

Design Workbook

Team Name: Design Thinkers
Project Topic: How might we better inform the user of sustainable energy opportunities that they could be taking advantage of?
Student Name: Braydan Newman
Student ID: 14062640

Summary of the Design Thinking Processes:

Sustainability and health and well-being were the focus for discussion and brainstorm by the team. Each team member then decided on 5 topic areas to focus on. To decide our target audience three empathy maps were created based on people's life stages. The three final maps were grouped as elderly, family, singles. During the decision-making stage a heat map was used to determine selection of topics. After the vote had taken place, the team had realised the topic was too narrow and the team's outcome was decided as 'sustainable energy'. Once the topic was determined secondary research was completed to highlight key elements that the user was looking for. Once the team had created a reliable plan, interviews of possible users were conducted, to further our understanding of user compatibility and needs. Main points and stories were captured and laid out in a story share and capture by each team member to broaden everyone's understanding of user's needs. The group made a final decision to not use the how and why ladder as discussion had been exhausted using prior methods.

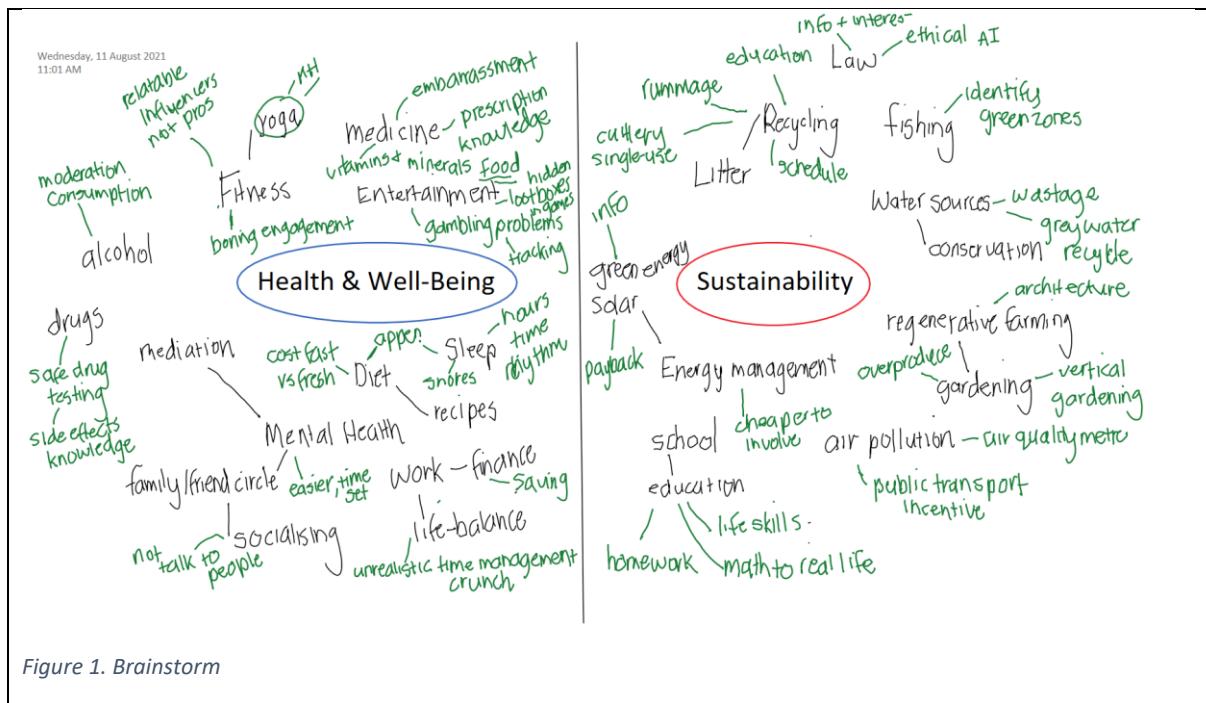


Figure 1. Brainstorm



The Design Thinkers

Week 3 - Meeting 2 - 16/08/21

Danielle Jones - danielle.jones1@my.jcu.edu.au
 Braydan Newman - braydan.newman@my.jcu.edu.au
 Adam Albert - adam.albert@my.jcu.edu.au
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 Ethan Bettscofax - ethan.bettscofax@my.jcu.edu.au
 Samuel Barrett - samuel.barrett@my.jcu.edu.au

Danniele Jones	Brayden Newman	Adam Albert
1. Garden Management** 2. Work life balance 3. Fitness fun 4. Reconnection 5. Reef awareness	1. Ingredient selector 2. Drunk budget limiter* 3. Life skills 4. Substance education 5. Green zone alert	1. Healthy recipe finder* 2. Green town planning 3. Side effect awareness 4. Life skill awareness 5. Environmental incentives*
Favourite: Garden Manage	Favourite: Drunk budget limiter	Favourite: Environmental Incentives
Jake Edmunds	Ethan Bettscofax	Sam Barrett
1. Life skills awareness* 2. Better charge grids* 3. Fitness health information 4. Gambling tracking*** 5. Nutritional awareness	1. 2. 3. 4. 5.	1. Automatic Vertical Farm 2. Digital Medication App 3. Home power monitor** 4. Home security App 5. Moon and Tides App
Favourite: Gambling tracking	Favourite:	Favourite: Home power monitor

Final group idea has been selected by the above 'Note-and-vote' method with final python randomisation.
 As a result our official idea to develop is:



Home power monitor?

What we know about the topic: Do people already have these?

Identify what we need to know about the product:

- Whats the equation for kWh to \$, smart plugs/adaptors have wifi to your app,
- are these apps out there already
- who are the target users
- smart plugs with power monitor app
- how much will the setup cost

Identify the target user:

- power conscious people
- families, green teenagers

Develop a research plan (Primary and secondary):

Primary:

- User base, costs, is it out there

Secondary:

- actual device, plug design, wifi plug, mobile app, browser app

CONTRIBUTE: 2 insightful pieces of info per group member into the Secondary research folder on OneDrive

