653369376?ls=1&mt=8>

<https://itunes.apple.com/us/app/key-ingredient-2-million-recipes/id384672777?mt=8>

<https://itunes.apple.com/ie/app/bigoven-350-000+-recipes-grocery/id294363034?mt=8>

<https://itunes.apple.com/en/app/eatingwell-healthy-in-a-hurry/id319258887?mt=8>

<https://itunes.apple.com/us/app/lunch-ideas/id720516358?mt=8>

9 Appendix

Appendix 1 : Team Roles, responsibilities and input

(The who done what section below is from the requirements specification part 1 assignment. A similar section was not required in the rubric for part 2 so was omitted.)

On the suggestion of Barry McAdam, we've included a brief precis of what individual team members have contributed to the project thus far.

We'd like to qualify that however, with a comment on the methods, values and media the team have used. The team has been hugely active on Google Hangouts, and Google Drive. It's probably fair to say that no task has been completed by an individual working completely in isolation. Almost every task, aspect, idea and section of the document have been contributed to by numerous team members. All documentation and work in progress was available on, and commented on in Google Drive by all members, as brainstorming documents on Coggle and Drive, and as part of the ever present Hangout Conversation.

Requirements document sections were also broken down into individual Trello cards and each team member added their name to a card to get the work done, moving the card into the Done column when complete and also notifying the team via hangouts.

The team have worked together well, and extensively, to produce the document as a collective effort. Peer review, and peer support were characteristics of the process.

The roles and responsibilities outlined below serve to give an idea of the person who was primarily responsible for delivery. But every task was, to a greater or lesser degree, the work of what we'd like to think of as a cross disciplinary team. That degree might have been great, or as simple as answering a single question.

Derek O'Flaherty took on the role of Product Owner. This flowed naturally as Derek's idea was the app that came to be the project basis. Derek delivered the product tagline, the Concept Overview and the User Needs (in close collaboration with Mary Hurley). He was actively involved in translating this into the Initial Specifications, and in providing substantial feedback on the Wireframes. And in helping design the group logo. All of this flowed quite naturally from Derek's position as Product Owner. He also participated actively in all other conversations and framed the group evolving understanding of the app in ways that underpinned the individual and group effort.

Mary Hurley delivered the Initial Specifications, and, closely collaborating with Derek, the User Needs. She also injected significant clarity into the team experience, locating, summarising and posting information on the brief, and underpinning the team's understanding of the project. Mary was actively involved in brainstorming, and in editing and suggesting on all other tasks, significantly contributing to the individual efforts of all other team members.

Niamh Monaghan took on the Competitor Analysis, navigating the shifting sands of the emerging app definitions to deliver an analysis of close competitors. She set up and maintained the groups coggle - the initial space we used to brainstorm - and setup the group task board on Trello. She was an active participant in all group discussions, actively feeding in to every other aspect of the project on hangout and Trello.

Leon Quinn took on the Wireframes, the Initial Requirements List, and the Device Affordances. He contributed insightfully to all other members in group conversations, and edited and contributed actively on Google Drive. Leon also did major work in organising the groups documentation, rationalising the group Google Drive structure, and uploaded and organised the Group Charter. Leon was also key in designing the group logo and putting together this final document.

Christopher Hennessy was active across the groups media, and communication platforms. He contributed significantly to the groups brainstorm coggle boards, to the development of ideas and the finessing of the tagline, creative brief and participants project tasks. He contributed to Initial Requirements and specifications. Christopher also assisted in editing documents while they were being done.

Keith Brennan took on the role of Scrum Master. He produced a video detailing the ideas and basic themes of Agile Project Management for the team. In practice, the Scrum Master role was swapped between team members as time, expertise and ability dictated. Mary, for example, guided the group initially with understanding the brief, Leon streamlined and organised the documentation on Drive. Niamh organised the groups coggle, the central hub outside Hangout for brainstorming. Derek took a lead in clarifying the product concept. Keith was responsible for the Functional Requirements, the Document Intended audience, Glossary and the Purpose of the Document. Keith also adapted the groups project task board based on Niamh's template.

Further Personas and Scenarios

PERSONA 4



Name: Marcel Queva

Age: 33

Location: Quimper, France

Social media: Pinterest

Biog: Marcel lives with his partner and their one child, dog and horse. He is an artist and so works from home. He grows his own fruit and vegetables at home and sells his produce in the local farmers' market every weekend. Marcel lives off his land and has little money, he therefore likes to create recipes with what he has in his garden.

Scenario

Marcel and his wife have found the app useful for making imaginative salads, baps and wraps from their seasonal produce. They have managed to make extra money at the local market by selling them to the locals and other stall holders for lunchtime snacks and treats.

PERSONA 5



Name: Sarah Hunter

Age: 23

Location: Greenwich Village, New York City, USA

Interests: Music, plays violin for the Brooklyn Symphony Orchestra, volunteer dog walker at the weekend for local rescue shelter.

