Assignment: Essay

Student name: Minh Van Tuan Dinh
Student number: 2666466
Teacher: Dan Smith
Teacher assistant: Asif Anwar
Group 3:   Debashis Panda
                           Tomer Azuz
                     Minh Van Tuan Dinh
                       Mart Gaedtgens
                         Mikail Kiliç

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Documentation of our project

Trello link: https://trello.com/b/z1Gsrtli/lean-ux

Report for client

Introduction

Rubbish is currently one of Lobitos and Piedritas' most pressing concerns in Peru. Lobitos attracts around 10,000 people each year as a popular surf area. Despite the fact that it can provide a total of US $3,555,612 to the local economy, the growing amount of rubbish has the potential to impair the local ecology, local people's quality of life, and travel quality. There are already teams and organizations who are always willing to clean up. They cannot, however, predict where the rubbish will arrive in real time. Lobitos Patrol project was created to address this issue. The goal of this initiative is to offer individuals with a tool, a website supplied by a reputable organization, to report the location of blown or dumped rubbish. The report will be forwarded to the waste removal crews (usually eco-tourists, sufferers, or local volunteers). As a result, we not only improve the environment, but also promote public awareness about environmental protection.

Description of website

We chose to develop a website that allows anybody to report dropped or blown garbage based on the data supplied by Engineering for People Design Challenge: Design Brief 2020/21 [1]. There are three versions of the website: one for laptop/PC, one for high-end smartphone, and one for feature phone (low-end). Because the network infrastructure is inadequate and connections are costly, our website must be as compact as possible while yet providing complete functionality. Before we started building the websites, we conducted a study and created a list of personas and scenarios to ensure that anything we add to the website may reach as many people as possible in Lobitos. Our customers may be residents or tourists, young or elderly, speak Spanish (the native language) or Non-Spanish (English in this case), have a high or low level of education, and utilize a variety of gadgets. There are two languages on each of the three website versions: Spanish and English. The laptop and smartphone versions will have a high graphic style, thanks to the use of the Bootstrap toolkit and Google's graphic map. The simple design and report form are the sole features of the feature phone version. Since we believe that many of our local clients lack a good internet connection and contemporary gadgets. On the next page, we will demonstrate the system in more details.
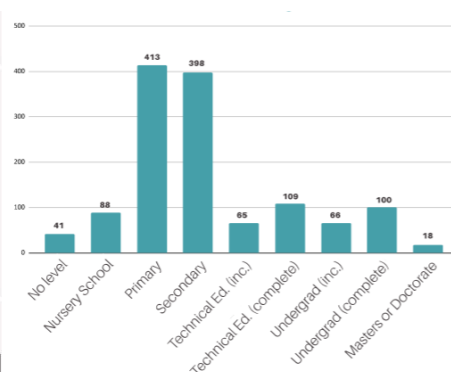

Image: Lobitos map [1]

Figure: Education in Lobitos [1]

Landing Page

At first, all users click on the website link and are directed to the landing page. Based on the screen size and connection speed, the system will determine which web version is appropriate for the user's

device. If it's a laptop or PC, for example, the PC version will display; if it's a feature phone or an older smartphone, the lite version will surface, much like the smartphone version.
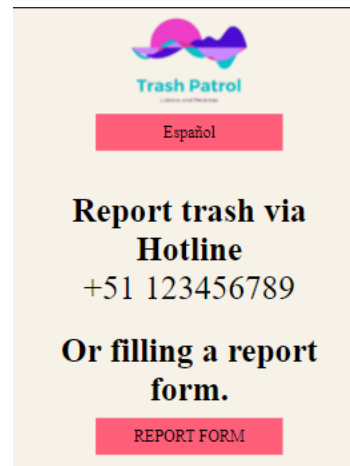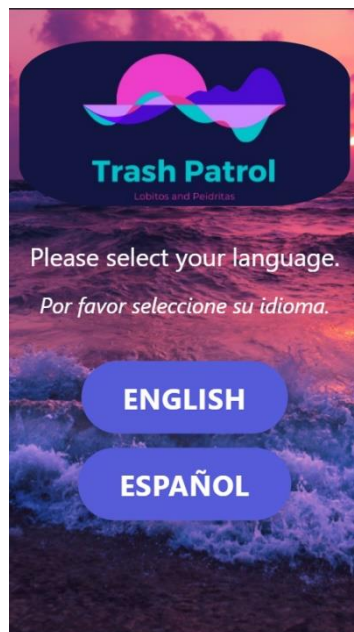

Images: Landing pages

After arriving at this page, the user must select the language with which he or she is most comfortable (English or Spanish). Note that he may change the language at any time by clicking a button on any other page.