Figure 2. Heat Map for Final Topic

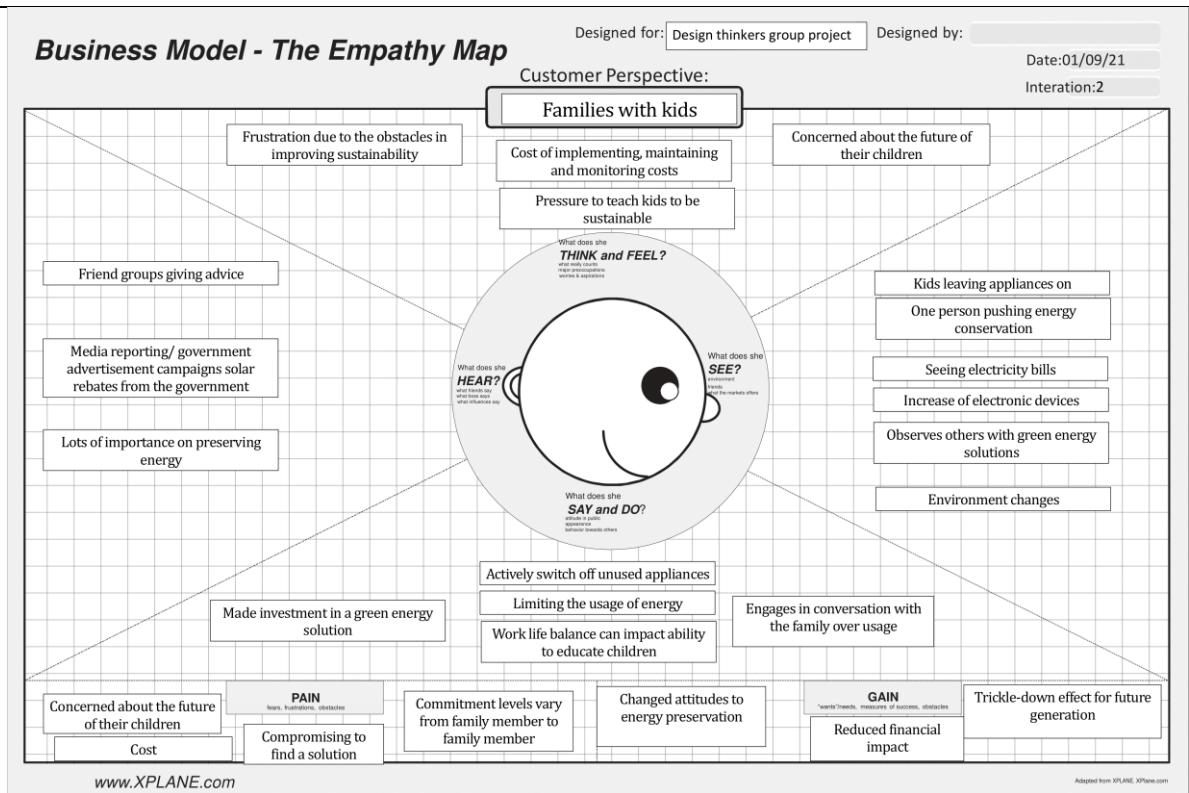


Figure 3. Empathy Map 1

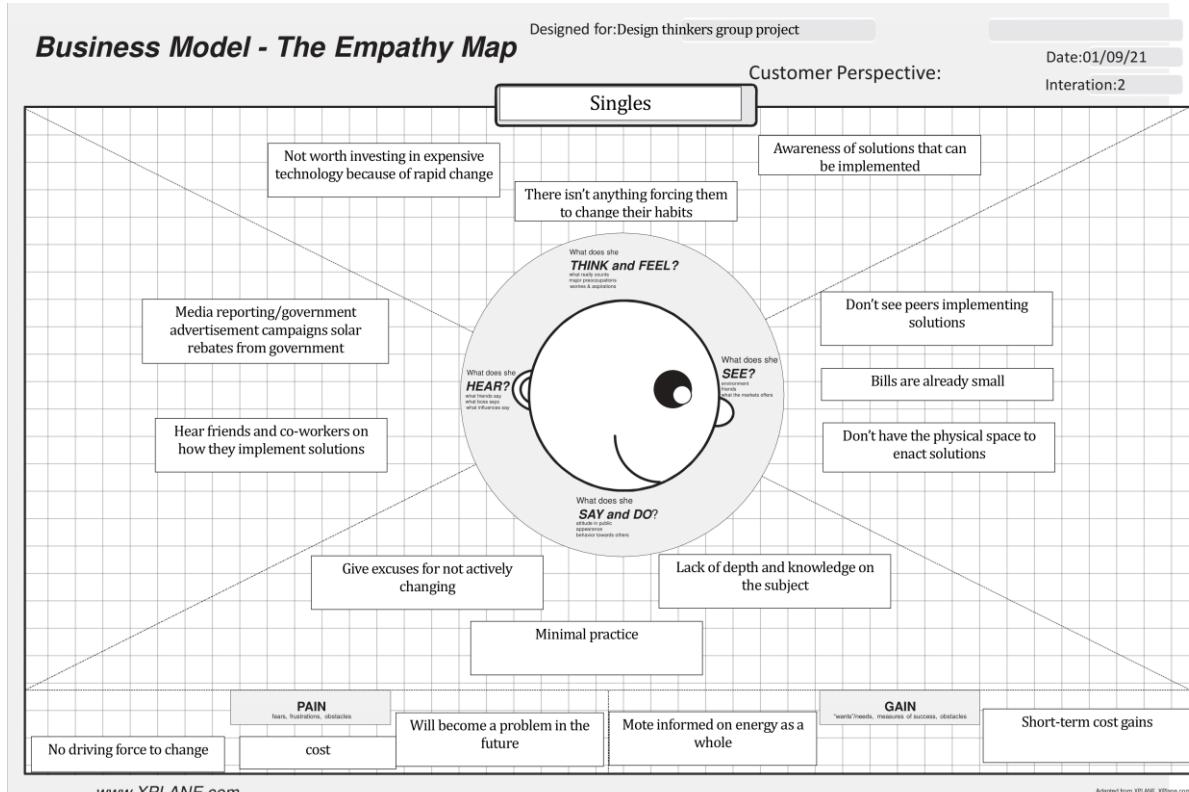


Figure 4. Empathy Map 2

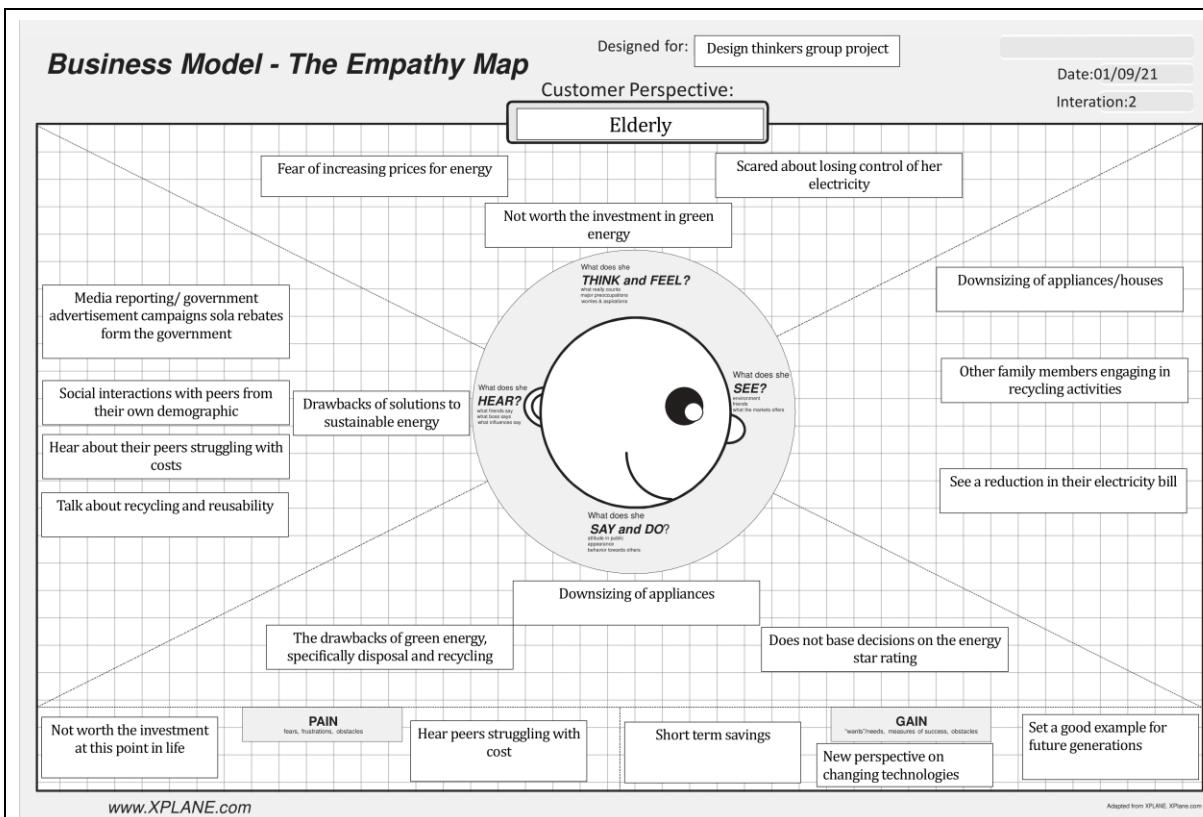


Figure 5. Empathy Map 3

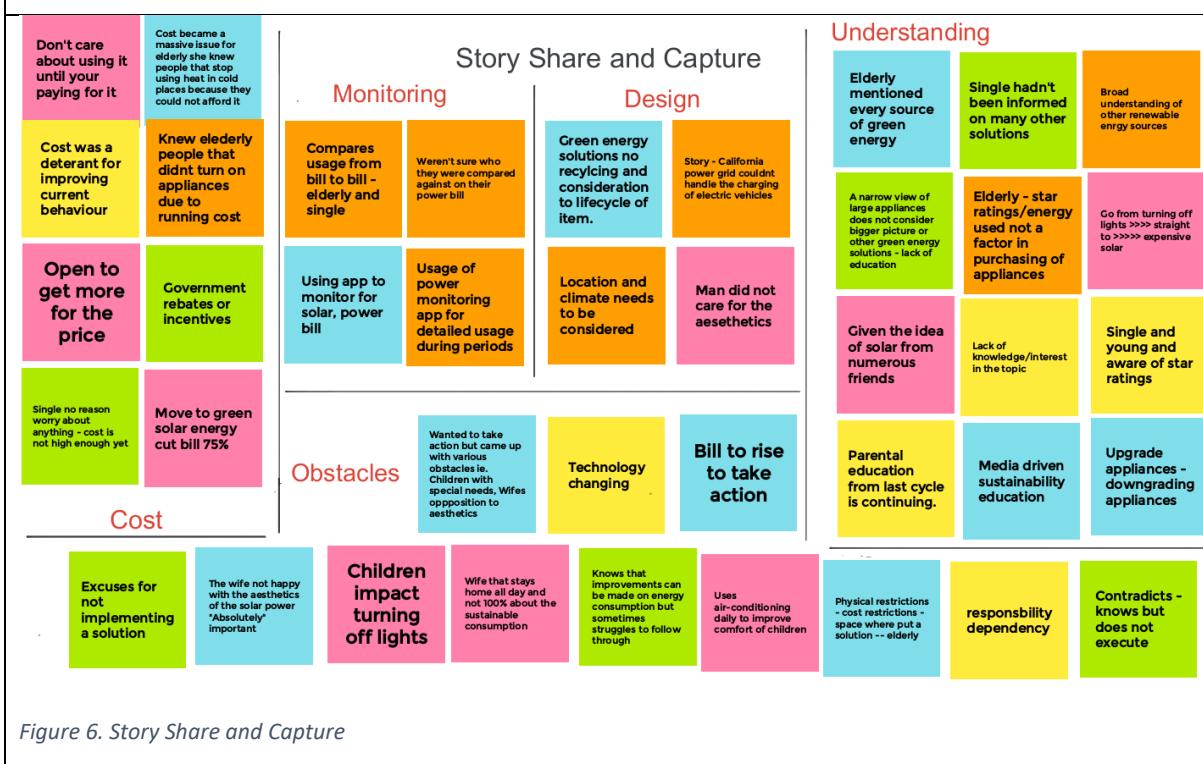


Figure 6. Story Share and Capture

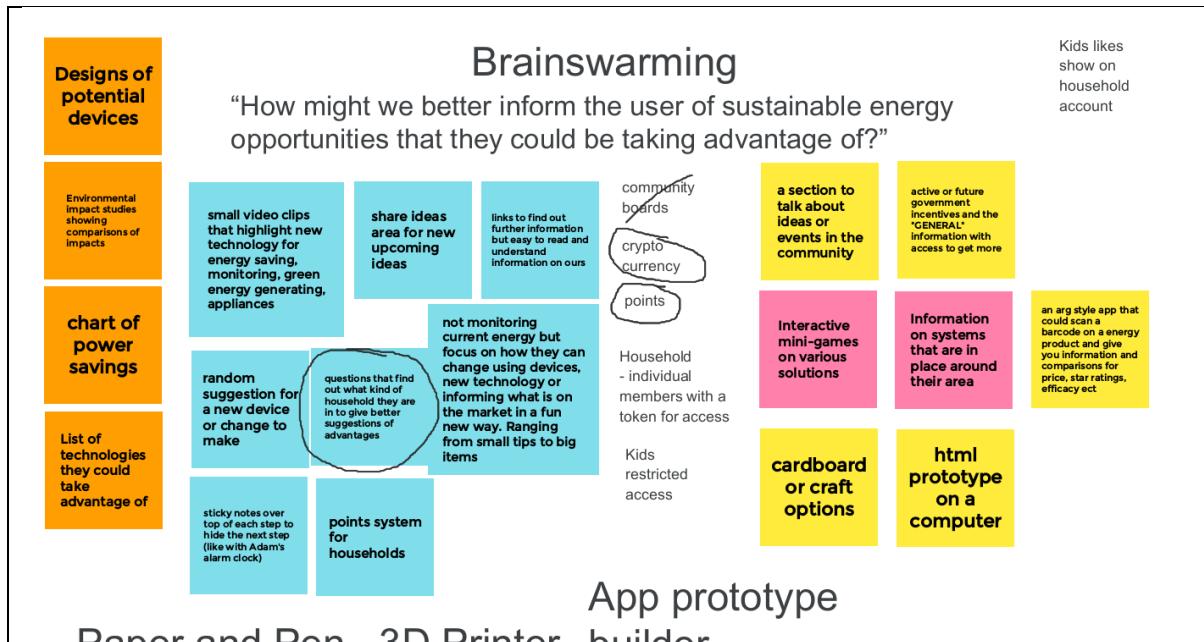
Define:

Methods that were used by our team to inform users of information included a point of view statement, brainswarming and how might we question in a brainstorm then a heat map to determine the final question. Point of view statements were determined individually for each of our users then combined to create an average user. Brainswarming was then used to connect user needs and set up an understanding and thinking process for how might we questions.

The conditions and process used by the team to create how might we questions was to place sticky notes in a brainswarming layout and enter information based on previous discussions whilst remaining silent. The information based on each discussion that was written on the sticky notes was to be related back to empathy maps, then shared with the group. Once this was completed and similar questions were combined a heat map was created to vote for each team members favorite question then a vote was conducted for the final question.

The composite character profile and point of view statement was determined to be;

“The household needs to receive alternative incentives beyond financial; additionally, it needs a solution to be flexible with a busy life and to consider the life cycle of the item because people invest in sustainable energy solutions for the financial incentives rather than the environmental benefits.”.



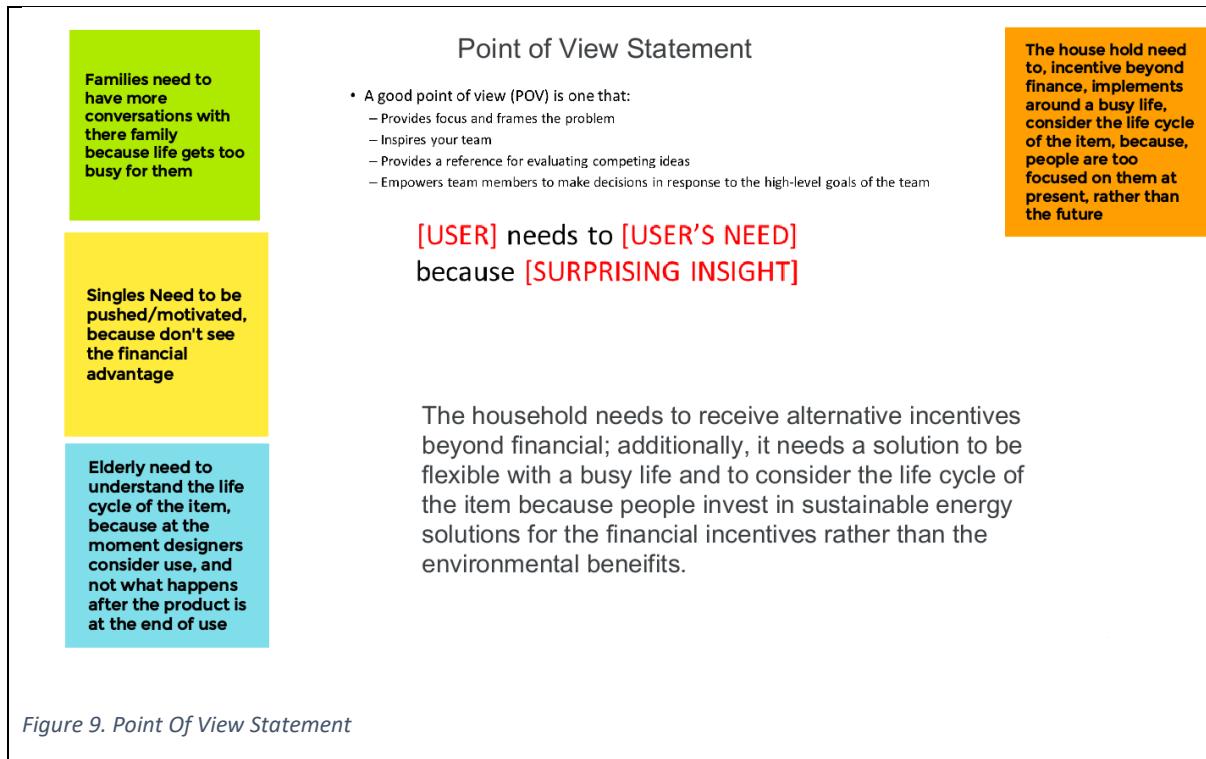
App prototype

Paper and Pen 3D Printer builder

Figure 7. Brainswarming



Figure 8. How Might We, Grouping, Heat Map



Ideation:

Ideation methods that were used include six thinking hats, brainswarming, crazy eights and selection. Six thinking hats allowed every individual from the group to see the ideas from a different perspective to determine possible deterrents and problems for the use to create a better product. It allowed discussion of possible problems in a way that allowed it to be clear and free of conflict. Brainswarming ensured that every individual in the group included ideas that contributed to the product. Brainswarming included ideas to be placed on a board in silence, then allowed for a discussion to further the improvement for the user and understanding what the user was looking for. Crazy eights began with dividing a piece of paper in eight squares and allowing each team member 40 seconds per sketch. The sketches were completed anonymously and then presented to the group. Once presented to the group it allowed for discussion of each idea to identify what might have been missed and how each can be improved or combined to create an ideal product. Once all ideas had been presented to the group a final product was decided on.

