



KUNAL SHANTILAL

HOME AUTOMATION HEALTH AND SECURITY



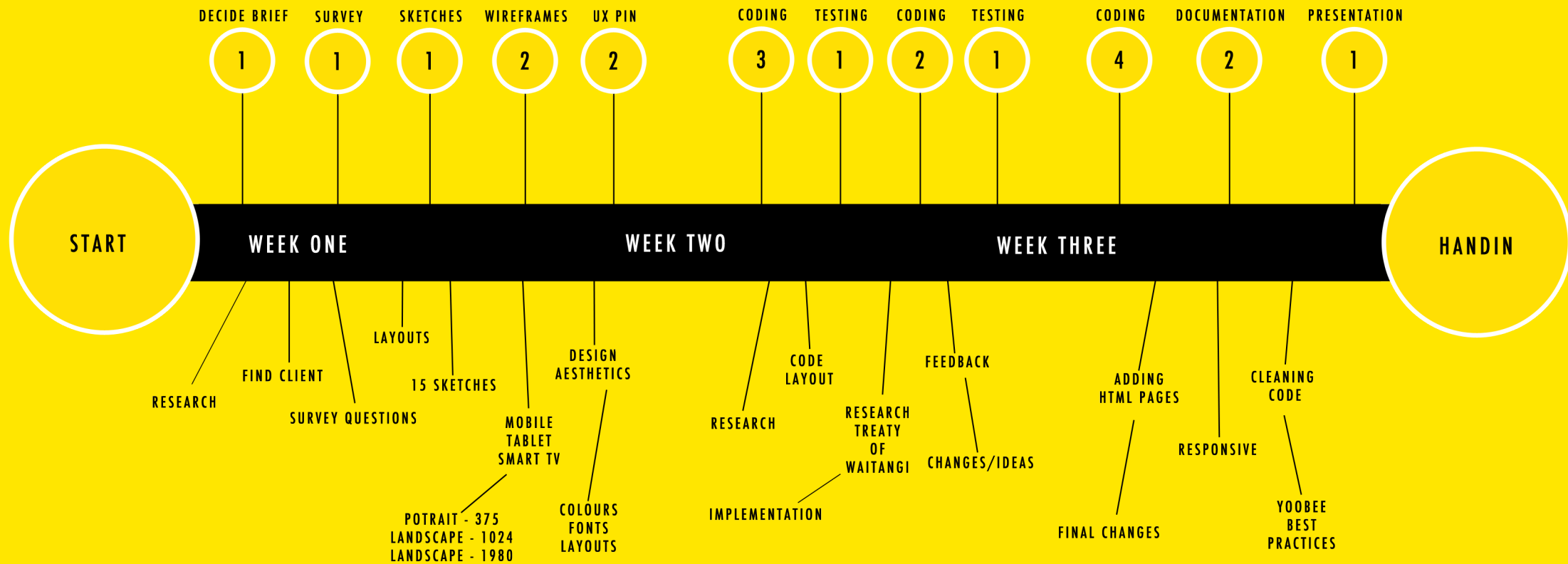
IDEA

The scenario that I have chosen to do is Home Automation Health and Security. The brief was to create a new service for an existing company so home owners can use a series of connected devices such as smoke detectors, cameras, audio devices, lights, blind controls etc to give full control of their electronics where ever they may be. Customers would be able to access this new service from wall mounted tablets, an web accessed controlled smart tv or a mobile phone.

Flick Electric is a very bold and exciting company that pops out at the naked eye. They use bright colours with eye catching typography. From the beginning I went on the idea of using the 3 second rule. The theory is that you have about 3 seconds to capture a visitor's attention. Longer than that and you'll lose them. Knowing the main goal for the website is very important and so getting straight to the point is what I have aimed for. This will be achieved by making assets and navigation self-explanatory. I will do this by using a simple UI and keeping it as consistent as possible by taking design ideas from their existing webpage and putting my own design flair onto it. I want to keep my webpage aesthetically clean by making it minimalistic and easy to navigate.



TIMELINE






LEAN PERSONA

Before my evidence persona I created a lean persona and assumed the target audience. This is Marco Dawson my lean persona for Flick Electric Co. He is a 31 year old sales assistant at Harvey Norman. He is married with 2 kids, a 7 year old boy and a 10 year old girl. Marco is very tech savvy and enjoys experimenting with all the new technology that is coming into the market. He has a keen eye for all things tech and wants to work for a high end tech company in the near future.

Marco Dawson



"I love all things tech!"

Age: 31
Work: Sales - Harvey Norman
Family: Married, kids
Location: Wellington, NZ

Personality

Introvert	Extrovert
Analytical	Creative
Conservative	Liberal
Passive	Active

Tech Savvy Hardworking Intelligent Picky

Goals

- Provide safe environment at home for family
- Increase knowledge of electronics with family
- Find a higher paying tech job
- Purchase new tech as it comes into the market

Frustrations

- Low salary
- Family isn't tech savvy

Bio

Marco is a 31 year old sales assistant at Harvey Norman. He is up to date with the latest technology and gadgets. He is interested all new technology and is always looking to purchase the newest trends in technology. He is the ideal consumer and can't resist buying new gadgets as they come out. Marco wants to expand his families knowledge with the latest tech because he knows it is always developing.

Motivation

Incentive	
Fear	
Achievement	
Growth	
Power	
Social	

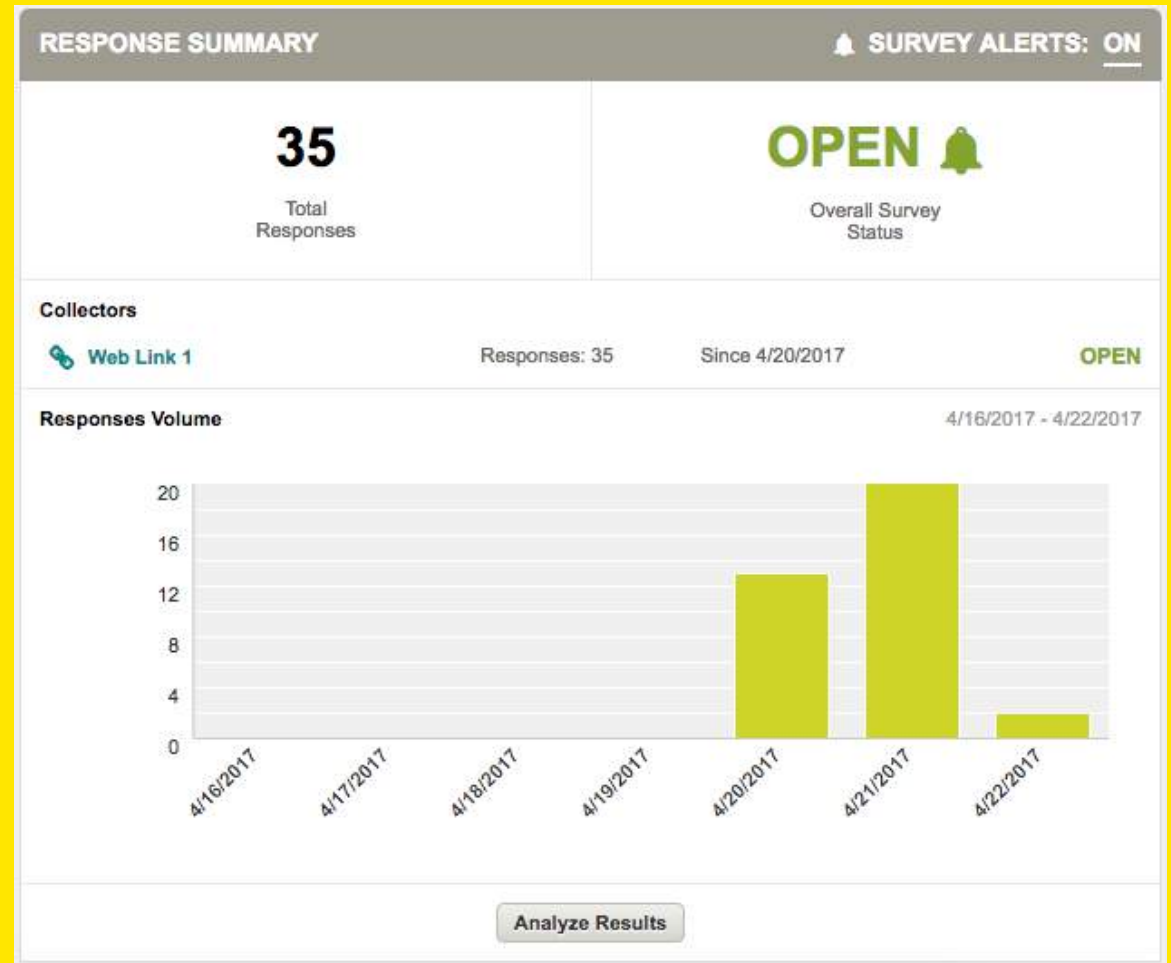
Preferred Channels

Online & Social Media	
Referral	



SURVEY

I conducted a survey to get some evidence for a persona. I ended up with a total of 35 respondents with a range of answers. I found out that the target audience was predominantly male, aged between 24-29 years old. This was close followed by 19-23 year olds. They lived with family in a parental home with an average of 4 people per house. This gave me an idea of the target audience and if they could actually afford installing the home automation as I found out with research that it is very expensive. I found out that my target would be interested in controlling electronics such as heaters/temperature control, lights and audio systems. My target would be most interested in using this system with a mobile phone or a wall mounted tablet. With these results I was able to create a target audience for my home automation system.





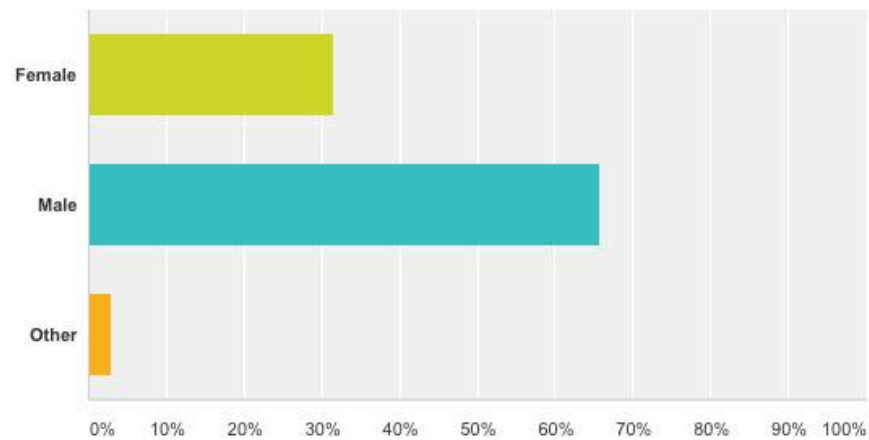
SURVEY

Q1

Customize Export

What is your gender?

Answered: 35 Skipped: 0



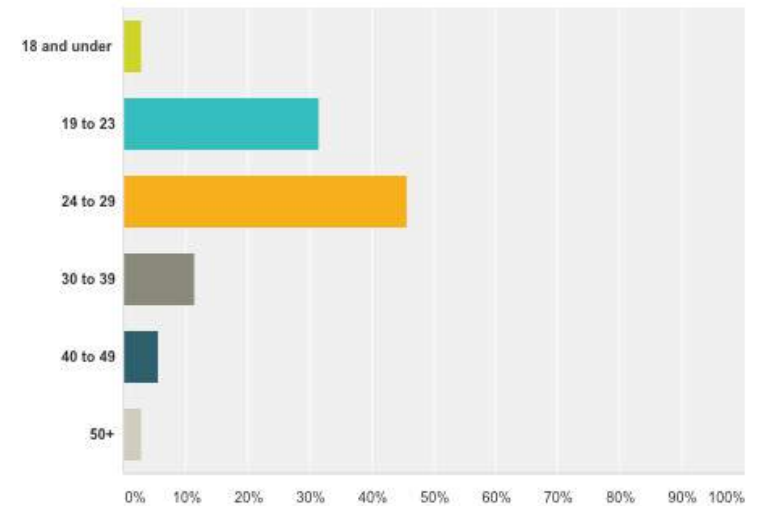
Answer Choices	Responses
Female	31.43% 11
Male	65.71% 23
Other	2.86% 1
Total	35

Q2

Customize Export

What is your age?

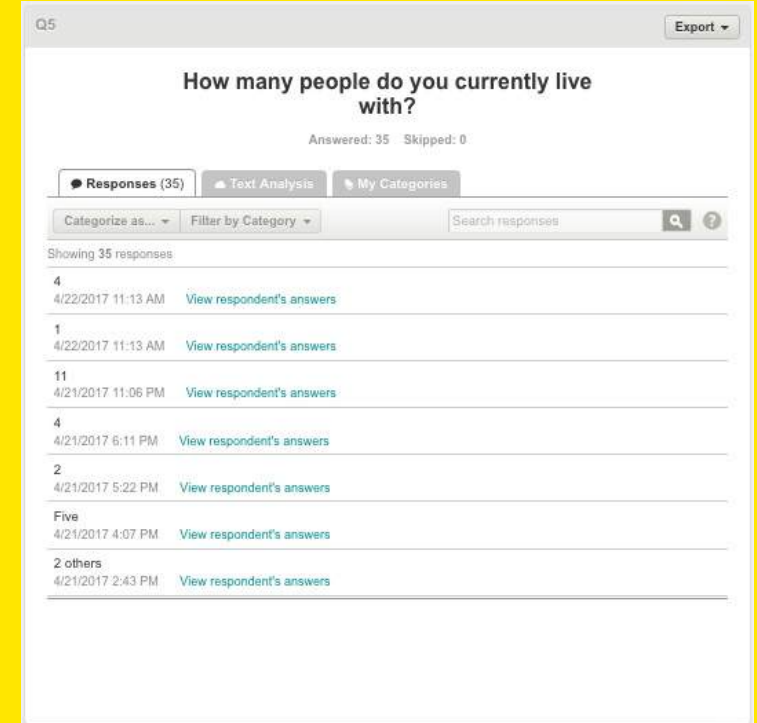
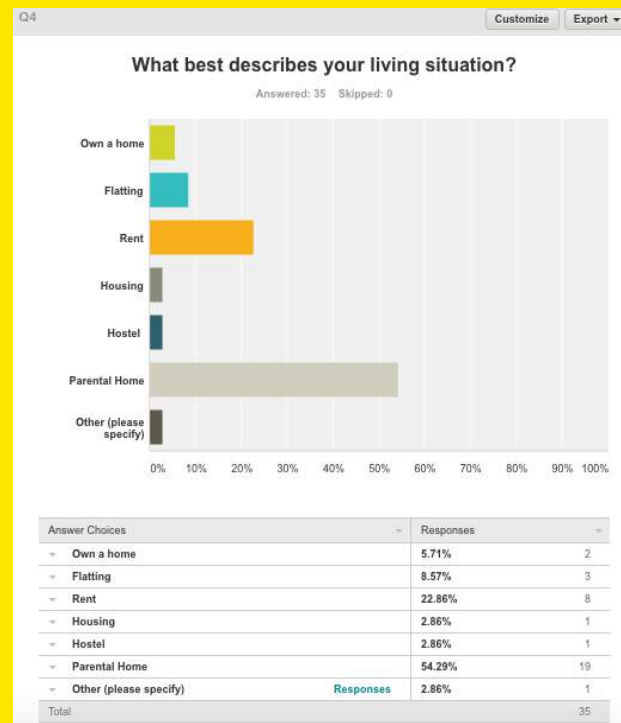
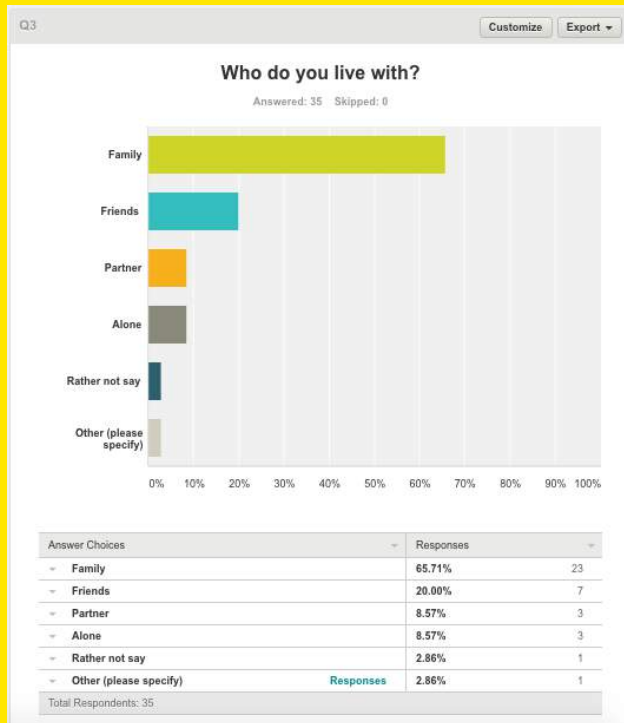
Answered: 35 Skipped: 0



Answer Choices	Responses
18 and under	2.86% 1
19 to 23	31.43% 11
24 to 29	45.71% 16
30 to 39	11.43% 4
40 to 49	5.71% 2
50+	2.86% 1
Total	35