Social media accounts. Facebook, Twitter

Biog: Sarah is a Web designer for a Consultancy company in Manhattan.

She is also coeliac and very food conscious. Not too keen on eating out but loves to prepare lunches and meals in advance of a hectic week.

Scenario

Sarah just finished a week run of concerts with the Orchestra. To celebrate, the lead violinist has invited a few people back to his house for a party. Sarah wasn't too keen as she's starving and was planning on heading home for some food but has been persuaded to come along. When they arrive at the party, Jack, the party giver, greets them and tells Sarah that he too is coeliac and all the breads and cakes are gluten

free. Soon Jack and Sarah are talking food and recipes. Jack tells Sarah that he actually made the Kale and Goat's cheese Frittata. Sarah takes out her phone and loads her favourite app, Lunchbox and demands the recipe so she can try it herself.

PERSONA 6



Name: Jack Stewart

Age: 41

Location: Galway, Ireland

Interests: Jack is a big gamer and can spend hours online with friends. Gym enthusiast.

Social media accounts. Facebook, Google+, Linked In

Biog: Jack works as a Manufacturing Engineer for a Medical Devices Company. In his free time he trains at the local crossfit gym and is trying to stick to a strict paleo diet but is finding it hard to come up with quick, tasty snacks and meals to meet his dietary needs.

Scenario

Jack is taking part in a big crossfit tournament next week. He has been training and eating well for 4 months and is feeling in good shape. Bill, a crossfit friend of Jack's, admits that he finds eating food with

enough protein and nutrients before tournaments is one of the biggest challenges for him. Jack suggest that Bill come food shopping with him on Saturday and he'll give him some ideas. They meet for lunch on Saturday and head to the supermarket afterwards. Jack shows Bill the Lunchbox app that he is reading his shopping list from. He tells him that he uses it to track the food he needs for recipes that are also stored on the app. He tells him that it will give him recommendations for lunch ideas and even tell him the calorie/nutritional content of his meal.

Persona 7



Name: Tim Gillespie

Age: 21.

Location: Dublin.

Interests: Reading, socializing, cycling.

Social media accounts. Facebook, Snapchat

Biog: Tim is a philosophy student. He works part time in a relative's shop to cover his rent but he has very little money left over and can't afford to buy takeaway food or eat in restaurants. To save money he buys cheap food but as he cannot cook, eating is a miserable experience. He is frequently hungry.

Scenario

Tim is in the habit of picking up cheap ingredients as and when they become available in the local shops, This means that his cupboard and fridge usually have quite a random mix of foodstuffs, some of which he is unsure how to prepare. Tim uses the app to get simple recipes that will enable him to eat as cheaply as possible. He taps the ingredients into the app and it comes up with something he can try. Sometimes he doesn't have the all ingredients required, so he improvises. He is shopping more sensibly now based on the recipes he has come across on the app and focusing on cheaper ingredients. Like chickpeas and lentils. His confidence in the kitchen is improving too. He likes to tell friends about his culinary successes. He likes that the app can help him to get good food from random ingredients.

PERSONA 8



Name: Jane Anderson

Age: 46

Location: London, England.

Interests: Cooking and entertaining .

Social media accounts. Blogger, Facebook

Biog: Jane lives in a detached two storey house with her husband and three school going children. She has her own food blog. She works part-time in a small doctor's surgery.

Scenario

Jane needs to get to work every morning juggling her kids and the school run. She needs to create quick easy lunches for her kids, while also remaining mindful that the lunches she produces are not processed foods.

User feedback – What we learned

Potential users were provided with a questionnaire containing a wireframe of the app's home screen and asked a number of questions.

the app concept – is there a need for this?

navigating the features on the wireframe – does our prototype meet user requirements? and

are there potentially critical features that may be missing or additional features that might be useful

Summary

Respondents overwhelmingly validated for us that an app like this would be useful and well received (90.9%)

Respondents by and large reacted well to the user interface for the primary function of finding a lunch recipe (86.4%)

Respondents had difficulty in negotiating how to generate a shopping list (43% could not figure it out clearly)

A number of suggestions were made on new features which could be incorporated into the app down the line - including potential commercial links with companies like Weight Watchers.

The shopping list factor proved to be considerable more popular than we had previously understood it to be. As a result it has been incorporated as a critical success factor and is now part of a minimum viable product.

User responses indicated that there may be a market for a suite of similar apps down the line.

Recommendations

As a result of user feedback the team has decided to simplify the home screen to make navigation clearer.