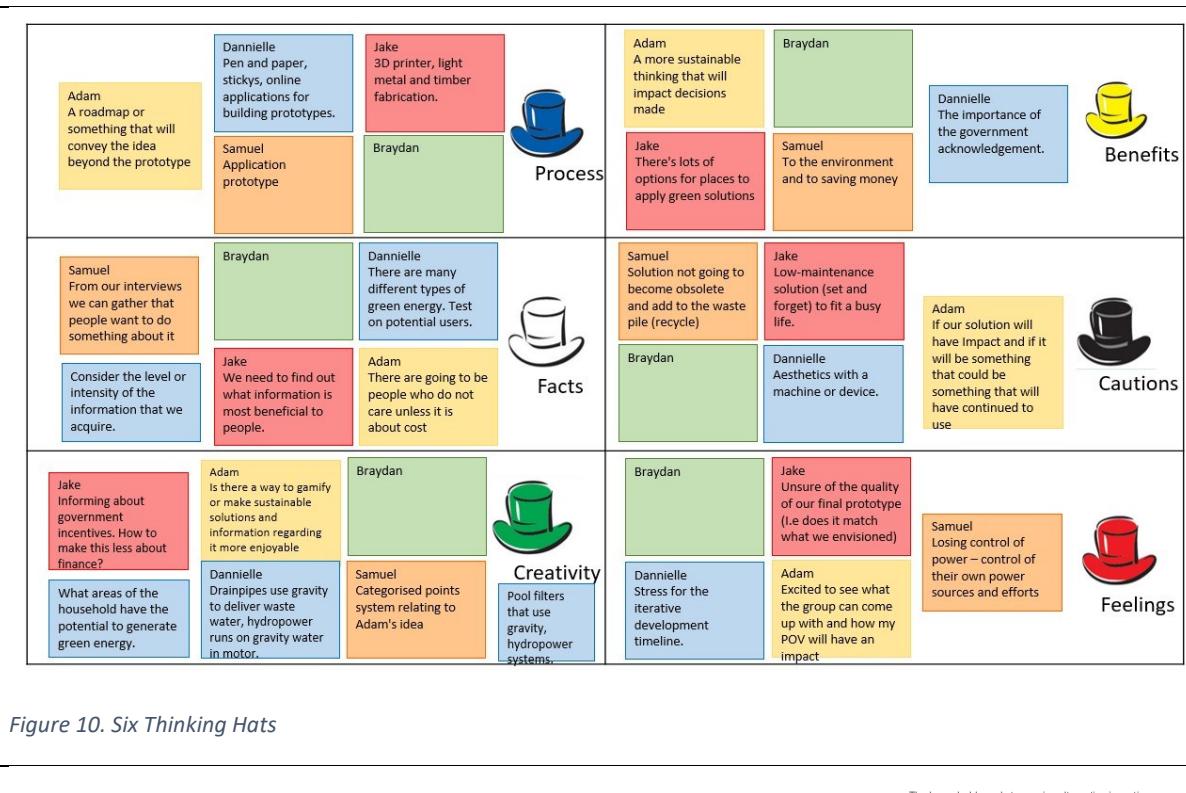


Figure 10. Six Thinking Hats

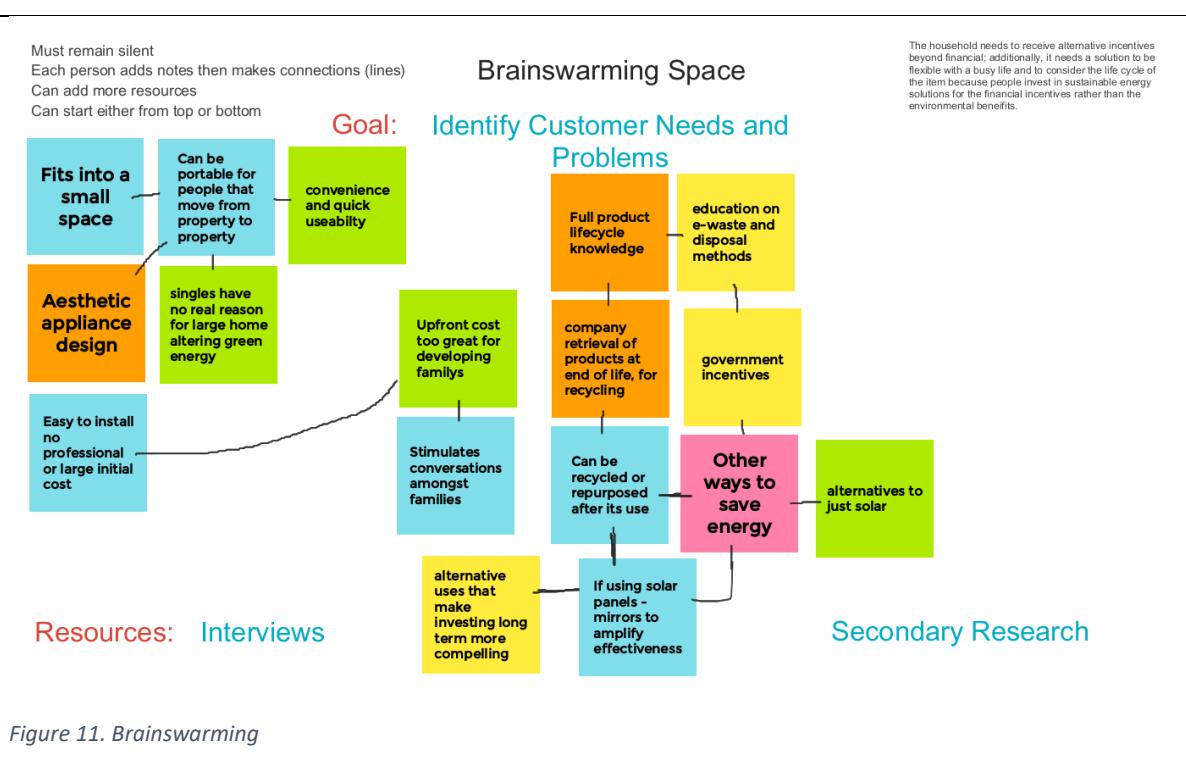


Figure 11. Brainswarming

Sam

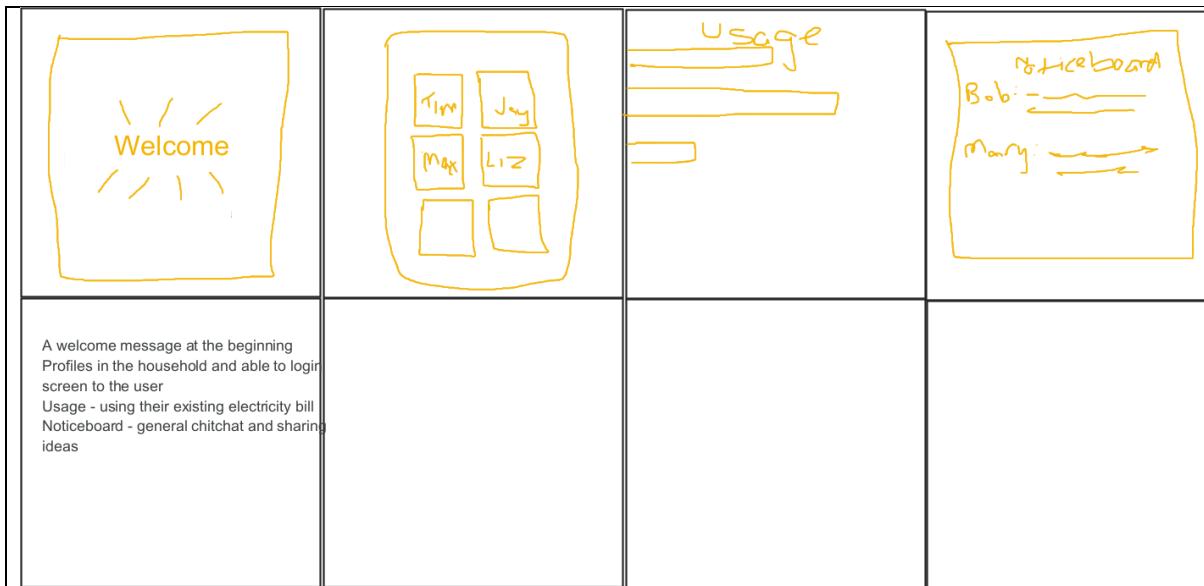
Graphs - visual representation
 Computer and app interchangeable
 Multiple people, interaction when testing



Figure 12. Crazy Eights - Sam

Explore	10 Points Your stuff.	Kids You like Suggest new solution give daily updates
More details Device name where to buy Ratings	10 Points Compare see what they do 10 20 30	Showing products Members of the household with avatars and their points Kids like/dislike and goes to sidebar tally of likes Daily mission that could get more points Automated app suggestion based on profile A more detailed page about the device and where you can buy them A leaderboard/ladder with comparison to other households A limit on the amount kids like or what stays on their list (timeframe)
Danielle		

Figure 13. Crazy Eights – Danielle



Jake

Figure 14. Crazy Eights - Jake



Gets a notification
 Recognising what to turn off and talk to the family
 about it and continue the cycle

Adam

Figure 15. Crazy Eights - Adam

A
First prototype - first test user sign up then explore or opposite???

1. Welcome screen
Household user input screen - pool, house type, how many people (generic)

S
J
2. User selection from household

D
3. Adding in current electricity bill information, what other household appliances (specifics)

B
4. Tutorial explanation on points, comparison

B
5. Explore area - videos and devices
--- more details: where to buy, ratings

Second Prototype
Notification board/Forum area - chatting
Notifications? What are we notifying about? (Top button design)
Comparison - leaderboard
My history - my profile - my household
Random/new device suggestion
Overall graph/projections

Later considerations
Particular Kids:
Kids user - restricted to likes and list of favourites

Crypto currency

Points

Select and Describe Solution

Figure 16. Select and Describe

Prototype and Test (Iteration 1)

The left wireframe shows a scrollable section with three identical card-like components. Each card has a video thumbnail, the title 'The Most Efficient Apple', a short description, and a row of five stars. At the bottom of each card is a small circular icon with a question mark.

A scrollable section with a seemingly endless supply of products of energy efficiency

The right wireframe shows a single card for 'The Most Efficient Apple'. It includes a video thumbnail, the title, a short description, a row of five stars, and a footer with three icons: a house, a heart, and an eye. Below these icons are arrows pointing left and right, indicating a scrollable area.

More info of individual products with lots of info of it, the house heart and eye allow to save items to almost like folders

Samuel Barrett - 13038579

2. User selection from the household

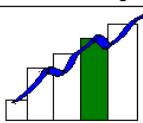
Lets construct your home
House, Apartment, Unit, or Studio?
Do you own or rent?
How many people live in your home?
How many rooms?
Are any rooms vacant?
Gas or Electric stove?
How many litre hot water system?
How many:
LED lights, Fluorescent lights, Bulbs
Fridges, Washing machines, Dryers
Dishwasher, Kettle, TVs, ACs
Heaters, microwave
Any solar, wind, thermal generators?
Average quarterly power bill?
Modelling efficiency...
progress bar...
1 2 3 4
[Continue ->](#)

NOTE: Each of these questions can open in separate windows to refine size of appliance, power rating.
Any home generation of power would open on a separate window to refine.
Lights can average time on? (Difficult)

Here are your results

Your power bill is:

Above average



More facts and comparisons...

Here...

Here...

Here...

Suggested improvements available for your situation:

[Suggestions ->](#)

Suggested efficiency upgrades:

For fully optimised plan add appliance serial numbers in the home construction tab

[Now? ->](#) [Skip](#)

In you situation:

People with solar are saving \$300quarter

Selling a fridge and getting 1 large fridge saved \$85

Adding a yaght wind turbine to your roof can save \$100

Home storage battery can store your generated power cheaply

[Suggested products links ->](#)

This product page can be like the list in Amazon where they other show other people also bought etc. Algorithm can link to suppliers sites, they would pay to have their links, and a comission would arrive for all sales from links to the app developers.

Using the app:

Points

Are gained from adding new sustainable energy technology or devices into your household.

These can be used to compare to other households and see what they are doing differently.

Points: 10	
20	Compare
10	Your Household
5	Compare

Continue ->

Using the app:

Explore

Allows you to find new technology and green energy solutions that interest and suit your household.

You can get a random suggestion of a big or small change to make in your household. Or just find technology or ideas that interest you to save to your household sustainable energy plan.



Solar fish device

Continue ->

Energy Household App (Title)

You can refer back to this help section at any time through the:

 = help

You are now ready to explore!

Let's Explore!

Energy Household App Tutorial

We are about:

- helping your household to implement more sustainable energy solutions

We want to inform you:

- on the life-cycle of your sustainable solutions
- how or what you can do to take action in your home
- where you can save or buy sustainable energy solutions
- help you to discover new and wonderful technology!

SKIP **Continue ->**

Using the app:

My Household Profile

Helps you to track your household type and its members. You can update this any time that you move or your household changes.

My Household	
	P B A
Points: 10	My household plan:
	Device A

Continue ->

Using the app:

Forum

Allows you to chat with other like-minded people on their sustainable energy use.

This device was awesome for me:
<LINK>

That device cannot be recycled.

Enter chat here... **SEND**

Continue ->

Lets start tracking your power bills to see your progress -->

Amount \$

People in household

Billing period

➡

Home Explore Forums

Your bill history -->

Period	Amount	Changes
Jun - Sep	\$673	None
Sep - Dec	\$654	Changed out lightbulbs
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—

Home Explore Forums

Tell us about the appliances in your household-->

Tick what's relevant:

Dishwasher Dryer
 Computer Washing Machine
 Fridge Freezer
 Pool Pump Gas Cooktop
 Air-Conditioners Other:

➡

Home Explore Forums

proto.io



Untitled

adam albert

 6 screens

made with proto.io

Untitled

proto.io

Screen 1



Sign Up

Already have a profile?

exported on 14/09/2021, 23:33 1/7

made with proto.io

exported on 14/09/2021, 23:33 2/7

Untitled proto.io Screen 2

Who is playing?



Eco Life

Welcome Back

made with proto.io exported on 14/09/2021, 23:33 3/7 made with proto.io exported on 14/09/2021, 23:33 4/7

Untitled proto.io Screen 4

Rank: 21 Points: 40

Your Household

- 3 points earned by jeff
- 12 points earned by jessica
- 15 points earned by TJ
- 10 points earned by greg

Untitled proto.io Screen 5

Money Saved

\$200.20

Your household liked

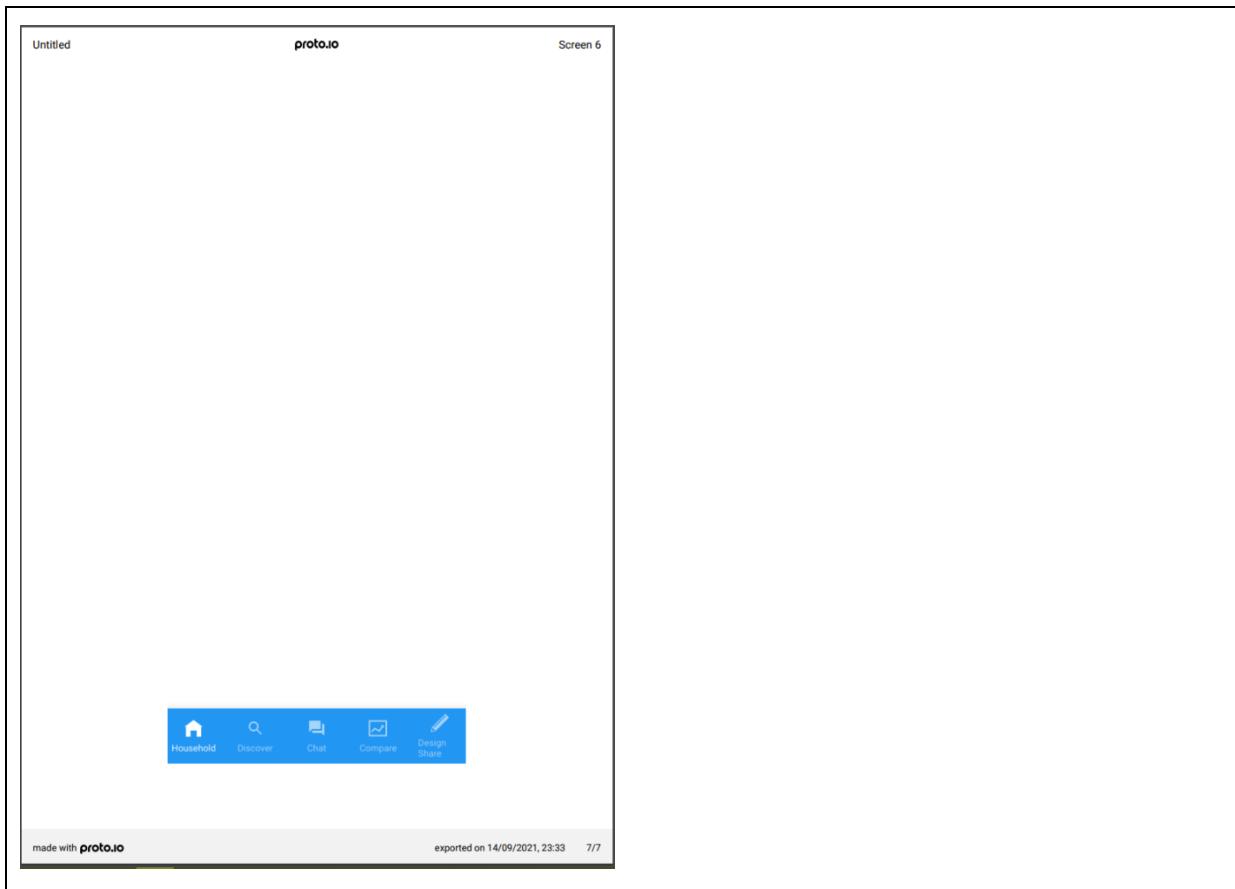
7 UNBELIEVABLE Solar Powered Creations

Solar motor-Free energy motor

Household Discover Chat Compare Design Share

Household Discover Chat Compare Design Share

made with proto.io exported on 14/09/2021, 23:33 5/7 made with proto.io exported on 14/09/2021, 23:33 6/7



During the creation of the first prototype each section was individually constructed to highlight individual ideas and possible outcomes. This allowed for a combined second prototype that included the most useful ideas from the first. Once the prototype was completed a person was picked to test the prototype. During the test a script was followed to allow consistency between subjects. During the test the subjects were given limited knowledge on how the product was used. This allowed us to gage how smoothly and efficiently the layout worked to make further improvements. The subjects were then to guess what space this app was produced to cover.

Once the subjects and team members had produced their final feedback and evaluation two charts were produced to represent this. Figure 17 shows team members feedback and evaluation from prototype 1 and Figure 18 shows the clients feedback and evaluations.