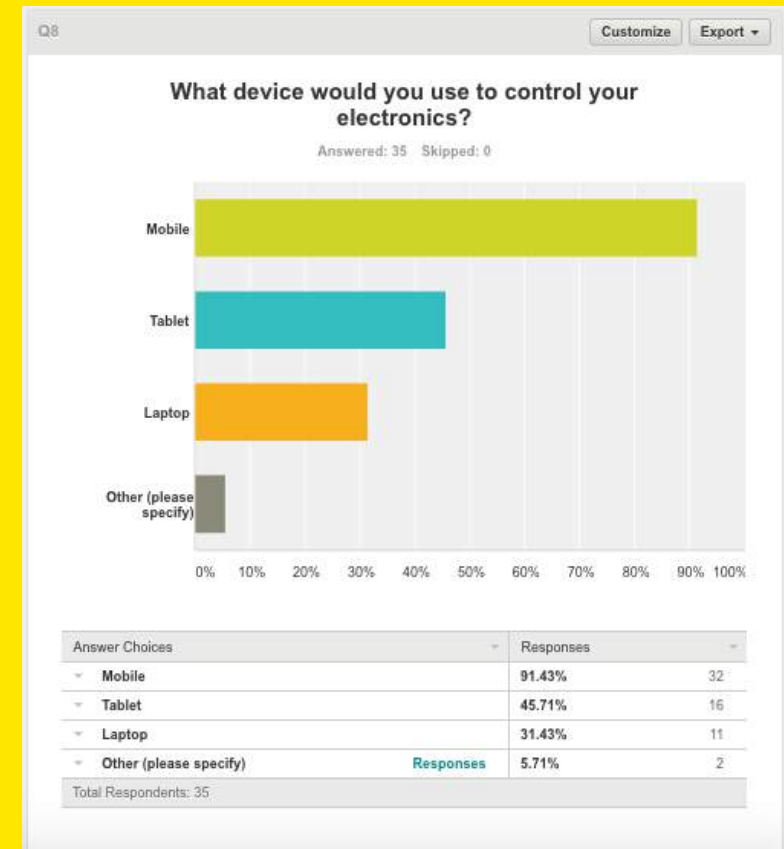
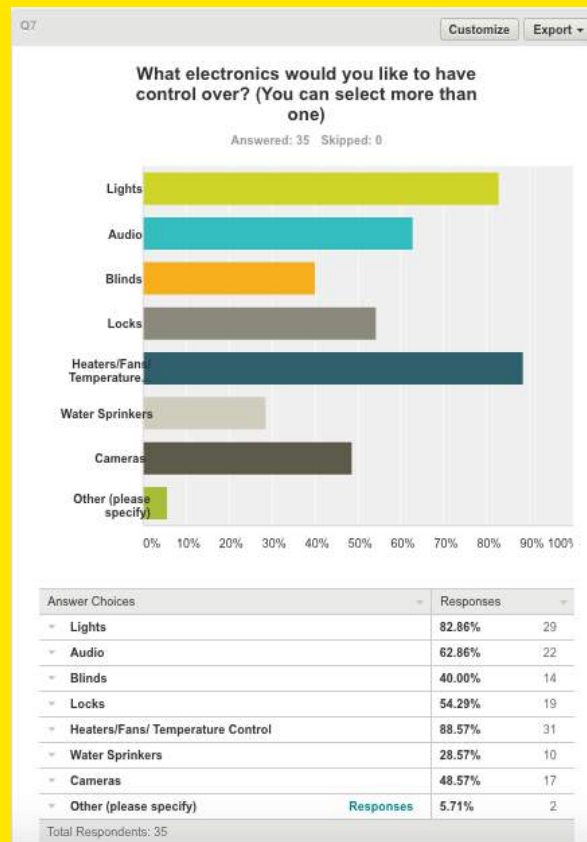
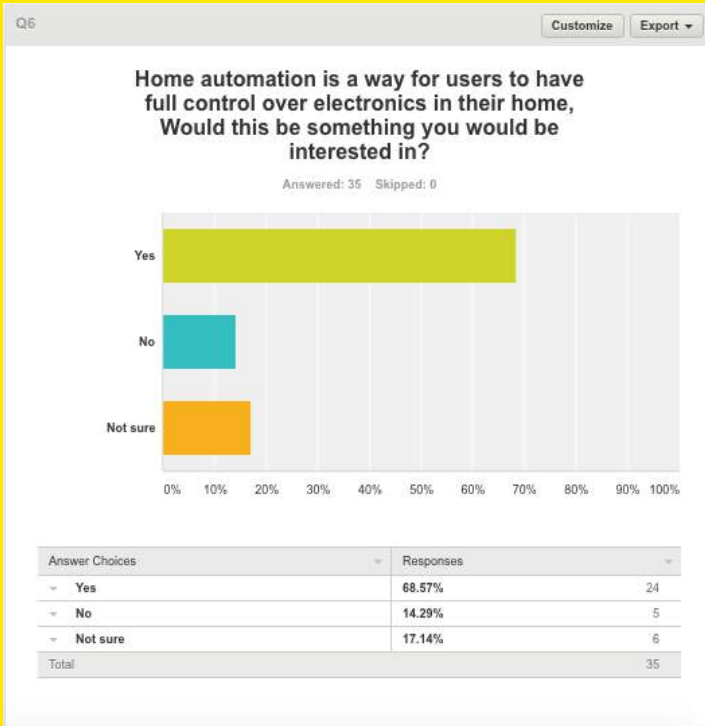


SURVEY





SURVEY





EVIDENCE PERSONA

James Horne



"Home automation is the way of the future."

Age: 25
Work: Noel Leeming
Location: Wellington, New Zealand
Living Situation: Renting

Personality



Cleaver Organised Imaginative

Goals

- Have home automation installed
- Own his own home
- Learn about the different home automation devices

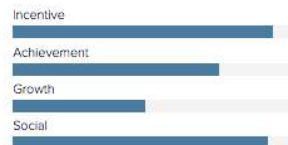
Frustrations

- Not being able to purchase his own home yet.
- If home automation was installed, it would be on his rental property and not something he owns personally.

Bio

James Horne is a 25 year old male who works at Noel Leeming. He is currently renting out a house with 4 other close friends who are all interested in home automation. He wants to be able to control lights and his new audio system easily from his smart phone for when they have friends over for parties.

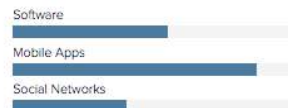
Motivation



Media Platforms

Mobile
Tablet

Technology



Steven Ross



"Having full control of electronics at home is a must"

Age: 21
Work: Student - Web Design
Living Situation: Parental Home
Location: Wellington, New Zealand

Personality



Tech Savvy Hardworking Focused

Goals

- Have home automation installed for family
- To control a series of electronics at home
- Teach family about how home automation works
- Have it accessible on Mobile, Wall mounted tablet and Smart TV

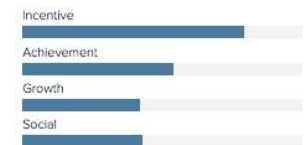
Frustrations

- Doesn't have the funds to install home automation
- His family doesn't know about home automation

Bio

Steven Ross is a 21 year old web design student living with his parents. He is very interested in the new upcoming technology home automation. He has done his research on home automation and wants to get it installed at home so his family can benefit from it. He is most interested in controlling heaters and lights.

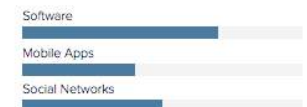
Motivation



Media Platforms

Mobile
Laptop

Technology



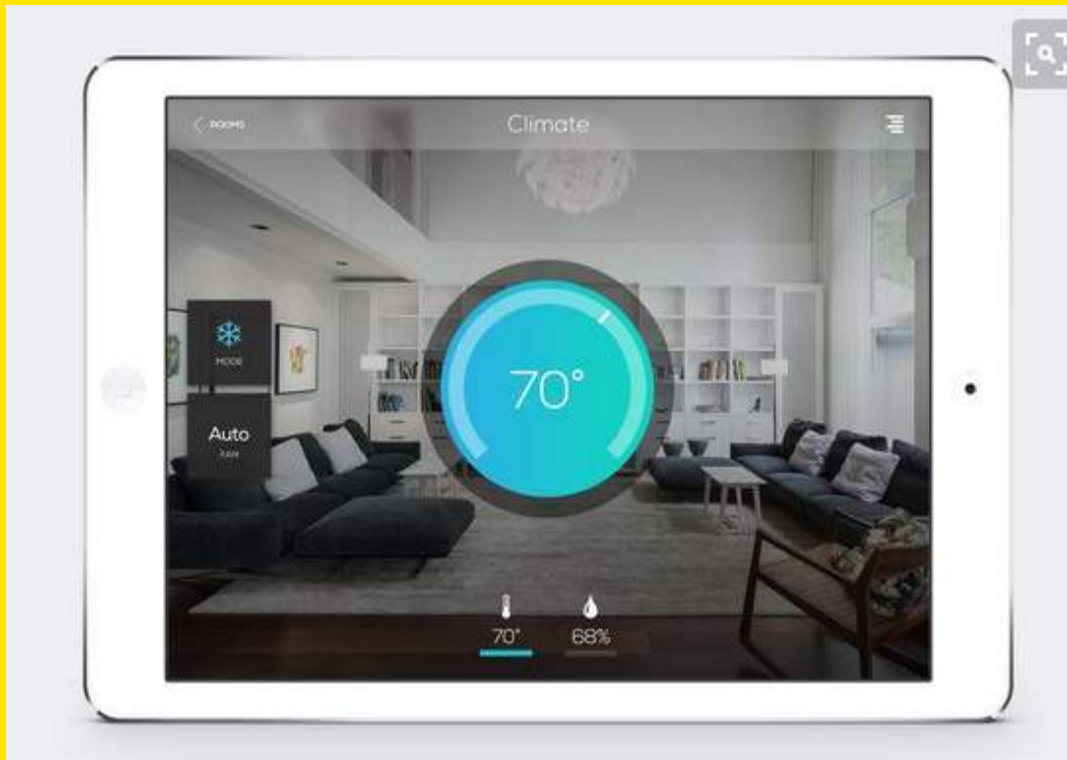
After doing a survey, I took the results and created two different evidence personas. One is James Horne and the other is Steven Ross who are both males. James is a 25 year old sales assistant at Noel Leeming and Steven is a student studying Web Design. Steven lives at home and wants to get home automation installed into his home but his parents aren't familiar with the new technology system. He hopes to teach them more about the tech and how it can be beneficial for his family. On the other hand, James rents and lives with friends and is interested in home automation but not sure if they should get it installed since they are only renting and it costs a lot of money plus they wouldn't own it outright.



INSPIRATION

I did some research into some existing home automation UI and found some really cool layout and design ideas. I wanted to create something simplistic with strong use of colour and aesthetic flair. I wanted to use the idea of circular forms because doesn't look chunky on the screen. A similar aesthetic as the one below is something I want to achieve in my design for a tablet version.

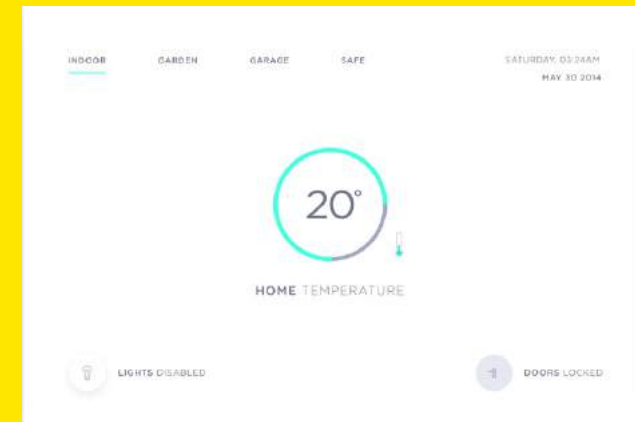
In the image below I liked the idea of the simple nav icons in the hamburger menu rather than the text because I think it keeps it as minimalistic and is pretty self explanatory when a user looks at it. It just makes it a little bit less cluttered and gives a nice aesthetic look if it is used consistently through a website.





INSPIRATION

Looking through pinterest I found some really cool ideas which I can implement into my home automation. The floor plan idea caught my eye where I was thinking I could implement an on and off type of interaction with lights, audio etc. I really liked this idea because it would give the user more overview over their whole home and show them exactly where things were on and off. Combined with the idea of simplicity with effect design I think this could be a really effective way users interact with their home automation. Colours would be also another effective way to show different electronics in the house, like giving them a colour code to represent each electronic.





COMPETITORS

CONTROL 4

Strengths

- Simple Interface
- Clean Design
- In built Touch Screens, Tablets, Mobile Apps.
- Easy to use
- Voice Control



Weaknesses

- Interface design looks bulky. Icons etc.
- Limited interface for Mobile and Ipad compared to touchscreen panel
- Expensive





COMPETITORS

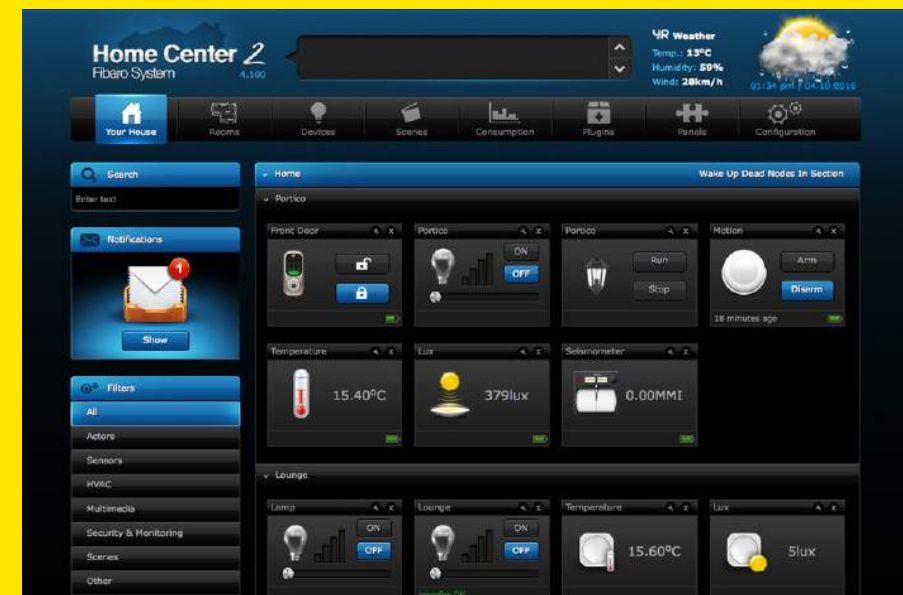
FIBARO

Strengths

- Controls majority of electronic devices in your home
- Compatible with a range of products eg. Philips, D-Link, Yale.
- Voice control
- Add and remove devices
- Set timers

Weaknesses

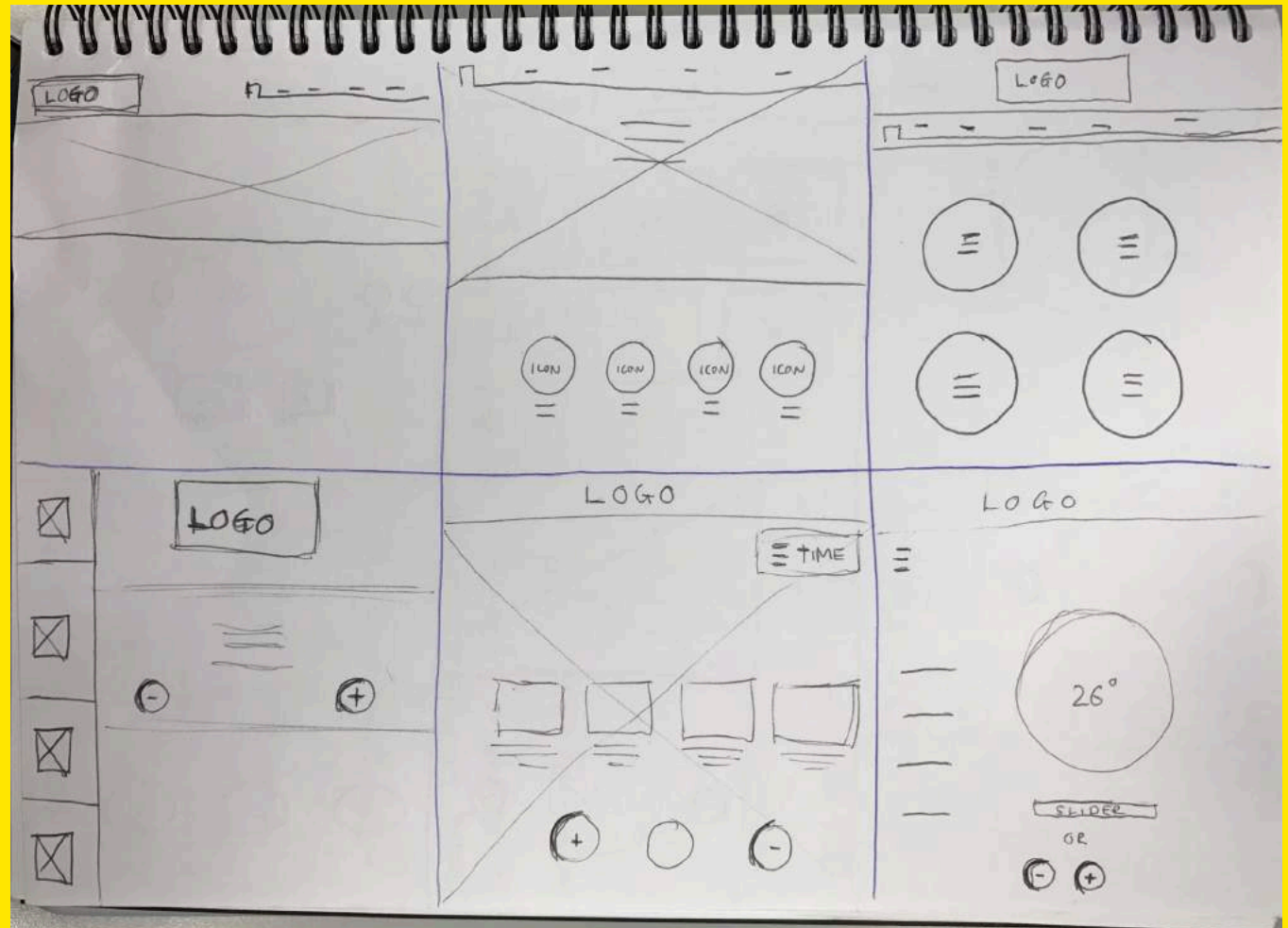
- Cluttered. A lot of things on the interface.
- Design in website and design in interface isn't consistent.
- A lot of things to set up before use.