Desktop version

The PC version of the Trash Patrol website has the most features and is the most comprehensive. Two images below are first pages in English and Spanish respectively.
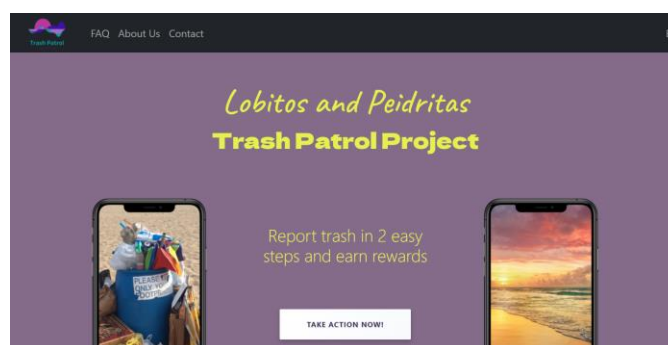
Images: Intro pages (EN/ES)

By selecting the "Take action now" button, the user may begin reporting garbage. If someone wants to learn more about our initiative, contact us, or ask a question, he may use the navigation bar to do so. He may also alter the language of the website there.
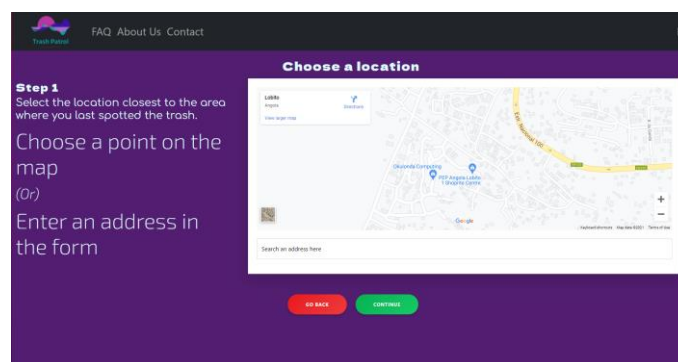

Image: Location page

Step 1 is to choose a garbage collection site by pointing on a map or entering an address into the form. Google Cloud Platform provides the services for those elements (map, search bar). After selecting the proper address, he can go to the next stage (click Continue) or return to the first page (click Back).
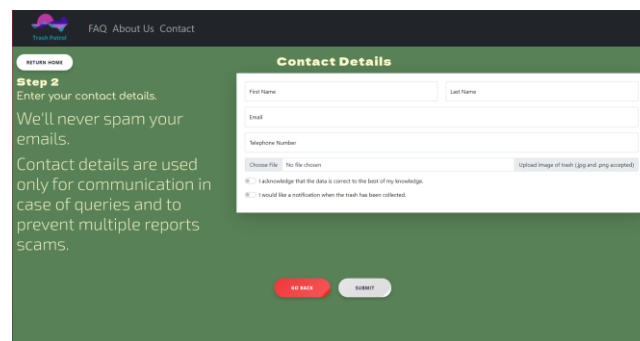

Image: Contact page

Step 2 is to input the user's contact information, which includes their first and last names, email address, phone number, and a photo of discarded garbage (optional). This is for identifying users, avoiding spam or fake reports, preventing hacking (DDOS), and rewarding the proper person (which will be mentioned later). They won't be able to go to the following stage if the form is blank or incomplete.
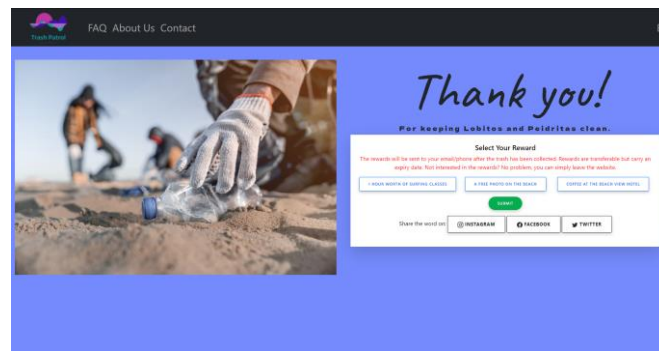
Image: Submit page