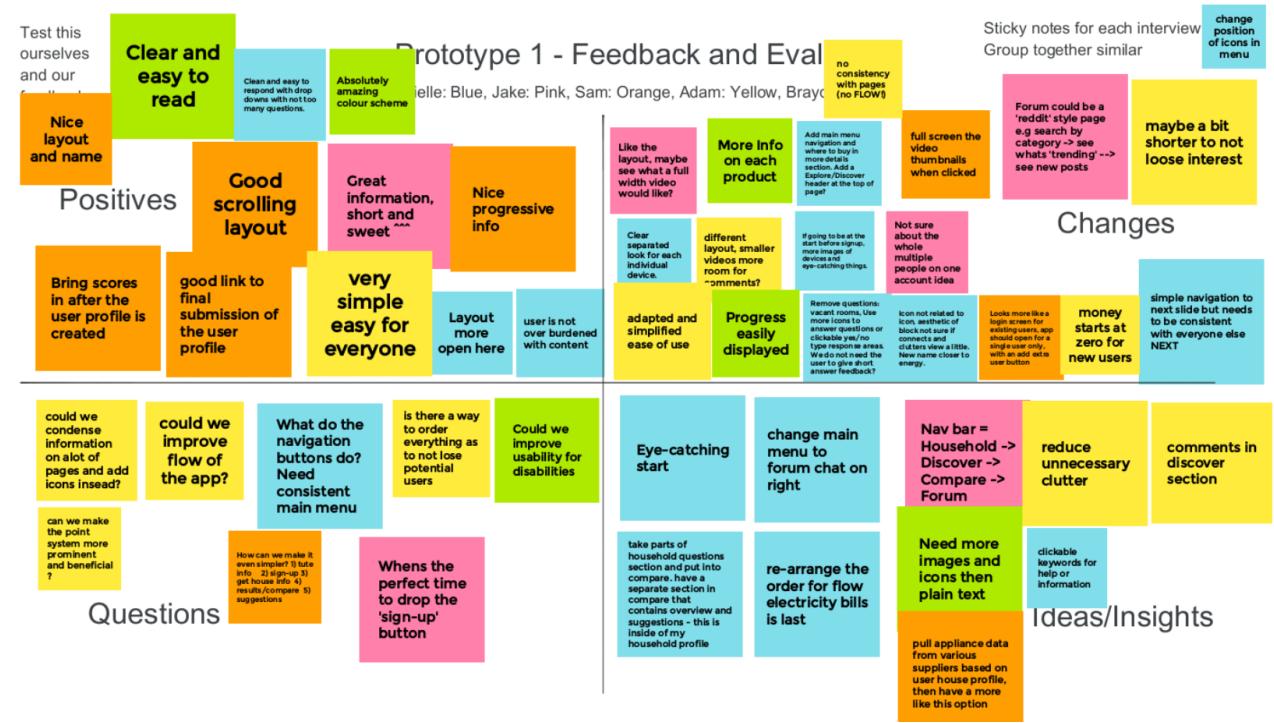


Figure 17. Team Member Feedback and Evaluation

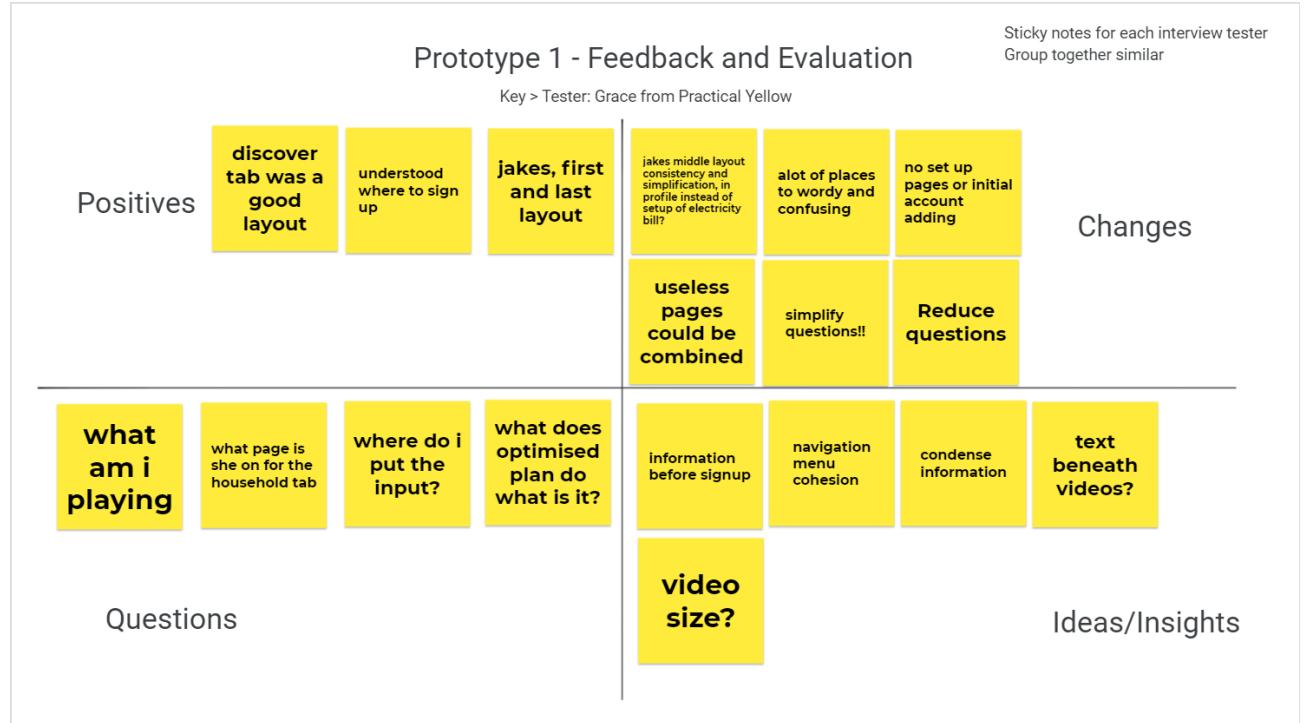


Figure 18. Test Subject Feedback

Prototype and Test (Iteration 2)

proto.io

Untitled

adam albert

23 screens

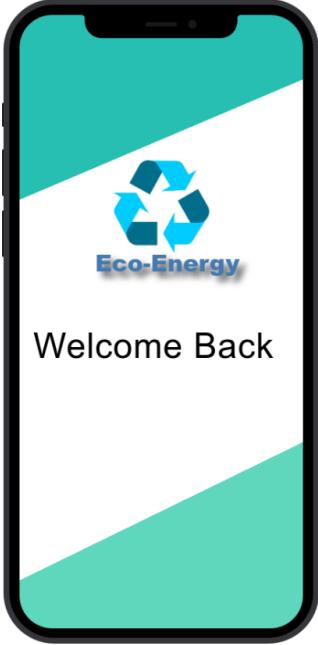
made with proto.io

exported on 21/09/2021, 22:23

1/24

proto.io

Screen 3



Welcome Back

Eco-Energy

Recycling logo

made with proto.io

exported on 21/09/2021, 22:23

2/24

Untitled

proto.io

Screen 7

Discover

- Solar motor—Free energy motor
129k likes, 29k dislikes
- 7 ubalivable energy devices
19k likes, 1k dislikes
- Backyard Aquaponics Farming
109k likes, 19k dislikes
- The Biggest Lie About Renewable Energy
60k likes, 9k dislikes
- Sustainable City Living on 1/10th of an Acre
29k likes, 2k dislikes

Household Discover Compare Forum

made with proto.io

exported on 21/09/2021, 22:23

3/24

Untitled

proto.io

Screen 2

Create Account

Name:

Select your Avatar

Avatar icons: Rocket, Star, Pizza, Star

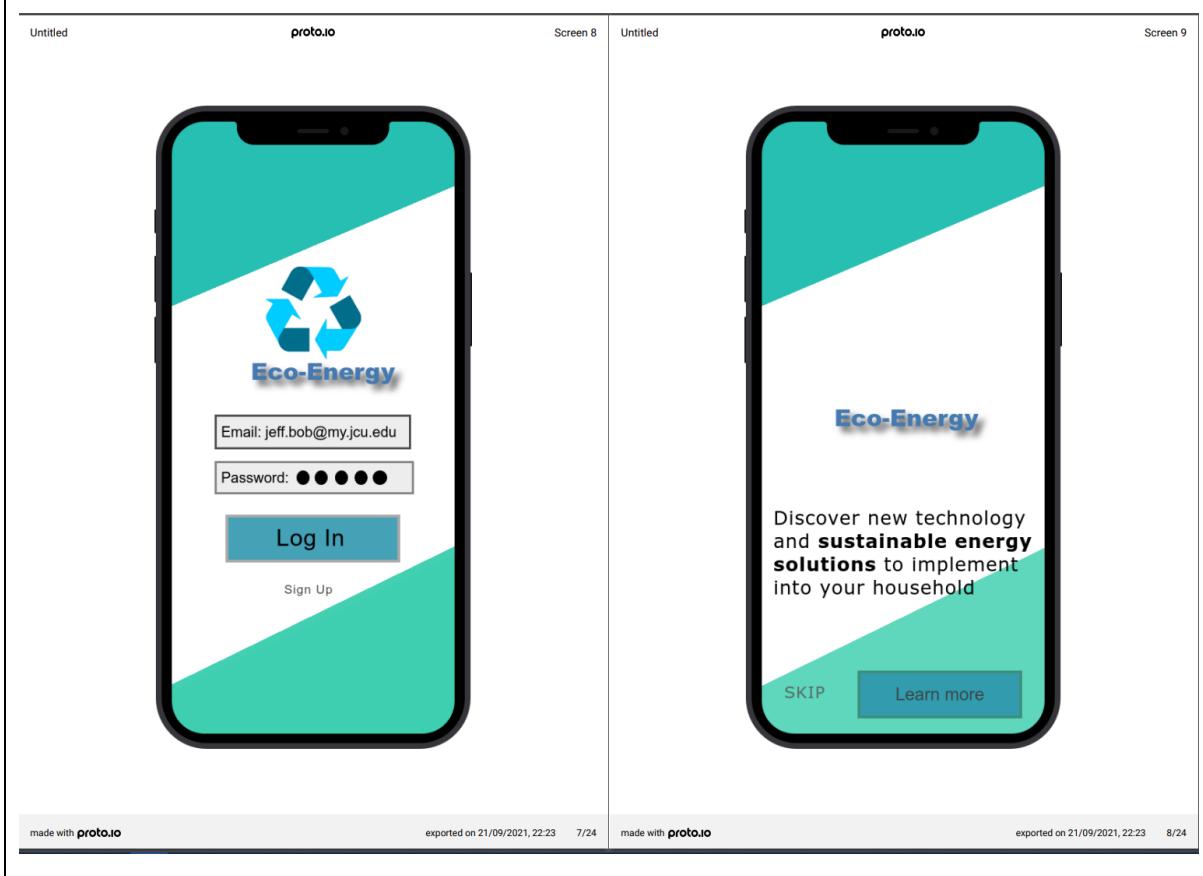
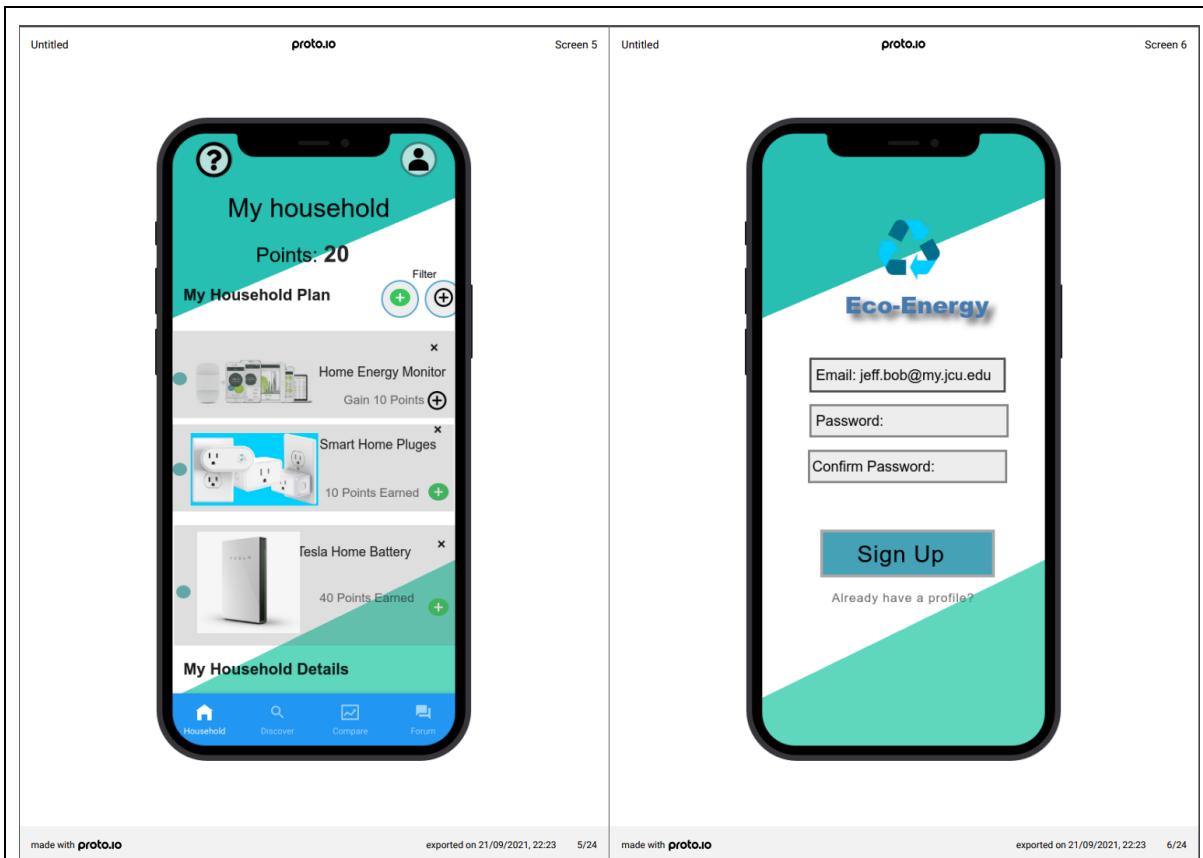
Add Another User