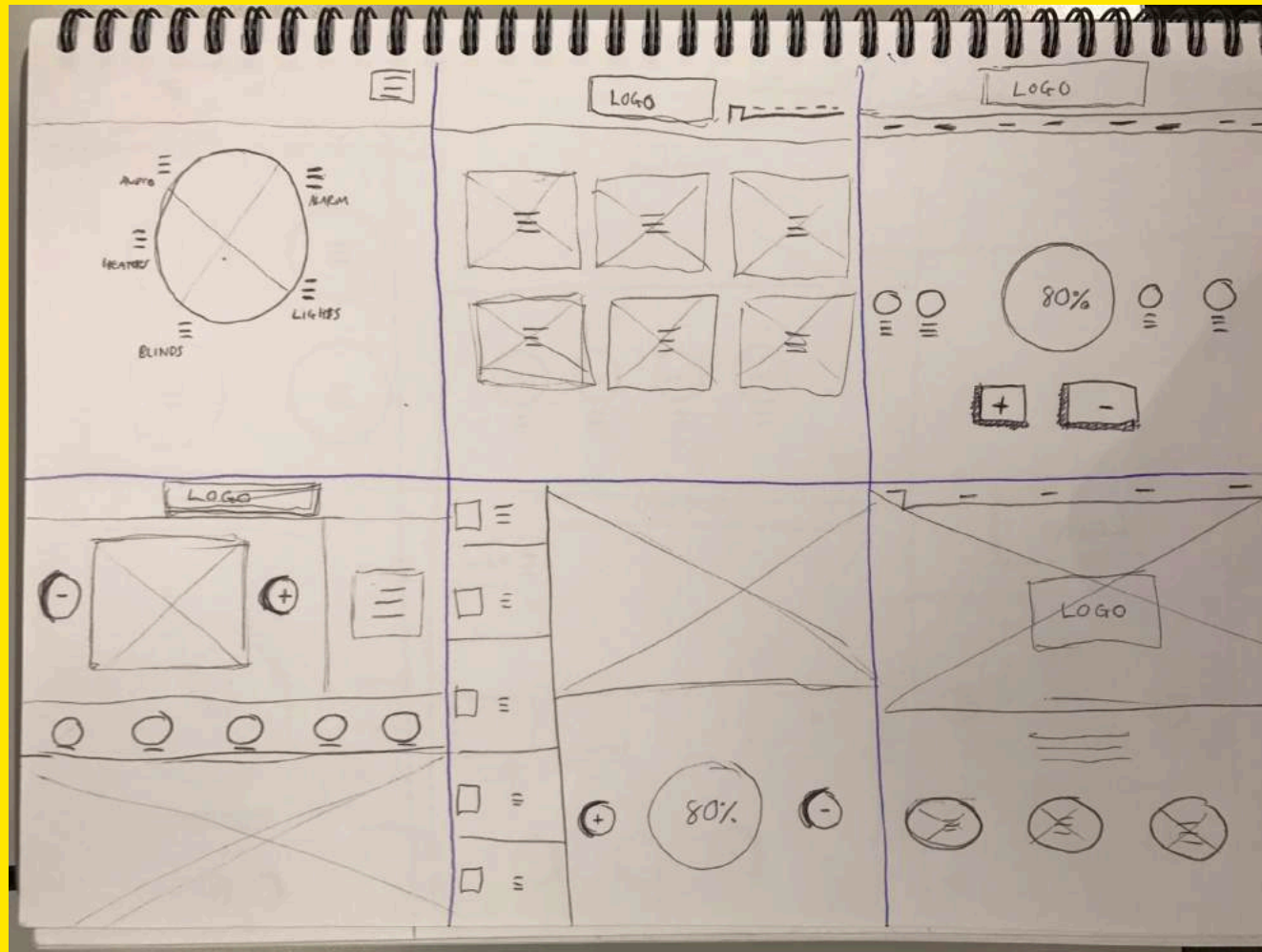
SKETCHES

As I started doing some research I knew from the start that I wanted to keep my layout as simple and as effective as possible. So I started with some initial sketches, that had the most important parts to my home automation system. The logo, a nav bar, and the different electronic devices that the user could control. The site I wanted to create would be visually appealing and catch the users eye so that's why I was sketching up designs with emphasis on visual asset such as images and circular forms. The nav bar would be a simple slider or a hamburger menu so It wouldn't take up much space on the screen. I would also like the companies logo to be visable to the user as it natually leads your eye to it because of the bold colour it possesses.



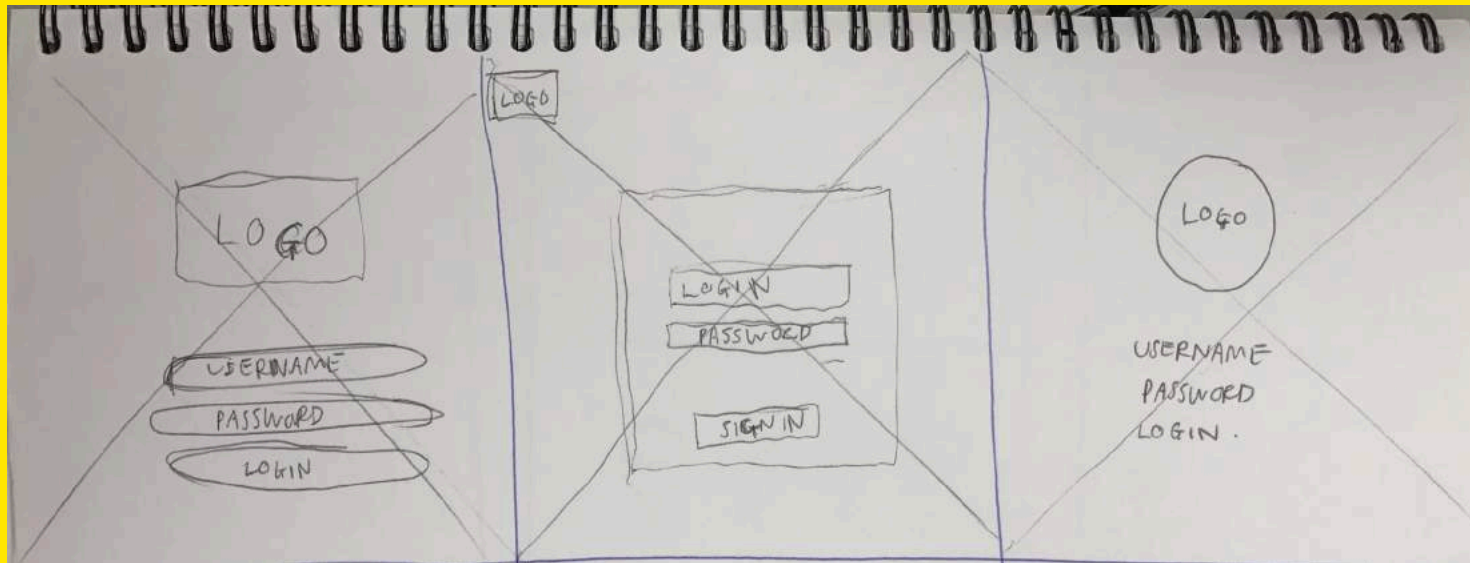


SKETCHES





SKETCHES



For the login page, again wanted to keep it simple and consistent with the rest of the site. Didn't do too many sketches as I already kind of had an idea of how I wanted to create it from doing research and didn't want to over do the design for the first page. As this was the first page the user is going to see I wanted to keep it nice and clean and inviting.



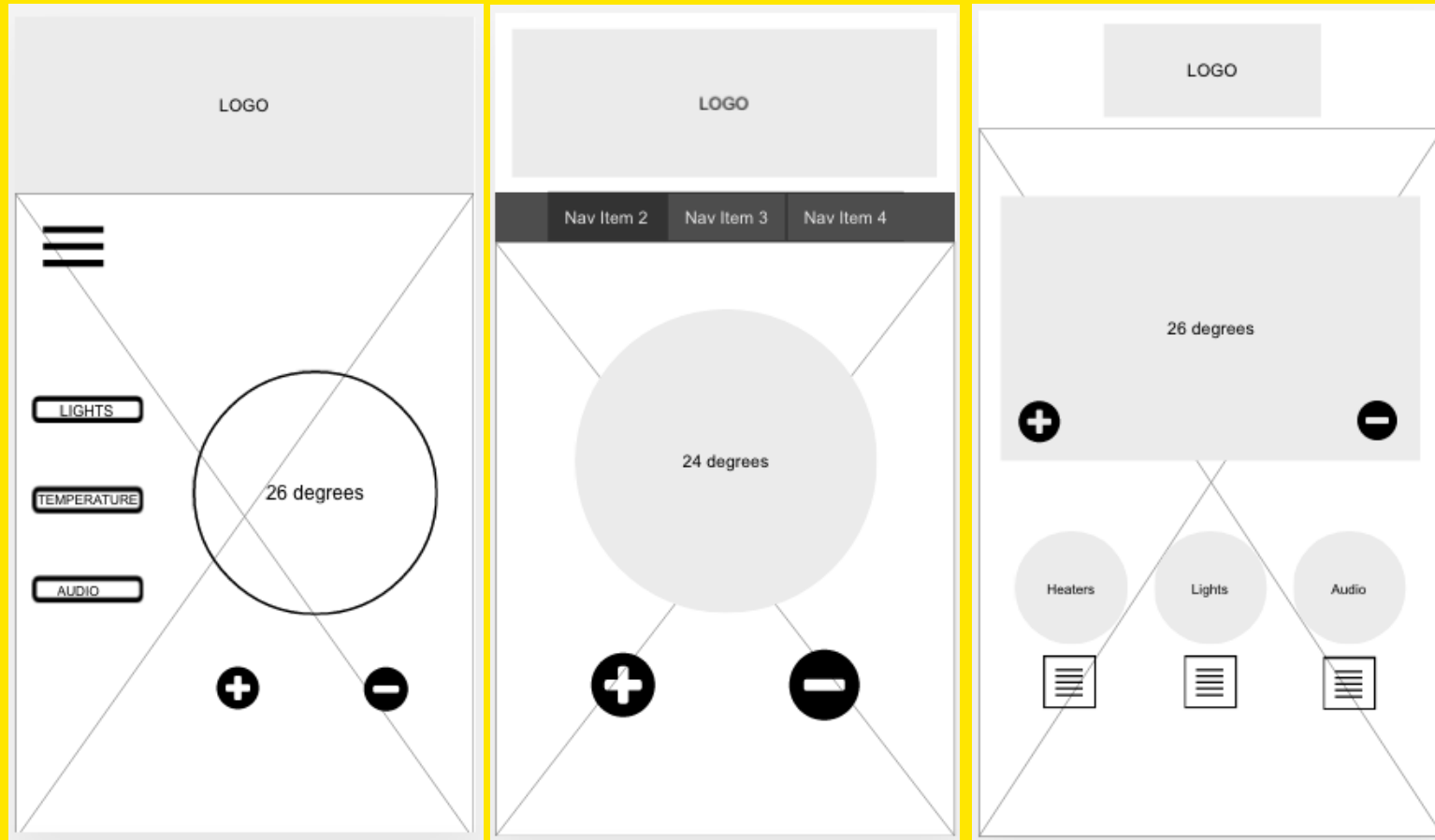
BUSINESS STRATEGY

Flick Electric is a power company which gives you a detailed breakdown of how and when your power is being consumed the most. They encourage users to spread out their power usage throughout day and night. This can lower the pressure on New Zealand's renewable generation assets, reducing the need to supplement the market with fossil fuels. Flick has a developed app called choice that educates users about which fuels are being used at any given time. This gives users an informed choice about when they use their power that can save them money and the environment.

This is where their new product comes in, Home Automation. Flick has released their new product in home automation where users can control electronic devices throughout their home and save power by reducing energy being consumed by their electronics in peak hours. This product will give users full control over their devices from mobile, tablet or smart tv from anywhere as long as there is an active internet connection. This allows users to decrease power bills overall by choosing when they power on and off their electronics. It has the potential to attract a different target market and increase sales of electronic devices, which flick will be releasing. Their first launch will include the full control of audio systems, lights and temperature control from a thermostat. If successful there is a plan set in place in the future for different electronics such as locks, blinds, and cameras.



WIREFRAMES

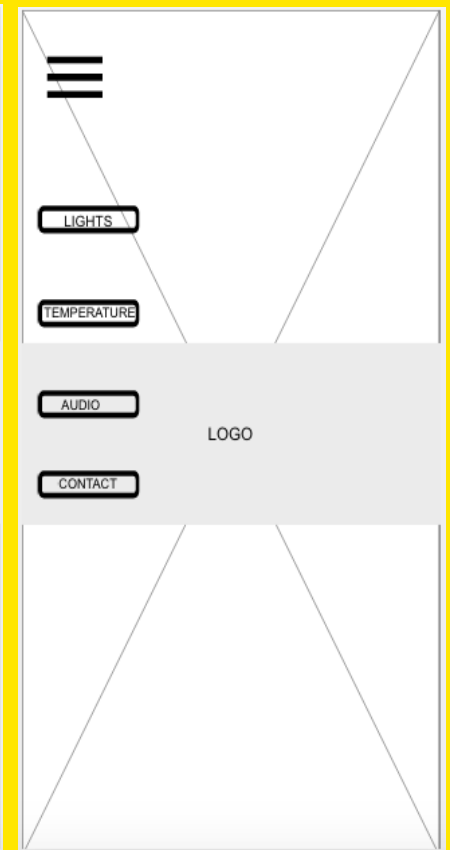
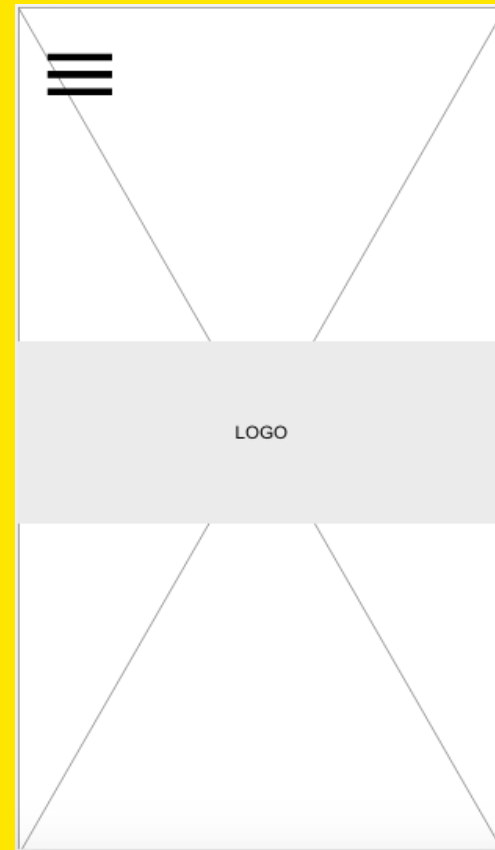
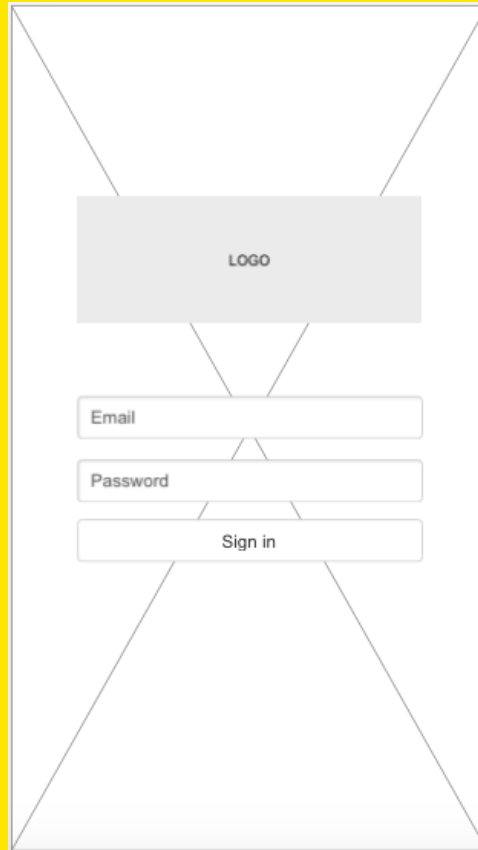


From my sketches I decided on three wireframes for mobile. Regarding usability, I wanted to create a website which was pretty self explanatory and didn't involve much instruction. That is why I have chosen to design with simple assets such as plus and minus icons. I have designed three different navigation menu styles and decide which would be most effective to users when doing user testing in a ux pin prototype. The one I personally liked was the hamburger menu because it makes the site look professional and from my research a lot of different websites use this navigation system because it is effective and doesn't take up much space.



