



W I N T E R

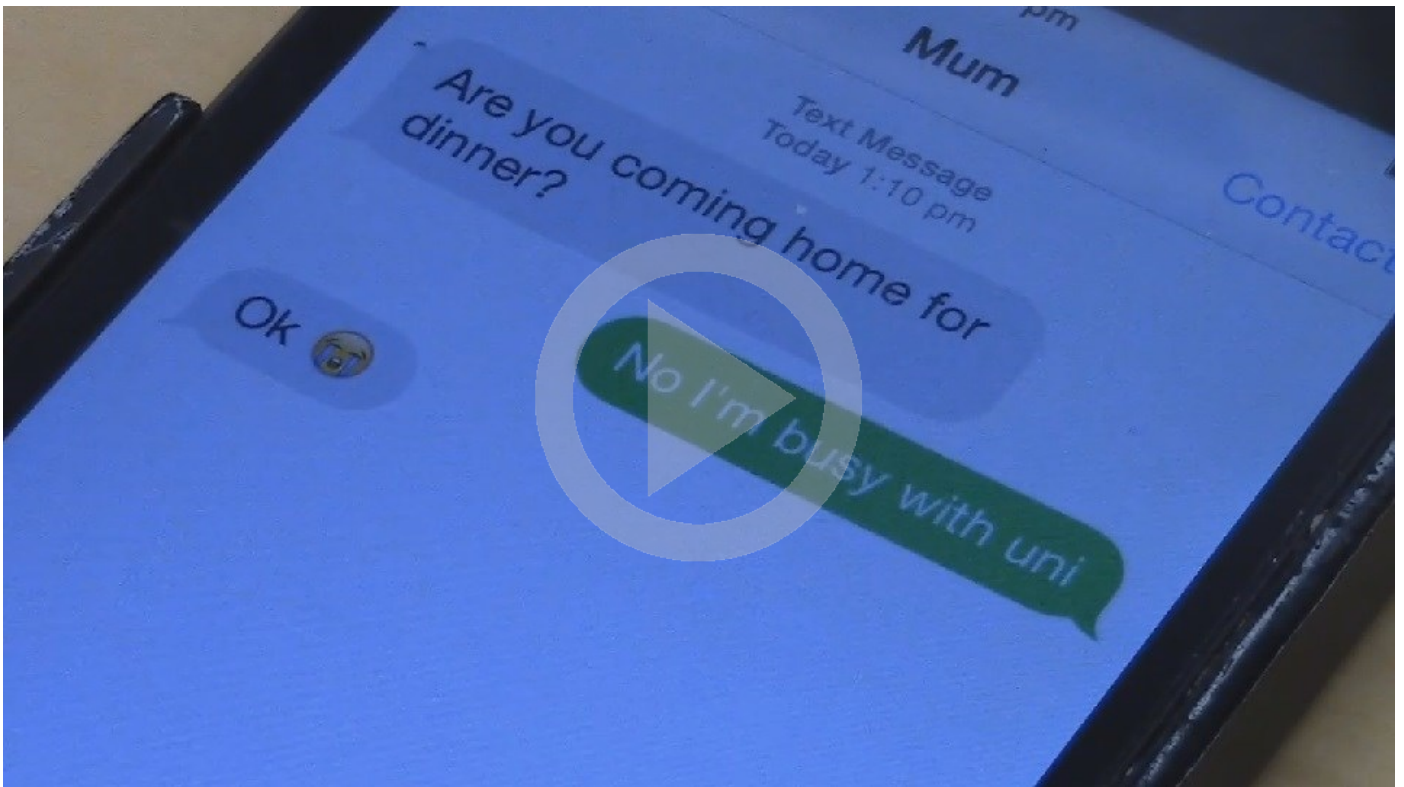
SMART KITCHEN APPLICATION

Lisha Li's
Portfolio Documentation

WINTER

SMART KITCHEN APPLICATION

WHAT IS WINTER?



Link: <https://vimeo.com/111500090>

Winter is a mobile application that monitors your connected kitchen appliances as well as food storage and its conditions anywhere through WIFI or 3G. It learns your cooking habits overtime to accurately predict your preferences and recommend ideal recipes based on what ingredients are available on hand.

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SMART KITCHEN APPLICATION



Allows you to keep an eye on your appliances



Monitors your ingredients and knows when it expires



Recommends you recipes based on your ingredients



Control your appliances on-the-go through your smart devices

WHAT'S THE PROBLEM?

People are living busier lives and since cooking from scratch can take a considerable amount of time, we are turning towards easier but unhealthy alternatives such as fast-food or frozen meals for convenience. Not only is our perception of what is considered quality food declining, we are also spending more money, eating healthier, losing cooking skills and spending less time with family in exchange for time.

"Over the last 20 years, we see increased amounts of eating out because of convenience, because of busy schedules, because of changing family lifestyle and women increasingly in the workplace,"

RACHEL ANKENY,
UNIVERSITY OF ADELAIDE

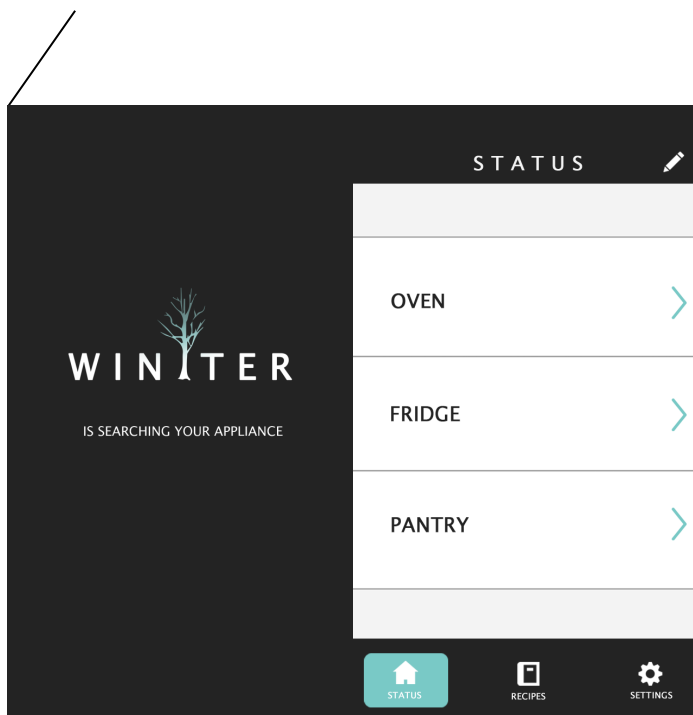
HOW WILL WINTER HELP?

By making cooking easier and promoting people to cook with what they have available at home, Winter will help save money and encourage cooking with simple step by step instructions. The ability to monitor your storage inventory and remote control over appliance will save time with shopping or cooking when you are away from the kitchen. The accompany website contains information on Winter as well as recipe management.

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SMART KITCHEN APPLICATION

WHAT ARE THE FEATURES?

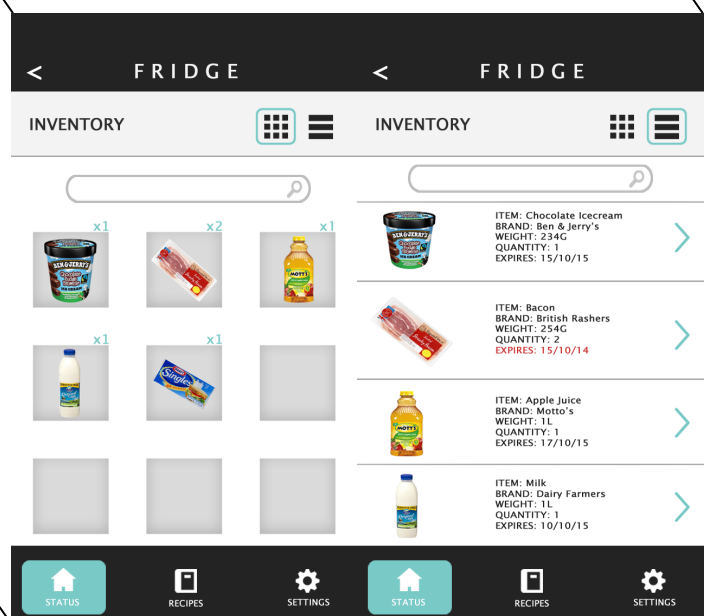


CONNECT AND MONITOR YOUR KITCHEN APPLIANCES

Ever wondered what temperature is the oven or how full is the fridge? Simply connect your smart kitchen appliances to the Winter application to start monitoring its status. You can easily keep an eye on all your smart appliances in one single application.