Following the completion of the form, a submit page will display. The user can select a reward, which may vary depending on the state of the organization or the level of engagement with local services, and then submit to accept the award. We also give three links that redirect to Facebook, Twitter, or Instagram if users wish to post on social media.

The following page is about addition pages which are FAQ (frequently asked questions), About us and Contact:
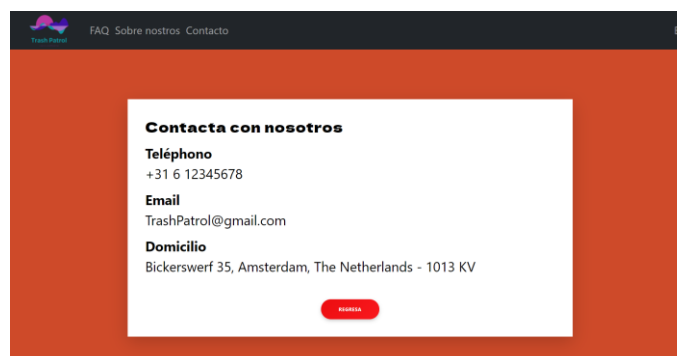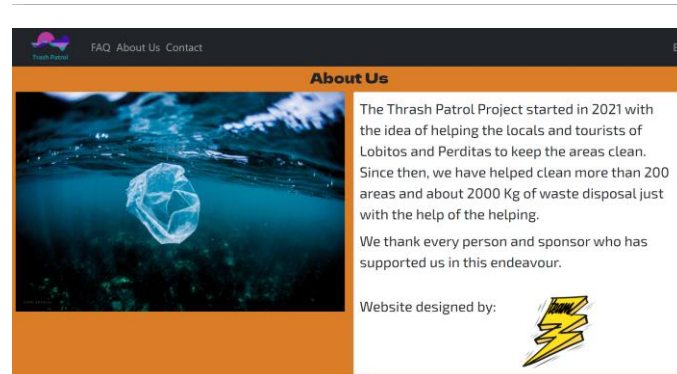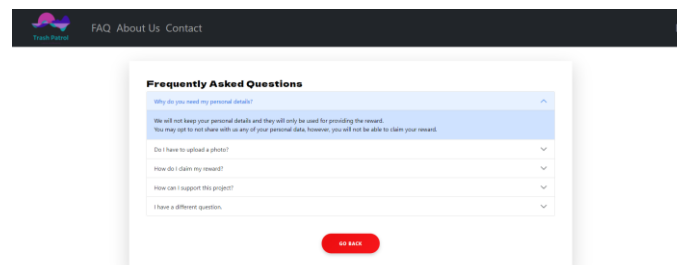
Images: FAQ, About us and Contact pages

When a reporter has a query, he can go to FAQ, where he will get answers to some of the most commonly asked inquiries. If he has another, he may always email us at the address shown at the bottom of this page. The "About us" page explains our motivation for this project as well as our vision for it. It also helps people realize the importance of the Trash Patrol initiative. If you need to contact us for support or assistance, we have provided our contact information on the "Contact" page (Note: The information details might be change later). They all provide assistance in both English and Spanish.