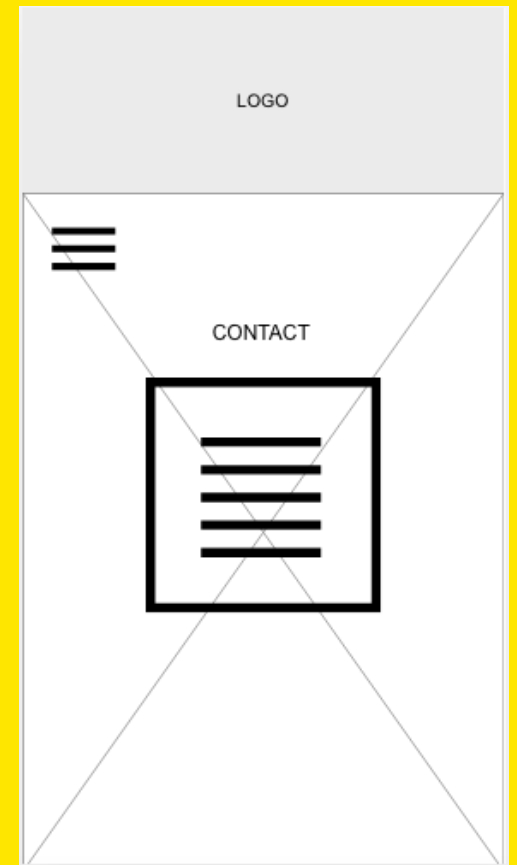
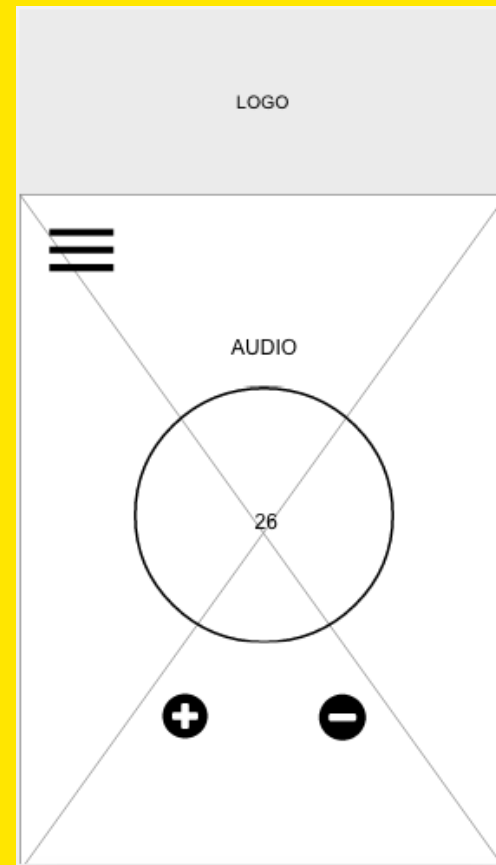
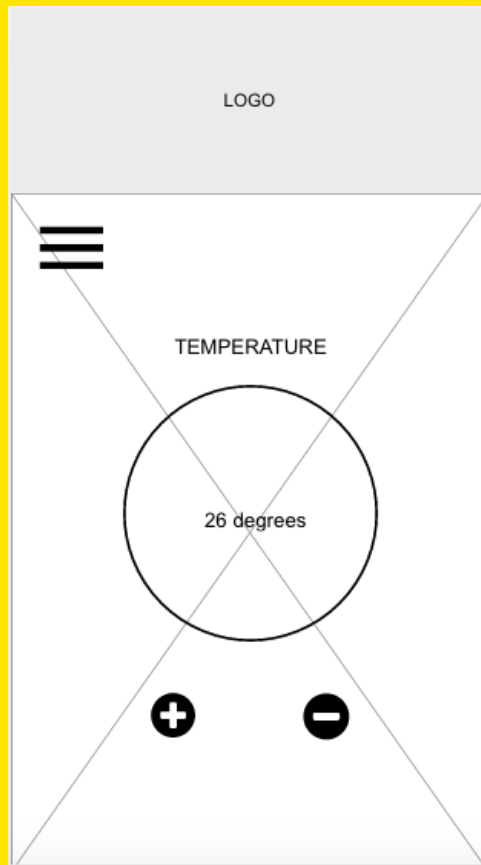
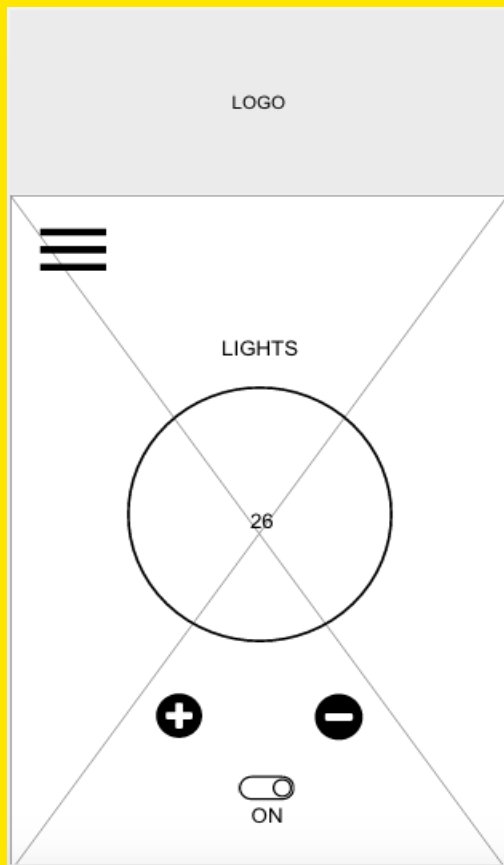
WIREFRAMES

After my three wireframes I decided to go on and develop it further into a working prototype with all the different pages. Again just for the mobile as I would be developing from mobile up to tablet and smart TV. I ended up going with the hamburger menu and having that on all pages so it's easier to navigate. My contact page would just be a simple text page for inquiries and technical difficulties where you could ring or email flick for assistance.





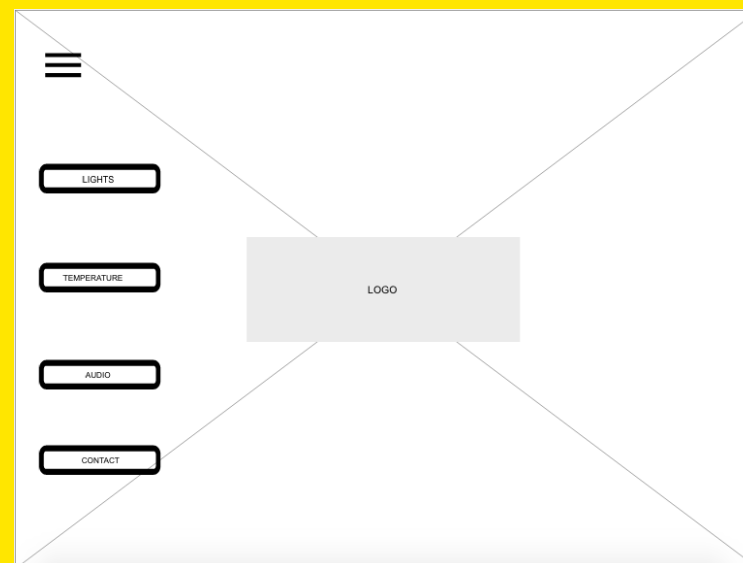
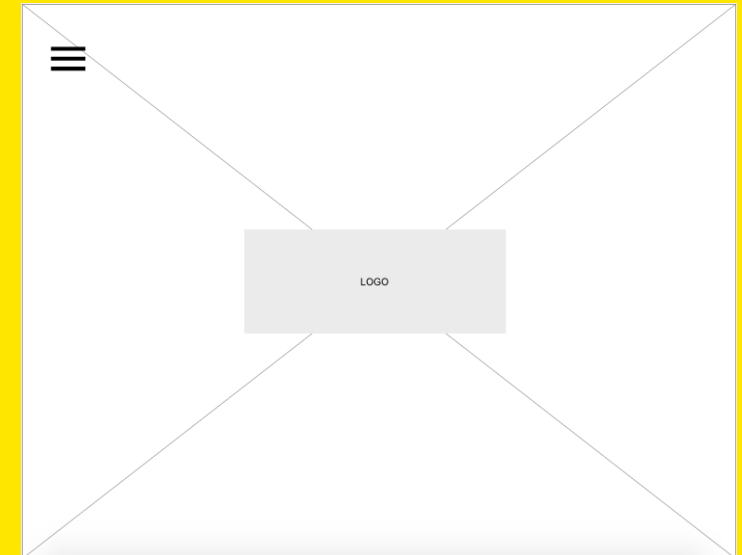
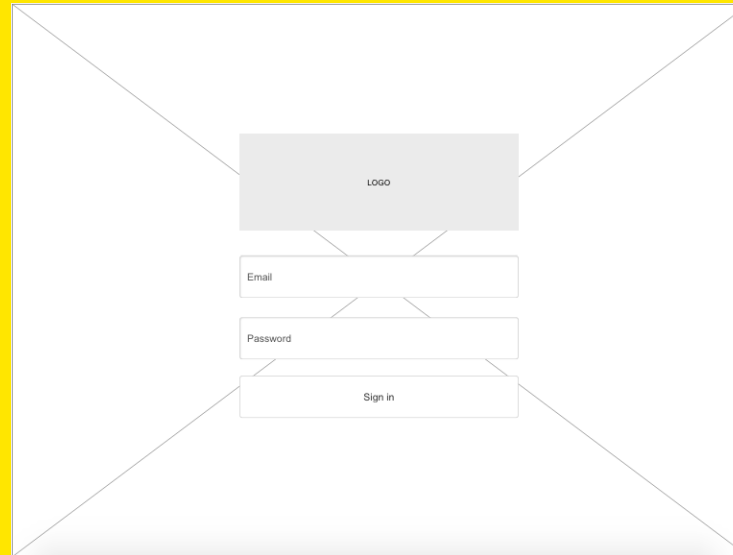
WIREFRAMES





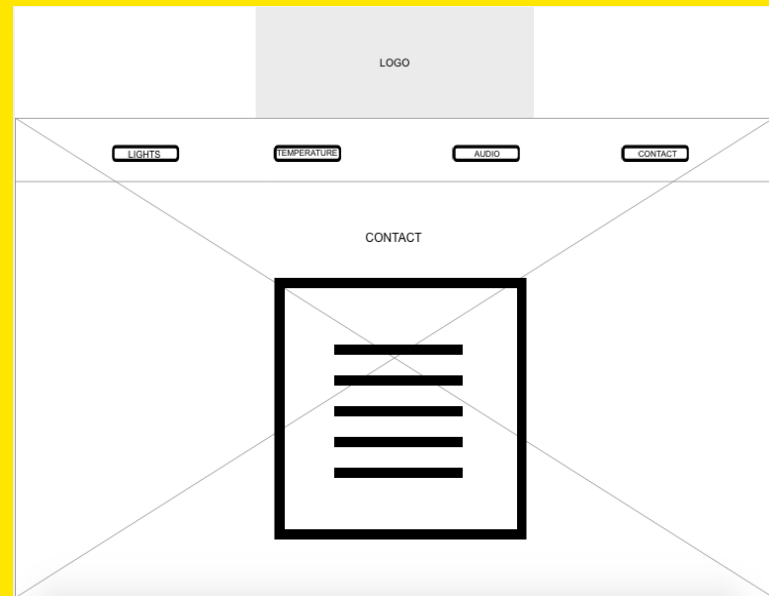
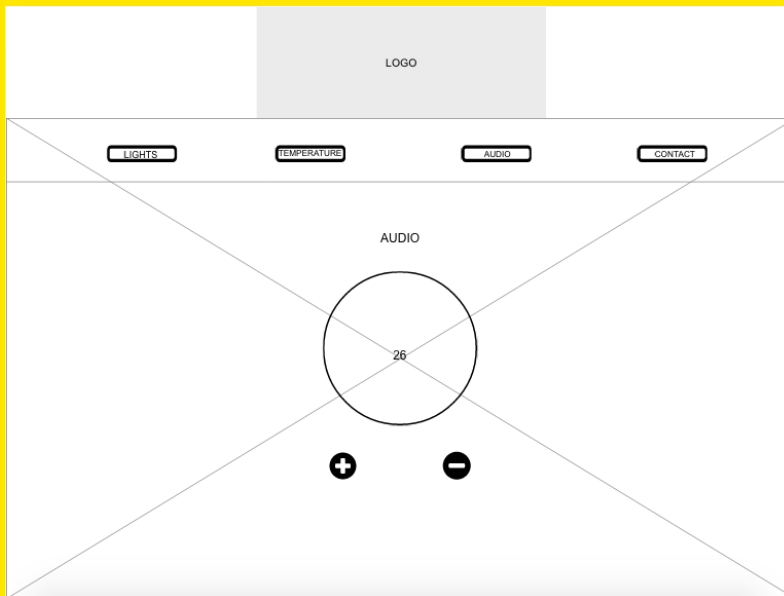
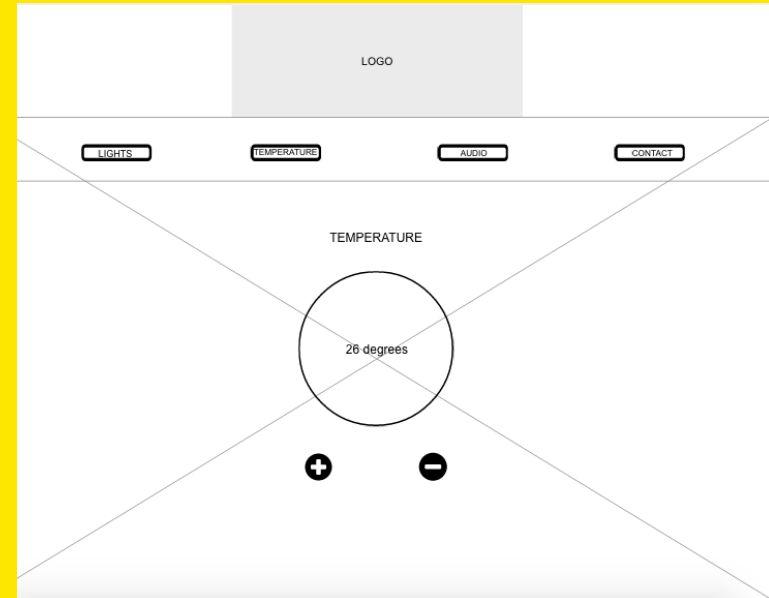
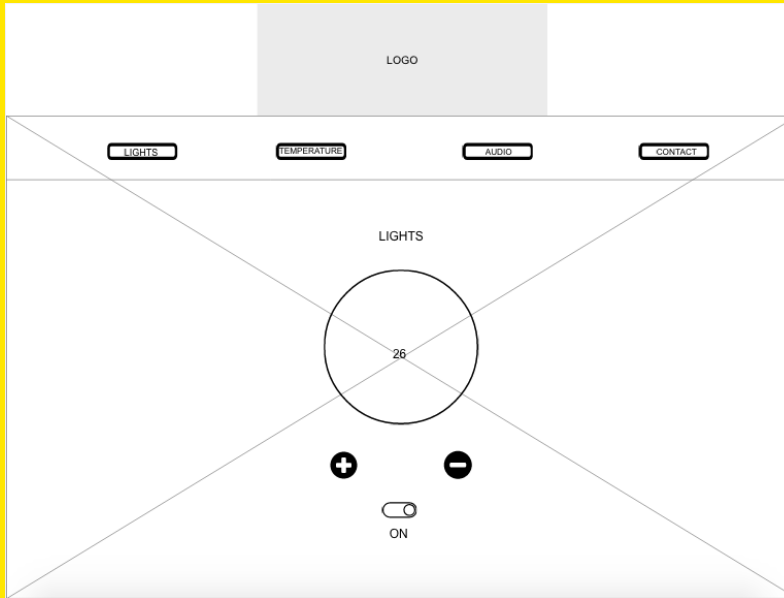
WIREFRAMES

Once the mobile version wireframe was complete I had to start thinking about the tablet and smart TV version. Considering the big change in resolution size I had to change some of the layouts but try and keep the same sort of aesthetic. The changes I would have to do would be the nav bar changing from hamburger style to just a fixed expanded style at the top. I decided to implement this because I think it is easier to navigate on bigger screen rather than the one extra step for the user to do where they would have to click the hamburger then it pops out. The image in the background would be blurred so the main assets would be more visible for the user. The smart TV version is pretty much the same layout as the tablet but everything would just be increased in size.



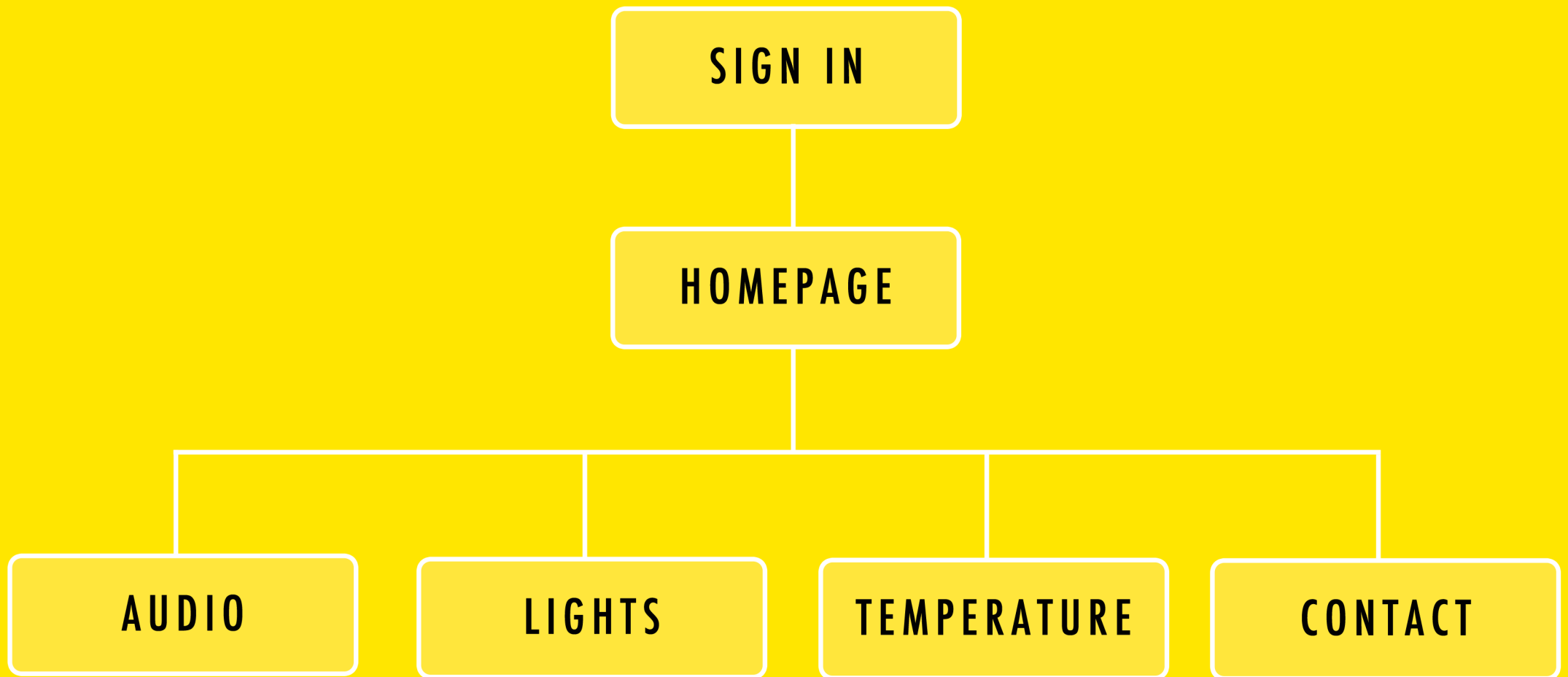


WIREFRAMES





SITE STRUCTURE





COLOUR & FONTS

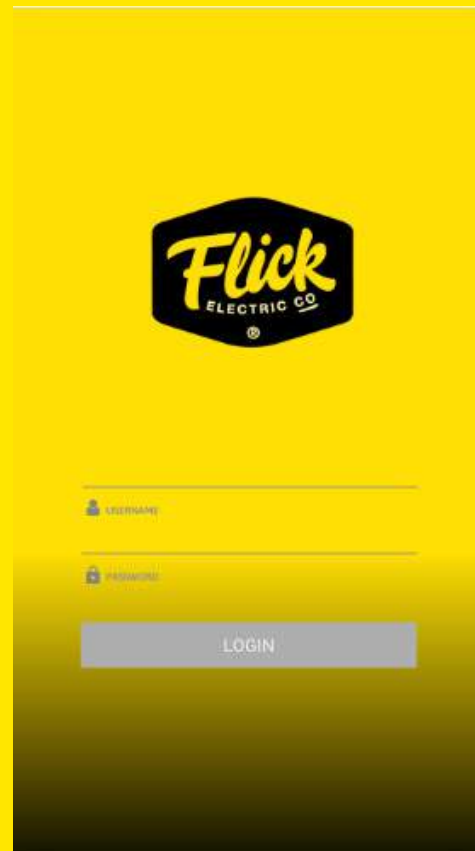
The colour and fonts used in this project were a big part of how my design was going to catch the eye of the user. Using simple colours such as the yellow from the original Flick website ensured that users were able to associate this with Flick Electric. I wanted to use this bright, bold colour throughout my website so that they can always relate this colour back to the clients image. It was going to be hard to not overuse this colour and so I have added different monochrome colours such as black, grey and white so they don't overpower the yellow throughout the website. These monochrome colours were used to ease the users eye and sometimes lead their eye away from clients colour. That's why in the sections for the different electronics I have used a black as the background to make the assets such as the circles stand out. The green used in the homepage relates back to Flicks image of being environmentally friendly, which is also used as the colour for the tiki translate button. This green actually relates to the Maori Pounamu also known as the greenstone, which plays an important part of Maori culture and the Treaty of Waitangi.