KNOW WHEN YOUR INGREDIENTS EXPIRE

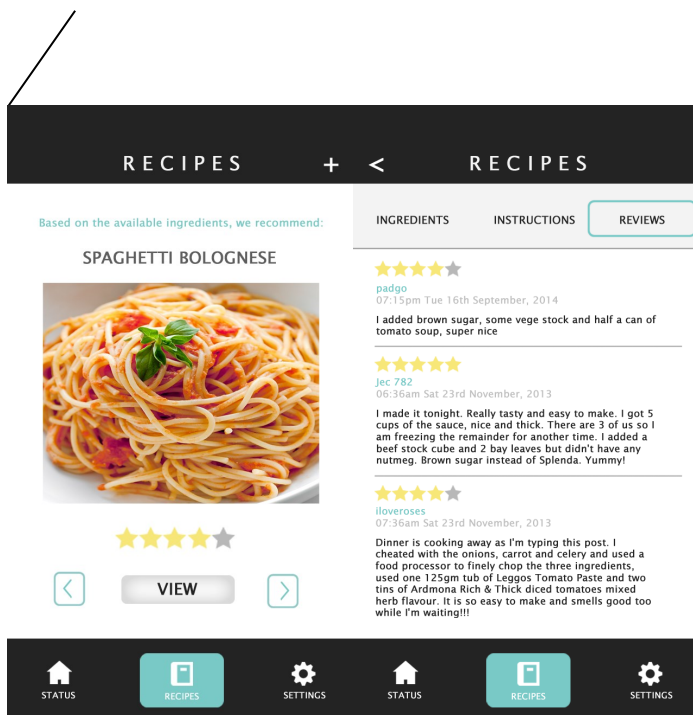
Items you place in any smart fridges or pantry synced to Winter are automatically scanned and store into the database to be monitored. You can analysis its properties and know when ingredients are about to expire because the database is constantly updated in real time to ensure accuracy.



WINTER

SMART KITCHEN APPLICATION

WHAT ARE THE FEATURES?



RECOMMENDS RECIPE BASE ON WHAT INGREDIENTS YOU HAVE

Save time and money by searching for recipes based on ingredients you already have. Winter's custom recipe search engine determines what you have in your inventory then cross search online and through Winter's own collection of user submitted recipes to recommend the perfect recipe for you.

REMOTE CONTROL YOUR APPLIANCES ANYWHERE

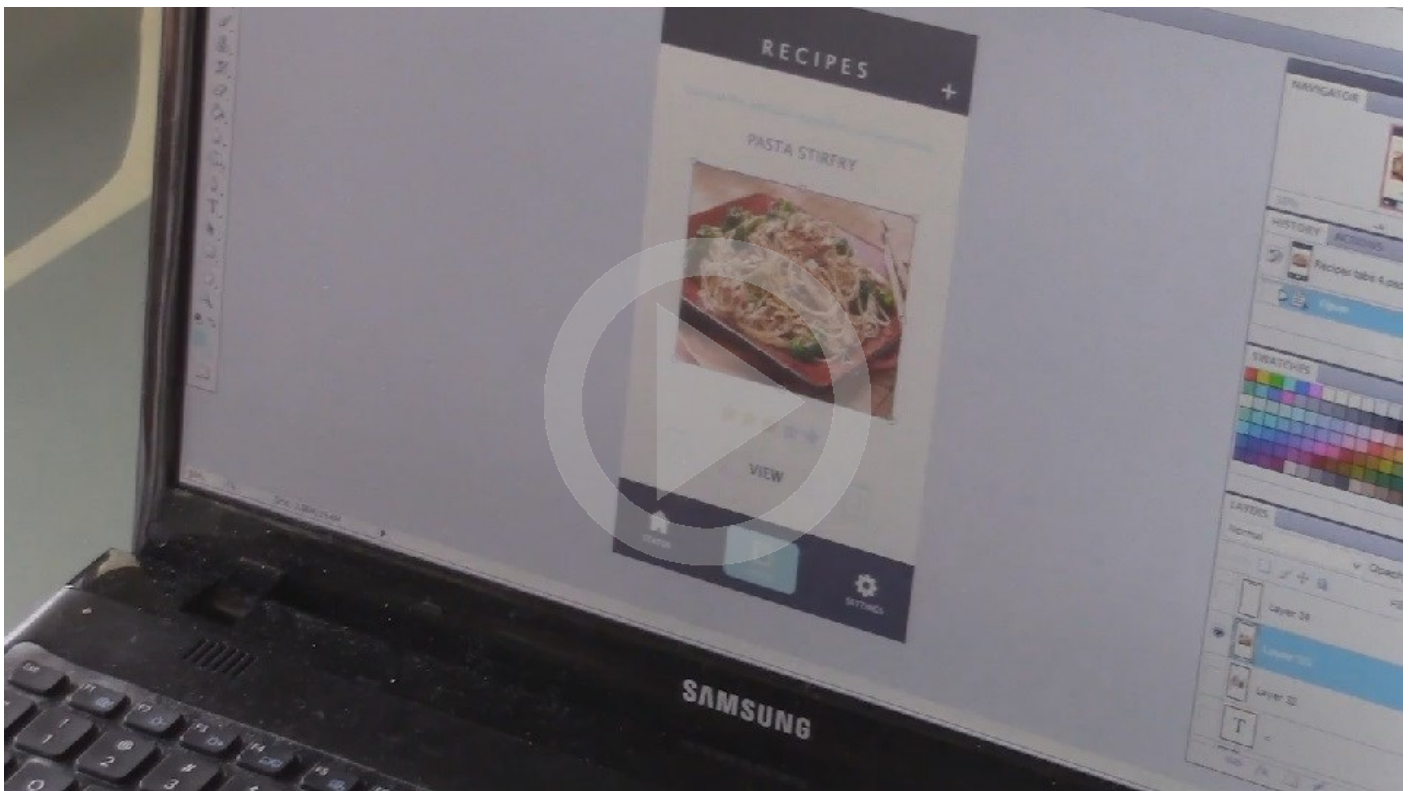
Can't wait for get home and eat after a long day? Preheat your oven before you get home and minimise cooking time. Winter works like a remote for you smart appliances. As long as you have a stable WIFI or 3G connection you can control your appliances through the app anywhere, anytime.



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THE DESIGN PROCESS



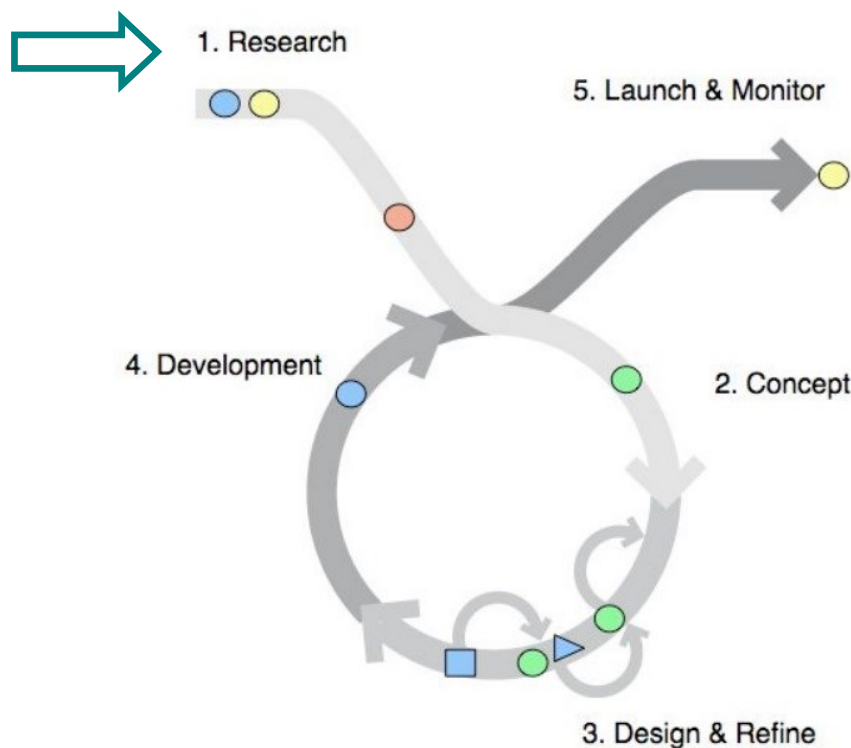
Link: <https://vimeo.com/111500091>

Winter was created by a team of two from the University of Sydney in 2014. This is the process we used to design this project. I was mainly in charge of the overall concept, wireframes, information architecture and content while my teammate focused on the graphic aspect of the project such as mockups, logos and icons. Our approach to this project is user centred.