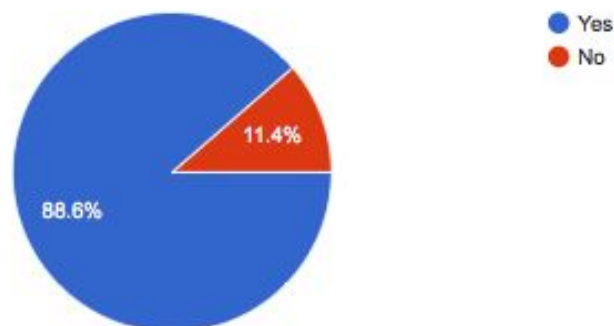
- Reduce the number of buttons available on the home screen
- Clarify the on-screen language
- Simplify the input process
- Include shopping list function among Critical Success Factors
- Add diabetic to dietary requirements filter
- More scope for rating, comparing and sharing recipes should be considered.

Assumptions, constraints and risks section of our requirement specification document have been further clarified.

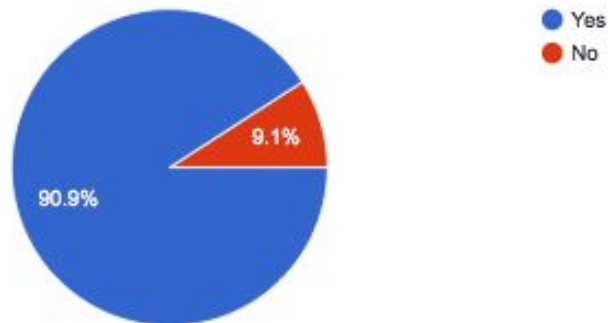
Requirements considered a critical success factor for a minimum viable product have been refined to take account of user feedback.

Validating the need - Using an online form containing a wireframe of the app's home screen (See appendix) respondents were asked a number of questions designed to validate the concept. The response was overwhelmingly positive.

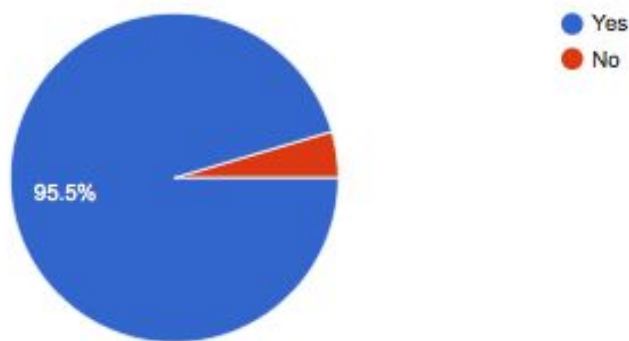
Are you interested in an app that can provide tasty lunch ideas? (44 responses)



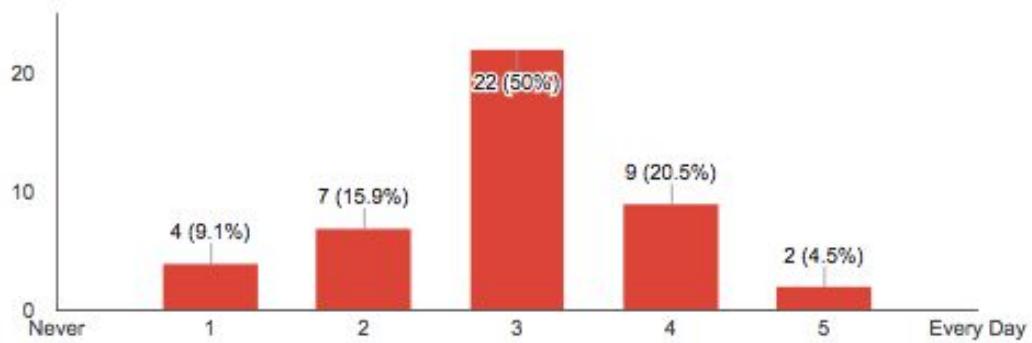
Would you use an app to help give you lunch ideas? (44 responses)



Would you recommend an app like this? (44 responses)



How often do you think you'd use an app like this? (44 responses)



Positive comments included:

- Something I'd find really useful
- a bright and novel idea based upon our current celebrity chef food culture
- Great idea for families
- very useful for busy parents - a shopping list would serve as a good prompt in the supermarket. A meal/lunch planner would also be very useful when planning the weekly shop
- It would be a good app - for varying dinner choices and keeping shopping lists handy.
- I think it is a great idea and look forward to trying it!!

Other comments included:

- I have no impression of the app because I have never used the app. My impression of the "concept" is good. Badly phrased question!!
- A meal/lunch planner would also be very useful when planning the weekly shop
- UI needs a little more, I would not have found shopping list, maybe show all the buttons on a scroll or easy toggle. For newer models of phones change the buttons with force touch

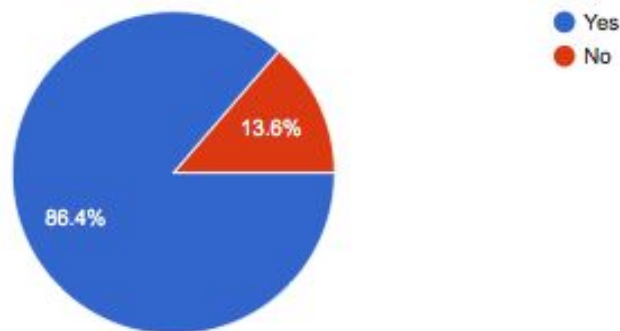
Validating the requirements

We showed a sketched wireframe of the app home screen and asked: *Looking at this sketch, how would you go about finding a recipe for ingredients in your fridge?*. No further instructions were given.