Consideration for the font was also taken from Flick Electric, but they don't really have that emphasis of font choice in their original website so I've added in my own style of font which I think would look good with the overall aesthetic of my webpage. I have used 'Avenir', 'Open Sans', and 'sans-serif' throughout my whole website.



UX PIN

Once I got my layout sorted I decided it was time to move into UX Pin and start designing with colour. It was crucial to keep the companies image as consistant as possible so I factored in their colour scheme into my design but made it a little bit more bold compared to their current website. The idea was to catch the users eye from the outset and carry that throughout the website. The eye naturally reads from top to bottom so to have the "Flick" logo towards the top was a must. After doing some user feedback, I was told that the hamburger menu could be simplified even more by using just icons instead of text. I had to implement icons that were well known and self explanatory. Users were then able to easily identify the icons with the different devices in their home.



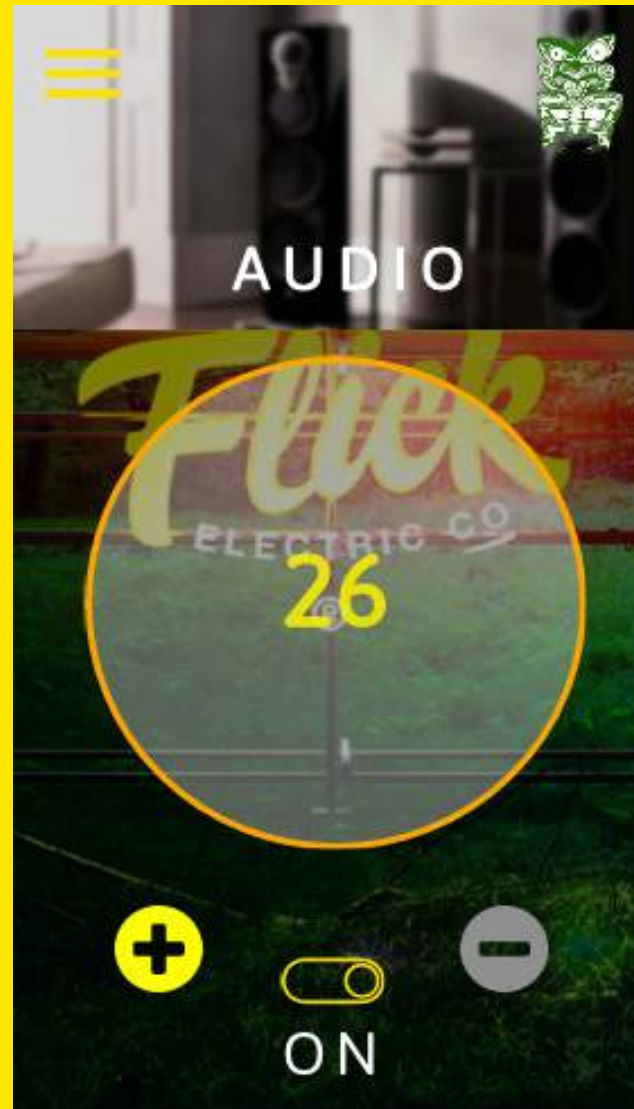
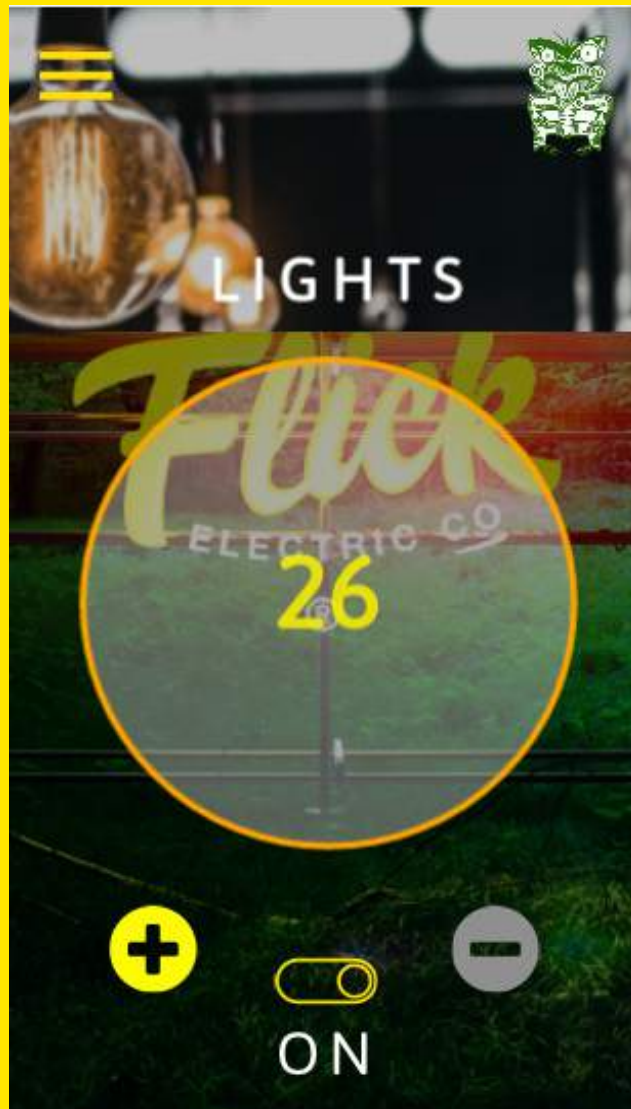


UX PIN





UX PIN





UX PIN - MAORI TIKI

The maori tiki is one of the most popular and most recognizable maori symbols, which is why I have chosen to implement it into my home automation design. There are many different symbols that are recognizable but I feel as though this one is more fitting for my design. I didn't use the maori tiki for its meaning but more for its aesthetic use. There are many different meanings to the tiki and have been disputed over the years but the one that is most accepted is that it stands for fertility by the positioning of the hands. The Tiki is a talisman of New Zealand and her Maori people. From ancient times it has been regarded as a good luck charm.

The implementation of this tiki would be to use it as a button to translate from maori to english. Rather than having just the maori text next to the english text I want to make this tiki interactive. I just think that having the text next to it would make the page that much more cluttered so this function simplifies the aesthetic and also gives the user an option to translate the text if they would like. The Treaty of Waitangi is an important part of New Zealands history so adding in this feature is essential.





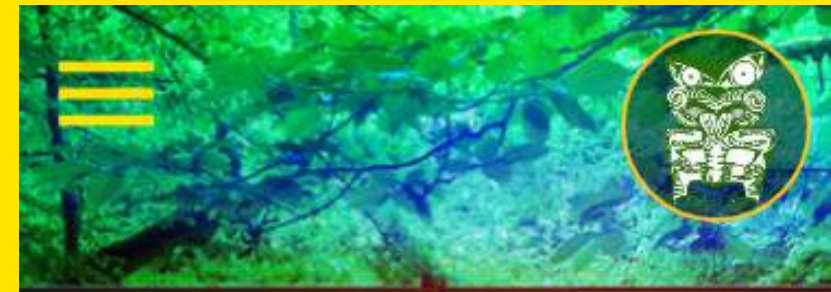
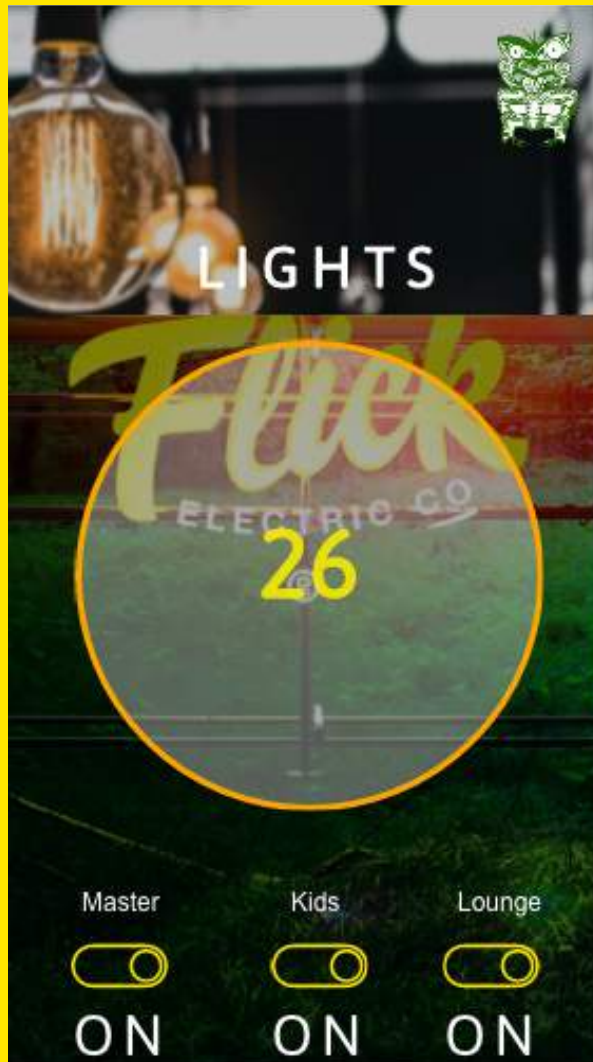
UX PIN - USER TESTING

I conducted some user testing and got some valuable feedback and have made appropriate changes to my UX Pin design. In my previous design, the device symbols were hard to see so I added some colour and a background so they were easier to see. This also fitted in with the client's image with the bold yellow colour. I think the black back drop for the hamburger menu further brings out the icons. The users also suggested that I have the electronics more specific to each room so i've added switches for the different rooms in the house, making the home automation that much more interactive. For the maori tiki button, users suggested that I make it stand out a bit more and making it look more like a button because previously it looked like it was apart of the background image. So I added a circle form around it to keep it consistent with the rest of my site. It looks more like a button now rather than just an image on the background.





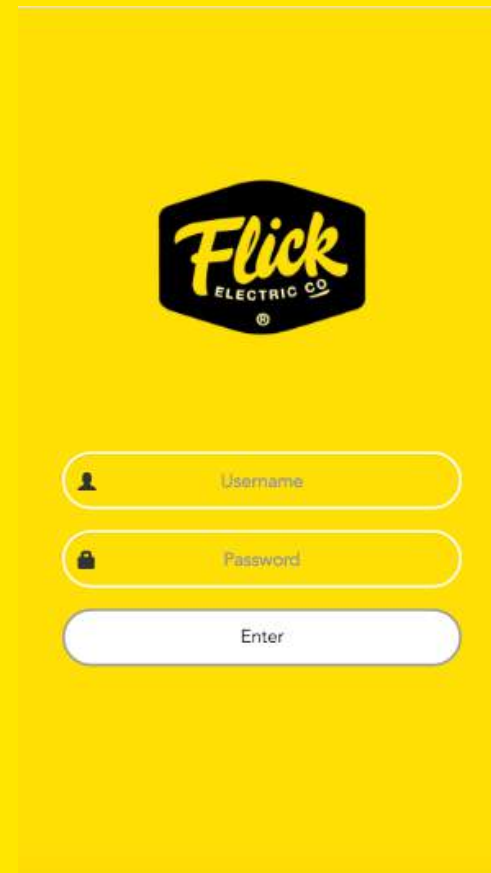
UX PIN - USER TESTING





CODING - MOBILE

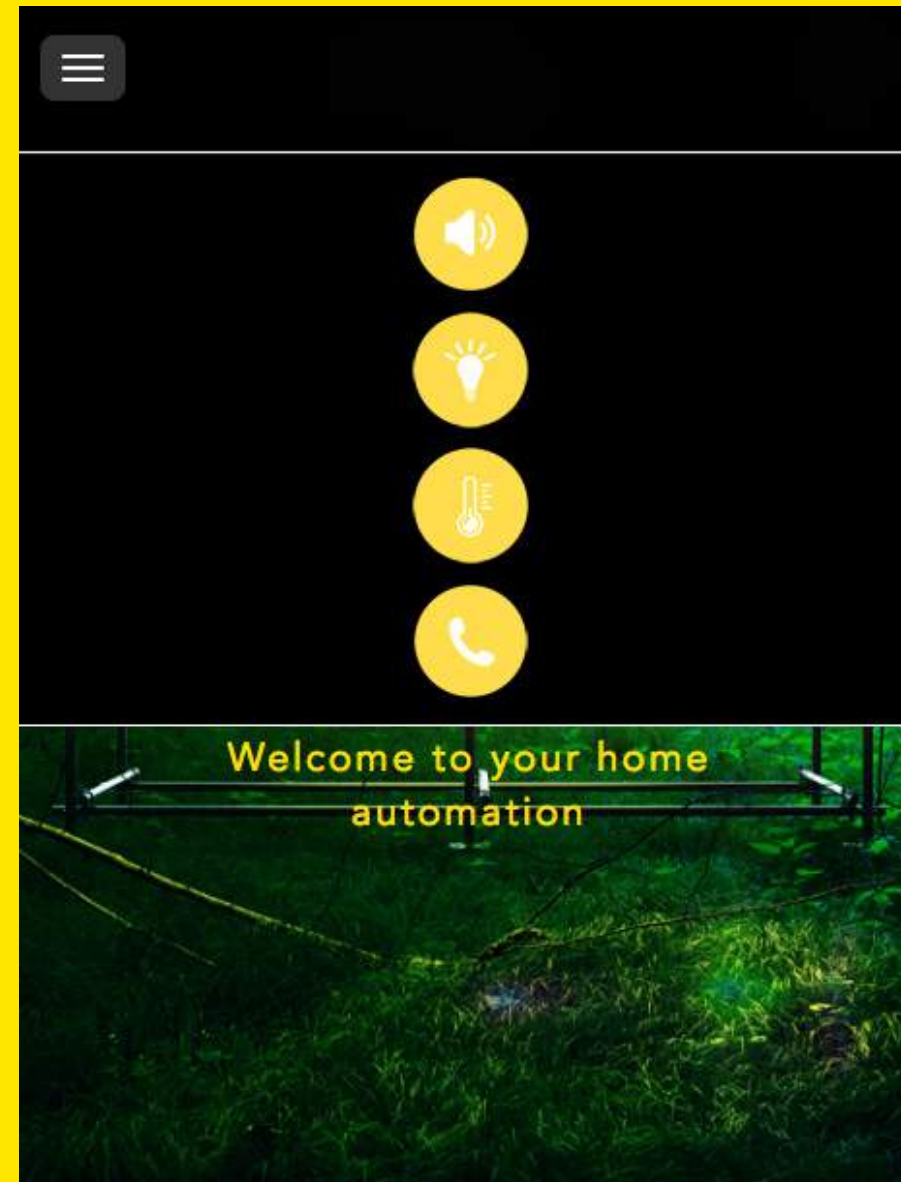
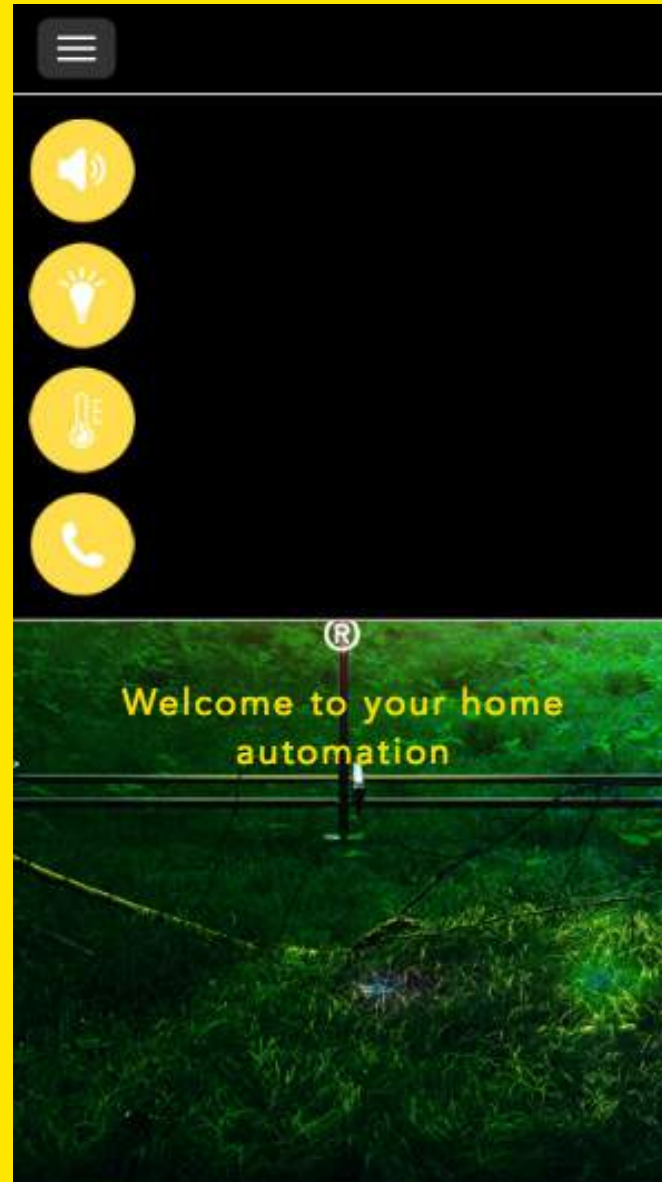
After all the UX side of the project was done, I could start my coding and test the new skills I have learnt in the past 4-5 weeks. I decided to use the bootstrap framework because I think with the timeframe it would be hard to create everything from scratch. So i wanted to use bootstrap mainly for the navigation bar and the buttons. I didn't want to overuse it as I wanted to test myself. The size I chose to do was the standard iPhone6 size which was 375x667. I had set myself certain days to get tasks done as I feel this was a good way to manage my time in this short period we had. I estimated that the first page shouldn't take more than one day of coding as this was a fairly simple page with just a gif and the sign-in form. The rest of the pages of my site however required more attention. My homepage was also simple and I set out just one day to complete it. The rest of my time was to create a base code for one electronics page which would then just be duplicated and changes would be minor. I had days where I would go back and revise certain pages and make minor changes to the aesthetic as i feel this was necessary to complete a nice looking webpage. I knew from the beginning that some days wouldn't be as productive as others so getting started on coding and making tasks for each day was very valuable and worked well for me throughout the whole process.