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SMART KITCHEN APPLICATION

DESIGN PROCESS



USER RESEARCH

We began the project by determining our target audience and conducting initial user research through surveys and interviews to determine their needs and requirements. We decided our main target audience are students followed closely by single living alone and large families. My partner created the online survey while I conducted personal interviews.

My aim was to discover their personal cooking horror/success stories to get a better understanding of how people use their kitchen and their eating habits. From the 5 people I interviewed, I discovered most don't cook or rely on someone else to cook and is thus, worried about their cooking abilities in the future when they're alone. When questioned what meal they are most confident in making, a majority answers instant noodles.

"With everything becoming so convenient, I'm worried about my lost of cooking skills over time."

JESSICA,
UNIVERSITY STUDENT

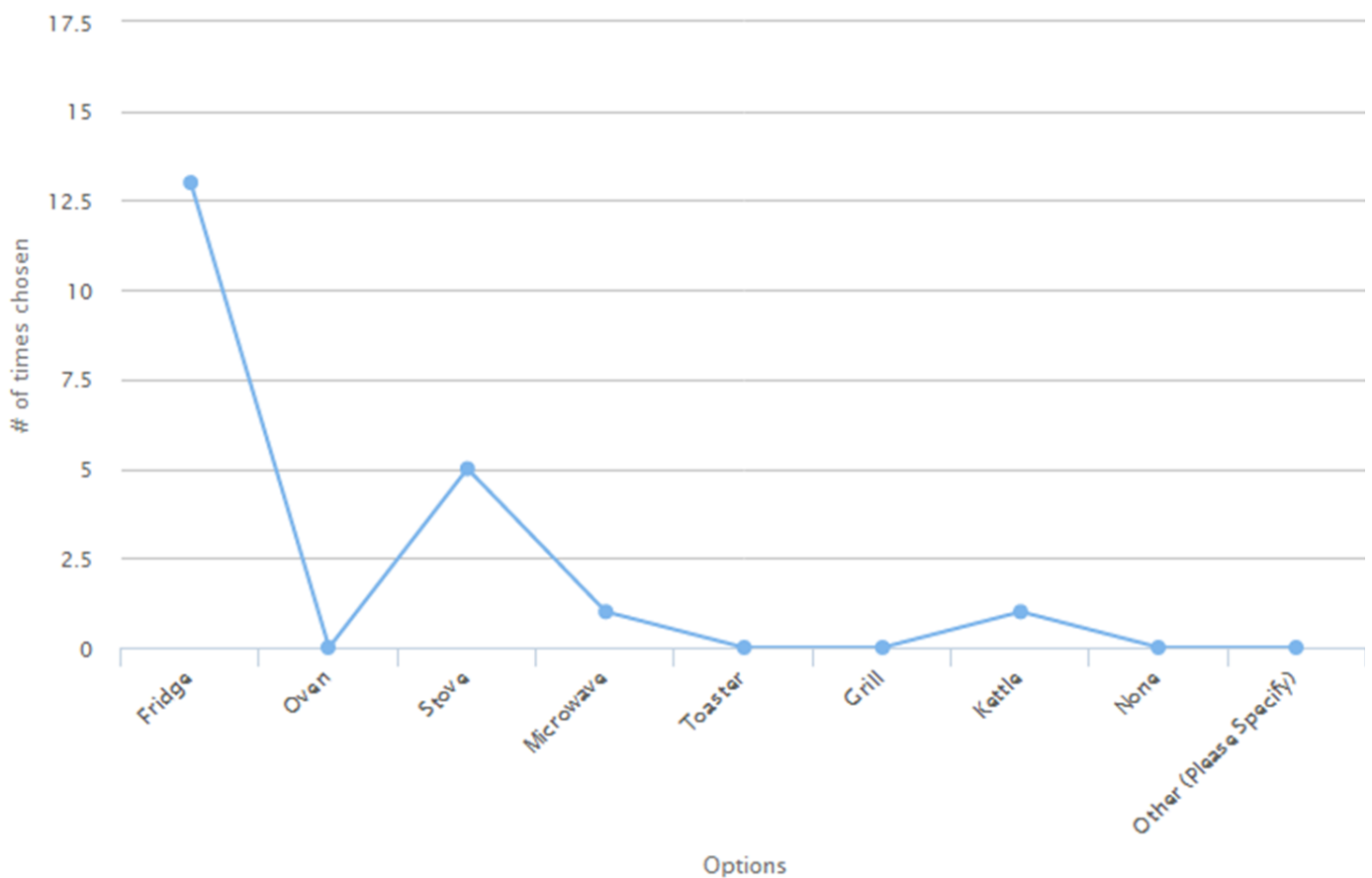
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DESIGN PROCESS

USER RESEARCH

What is your most used appliance in the kitchen? Please select only one.

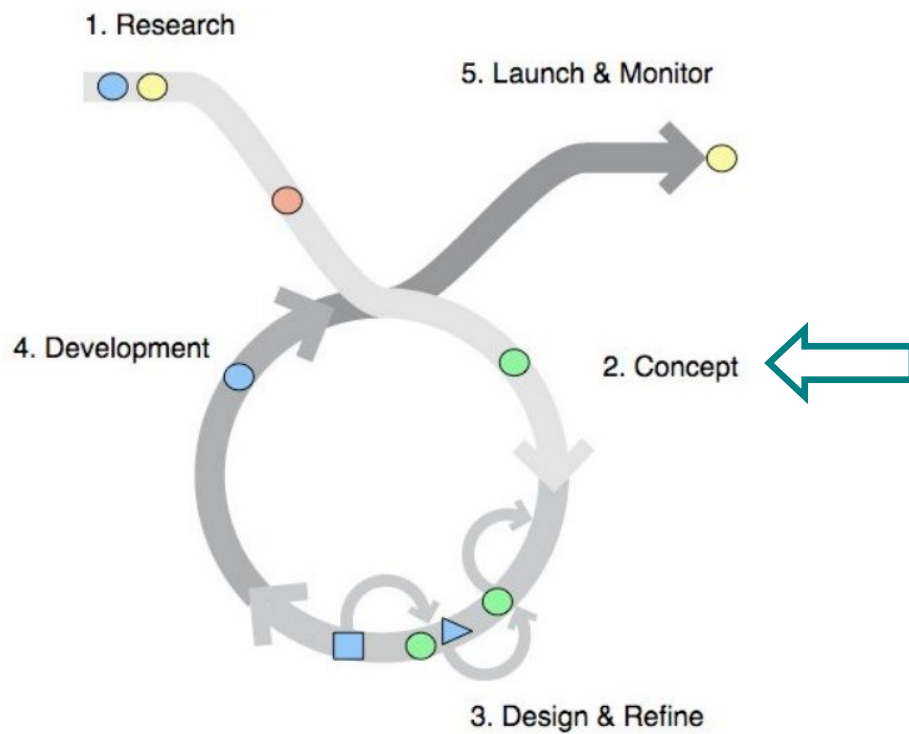


Overall people use the fridge the most and thus we focused Winter on fridge functions such as ingredient tracking. We found out that people are reluctant to leave their kitchen unattended and as a result not open to the idea of remote controlling appliances since they are afraid of accidents.