Again the feedback was positive but showed a drop in the confidence of respondents.

Do you think the sketched prototype above is easy to understand and use?

(44 responses)



A statistically significant number of respondents were unable to figure out the interface. While most respondents identified that to use the app successfully they would input relevant ingredients and click GO a number did not see this as straightforward as we had envisaged.

Comments included:

- Type in items available / product barcodes / verbally input them and press go?
- Not sure I know how the ingredients are added, is there a database that needs to be set up first? I can see you can select items from the fields 'what in your fridge' but is this a drop down choice?
- don't know
- Google recipe by ingredients
- You would select a number of input ingredients and click on "go". Refine choice using options at the bottom of the screen eg calories etc.
- Isn't the idea that the app would suggest recipes to me??
- Enter the items you have in the fridge and click Go. You could also enter the barcodes (or maybe just scan using your app??). You can also add additional details regarding allergens and health

Subsidiary functions

We asked respondents to address features other than the primary function of providing a lunch recipe:
How would you go about creating a shopping list from the sketched prototype above?

More than half of respondents either did not know or were unclear from the wireframe. Here's what they said:

- Don't know
- Put in ingredients I don't have and see if there's nice recipes then save the recipe
- I wouldn't know except for written note under saved recipes
- Lunchbox?
- scan barcode?
- look at the ingredients section or saved recipes section
- I wouldn't use this app to generate a shopping list. I would use it to get a recipe idea at the point of cooking. We buy our main ingredients once or twice a week is meat and main veg. as long as I have 90% of the ingredients I will either substitute or make the recipe without those ingredients.
- Key in the items in the fridge and the type required
- No idea
- beside each item - you could add a button named 'add to shopping list' and maybe also have a shopping list prompt on this screen so that it can be reviewed quickly and added to from items that are not already on the list/in the fridge
- Using the items to think of meal ideas and then find the missing ingredients and make shopping list
- Click on items if not present add to list or check existing recipes
- Don't know
- Click on the shopping list icon where you can add items from a possible drop down list?
- I would hope not to have, I would already have the required items

We asked respondents about accessing saved recipes. This is a feature that, once one has sufficient recipes "favourited" would serve as a meal planner. We asked *How would you go about finding a recipe that you saved yesterday from the sketched prototype above?* Only two respondents (7%) were unclear.

- Don't know
- A saved folder?

The User Interface

Respondents were then asked specifically what changes they would make to the interface to improve it. *What changes or additions would you make to the sketched prototype above if you feel it's not clear or easy to use?*

34% of respondents (15) made suggestions for changes, some of them had more than one suggestion. Three thought the screen should have less information:

- Less options at bottom of screen
- Looks a bit crowded to me
- Top level easy to understand not too sure about the 4 buttons under Go
- Too much on the screen - KISS

Five respondents suggested changes to the way information was displayed, either in its organization or clarity of the typeface:

- Make the family profile and basic ingredients and healthy info buttons come before 'Go'.
- Have pictures to select from to make it easier to choose ingredients.
- Symbols and text otherwise easy to understand
- So if u are adding items directly to this or are you selecting from drop down in which case it should read *select*, it probably makes more sense if it was interactive and not just prototype
- What's in your fridge - should this be a 'looser' title - "What's in your kitchen?" "What do you have" - so you can include bread (key ingredient for many lunches) or tinned ingredients

Additional Features and Potential Scope

We asked respondents: *What else do you think an app like Lunch Box should be able to do?* There were 11 responses (39%). This is what they suggested grouped into three broad areas.

TRACKING AND PLANNING:

- I'd like it to store the items I have in my fridge (say on a weekly basis from one shopping trip to the next) and reduce/delete items if I decide to use a recipe. Otherwise I have to input the items each time I want a recipe and this would become tedious if using regularly. Otherwise it's an app for occasional use.
- Maybe join with partners for missing ingredients - SuperValu online shopping etc?
- List supermarkets nearby that have food on my shopping list on offer
- Best before dates for short shelf items
- Meal planner?
- List of meals. meals that match - ie. roast chicken today - chicken stir fry with left overs the next day.