CODING - MOBILE

The nav bar was in its development stages early on and I had to make a few minor adjustments to make it look more appealing. From user feedback I was told that when the navbar was pressed, it looked weird that the icons were to the left of screen as it left a lot of space to the right of the icons and didn't look right. They suggested that it looked more appealing straight down the middle as again naturally users eyes are lead towards the center of the screen.





CODING - MOBILE

Once my sign in page and home page was fixed up I moved on to my different electronic pages. As I mentioned before I wanted to fully design one of these pages before I moved onto the next as it would be easy to just duplicate. I broke up this page into sections and I first got my background image placed correctly. Then the circle sections and finally the buttons sections. In this development stage I learned quite a bit about positioning with relative and absolute as this was the only way that I knew that I could achieve the layering of images on top of each other. J-Query was then implemented into my design for the translation button.

After some more user-testing, I made some changes and added a few more things in. I added the two plus and minus buttons so the user has even more control of their electronics so they are not limited to just an on and off switch. The user gave me feedback to add in a home button because they weren't able to go back to the homepage and restart therefore made that page useless.

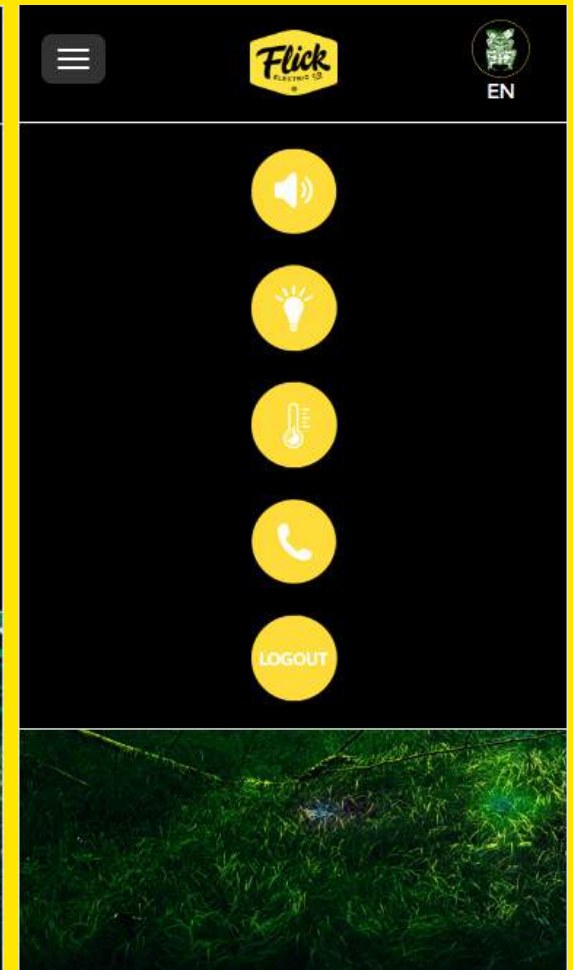
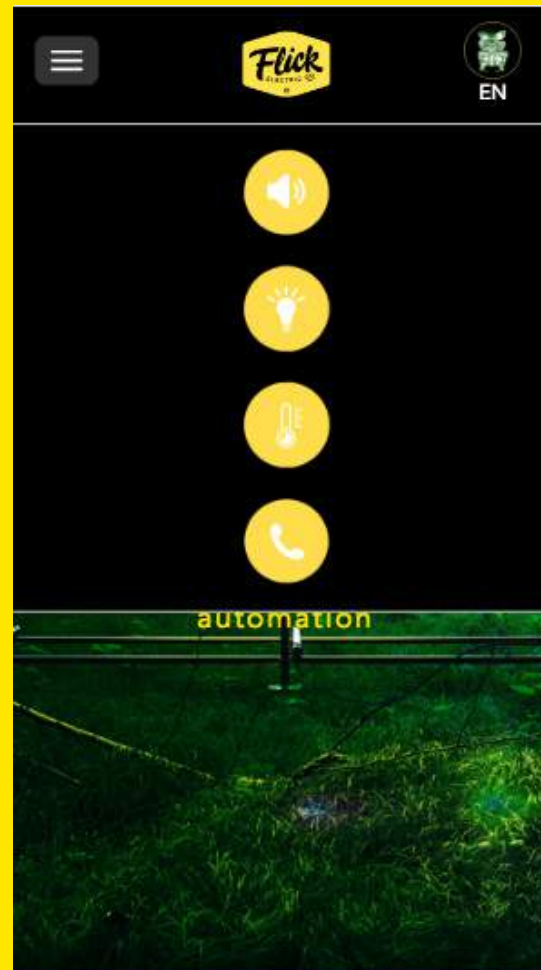




GROUP USER-TESTING

After doing the group user testing, I was told I needed to include a logout button for security reasons. So I went in and created a new button in the nav bar where I think it would be most suitable and easy to find.

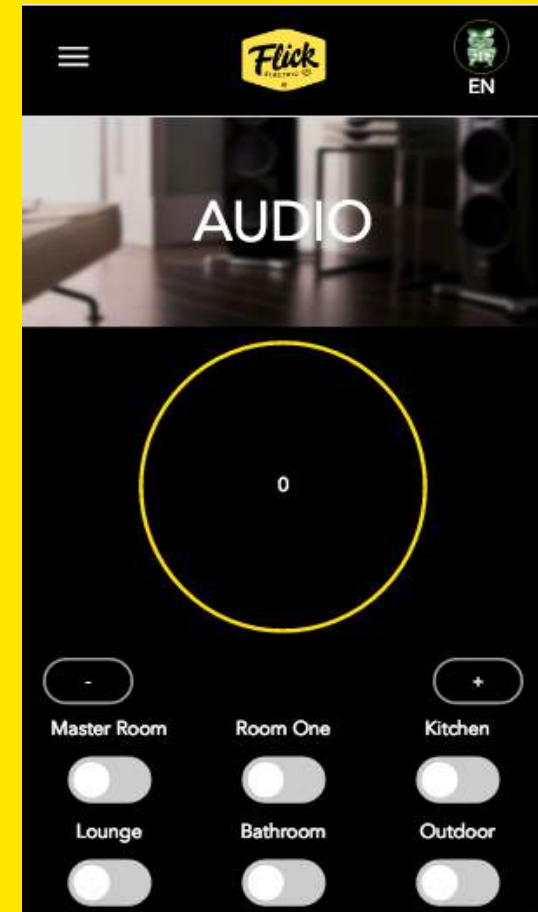
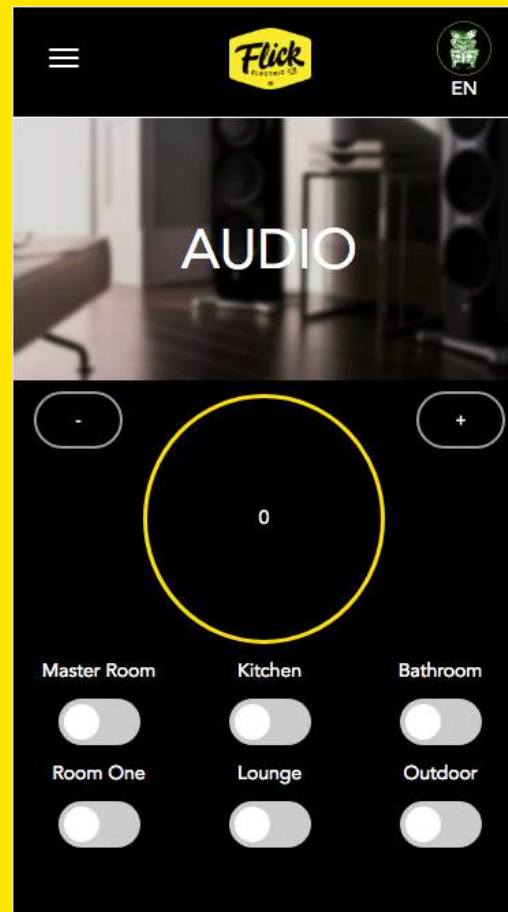
They also suggested that I include text on my nav icons but I believe that they are pretty self explanatory and didn't need text so I haven't included it. To back this up, 5 out of the 6 people that did the user test said that they were able to identify all the icons easily.





CODING - MOBILE

I then changed the translation tiki as users said that It would be better if my button was in the nav bar and not in the sections as it would make it look more professional. The size of the button was also giving that impression so I made it a bit smaller. In my earlier user testing some users said that it wasn't clear that the tiki was a translation button so I then added the "EN" and "MA" text underneath it to make it more clear to the user that this is a translation function. As for the buttons, I changed out the plus and minus for just icons as this looked much better than the text. When I did user testing on the mobile, it was hard for user to interact with the buttons higher up on the screen so I have moved them closer to the bottom, which makes it easier because of the natural hand placement on a mobile.





USABILITY TESTING


After doing usability testing I have had to make quite a few changes to make my website fully usable. From the tasks set out for the users, most of them were able to complete all of them except one, which was logout at the end of the set tasks. When users were navigating my site they weren't able to logout at the end of the given tasks because there was no button to do so. Users told me this could be a risk to your home automation and the security of user accounts. This was a very important piece of feedback for me on the home automation brief as it is essential that the security of your home was safe.

Adding in this simple button wasn't too big of a task so it was a relatively easy fix. I decided the best place to put it would be the nav bar because it could be accessible from every page.

The Maori tiki was also edited to make it look more professional and take up less screen space so was integrated into the navbar. There was also a home button added into the navbar so users could go back home. Users have said that they couldn't get back to the homepage so really it makes that page useless after the user has progressed past that page, which I have mentioned earlier.



CODING - FINAL MOBILE VERSION



Username

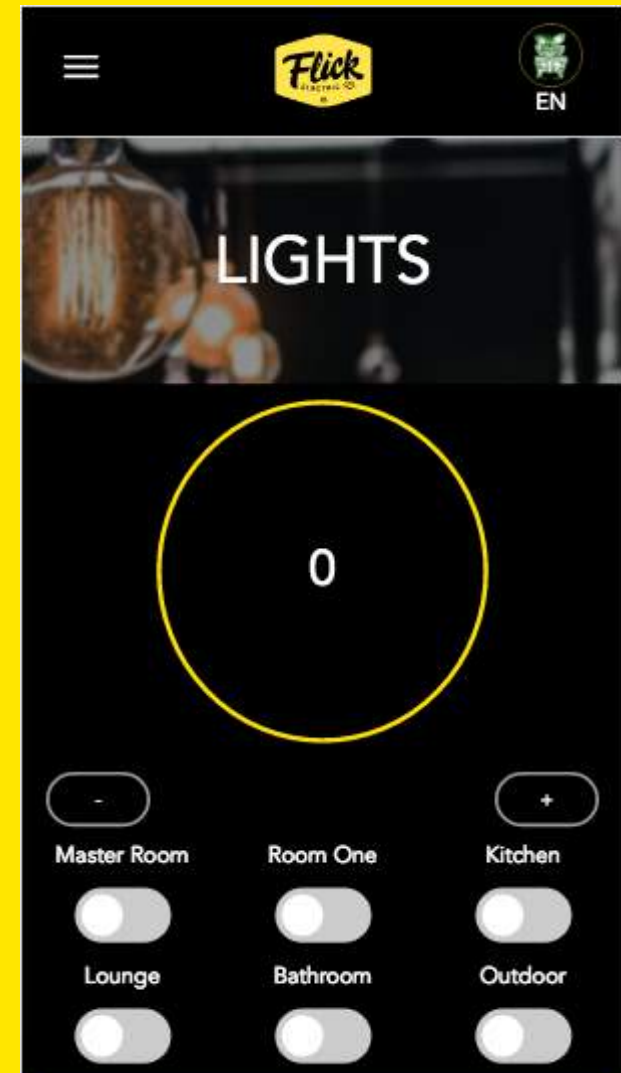
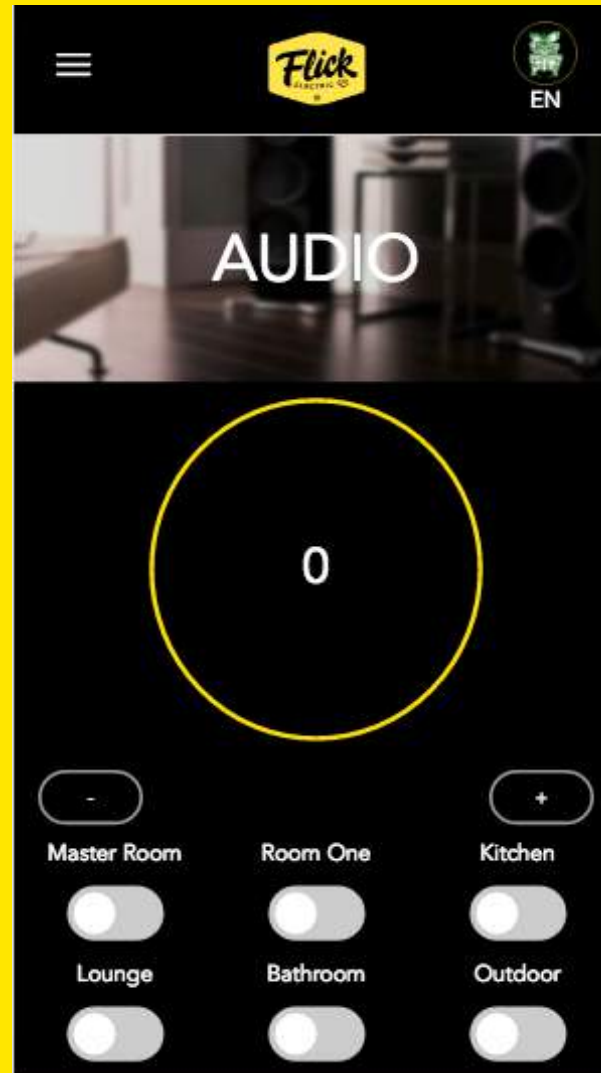
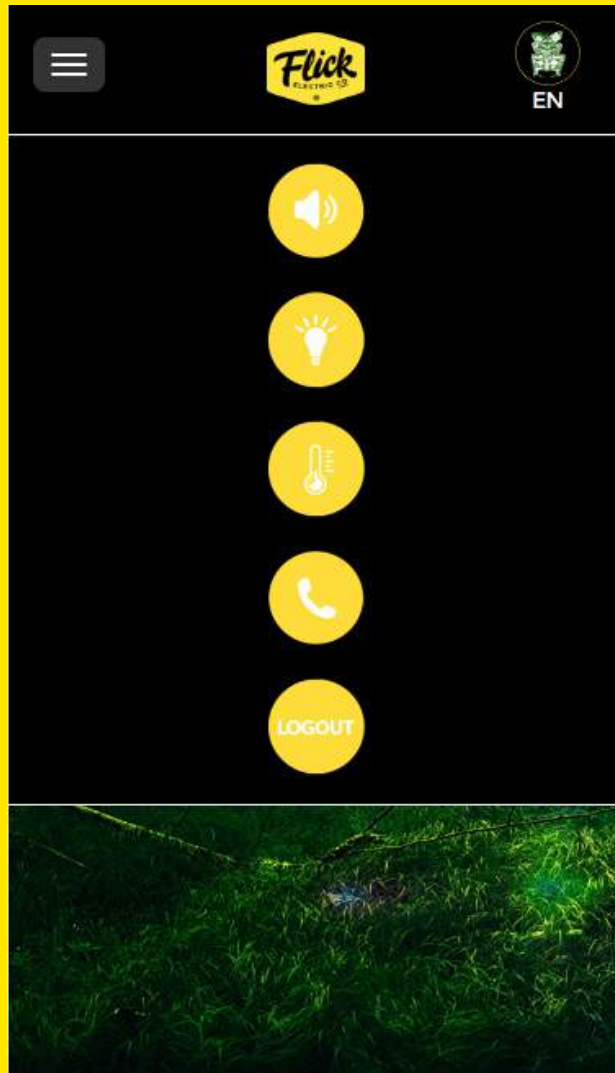
Password