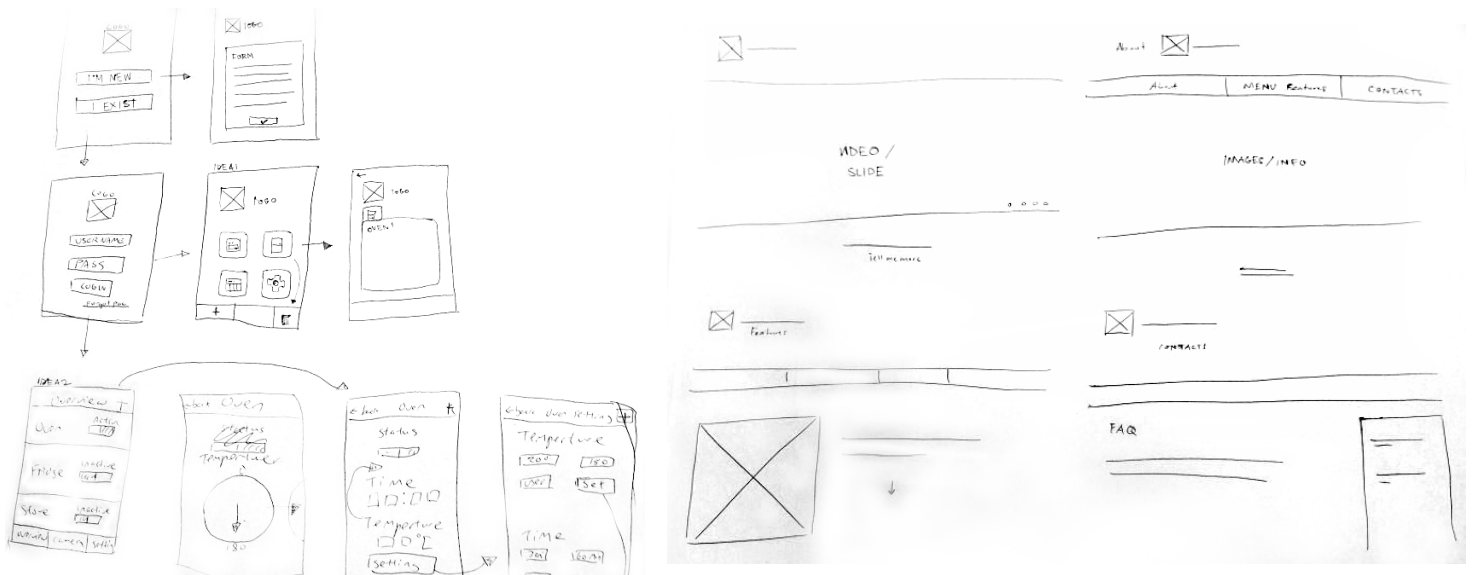
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DESIGN PROCESS



SKETCHING WIREFRAMES



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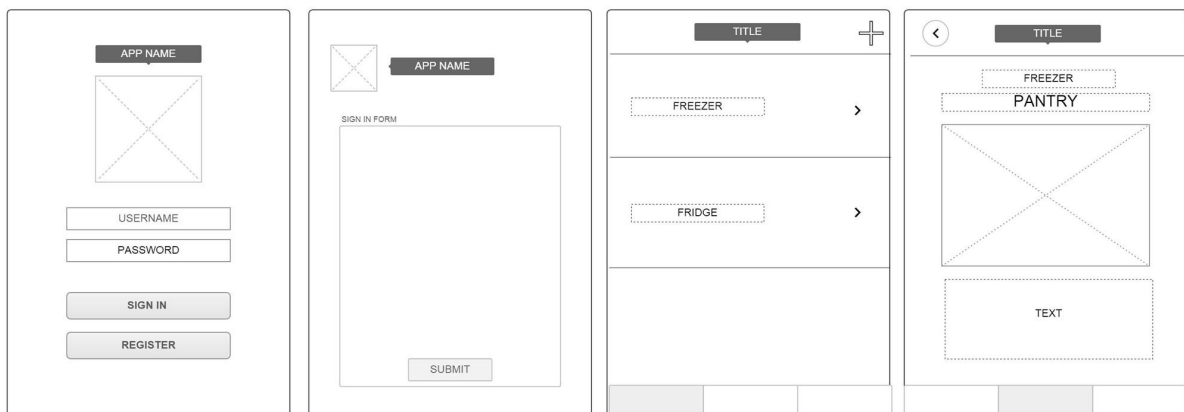
DESIGN PROCESS

DIGITAL WIREFRAMES

APPLICATION DESIGN 1



APPLICATION DESIGN 2



APPLICATION DESIGN 3



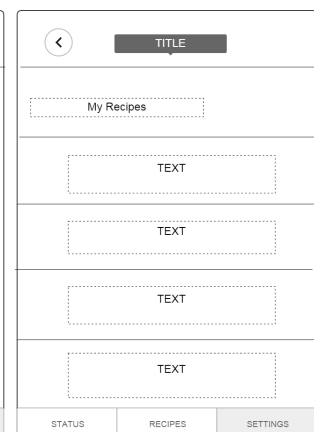
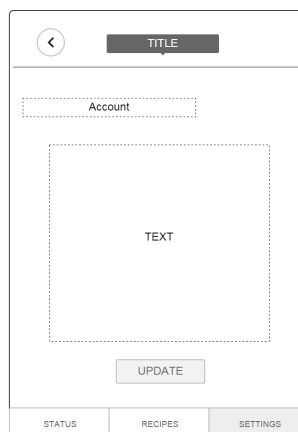
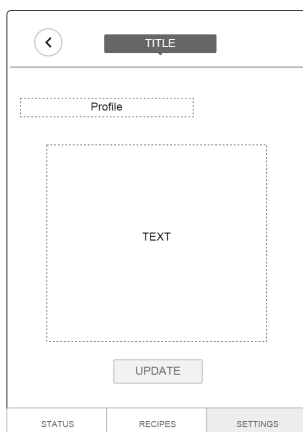
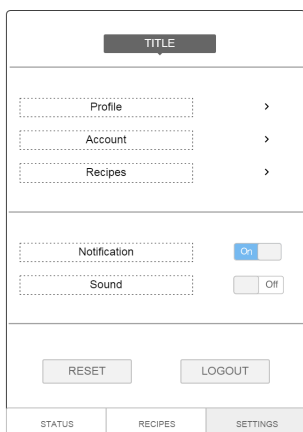
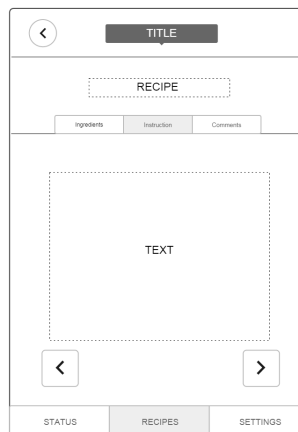
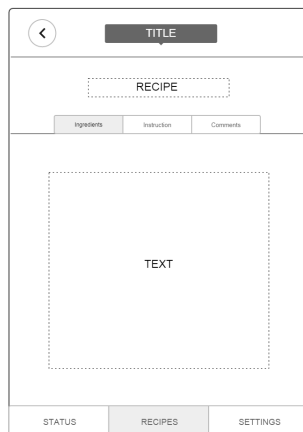
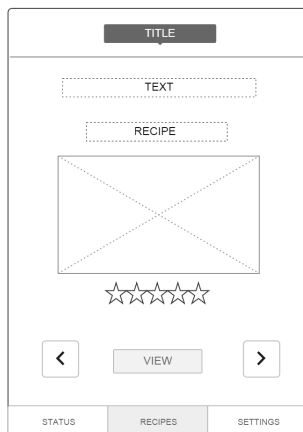
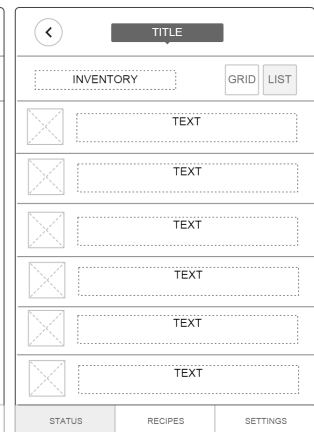
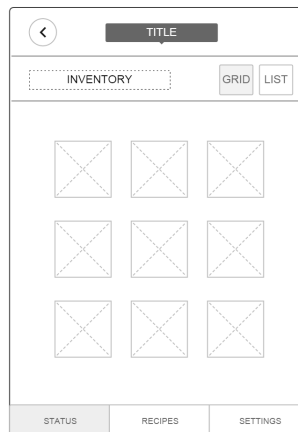
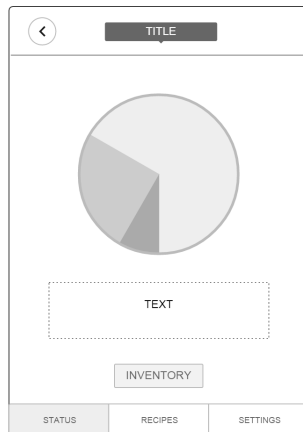
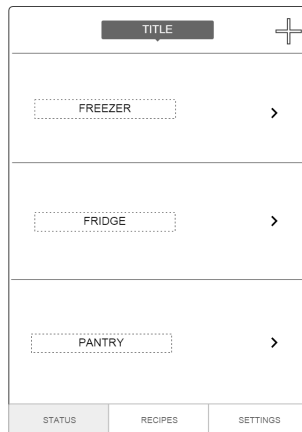
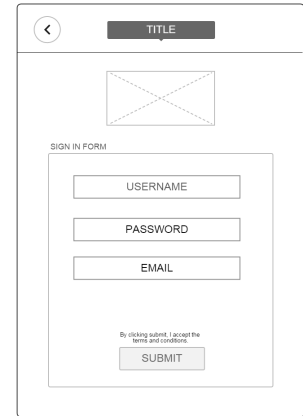
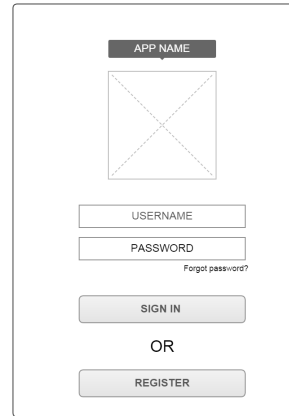
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DESIGN PROCESS