DIETARY REQUIREMENTS:

- Can u set individual profiles for kids etc
- Diabetic meals and the nutritional breakdown

STORE, SCORE AND COMPARE:

- Can I save recipes from elsewhere on the web?
- Can it become a reference library for recipes I like. I currently have a folder in my favourites bar on Google that I save recipes I like in. In my settings can I select my preferred chefs or sites I would like the app to search first for recipes eg bbc.co.uk or southern living.com or Jamie Oliver / yotam ottelengi
- Tie recipes to Chef's who authored them
- Show recipes from other users similar to the ones that I make to help me vary what I eat.
- Show me how many people have used the recipe that's recommended
- Photographs of meals made

COMMERCIAL:

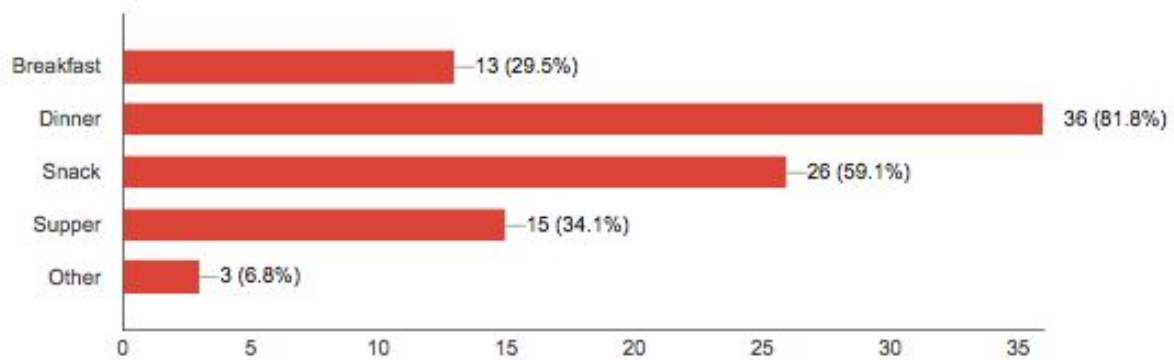
- (Indicate whether a recipe is) compatible with Slimming World and Weight Watchers
- Join with partners for missing ingredients - SuperValu online shopping

While the app arose primarily as an idea for people required to make lunch for themselves or others, many respondents felt it could have a wider application.

Most respondents could think of other applications:

Would you use this app for tasty ideas for meals other than lunch? If so when?

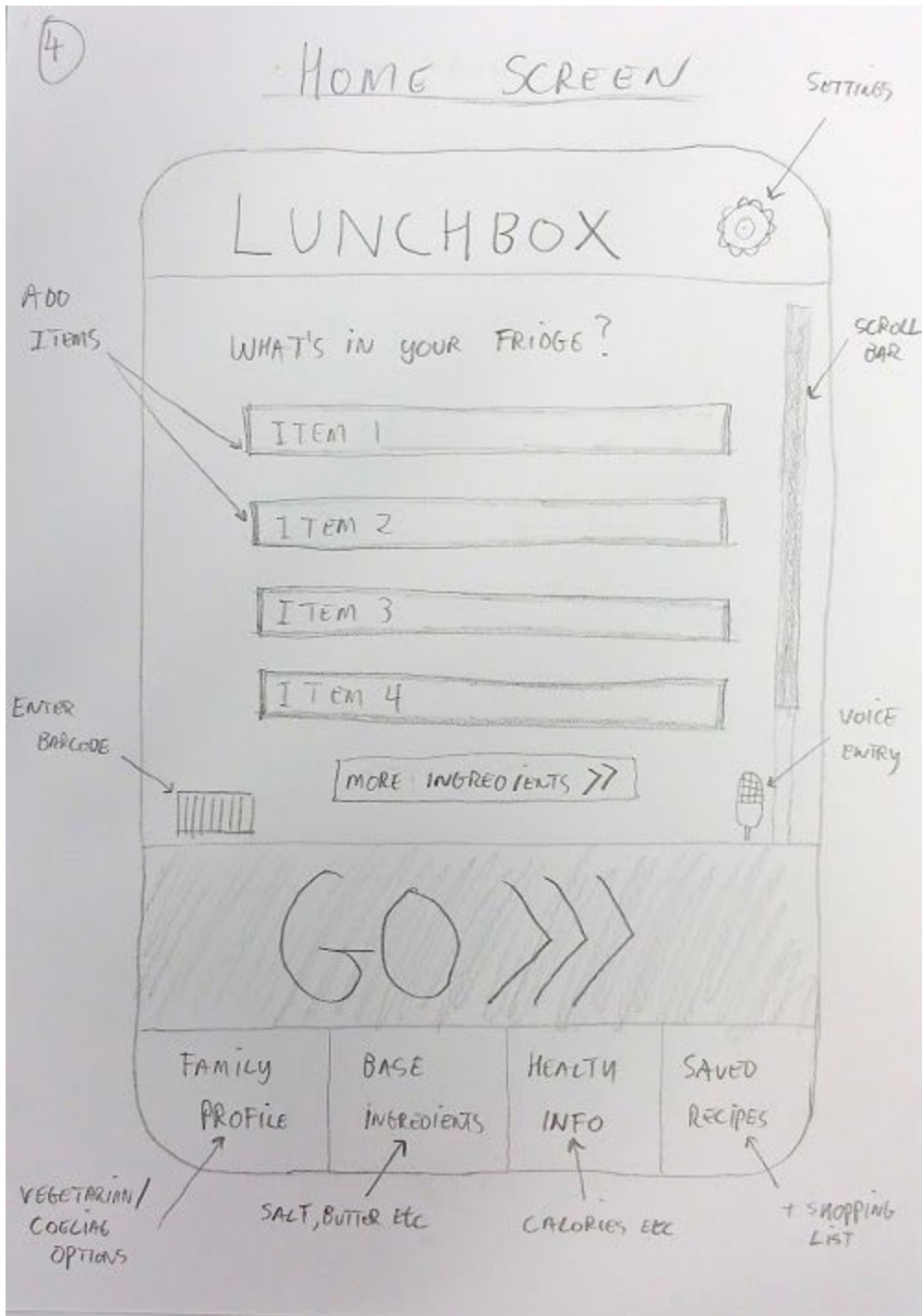
(44 responses)