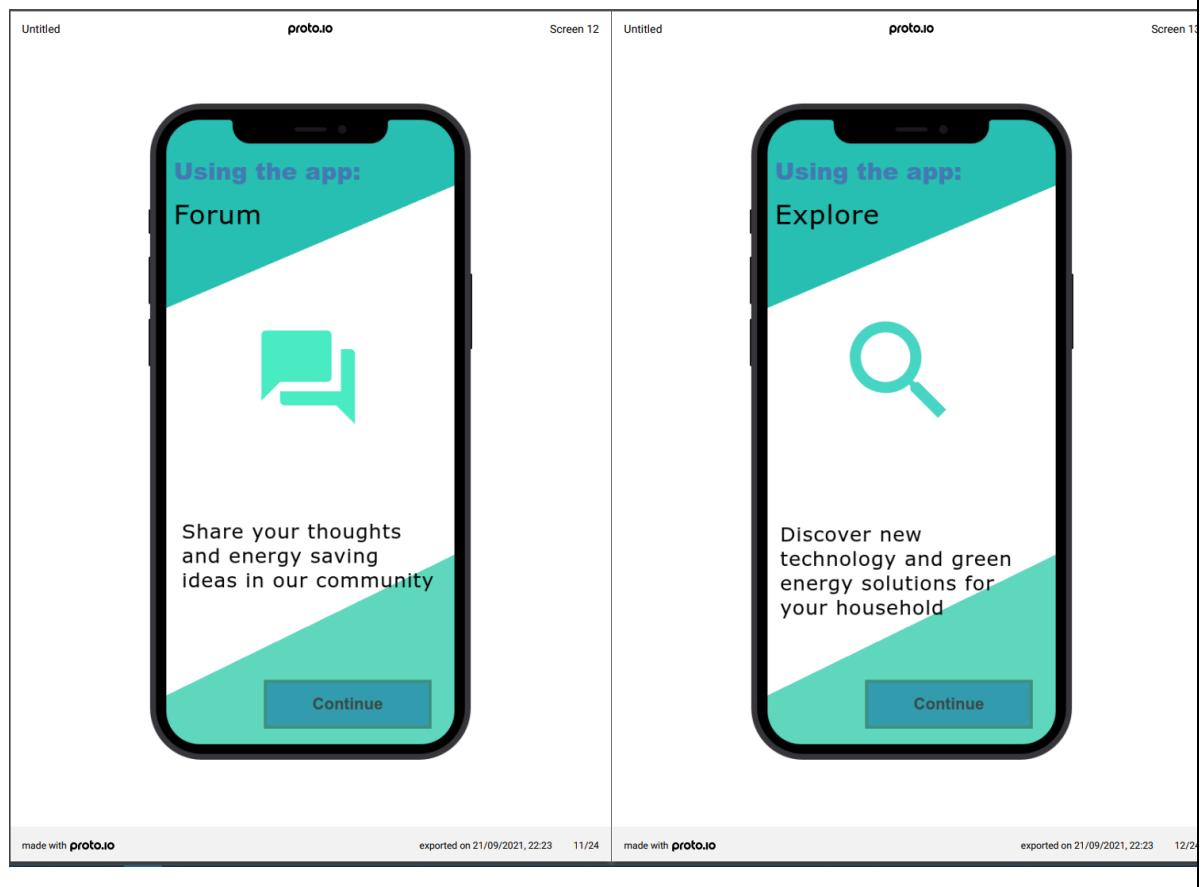
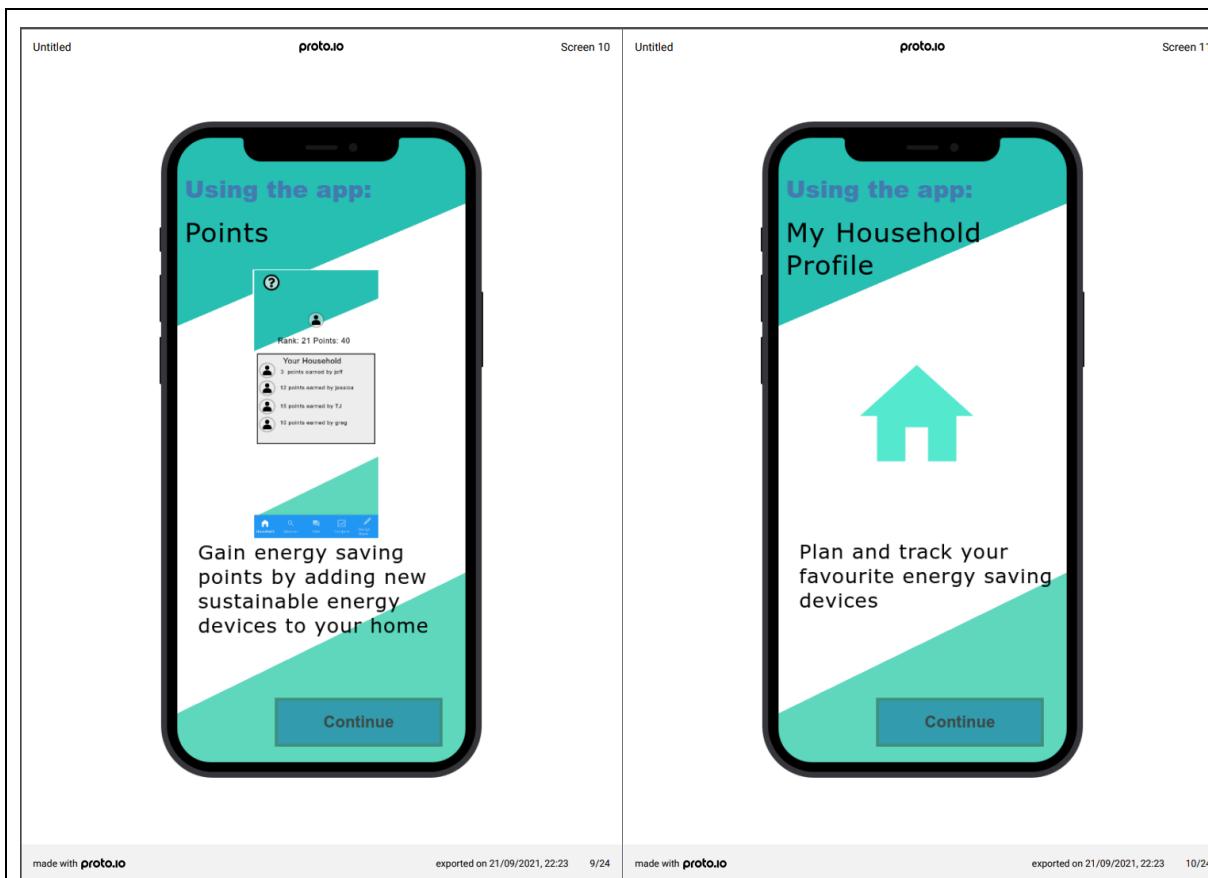
Complete

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exported on 21/09/2021, 22:23

4/24





Untitled proto.io Screen 14

Need Help?

Lastly, use the Help icon to get explanations



You are now ready to Explore!

Lets Explore!

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Untitled proto.io Screen 15

My Household Details

Household Members: 3
Property type: House
Status: Renting
Last Electricity Bill: \$400

Update Household

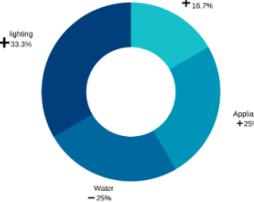
Household Discover Compare Forum

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Untitled proto.io Screen 16

My Usage

Compared to other (Houses)



Cooling +10.7%

Appliances +25%

Water -25%

Lighting +33.3%

Power Bill Update Household

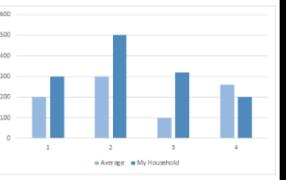
Household Discover Compare Forum

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Untitled proto.io Screen 17

Compare My Power Bill

Quarterly



Quarter	Average	My Household
1	~250	~300
2	~350	~500
3	~100	~250
4	~250	~200

Back Add Power Bill

Household Discover Compare Forum

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Untitled

proto.io

Screen 18

Household Details

Are you an owner or a renter of the household?

Owner: Renter:

What best describes your dwelling?

House

How many People live in the Household?

3

Continue

1 2 3 4

Household Discover Compare Forum

Untitled

proto.io

Screen 19

Household Details

Appliances in my Household

Dishwasher	<input type="checkbox"/>	Dryer	<input type="checkbox"/>
Computer	<input type="checkbox"/>	Washing machine	<input type="checkbox"/>
Fridge	<input type="checkbox"/>	Freezer	<input type="checkbox"/>
Pool	<input type="checkbox"/>	Gas cooktop	<input type="checkbox"/>
Air Conditioner(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>

Continue

1 2 3 4

Household Discover Compare Forum

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proto.io

Screen 20

Household Details

My Household contains Tick all that apply

- Solar Power system
- Standalone Battery
- Wind Harnessing system
- Compost station

Continue

1 2 3 4

Household Discover Compare Forum

Untitled

proto.io

Screen 21

Household Details

Add Your most recent power bill to track progress

Amount \$

Period start date

Billing Period

Complete

1 2 3 4

Household Discover Compare Forum

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Screen 22

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proto.io

Screen 23

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proto.io

Screen 24

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Untitled

proto.io

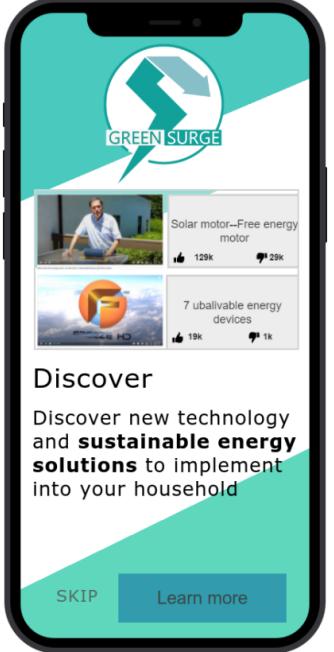
Screen 25

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The second prototype was a unification of the sections created by each team member to create one theme. Feedback was provided by seven users and five team members to create modifications that would improve the app and ensure a positive outcome for the clients. Feedback from the users suggested that amount of text present on the screen was too overwhelming, as a result we decreased this as well as changed the arrangement to allow it to be clearer and more straight forward. The presentation of the user login page before the tutorial was also changed, to allow an understanding to the user of what the app would provide them. When rearranging the app, the team members also decided that the app looked overwhelming, so the design was changed to allow it to be more aesthetically pleasing. When reviewing the feedback from my user it was clear that she had very few issues navigating the app, although she thought some UI elements were buttons, when this wasn't the case. Overall, the team decided that the 'creating account' page was confusing and some of the wording was not clear and easy to understand so, this was changed. Modifications that were made to improve the user benefits of the app included making it clear and concise, allowing it to be aesthetically pleasing, changing UI elements and changing the order in which the user would login.

Prototype and Test (Iteration 3)

<p>proto.io</p> <p>Cp1403 Prototype Design Thinkers</p> <p>24 screens</p>	<p>Cp1403 Prototype</p> <p>proto.io</p> <p>Tutorial_0</p>  <p>made with proto.io exported on 27/09/2021, 13:14 1/25</p> <p>made with proto.io exported on 27/09/2021, 13:14 2/25</p>
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Cp1403 Prototype	proto.io	Tutorial_02	Cp1403 Prototype	proto.io	Tutorial_03
made with proto.io			made with proto.io		
exported on 27/09/2021, 13:14 3/25			exported on 27/09/2021, 13:14 4/2		

Cp1403 Prototype	proto.io	Tutorial_04	Cp1403 Prototype	proto.io	Sign Up
made with proto.io			made with proto.io		
exported on 27/09/2021, 13:14 5/25			exported on 27/09/2021, 13:14 6/25		

Cp1403 Prototype proto.io Create Household/User



Name your household:
E.g. Bones Family

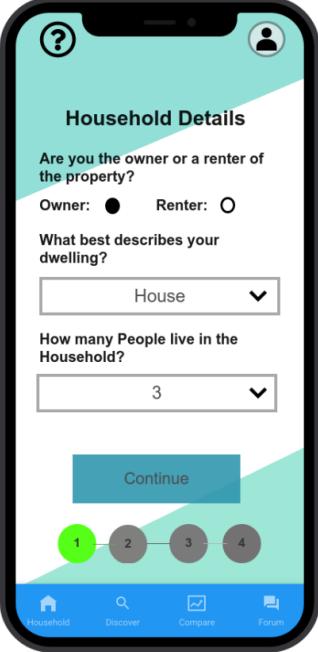
Create Users
Add users to your household:
Username/Nickname

Select your Avatar:
User icons (Bell, Star, Pizza, Star) and Add User button.

Household Name: Bones Family
Emily (Avatar)

Complete

Cp1403 Prototype proto.io Set/Update Household_01



Are you the owner or a renter of the property?
Owner: Renter:

What best describes your dwelling?
House

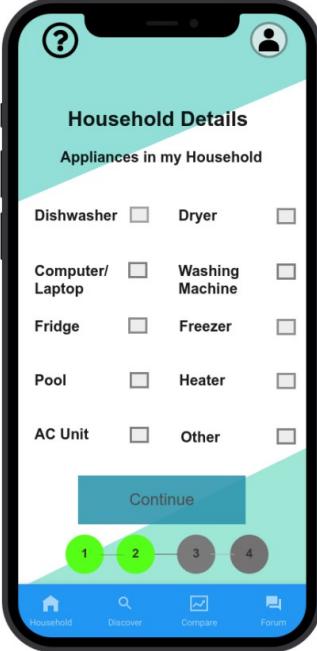
How many People live in the Household?
3

Continue

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Cp1403 Prototype proto.io Set/Update Household_02

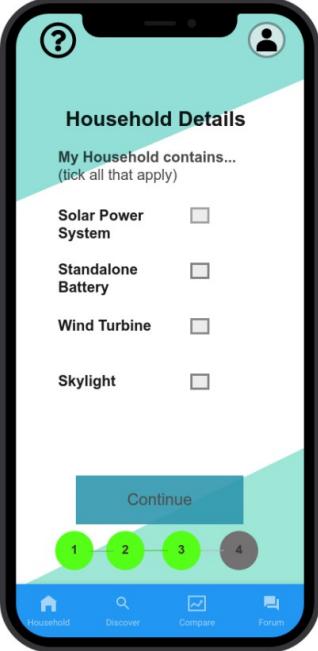


Household Details
Appliances in my Household

Dishwasher	<input type="checkbox"/>	Dryer	<input type="checkbox"/>
Computer/ Laptop	<input type="checkbox"/>	Washing Machine	<input type="checkbox"/>
Fridge	<input type="checkbox"/>	Freezer	<input type="checkbox"/>
Pool	<input type="checkbox"/>	Heater	<input type="checkbox"/>
AC Unit	<input type="checkbox"/>	Other	<input type="checkbox"/>

