Design Workbook

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| **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.

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| Figure . Brainstorm |
| Figure . Heat Map for Final Topic |
| Figure . Empathy Map 1    Figure . Empathy Map 2    Figure . Empathy Map 3 |
| Figure . 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. Brainsworming 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.”.

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| Figure . Brainswarming |
| Figure . How Might We, Grouping, Heat Map |
| Figure . Point Of View Statement |

**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. Brainsworming 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.

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| Figure . Six Thinking Hats |
| Figure . Brainswarming |
| Figure . Crazy Eights - Sam    Figure . Crazy Eights – Dannielle    Figure . Crazy Eights - Jake  Figure . Crazy Eights - Adam |
| Figure . Select and Describe |

**Prototype and Test (Iteration 1)**

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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 protype 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 smoothy 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.

A picture containing table

Description automatically generated

Figure 17. Team Member Feedback and Evaluation

A picture containing chart

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Figure 18. Test Subject Feedback

**Prototype and Test (Iteration 2)**

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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)**

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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 ques. 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 bord of the original feed to try something new and to continue using the app for longer. The Logo was changes 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 coincidently 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**

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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:**

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| **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:**

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| **Meeting Date** | **Role in Meeting** | **Contributions** |
| 11/08/2021 | Participate | * Joined in on discussions and voiced opinions about the following: Name, Rules, Communication, and meeting time * Generated many topic ideas for problems while also branching of on others’ ideas |
| 16/08/21 | Participate  (left after 30 min) | * Briefly joined in on discussion about topic ideas * After meeting completed secondary research about final idea |
| 18/08/2021 | Participate | * Discussed our secondary research with group * Participated in the creation of interview questions |
| 25/08/2021 | Participate | * 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 | * 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 with 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 | * Worked on getting necessary files in correct formats for final combined of files * Went though 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 | * After meeting was told my requirements and completed my section of the initial prototype |
| 15/09/2021 | Participate | * Went over and disused the testing of prototype 1 for feedback * Feedback was brainswarmed and connections were made * While looking at the brainswarm improvements where then made to be implemented * I worked on the section I was given for the next prototype |
| 22/09/2021 | Absent | * 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 nest meeting |
| 25/08/2021 | Chairperson and Minute Taking | * 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 |