This result points the way to the potential for a suite of apps for different meal ideas eg DinnerBox, BrunchBox, SnackBox etc.

The results of the questionnaire are appended below.

User Survey: Responses in full



44 responses

[Edit this form](#)

Summary

Lunch Box

LunchBox Prototype Sketch

Home Screen

Questions

Above is a sketch of how the app's Home screen is proposed to look. Looking at this sketch, how would you go about finding a recipe for ingredients in your fridge.

Go

Add items in space provided and press go

type in food items into item boxes 1, 2, 3 and 4 then press go

I'd fill in the four items and press 'Go', although I don't understand why family profile and base ingredients come after 'Go'

I'd add items and click go

I would fill in items 1 2 3 etc and then hit go

Base ingredients

fill out/pick required items on screen

By entering the items of food in your fridge

Assuming I have inputted my profile ie vegetarian, allergies (nut/dairy allergies), foods I dislike (we never cook with parsnips so don't show recipes with parsnips) If all this is done then Input 2 or three ingredients into app. Already do something similar in Google eg put in aubergine and chicken.

I always know what is in my fridge so its quite easy. I would buy the products with the recipe in mind. If I'm looking for a recipe I just google it.

I would enter ingredients in item1, item2 etc and click go

Put in all items and press go

Type in items available / product barcodes / verbally input them and press go?

Put in the ingredients and press go

Enter items into the item list and press go

Not sure I know how the ingredients are added, is there a database that needs to be set up first? I can see you can select items from the fields 'what in your fridge' but is this a drop down choice?

don't know

I would add items that I found in my fridge in the item list and press go

pick base ingredients, then add food from the fridge list - it would serve as a good prompt to remind you what's in the fridge and therefore should save food going out of date before its used up. Assume you pick a few items + base ingredients and then press 'GO'

Google receipe by ingredients

Add items and click go

Dial in the ingredients you have available & tap GO!

Click on items then click Go to generate recipes or click on saved recipes

Enter 3 items & click go

You would select a number of input ingredients and click on "go". Refine choice using options at the bottom of the screen eg calories etc.

Isn't the idea that the app would suggest recipes to me??

Enter the items you have in the fridge and click Go. You could also enter the barcodes (or maybe just scan using your app??). You can also add additional details regarding allergens and health

Go button

You would type in the ingredients in the lines provided and then press go

Press Go

Input items and press GO

Google

Scan the barcode or write in items manually into the slots 1-4 (or more etc). Press go and it will do the hard work?

Input the ingredients as Item 1, Item 2 etc but maybe they should be Ingredient 1, 2, 3 etc

Enter ingredients in boxes

Not sure accessing via phone

Enter your ingredients and press go

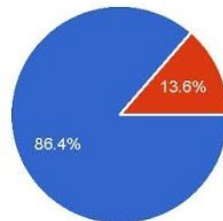
click Saved Refcipes

Key in items and press go

Add your items, enter any dietary restrictions and click Go. Is there going to be a

database of items to choose from?

Do you think the sketched prototype above is easy to understand and use?



Yes 38 86.4%

No 6 13.6%

What changes or additions would you make to the sketched prototype above if you feel it's not clear or easy to use?

Less options at bottom of screen

Make the family profile and basis ingredients and healthy info buttons come before 'Go'. Have pictures to select from to make it easier to choose ingredients.

Looks a bit crowded to me

If it can give you the nutritional information including sugars Carbs etc

Its very simple and easy to use

Top level easy to understand not too sure about the 4 buttons under Go

So if u are adding items directly to this or are you selecting from drop down in which case it should read select, it probably makes more sense if it was interactive and not just prototype

Looks good to me

Symbols and text otherwise easy to understand

Ensure you can scan the barcode Whats in your fridge - should this be a 'looser' title - "Whats in your kitchen?" "What do you have" - so you can include bread (key ingredient for many lunches) or tinned ingrediatsns

Does it have option to say how many you want to make lunch for? Young family ie kids

Option for Vegan

Too much on the screen KISS

Do you start with what you want for lunch or what's in your fridge that may not add up to a suitable lunch

Maybe include a family profile also, eg number of adults, number of children, ages of children. Could be used to generate daily required calories, match with suggested

meals.