Continue

Cp1403 Prototype proto.io Set/Update Household_03



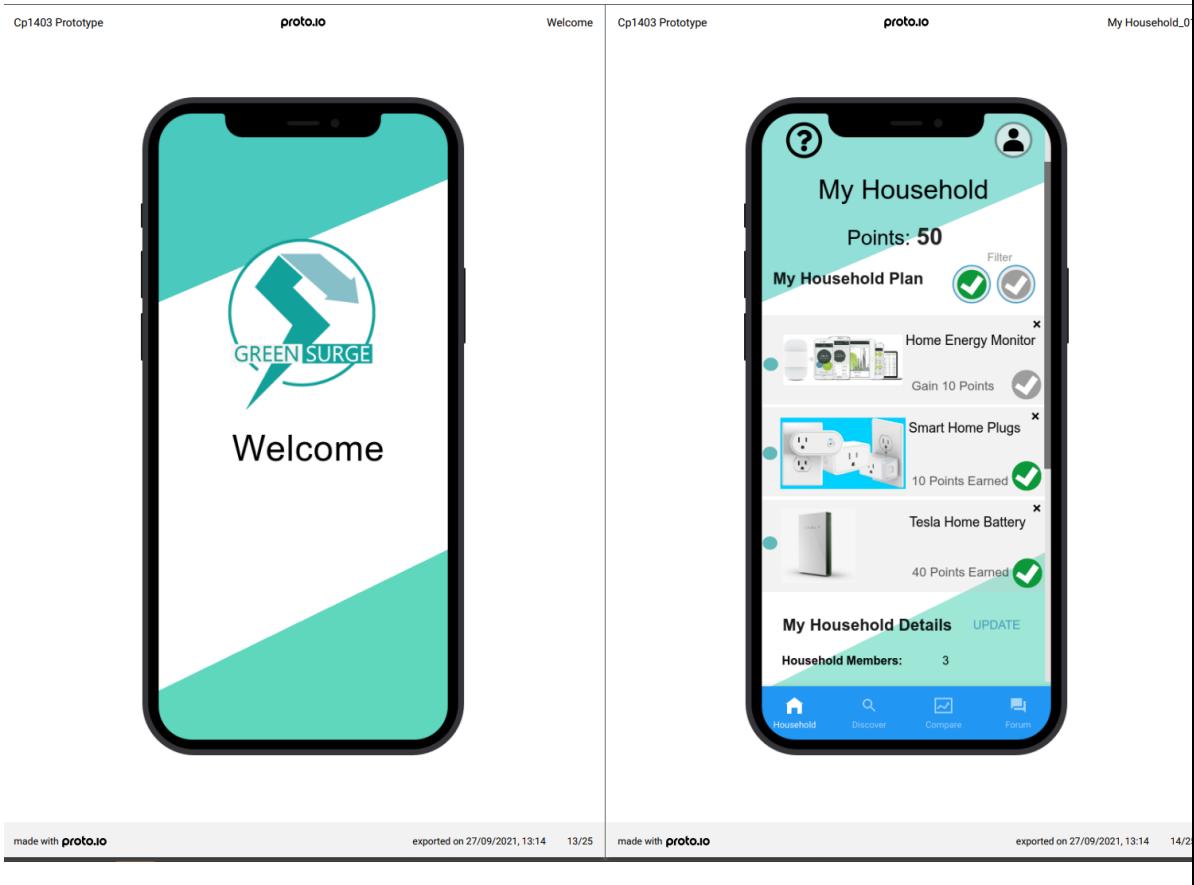
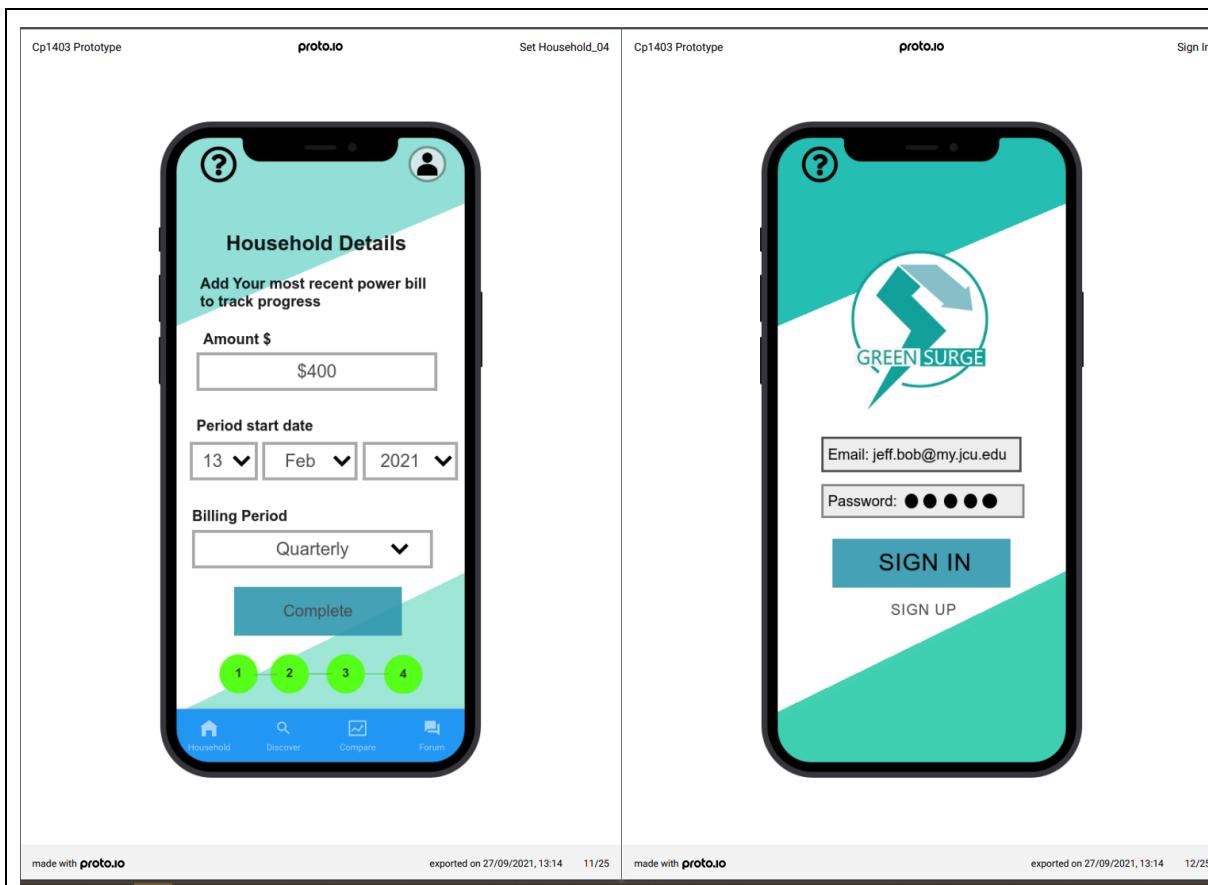
Household Details
My Household contains... (tick all that apply)

Solar Power System	<input type="checkbox"/>
Standalone Battery	<input type="checkbox"/>
Wind Turbine	<input type="checkbox"/>
Skylight	<input type="checkbox"/>

Continue

made with proto.io exported on 27/09/2021, 13:14 9/25

made with proto.io exported on 27/09/2021, 13:14 10/25



Cp1403 Prototype

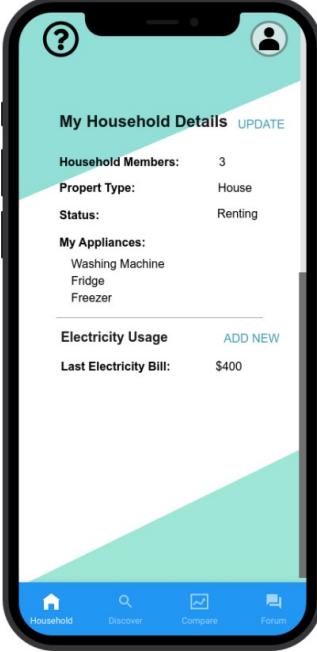
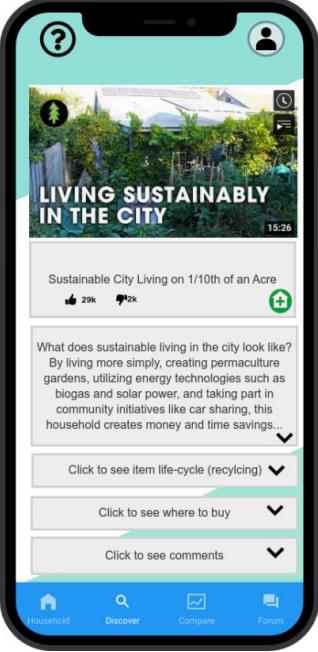
proto.io

My Household_02

Cp1403 Prototype

proto.io

Discover_02

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Cp1403 Prototype

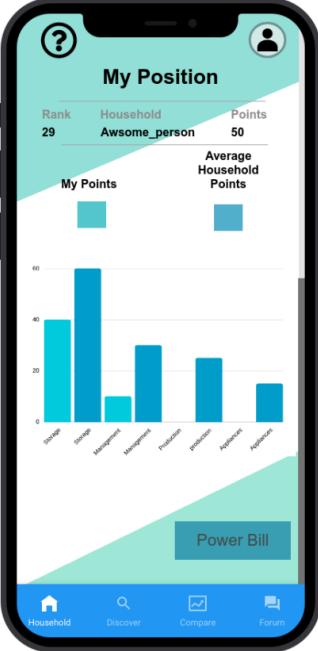
proto.io

Compare_01 - State 1

Cp1403 Prototype

proto.io

Compare_02

made with proto.io

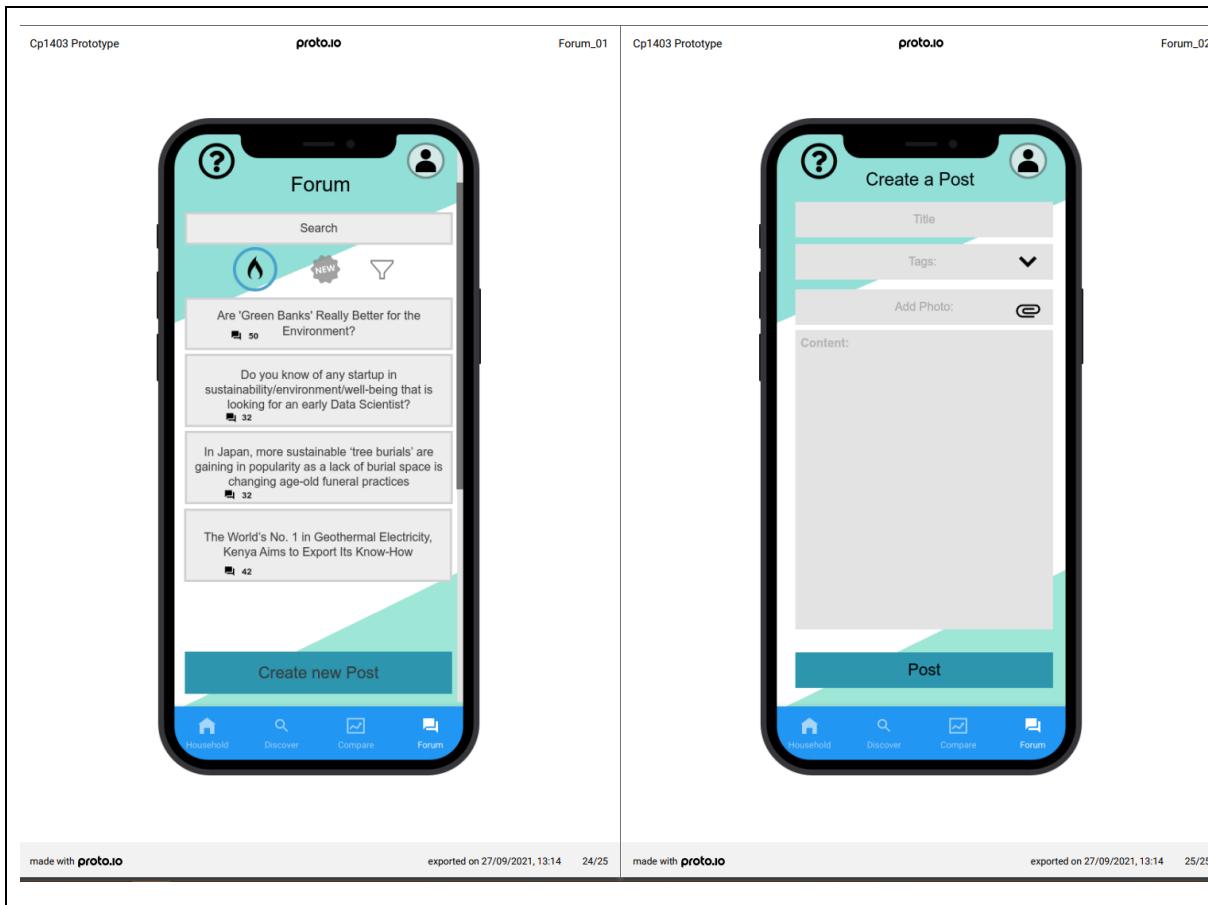
exported on 27/09/2021, 13:14 17/25

made with proto.io

exported on 27/09/2021, 13:14 19/25

Cp1403 Prototype	proto.io	Compare_03	Cp1403 Prototype	proto.io	Compare_04
made with proto.io			made with proto.io		
exported on 27/09/2021, 13:14 20/25			exported on 27/09/2021, 13:14 21/25		

Cp1403 Prototype	proto.io	Discover_03	Cp1403 Prototype	proto.io	Suggestions_01
made with proto.io			made with proto.io		
exported on 27/09/2021, 13:14 22/25			exported on 27/09/2021, 13:14 23/25		



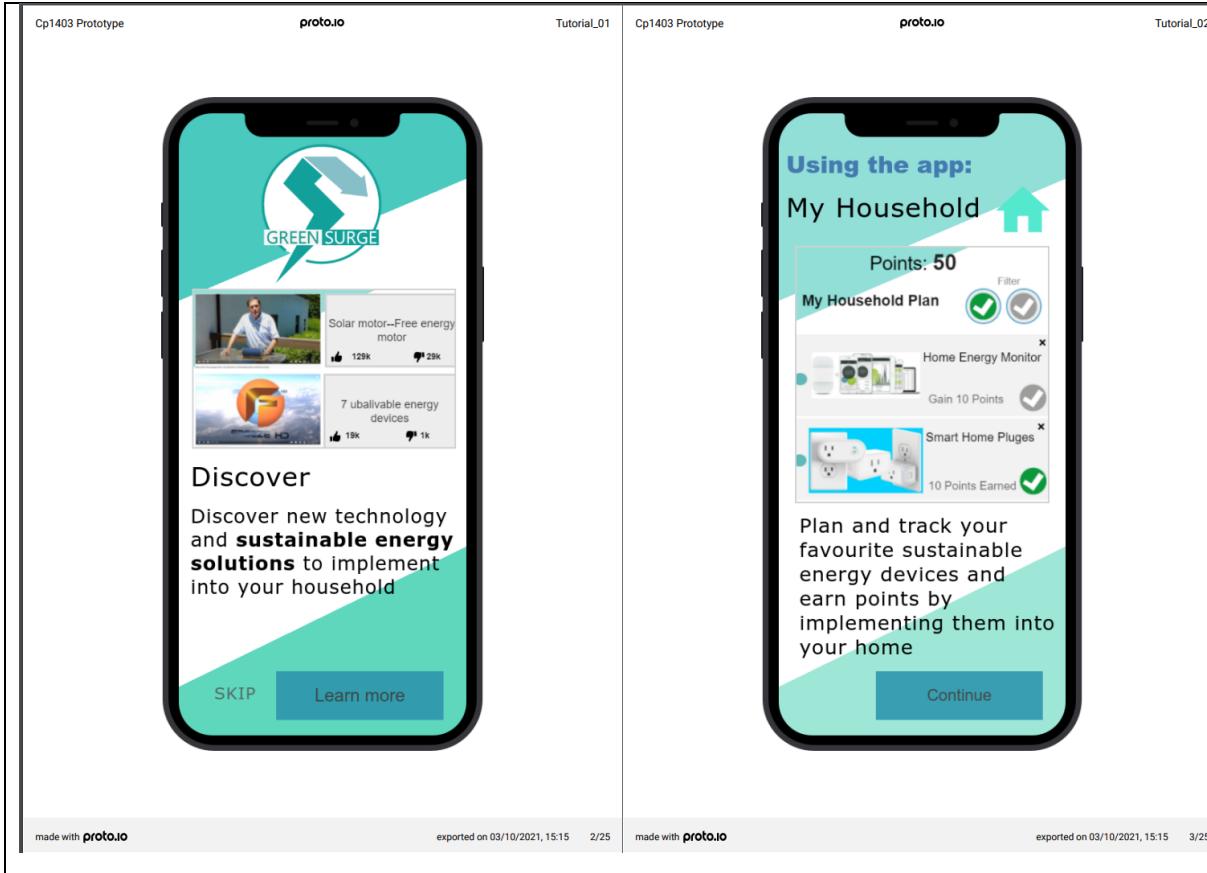
Prototype three presented some quality-of-life improvements, including buttons being made larger and easier to use and cleaner UI with less text and more visual cues. While creating this prototype the viability of the app and the ability to be used for quite a while after download was really thought about and improved. We added a suggestions page to the discovery tap as this will allow the user if they get bored of the original feed to try something new and to continue using the app for longer. The logo was changed as the green recycle logo didn't display exactly what the app was trying to convey. It was changed to a combination of the recycle and a lightning bolt to display that the primary focus is on green energy. This coincidentally made an "S" shape, which works well with the name "Green Surge".