Enter



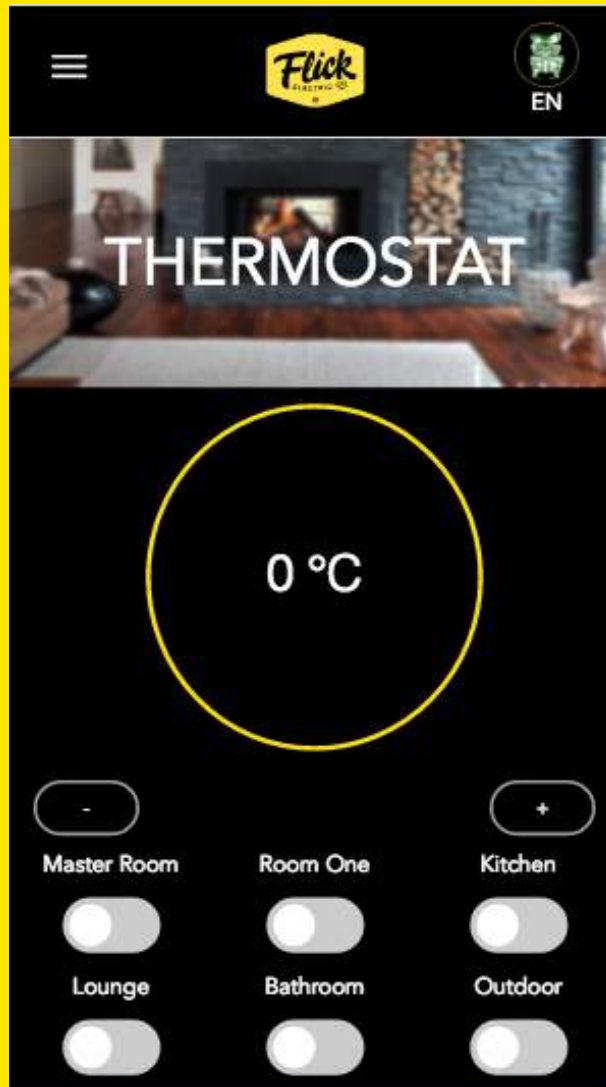


CODING - FINAL MOBILE VERSION





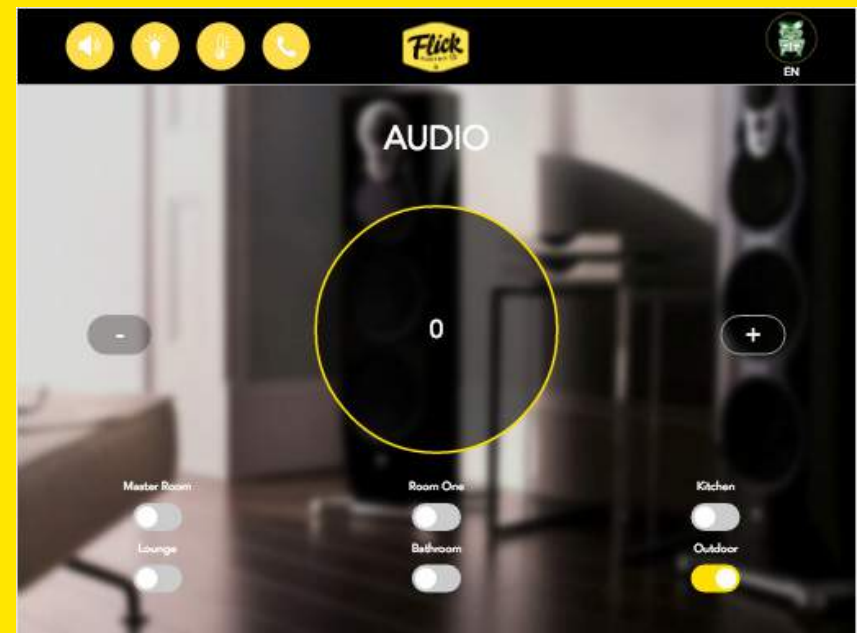
CODING - FINAL MOBILE VERSION





CODING - TABLET

After my mobile version was completed I moved onto tablet version and started adding in my breakpoints to make it responsive. I chose to do the standard iPad landscape size of 1024x768. I chose landscape because I think that it would work best with the layout when it is placed on a wall in homes. At the start all my images were at the bottom and not on top of each other so I had to make them have a position of absolute and the circle a position of relative. For the media queries on the tablet version, I had to just change the sizes for most of the assets as they were still mobile size. After doing some user testing on the buttons, users said that I had to make the buttons bigger and centered in the page. This made it more visible for the user and easier to interact with. The value in the circle was also small so I bumped that up a few pixels. The buttons have also been modified a bit to make them more visible to the user. I have changed the transparency to make it more darker because before you couldn't see it well with the white glare in the background image.





CODING - FINAL TABLET VERSION



Username

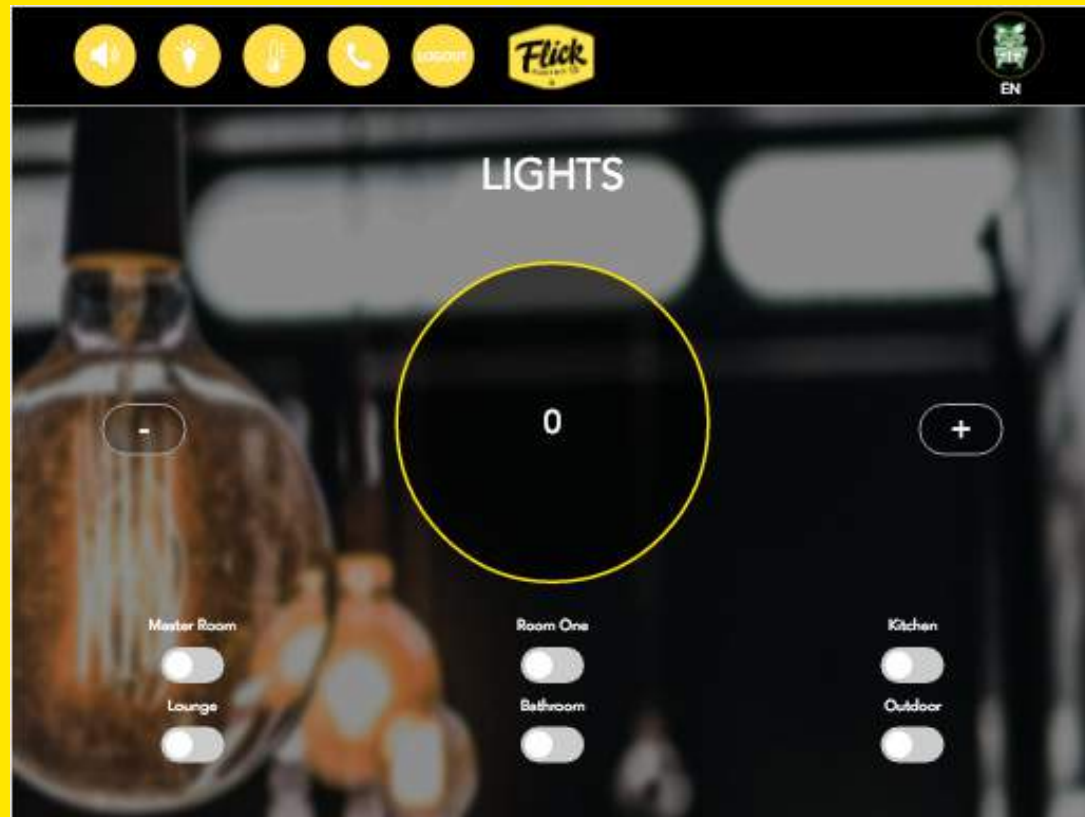
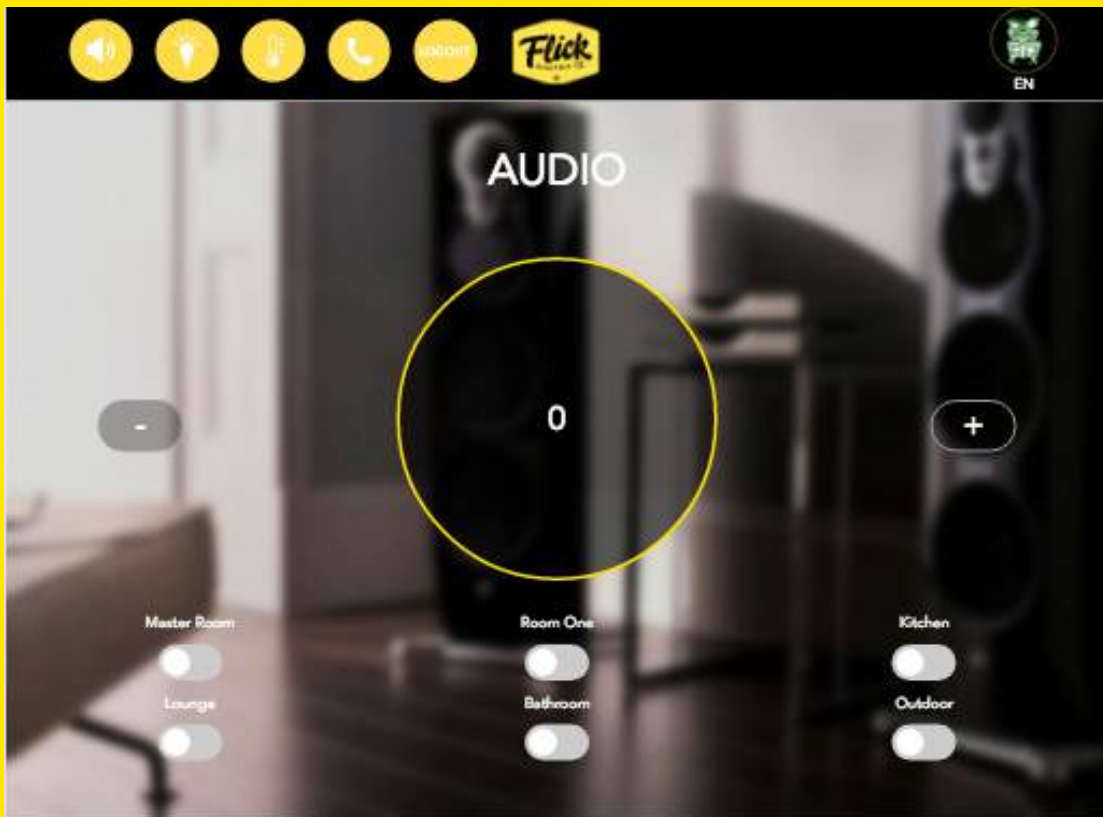
Password

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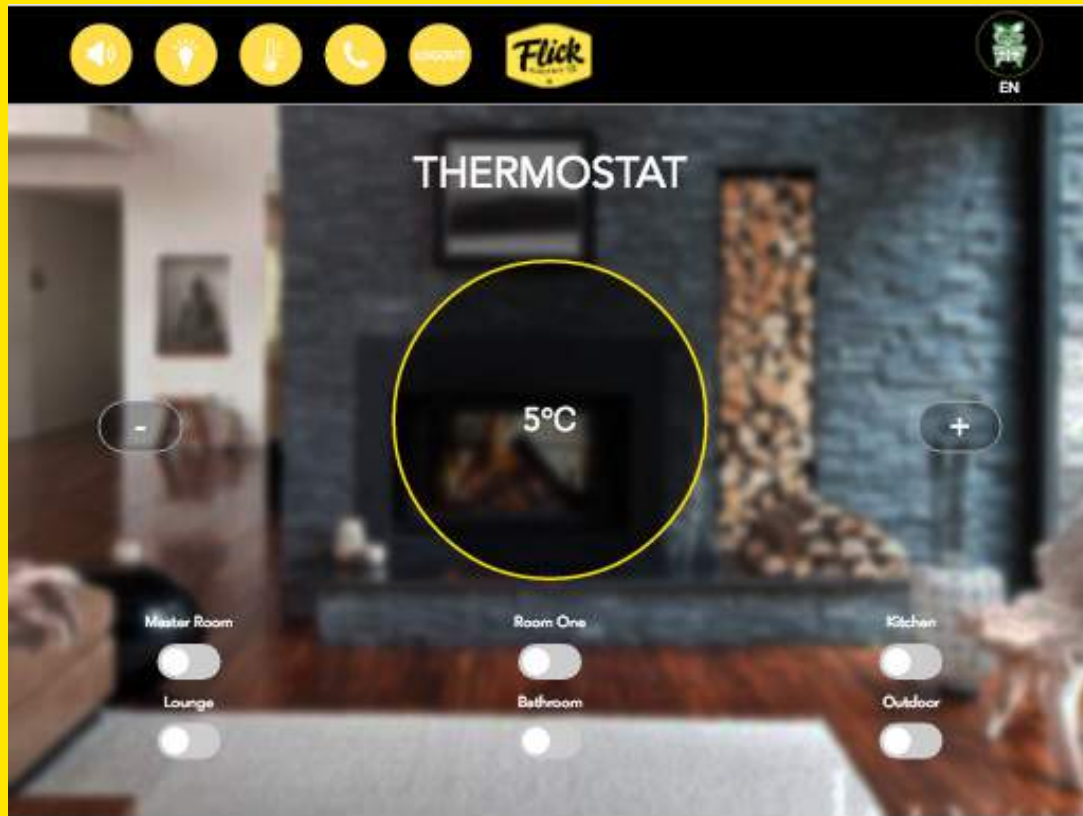


CODING - FINAL TABLET VERSION





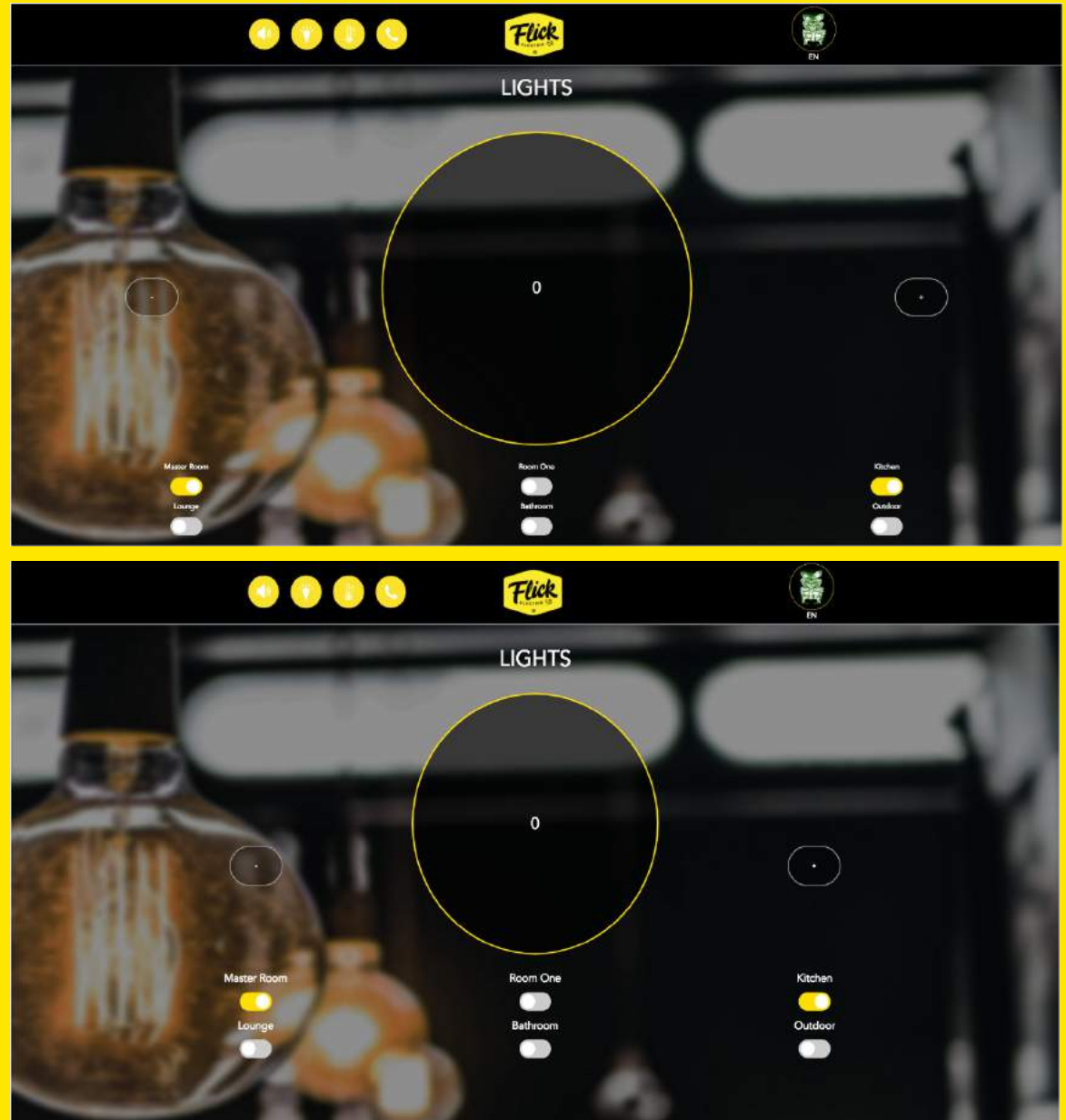
CODING - FINAL TABLET VERSION





CODING - SMART TV

The layout for the smart tv was a little bit different before I included the media queries. The size of the smart tv I chose was 1980x1080. From my research I found that this was a common size for a large resolution screens and so anything over this size my website would break. There was a bit of tweaking to do. So I went in and moved everything into the center as this would be easier to interact with on a smart tv with a remote. Also making the buttons bigger was a good idea as they would be quite small if they were still tablet size. There wasn't many changes to the smart tv as the layout was the same as the tablet.





CODING - SMART TV



EN



EN



EN

The nav bar also had minor changes to the sizes to make it responsive on the smart tv. Users initially said that the nav bar was small and needed tweaks to the size as well as the logo and the translate button. I had also added in the logout button after some user testing on all devices.