How would you go about creating a shopping list from the sketched prototype above?

Don't know

go into saved recipes to get the ingredients?

Put in ingredients I don't have and see if there's nice recipes then save the recipe

I wouldn't know except for written note under saved recipes

Go into the saved recipes and creat it from there

Lunchbox?

scan bardode?

look at the ingredients section or saved recipes section

Saved items

I wouldn't use this app to generate a shopping list. I would use it to get a recipe idea at the point of cooking. We buy our main ingredients once or twice a week is meat and main veg. as long as I have 90% of the ingredients I will either substitute or make the recipe without those ingredients.

Key in the items in the fridge and the type required

Click the Saved + shopping list button

Not very clear but would hit the saved recipes

Press shopping button?

Not very clear - saved recipes ?

Saved Recipes only because it has the + shopping list

So I see under saved recipes shopping list

No idea

I would use the saved recipes button

beside each item - you could add a button named 'add to shopping list' and maybe also have a shopping list prompt on this screen so that it can be reviewed quickly and added to from items that are not already on the list/in the fridge

Using the items to think of meal ideas and then find the missing ingredients and make shopping list

By clicking on saved recipes I would not of known only its wrote

Go to the saved recipies & shopping list tab

Click on items if not present add to list or check existing recipes

Don't know

Click on the shopping list icon where you can add items from a possible drop down list?

I would hope not to have, I would already have the required items

Use the saved recipes and shopping list button

From saved recipes

You would press the saved recipes button and go from there

Does it hold the remaining amount of an item. Items that were in fridge previously but currently not in stock. Recipes suggestions where 1-2 items are not available.

By using saved recipes

Voice entry or input via basic ingredients button

Go to the fridges of your family, friends and neighbours and get a list of ingredients.

I don't understand the question.

Using the saved ingredients? It would auto generate a list you could choose from to make your shopping list using items you regularly have in your cupboards/fridge ??

From the saved recipes

Notes

Depending on answer to last question shopping list seems to be too far last in right corner

Use the saved recipes button

Pick recipe(s). List will be Recipe ingredients - items listed as being in the fridge.

Go to saved recipes

Click on Saved Recipes

How would you go about finding a recipe that you saved yesterday from the sketched prototype above?

Saved Recipes

Click on saved recipes

Saved recipes

Saved items

going into saved recipes

i'd click saved recipes

Go into saved recipe icon

Recipe button

look at saved recipes section

Bottom right corner - saved recipes

Saved Recipe.

Click on Saved and hopefully easy to navigate from there

Press savend recipes button?

Press saved recipes

As above

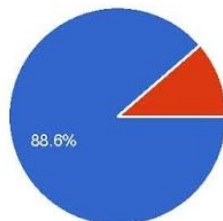
don't know

I would use the saved recipes button

click on saved receipt?

Saved recipe
Same as above
Saved recipe tab
Bottom right in saved recipes
Saved recipes button
Click on the saved recipe icon
A saved folder
Use the saved recipes and shopping list button
Saved recipes
You would press the saved recipes button
Saved recipes and items not in stock would be highlighted. Does the app record the amount of each ingredient available
By using saved recipes
Screenshot of the recipe
Saved recipies
Saved
Click saved recipes?
From the saved recipes
Click bottom (R)
Hit saved recipe button
same button as above
Got to saved recipies
Click on Saved Recipes and they should give a list by dates

Are you interested in an app that can provide tasty lunch ideas?



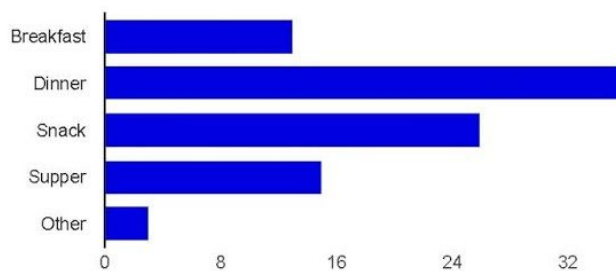
Yes	39	88.6%
No	5	11.4%

Would you use an app to help give you lunch ideas?



Yes **40** 90.9%
 No **4** 9.1%

Would you use this app for tasty ideas for meals other than lunch? If so when?



Breakfast **13** 29.5%
 Dinner **36** 81.8%
 Snack **26** 59.1%
 Supper **15** 34.1%
 Other **3** 6.8%

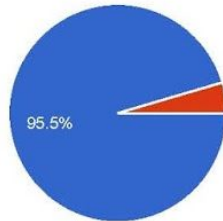
How often do you think you'd use an app like this?