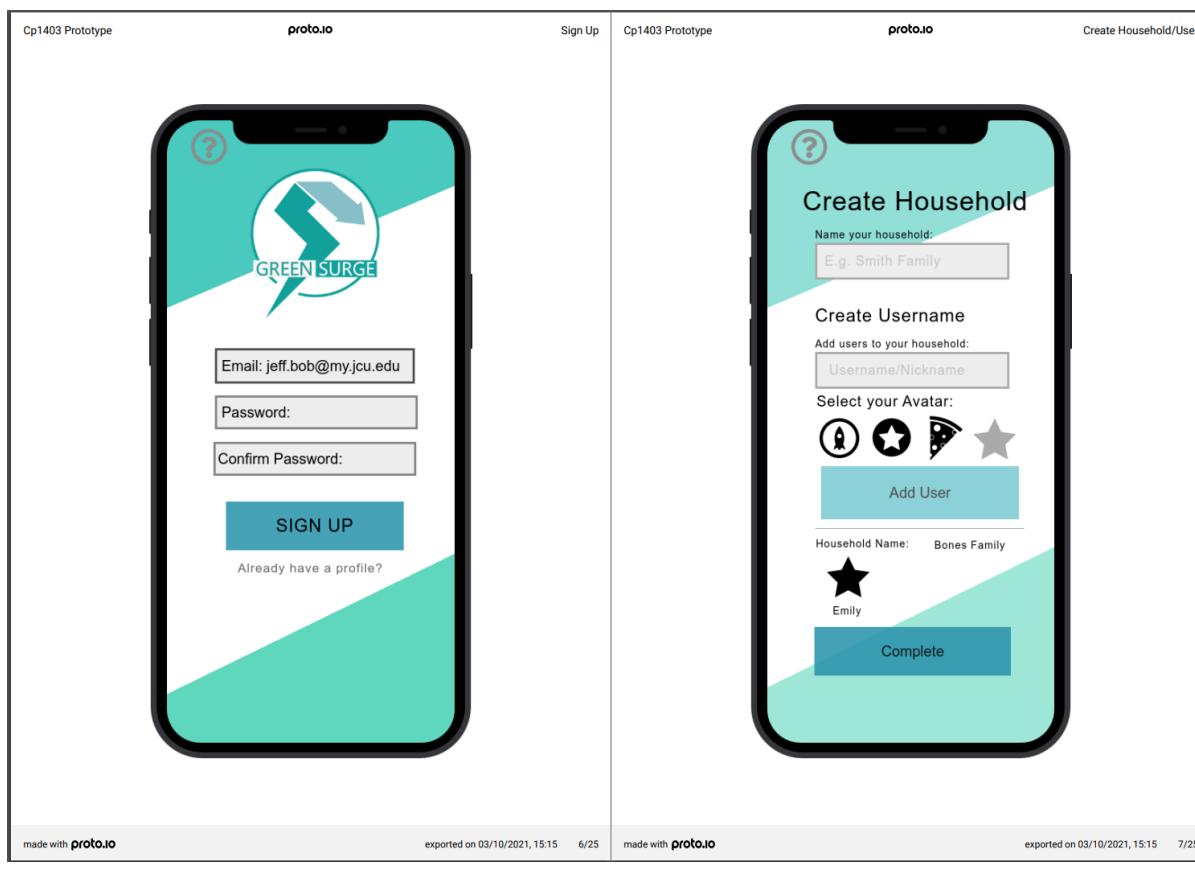
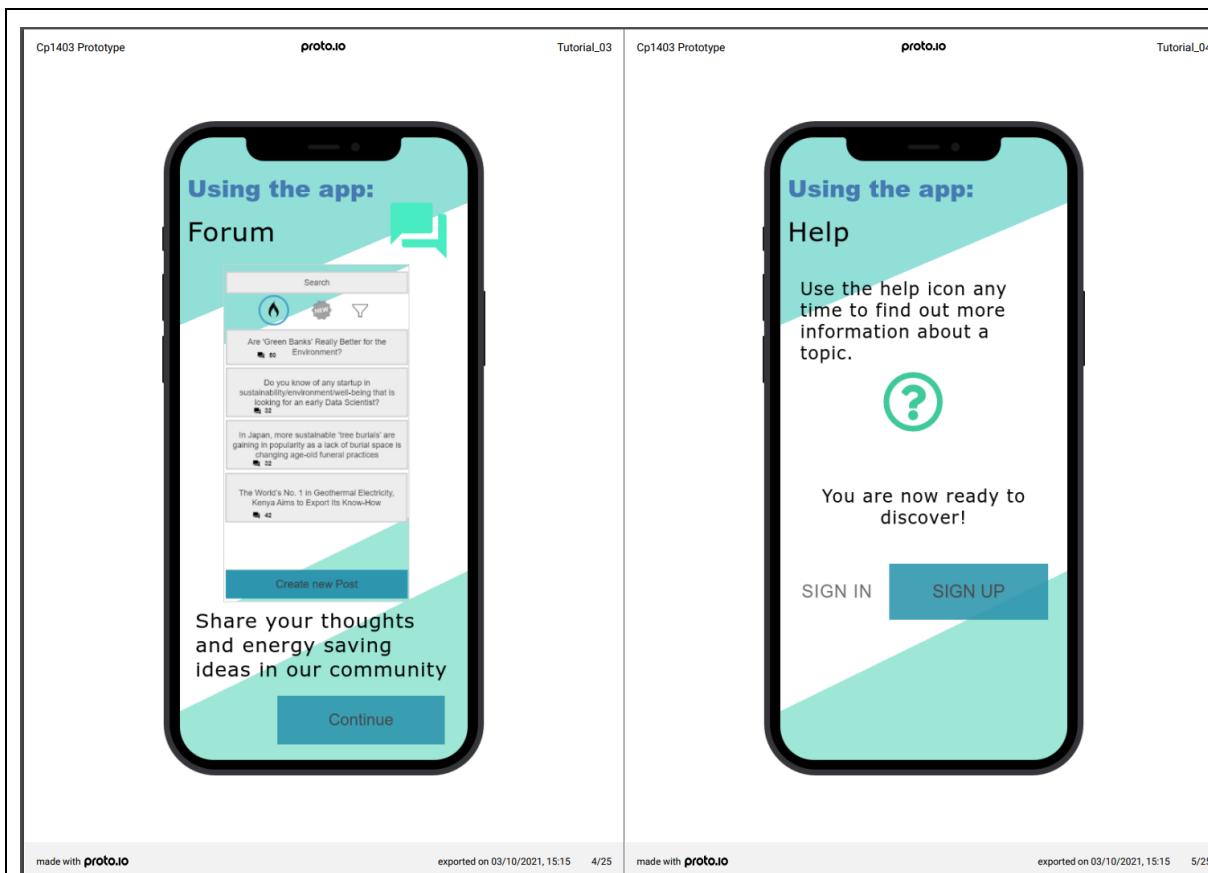
A list of all improvements that need to be fixed for next prototype are below:

- Add section to update power bill section to add latest power bill
- Avatar was changed to meet selected avatar while setting up app
- Moved sign in and up on help screen
- Change placeholder name
- Change page of create username to page 7
- Spelling and Grammar error fixes
- Changed wording of household setup

- Changed graph to be clearer
- In forums moved filter to right with label to stop confusion

Final Prototype





Cp1403 Prototype proto.io Set/Update Household_01

Household Details

Are you the owner or a renter of the property?

Owner: Renter:

What best describes your dwelling?

House

How many people live in the Household?

3

Continue

1 2 3 4

Household Discover Compare Forum

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Cp1403 Prototype proto.io Set/Update Household_02

Household Details

Appliances in my Household

Dishwasher	<input type="checkbox"/>	Dryer	<input type="checkbox"/>
Computer/ Laptop	<input type="checkbox"/>	Washing Machine	<input type="checkbox"/>
Fridge	<input type="checkbox"/>	Freezer	<input type="checkbox"/>
Pool	<input type="checkbox"/>	Heater	<input type="checkbox"/>
AC Unit	<input type="checkbox"/>	Other	<input type="checkbox"/>

Continue

1 2 3 4

Household Discover Compare Forum

made with proto.io exported on 03/10/2021, 15:15 9/25

Cp1403 Prototype proto.io Set/Update Household_03

Household Details

Green energy solutions in my household... (tick all that apply)

Solar Power System	<input type="checkbox"/>
Standalone Battery	<input type="checkbox"/>
Wind Turbine	<input type="checkbox"/>
Skylight	<input type="checkbox"/>

Continue

1 2 3 4

Household Discover Compare Forum

made with proto.io exported on 03/10/2021, 15:15 10/25

Cp1403 Prototype proto.io Set Household_04

Household Details

Add Your most recent power bill to track progress

Amount \$

Period start date

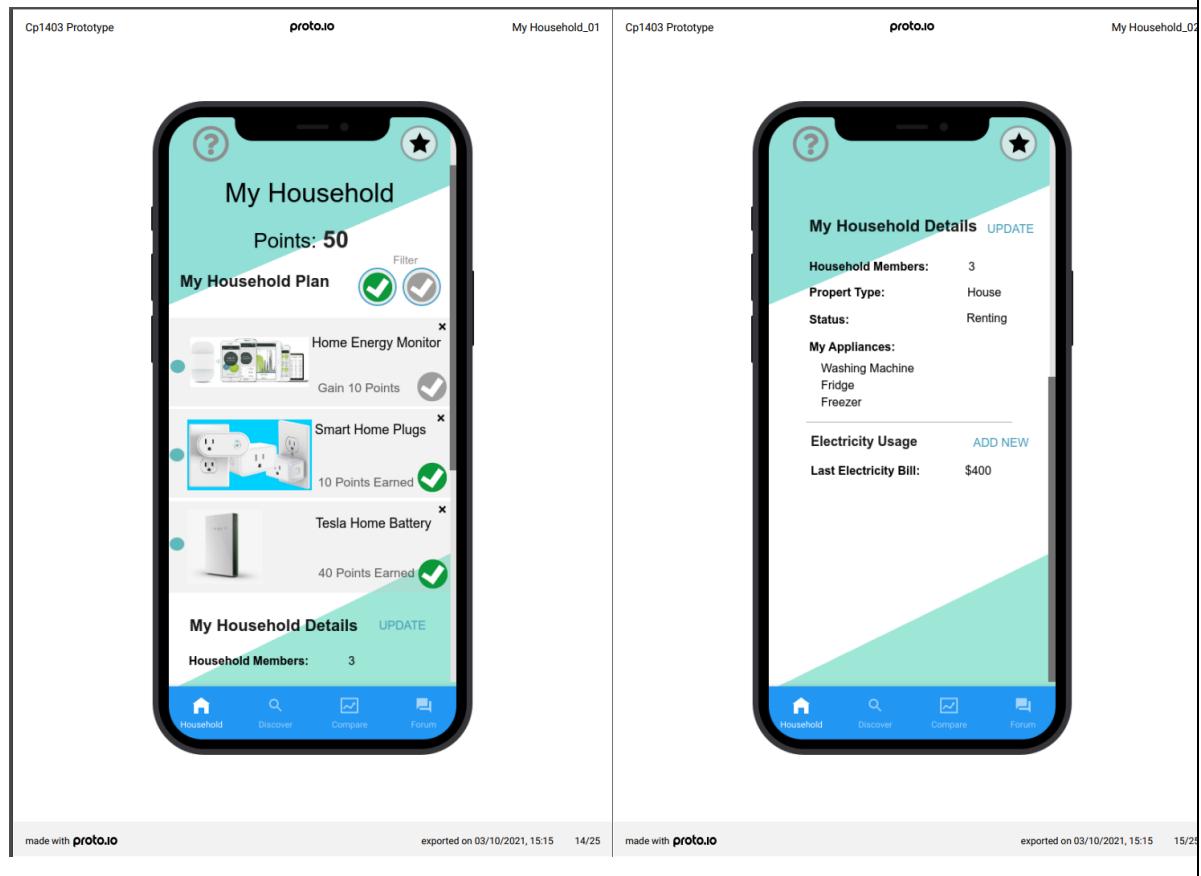
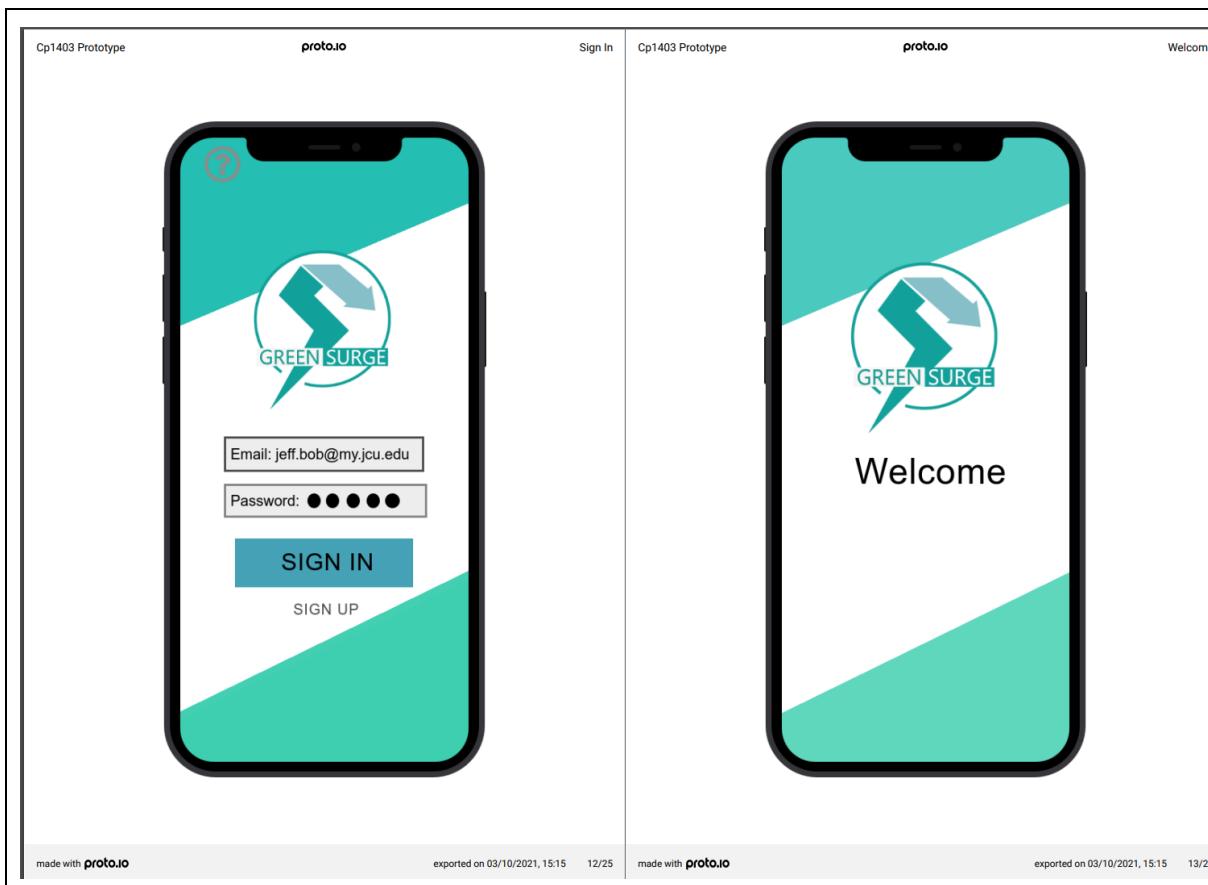
Billing Period