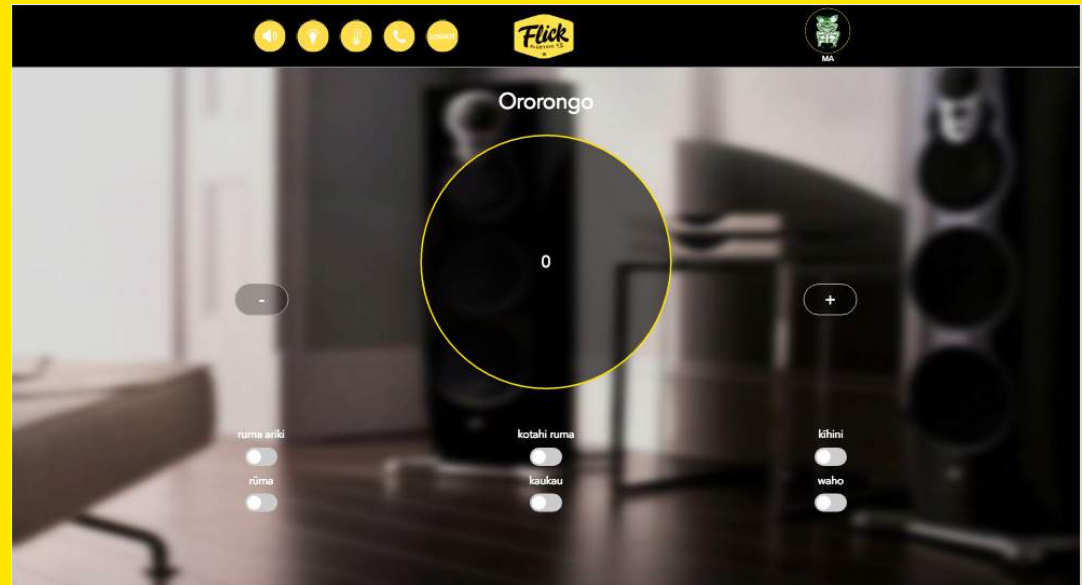
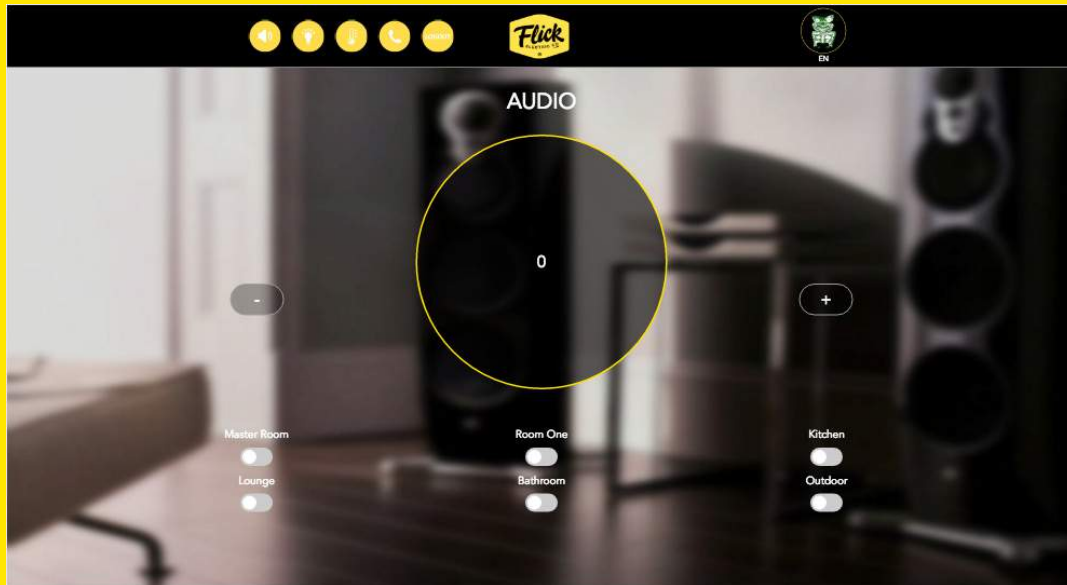


CODING - FINAL SMART TV VERSION



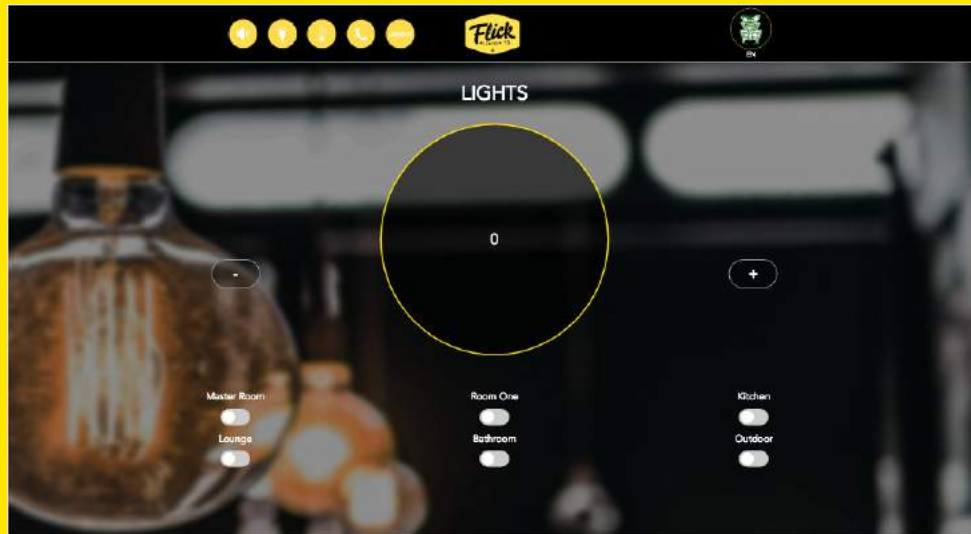


CODING - FINAL SMART TV VERSION





CODING - FINAL SMART TV VERSION





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Flick:

Title: flick_forest_final2

Image: http://theregister.co.nz/media/VERSIONS/flick_forest_final2_1200x1200.jpg

Link: <http://theregister.co.nz/news/2015/03/lights-go-new-north-island-power-retailer-flick-electric-co>

Title: flickelectricoo

Image: https://pbs.twimg.com/profile_images/658720476760375296/xaPYzkco.png

Link: <https://twitter.com/flickelectricoo>

Title: flick-logo-rev.png

Image: <http://news.flickelectric.co.nz/wp-content/uploads/2014/12/flick-logo-rev.png>

Link: <http://news.flickelectric.co.nz/>

Title: Choice by Flick Electric Co

Image: https://lh3.googleusercontent.com/P0bk2oijXByFxKmF5bloY1wr5s_jaNowz79FBvaNB3Gu3yRQsXtK56EhvaZc2Msi6z4=w300

Link: <https://play.google.com/store/apps/details?id=nz.co.flickelectric.androidapp>

Title: bccfd01b44c20d92.gif

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Link: <https://nz.pinterest.com/pin/344455071481894379/>

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Icons:

Title: audio_music_sound_speaker_volume_icon

Image: <https://cdn2.iconfinder.com/data/icons/flat-ui-icons-24-px/24/volume-24-512.png>

Link: https://www.iconfinder.com/icons/103167/audio_music_sound_speaker_volume_icon

Edited: Colour

Title: idea-icon-12419

Link: <http://www.freeiconspng.com/free-images/idea-icon-12419>

Edited: Colour

Title: thermometer-1

Image: http://icon-icons.com/icons2/788/PNG/512/thermometer-1_icon-icons.com_65087.png

Link: <http://icon-icons.com/icon/thermometer-1/65087>

Edited: Colour and erased parts

Title: Phone-Icon-(Contact-Us-Page)

Image: <http://1to1restaurant.com/wp-content/uploads/2013/03/Phone-Icon-Contact-Us-Page.png>

Link: <http://1to1restaurant.com/contact-us/>

Title: Maori tiki

Image: http://farm4.static.flickr.com/3067/2983257754_a6e5d53a36_m.jpg

Link: <https://hiveminer.com/Tags/kupenga/Interesting>

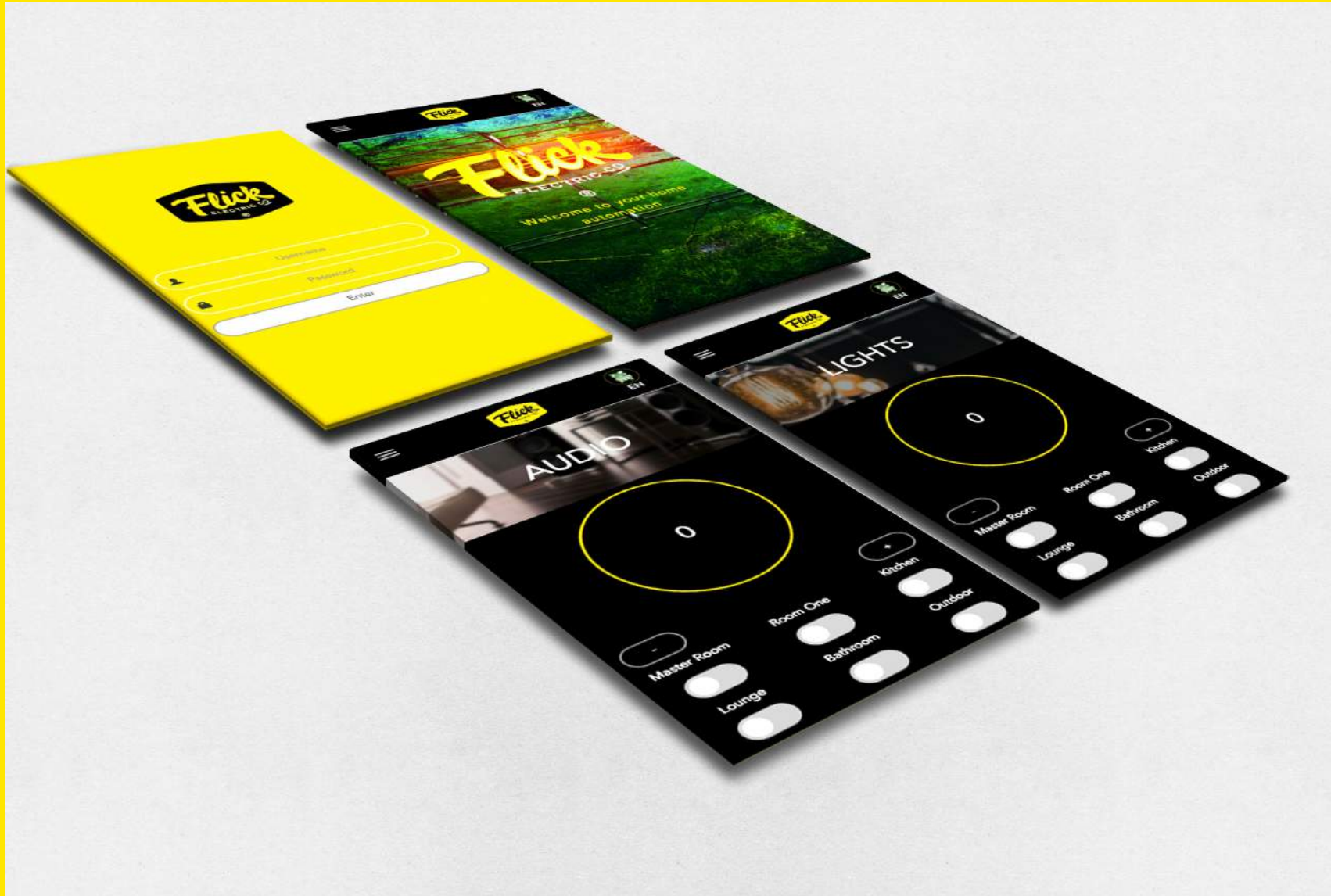
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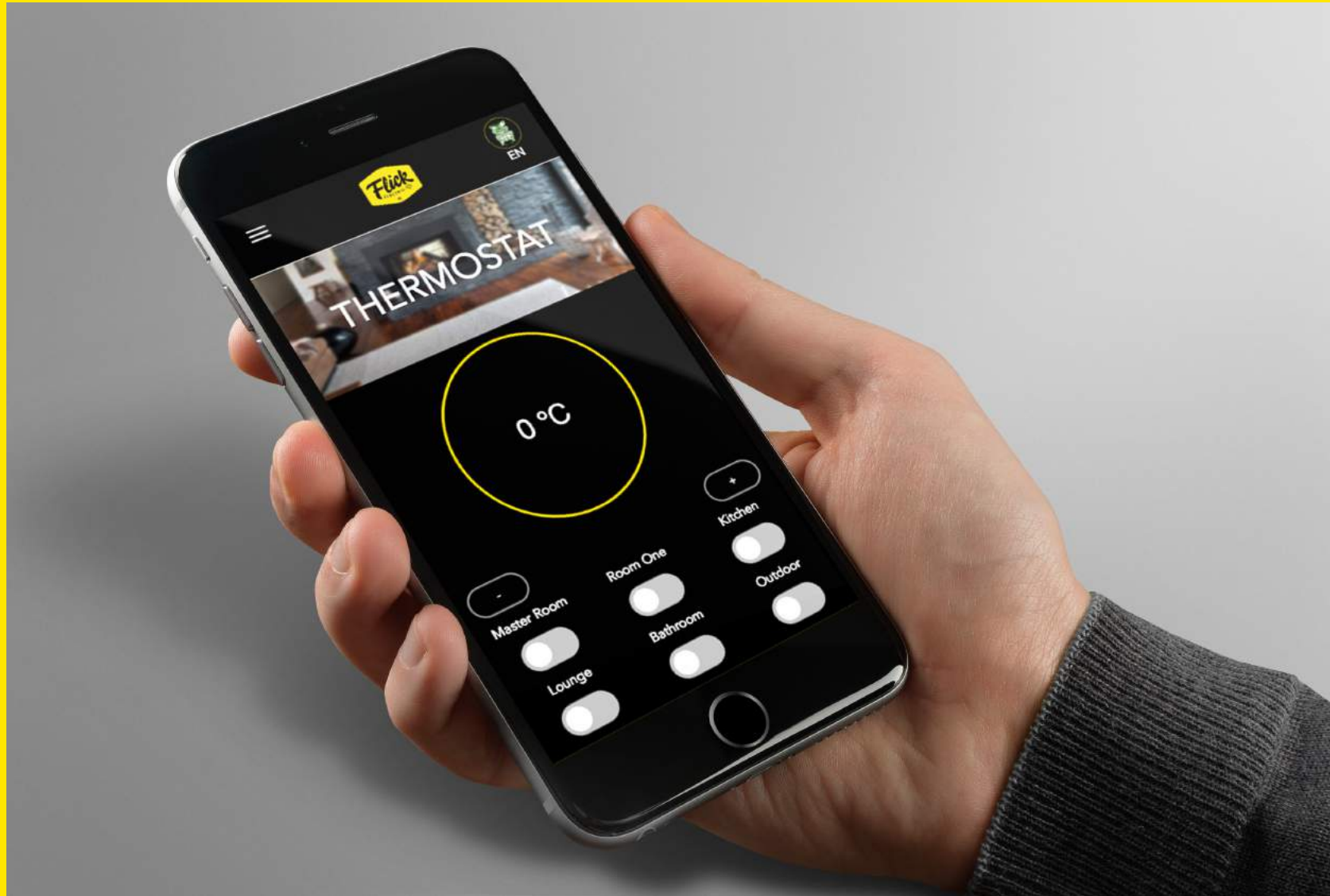
FINAL

Here is a link to my live server
<http://kunal.shantilal.yoobee.net.nz/Summertime/Flick-Electric/index.html>





FINAL



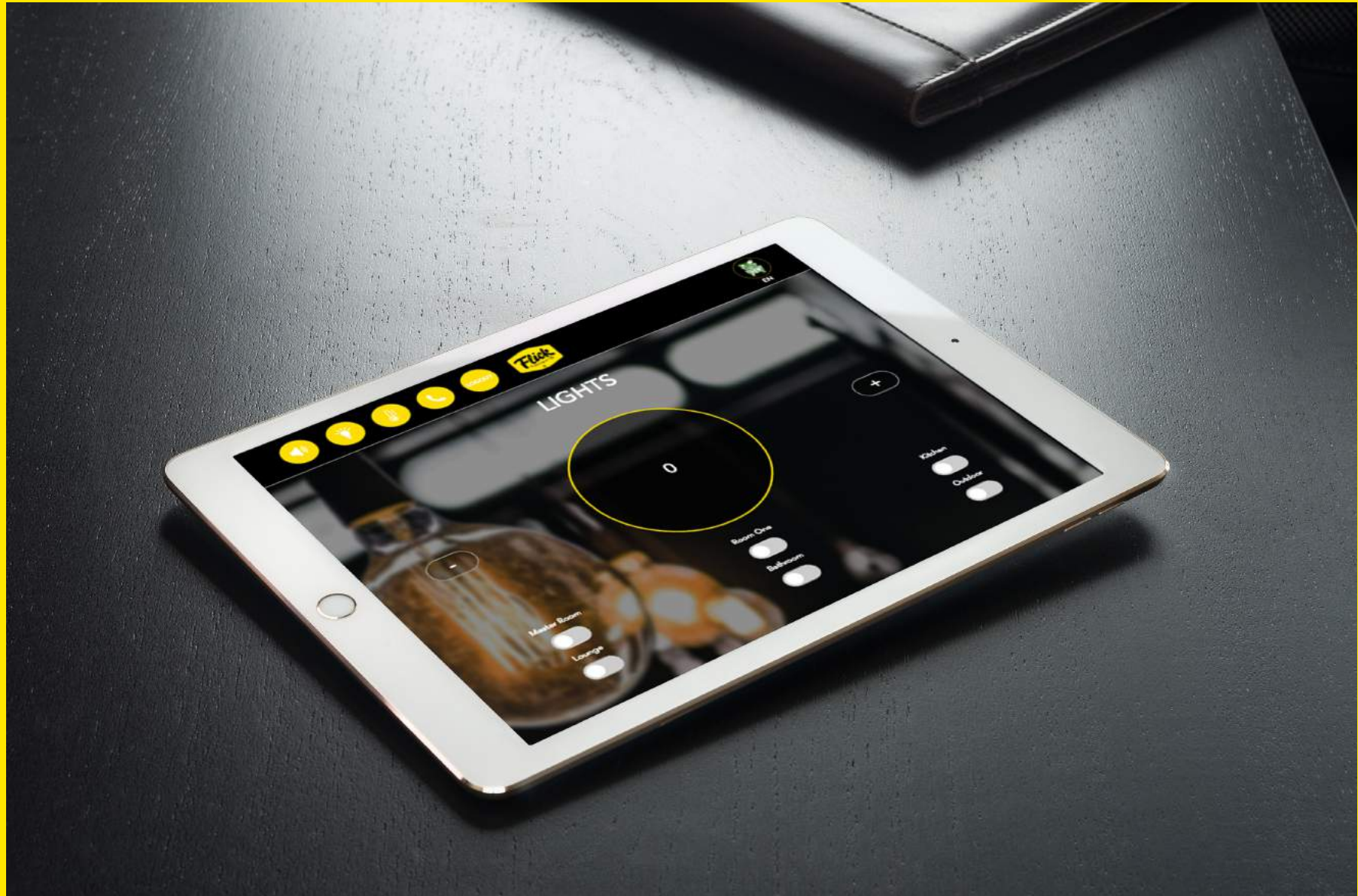


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