DIGITAL WIREFRAMES

APPLICATION FINAL DESIGN



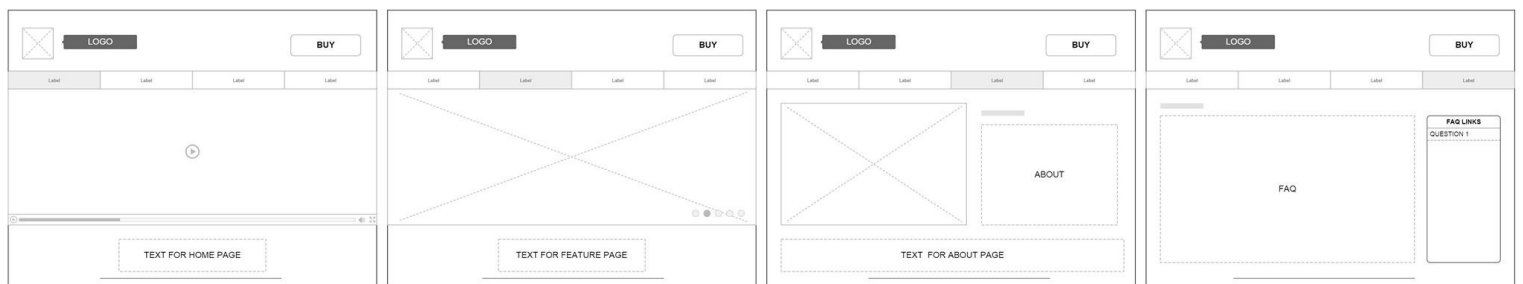
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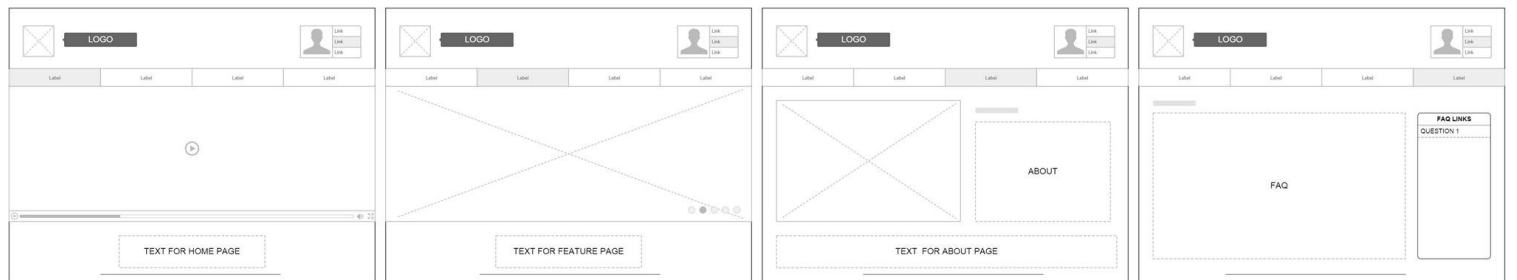
DESIGN PROCESS

DIGITAL WIREFRAMES

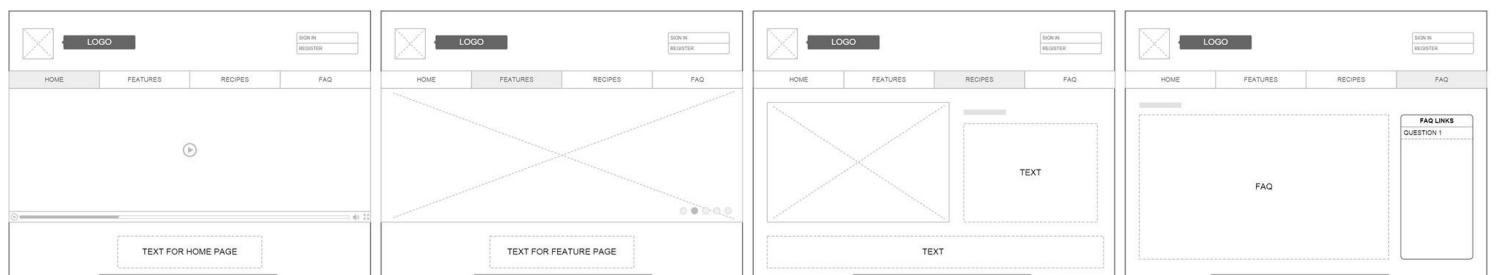
WEBSITE DESIGN 1



WEBSITE DESIGN 2



WEBSITE DESIGN 3



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SMART KITCHEN APPLICATION

DESIGN PROCESS

DIGITAL WIREFRAMES

WEBSITE FINAL DESIGN

The wireframes illustrate the layout and structure of the website, including the header, navigation menu, main content area, and footer. The design is clean and modern, with a focus on user experience and functionality.

The wireframes are organized into a grid of 13 pages, each showing a different view of the application:

- Home Page:** Features a large hero section with a placeholder for a logo and a search bar. The main content area is divided into sections for featured recipes and a list of recipes.
- Login Page:** Includes a login form with fields for username and password, a "Remember me" checkbox, and a "Forgot your password?" link.
- Register Page:** Includes a registration form with fields for username, password, and email, a "Remember me" checkbox, and a "Forgot your password?" link.
- Search Page:** Features a search bar and a grid of recipe cards, each with a placeholder for a recipe image and title.
- Recipe Detail Page:** Shows a single recipe card with a large image placeholder, a title, and a description.
- Footer:** Contains links to "About", "Contact", and "FAQ" pages.