Complete

1 2 3 4

Household Discover Compare Forum

made with proto.io exported on 03/10/2021, 15:15 11/25



Cp1403 Prototype proto.io Compare_04

Add Latest Power Bill
Add your most recent power bill to track progress

Amount \$
\$400

Period start date
13 Feb 2021

Billing Period
Quarterly

Complete

Household Discover Compare Forum

Cp1403 Prototype proto.io Compare_01 - State

Compare My Household
Local Leaderboard

Rank	Household	Points
1	Pumpkin Gang	105
2	Saint Nicolas	95
3	Tickled_pink	82

My Position

Rank	Household	Points
29	Green_Crusaders	50

My Points Average Household Points

70
60
50
40
30
20
10
0

Household Discover Compare Forum

made with proto.io exported on 03/10/2021, 15:15 16/25

made with proto.io exported on 03/10/2021, 15:15 17/25

Cp1403 Prototype proto.io Compare_02

My Position

Rank	Household	Points
29	Green_Crusaders	50

Green Energy Monitoring Devices Appliances

Power Bill

Household Discover Compare Forum

Cp1403 Prototype proto.io Compare_03

Compare My Power Bill
Quarterly

Feb 2021 - May May - Aug Aug - Nov Nov - Feb 2022

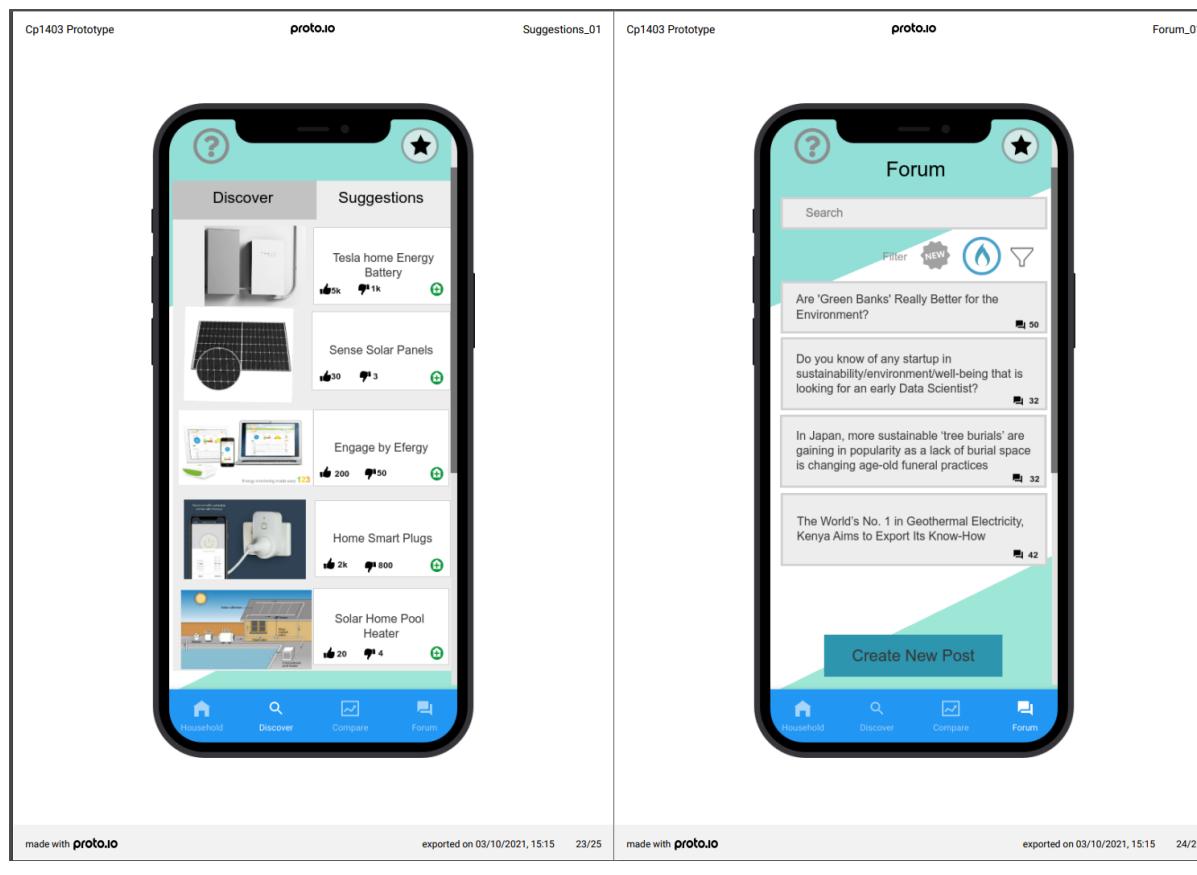
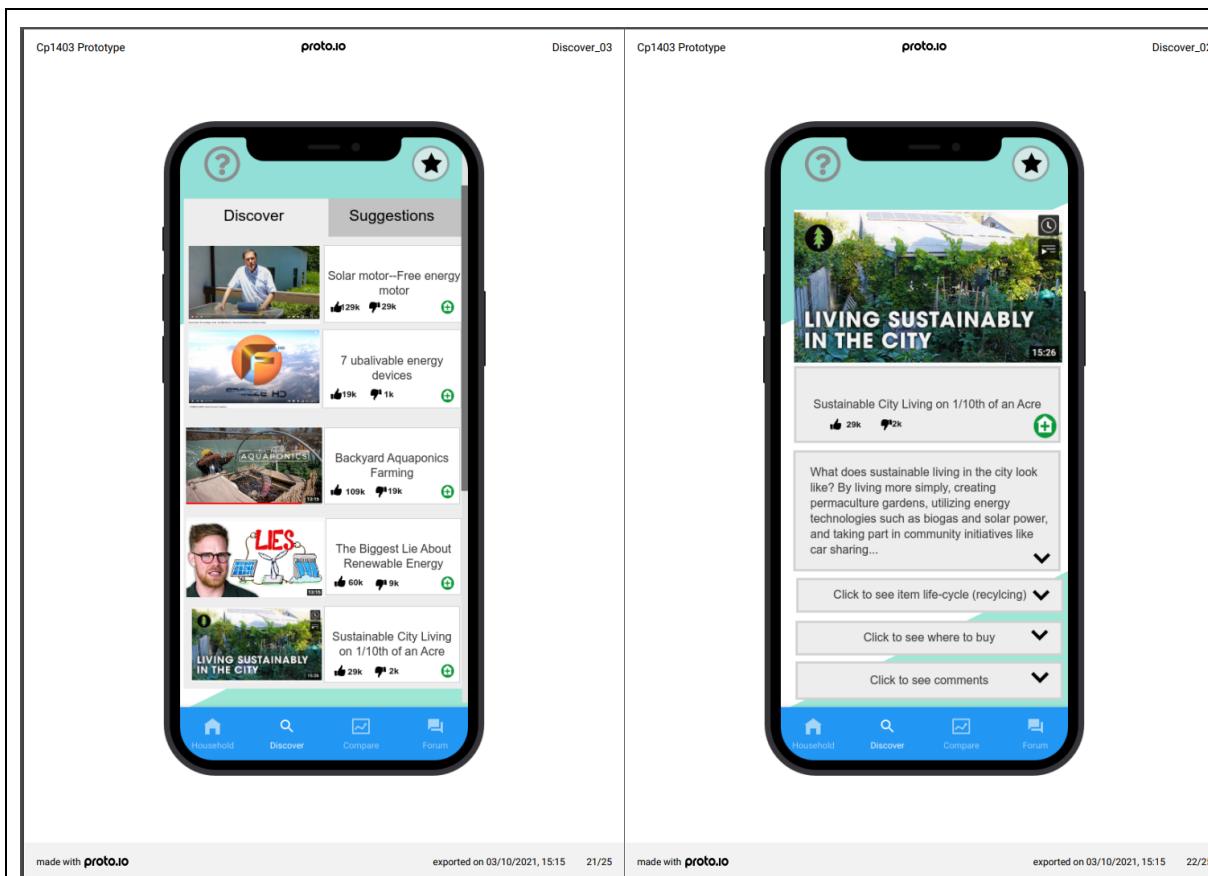
Average Household My Household

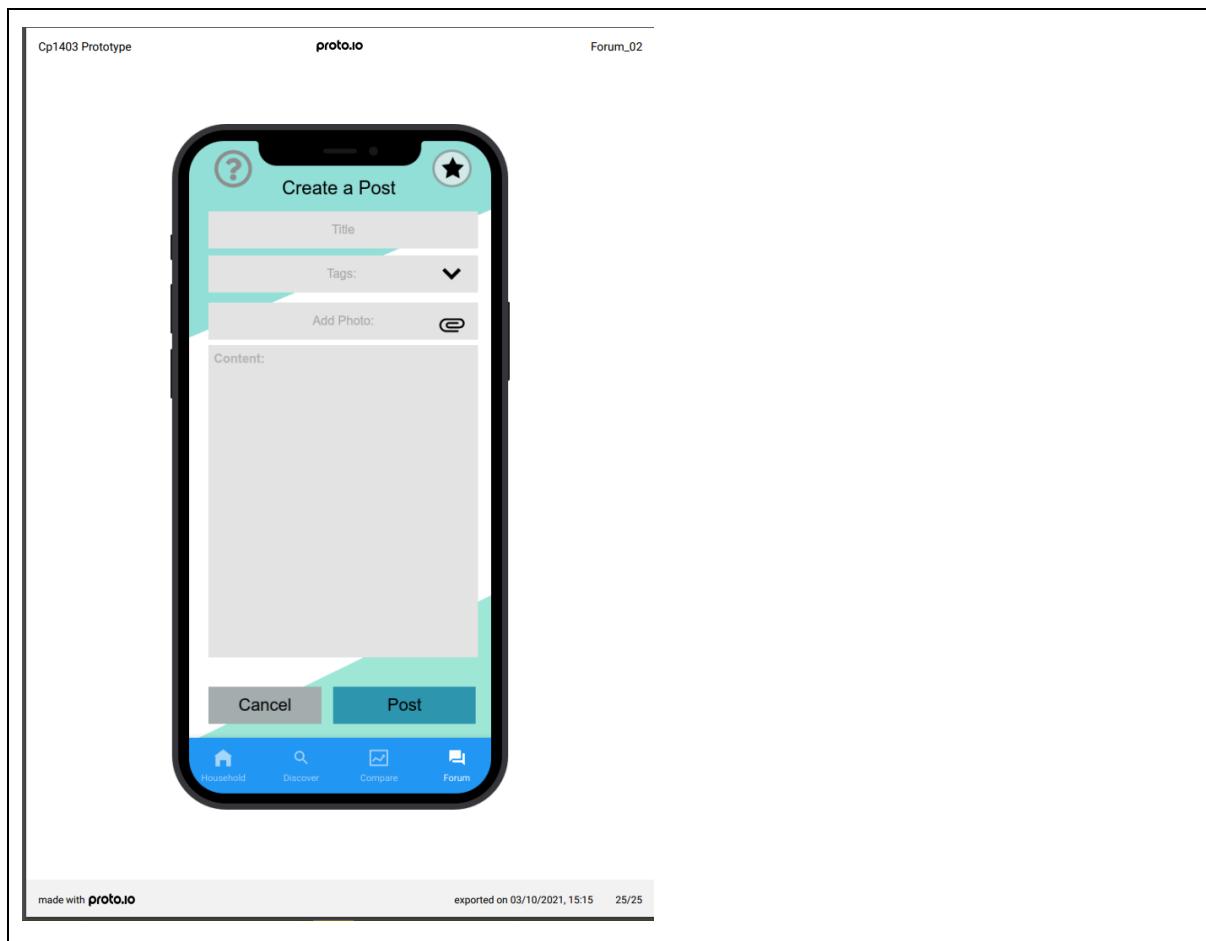
Back

Household Discover Compare Forum

made with proto.io exported on 03/10/2021, 15:15 19/25

made with proto.io exported on 03/10/2021, 15:15 20/25





For the final prototype no testing was completed. All improvements to this prototype are the following:

- Add section to update power bill section to add latest power bill
- Avatar was changed to meet selected avatar while setting up app
- Moved sign in and up on help screen
- Change placeholder name
- Change page of create username to page 7
- Spelling and Grammar error fixes
- Changed wording of household setup
- Changed graph to be clearer
- In forums moved filter to right with label to stop confusion

After this final prototype it would be at the point at which this could be converted to a full working demo on a real computer

Appendix A: Team meeting Minutes

Appendix: Teamwork Contribution Report Teamwork Contribution Report Template

My contributions for each design thinking process:

Project Work	Contributions
Empathy	21-22/08/2021 conduct 2 interviews with potential users
Define	29/08/2021 Contributed to team discussion about refining the question to a single sentence
Ideation	16/08/2021 Suggested 5 ideas in brainstorm meeting
Prototyping	15/09/2021 Uploaded my initial prototype design for testing
Testing	15/09/2021, 22/9/2021, 1/10/2021 Conducted testing for all the prototypes
Team management and information sharing	3/09/2021 Contributed in collating all the secondary research

My contributions for each team meeting:

Meeting Date	Role in Meeting	Contributions
11/08/2021	Participate	<ul style="list-style-type: none">Joined in on discussions and voiced opinions about the following: Name, Rules, Communication, and meeting timeGenerated many topic ideas for problems while also branching off on others' ideas
16/08/21	Participate (left after 30 min)	<ul style="list-style-type: none">Briefly joined in on discussion about topic ideasAfter meeting completed secondary research about final idea
18/08/2021	Participate	<ul style="list-style-type: none">Discussed our secondary research with groupParticipated in the creation of interview questions

25/08/2021	Participate	<ul style="list-style-type: none"> Went over the interviews conducted and put all information gathered into empathy maps and did the POV for each group
29/08/2021	Chairperson and Minute Taking	<ul style="list-style-type: none"> Guided the meeting to keep the team on track and make sure we get done what is needed for this meeting Went over the POV statements and got everyone's opinions on the most important things said in each POV statement Joined in discussion of the single refined POV statement Brainswarmed and made connections to help us with the last brainstorming Brainstormed lots of HMW questions and then did a heat map to decide which question will be our final question Helped facilitate dividing up tasks for final submission of group submission Wrote up meeting minutes for the meeting just conducted
02/09/2021	Participate	<ul style="list-style-type: none"> Worked on getting necessary files in correct formats for final combined of files Went through what was missing with chairperson and completed tasks and files that were missing Discussed the next assessment and how well go about it
11/09/21	Absent	<ul style="list-style-type: none"> After meeting was told my requirements and completed my section of the initial prototype
15/09/2021	Participate	<ul style="list-style-type: none"> Went over and discussed the testing of prototype 1 for feedback Feedback was brainswarmed and connections were made While looking at the brainwarm improvements where then made to be implemented I worked on the section I was given for the next prototype

22/09/2021	Absent	<ul style="list-style-type: none"> • After meeting review work that had been done and take to the team about what it meant and my thoughts • Use this meeting to prepare for the next meeting
25/08/2021	Chairperson and Minute Taking	<ul style="list-style-type: none"> • Feedback from last test was discussed and insights in what needed to be changed were done • We then divided out the last bit of remaining work