Never: 1 **4** 9.1%
 2 **7** 15.9%

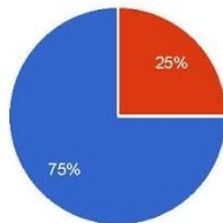
3	22	50%
4	9	20.5%
Every Day: 5	2	4.5%

Would you recommend an app like this?



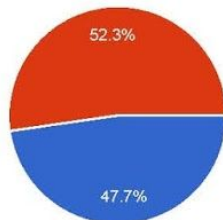
Yes	42	95.5%
No	2	4.5%

Would you be interested in viewing the calorie content of a recipe?



Yes	33	75%
No	11	25%

Would you be interested in restricted diet recipes such as for Coeliacs, Gluten free, etc?



Yes	21	47.7%
No	23	52.3%

Is there anything else you'd like to see an app like this do?

Yes **17** 38.6%
 No **27** 61.4%

What else do you think an app like Lunch Box should be able to do?

I'd like it to store the items I have in my fridge (say on a weekly basis from one shopping trip to the next) and reduce/delete items if I decide to use a recipe. Otherwise I have to input the items each time I want a recipe and this would become tedious if using regularly. Otherwise it's an app for occasional use.

Diabetic meals and the nutritional break down

Can I save recipes from else where on the web? Can it become a reference library for recipes I like. I currently have a folder in my favourites bar on Google that I save recipes I like in. In my settings can I select my preferred chefs or sites I would like the app to search first for recipes eg bbc.co.uk or southern living.com or Jamie Oliver / yotam ottelengi

List supermarkets nearby that have food on my shopping list on offer

Show recipes from other users similar to the ones that I make to help me vary what I eat.

Photographs of meals made

Show me how many people have used the recipe that's recommended

Can u set individual profiles for kids etc

Tie recipes to Chef's who authored them

meal planner? list of meals. meals that match - ie. roast chicken today - chicken stir fry with left overs the next day. Best before dates for short shelf items

Maybe join with partners for missing ingredients - SuperValu online shopping etc? would also be very useful for childrens lunches

How long to prepare a recipe. Give recipe suggestions, including some that would need only 1-2 additional items so you could expand your fridge variety.

Compatible with Slimming World and Weight Watchers so it would tell you how many syns

Have a filing area that you can save your receipes at.

Get the basics right and expand the app then. Get your audience captivated with the basics of good simple lunch ideas first

Break down foods into "carbohydrate, protein, complex carb, dairy,"

Share recipes and post to other social media sites, image sharing of users recipes will help promote the app

record 'favourite' foods for family members. Also record best before dates of items when added to the fridge. Designate some foods as staples and give warnings when these need to be replenished.

What's your overall impression of the Lunch box app?

interesting

seems like a good idea

Interesting and useful

Something I'd find really useful if list reflects use as above

Its a great idea

Very good

very clever

a bright and novel idea base upon our current celebrity chef food culture

Great

I have no impression of the app because I have never used the app. My impression of the "concept" is good. Badly phrased question!!

Great idea for families

Useful

Good idea and useful

Good but hard to tell based on a sketch.

Good for people who want ideas and variety for meals

Looks good

Great idea// schools could get involved (food dudes)

good idea

Interesting

very useful for busy parents - a shopping list would serve as a good prompt in the supermarket. A meal/lunch planner would also be very useful when planning the weekly shop

Very good idea

Could be a good utility app, UI needs a little more , I would not of found shopping list , maybe show all the buttons on a scroll or easy toggle. For newer models of phones change the buttons with force touch

Great idea!

Good idea would help generate ideas for meals

Good idea, but would use more for evening meals as tend to have light lunch. Always stuck for dinner ideas, would say busy mums would use it, so possibly worth targeting that market- meals for kids/pleasing all the family is always difficult!

It would be a good app - for varying dinner choices and keeping shopping lists handy.

I think it is a great idea and look forward to trying it!!

I think it would work well

Really good!

Looks good and easy to use

Good

Very clear looks good

Looks interesting, if it is easy to use

good

Very useful, always looking for lunch ideas. Keep the ingredients simple, if I have to select my ingredients from a high list of no so common items then it would turn me off.

Simple everyday items.

Easy to use, clear and basic.

I wouldn't find it useful....it's time consuming to scan I'm or type in each items ingredients....you can bypass it and quickly find recipes in Google based on your selection.

Too much info on the screen, maybe have some of these tabs on a second page/screen

Great idea

Good idea name indicates lunch only reposition as a broader name to reflect more meal time offerings

Very interesting

Great start. Could it be linked to supermarket apps so special offers can be highlighted and maybe recipes created using special offer items.

Excellent idea

Would be very handy to have especially if you are home late and don't have much time to cook something

Name (optional)

Note: The remainder of the user responses document contains names and contact details, which we have not included here.