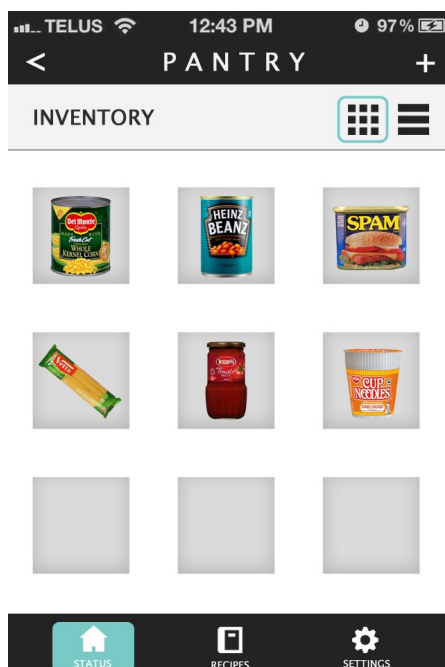
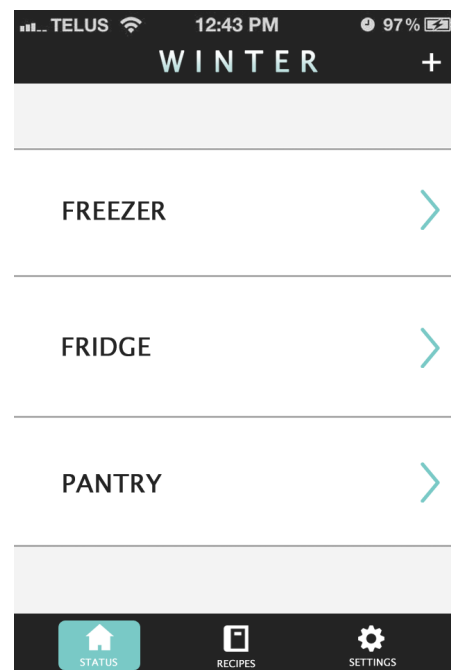
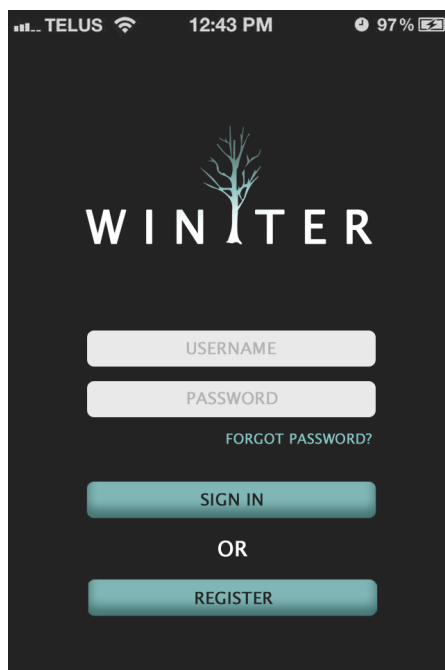
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DESIGN PROCESS

DIGITAL MOCKUPS

INITIAL APPLICATION MOCKUPS



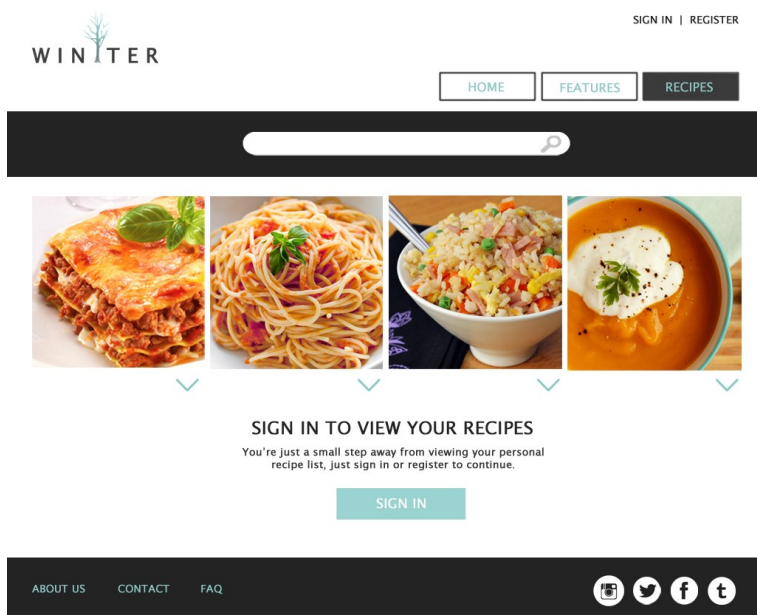
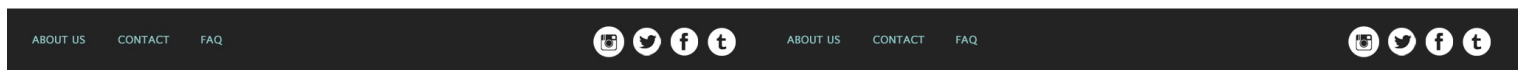
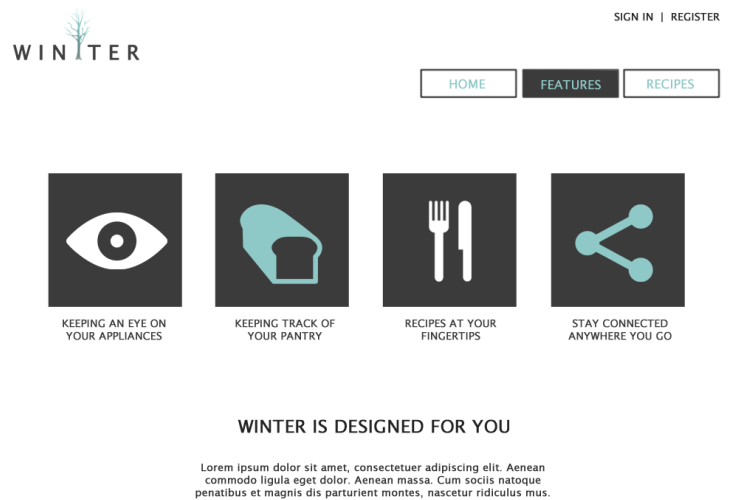
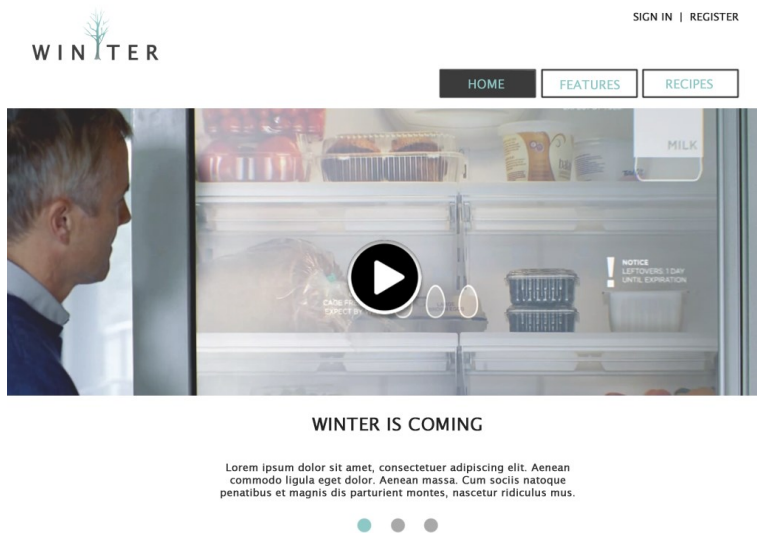
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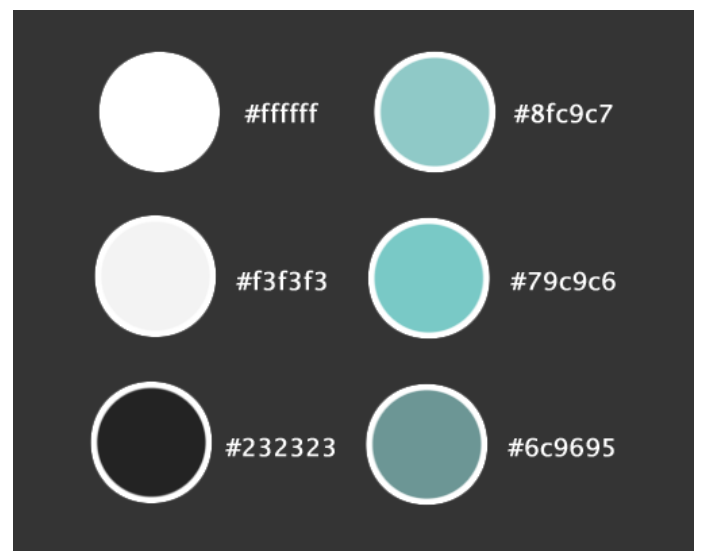
DESIGN PROCESS

DIGITAL MOCKUPS

INITIAL WEBSITE MOCKUPS



COLOR SCHEME



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SMART KITCHEN APPLICATION

DESIGN PROCESS

EXTRAS

LOGOS

 WINTER

WINTER


WINTER


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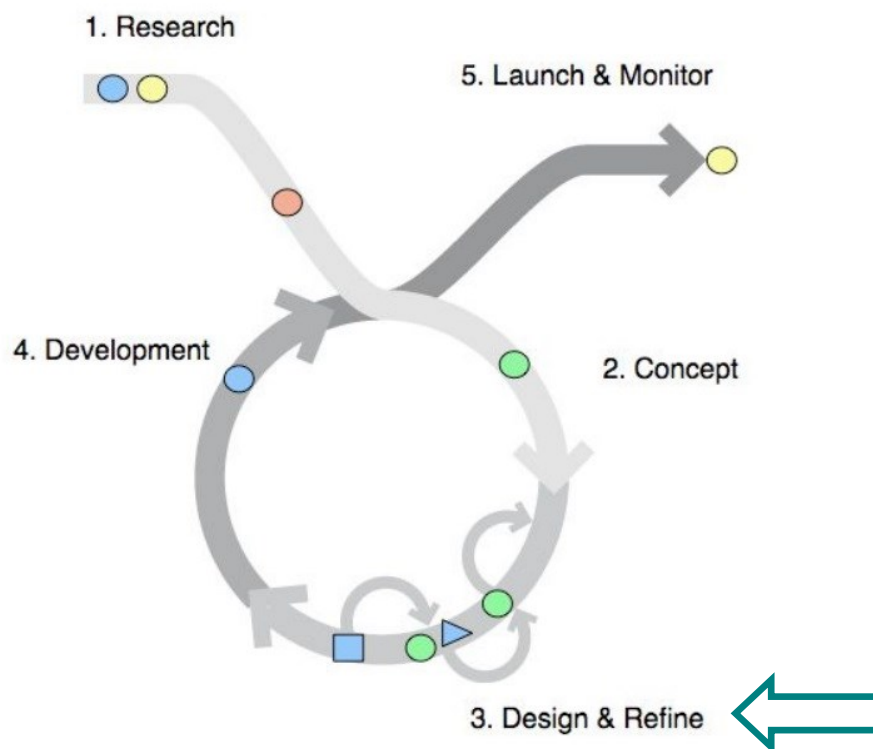
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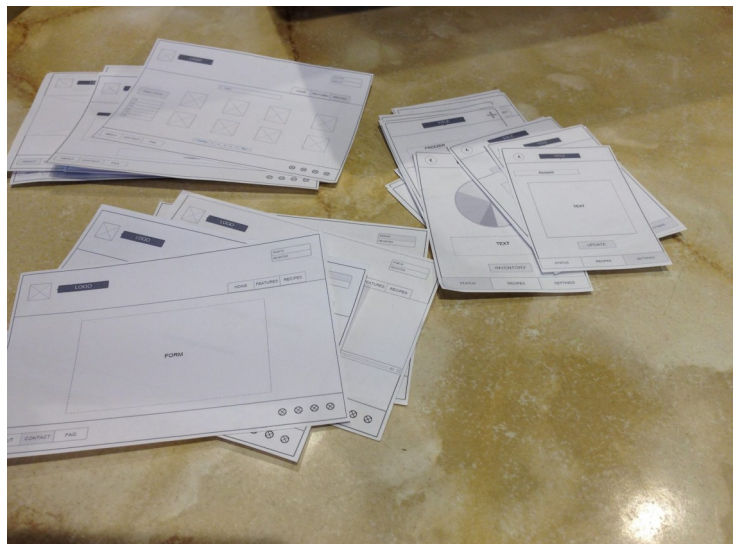
DESIGN PROCESS



USABILITY TESTING

Participations were invited at random from university as students were our main target audience to conduct a one on one 30 minute session of usability testing based on the initial mockups. The aim of each session is to capture the participant's general demographic, navigation choices, task completion rates, comments, overall satisfaction ratings, questions and feedback.

I conducted the testing regarding the application while my teammate covered the website.



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DESIGN PROCESS

USABILITY TESTING

OVERALL EASE OF USE



"I suggest maybe a categories section (similar to the Jamie Oliver's site) where you can choose specific types of recipes such as Christmas dishes, I think I'll find that useful"

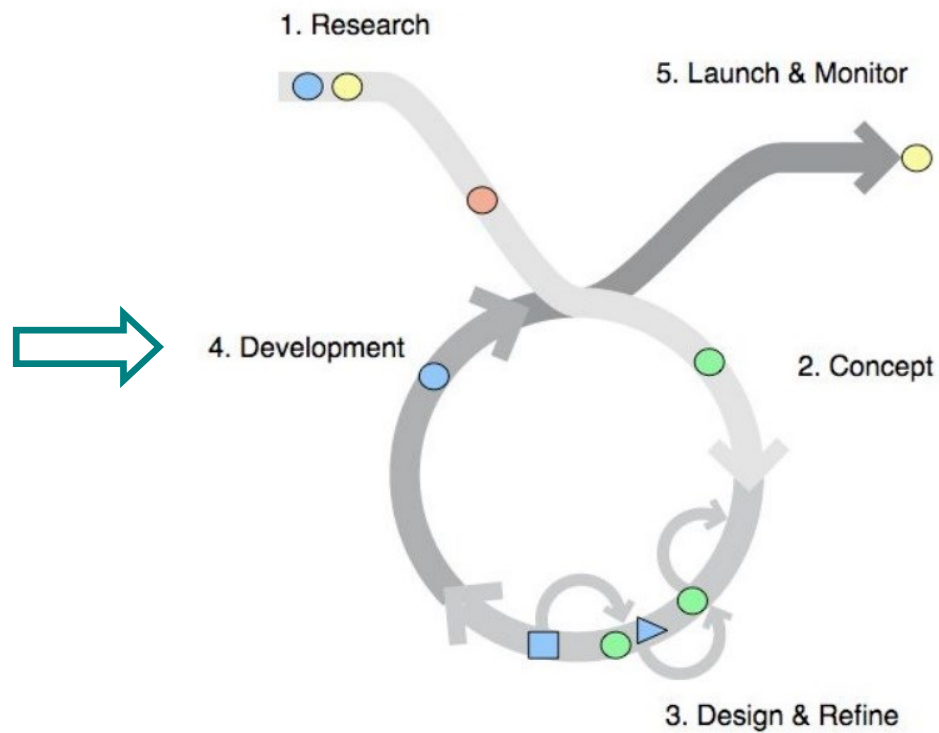
PARTICIPANT 1

To ensure Winter is feasible and up to user standards, we modified and refined our mockups to correct any major problems identified from the results obtained through the various tests. Some common problems were icons being unclear and confusion of using the application due to lack of information and help documentation.

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INTERACTIVE PROTOTYPE



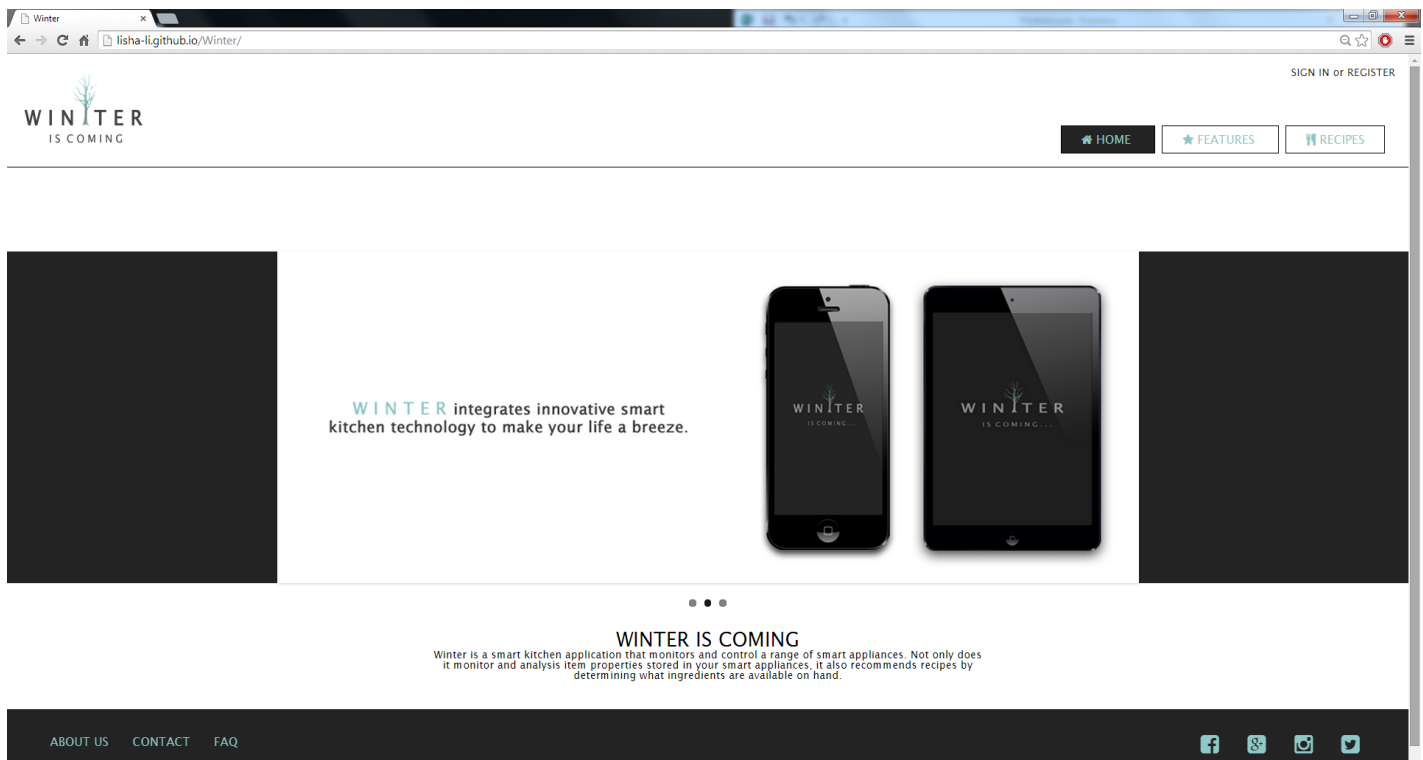
Finally after refining the mockups based the usability testing, we started creating interactive prototypes. We started off with low fidelity prototypes with programs such as [flinto](#) before moving onto high fidelity ones with [proto.io](#).

WINTER

SMART KITCHEN APPLICATION

INTERACTIVE PROTOTYPE

WEBSITE: <http://lisha-li.github.io/Winter/>



I created the website prototype from scratch using HTML5 and CSS as well as wrote the website content. Included are various Javascript codes created by other people (see [resources](#)) for special animation and features to make the website aesthetically pleasing. The website has general information about Winter, contact information as well as recipes that users can search and submit.

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SMART KITCHEN APPLICATION

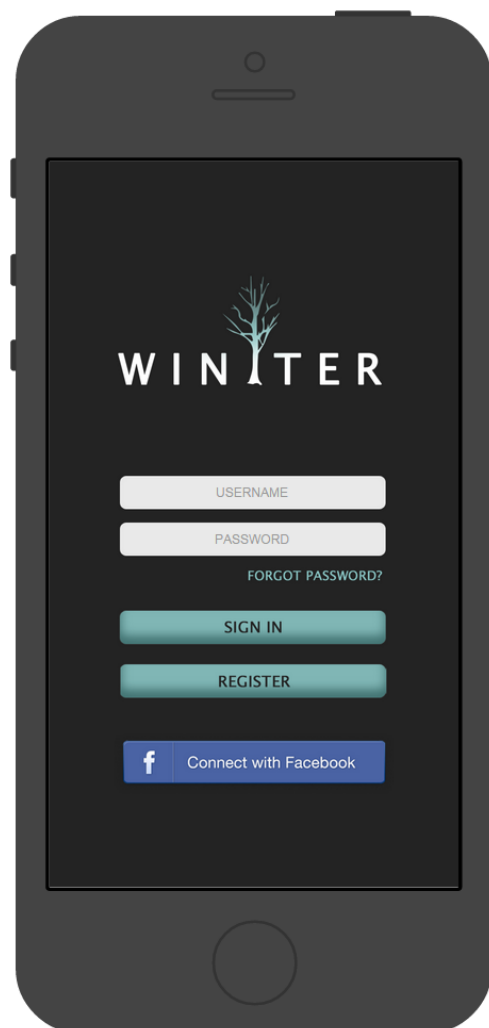
INTERACTIVE PROTOTYPE

APPLICATION:

FLINTO: <https://www.flinto.com/p/f5b31b6c>

PROTO: <http://lisha-li.github.io/Winter/app/frame>

The application was created on proto.io by my teammate. This prototype shows the basic navigation and features in the application as well as some simple transition animation. The application is used to control your appliances, monitor ingredients and recommend step by step recipes based on available ingredients.



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SMART KITCHEN APPLICATION

RESOURCES

ICON

<http://thenounproject.com/>

RECIPES:

<http://www.taste.com.au/recipes/24346/spaghetti+bolognese>

<http://allrecipes.com.au/recipe/20987/spaghetti-and-broccoli-stir-fry.aspx>

<http://www.taste.com.au/recipes/22372/classic+iced+coffee>

<http://www.bbcgoodfood.com/recipes/1033633/panfried-cheese-toastie>

WEBSITE:

Images

<http://dillasethiopianrestaurant.com/category/menu/spaghetti/>

http://www.taste.com.au/images/recipes/sfi/2009/07/23415_1.jpg

<http://newyork.seriousseats.com/images/20110223meatball-motorino1.jpg>

<http://www.districtgourmet.com/wp-content/uploads/2010/09/Hiros-Yakko-San-Soba-Noodles.jpg>

<http://www.expressocarwash.com.au/wp-content/uploads/2012/11/wagyu-steak-sandwichs.jpg>

<http://www.burgerbusiness.com/wp-content/uploads/Teds-Bison-Cheeseburger-2.jpg>

<http://www.emptyhousefullmind.com/wp-content/uploads/2013/09/3119251-3546983782-Hodor.jpg>

<http://zaggy-blog.s3.amazonaws.com/community/blog/wp-content/uploads/2011/10/10-smart-fridge.png>

JAVASCRIPTS:

<http://leanmodal.finelysliced.com.au/>

<http://flexslider.woothemes.com/>

<http://fortawesome.github.io/Font-Awesome/>

APPLICATION:

IMAGES:

<http://www.beroomers.com/wp-content/uploads/2014/08/facebook-connect13.png>

http://images.sodahead.com/polls/003779340/4431780137_1001029_024000163022_A_4001_answer_1_xlarge.jpeg

http://www.nqr.com.au/media/catalog/product/cache/1/image/fd30e95b11e906c00a92b71fe2febf01/h/e/heinz_beanz_tomato.jpg

http://www.vettapasta.com.au/products/tubular_spaghetti_pack.jpg

<https://www.the-distributors.com.au/product-images/93645089.jpg>

<http://tjonlinestore.com/xcart43/images/P/4016-01.jpg>

http://www.topramen.in/images/TangyChicken80g_b.jpg

http://groceries.iceland.co.uk/medias/sys_master/he8/h9e/8831785762846.jpg

http://groceries.morrisons.com/productImages/212/212482011_0_640x640.jpg?identifier=f54d46c6448680410b6c3ebe330c854b

http://www.butlerandbentley.com.au/image/cache/data/EggsDairy/060_DSC_0875-600x600.jpg

http://www.butlerandbentley.com.au/image/cache/data/EggsDairy/060_DSC_0875-600x600.jpg

<http://www.groceries-express.com/images/10000%5C14800%5C00034%5C1480000034CF.GIF>

<http://www2.woolworthsonline.com.au/Content/ProductImages/big/744211.jpg>

<http://dillasethiopianrestaurant.com/wp-content/uploads/2013/07/Spaghetti-with-Tomato-Sauce.jpg>

<http://www.taste.com.au/recipes/24346/spaghetti+bolognese>

<http://rk.wsimgs.com/wsimgs/rk/images/dp/recipe/201414/0019/img22l.jpg>

<https://www.greggs.co.uk/assets/Uploads/Ham-and-Cheese-Toastie2.jpg>

http://www.kraftrecipes.com/assets/recipe_images/Speedy-Chicken-Stir-Fry-53774.jpg