Mobile version

Overall, the functionality and design of this version are identical to those of the PC version, although certain adjustments were necessary to better serve smartphone users. The images below show all of the pages that are included in this edition.
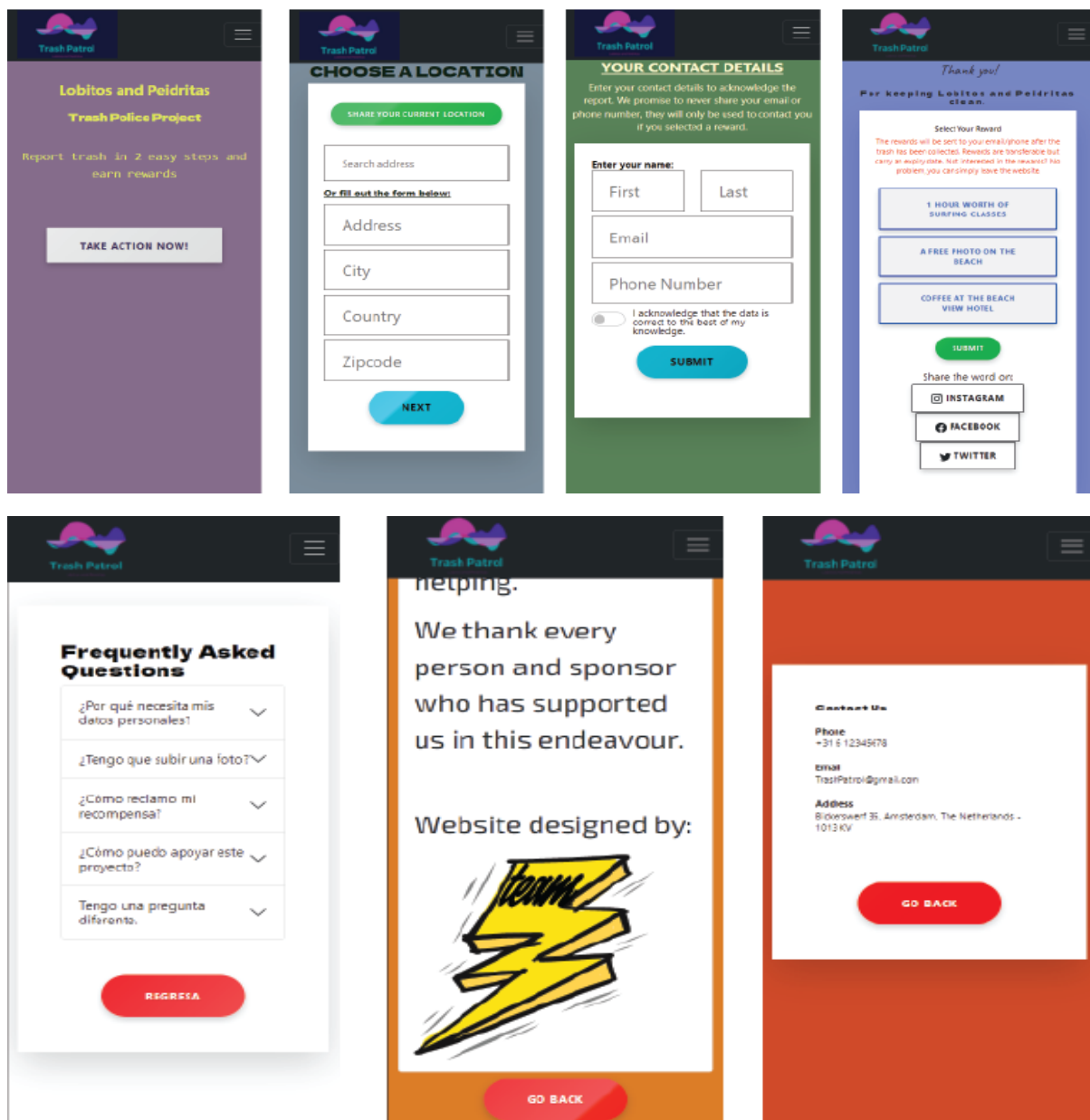
Images: Mobile version

First, we decided to keep all of the texts and forms while removing some of the images. Because consumers want information in order to comprehend what we created and what they must do in order to follow the stages. Users must still complete out all forms for the identical reasons stated in the PC

version section. Because of the limited screen area, certain photos that were only for decoration have been removed.

Second, the user experience is still the same as on a PC; consumers must follow the same steps to complete the report and receive their reward. Step 1: Navigate to the landing page, step 2: Select a language, step 3: Click "Take action now" to begin the form, step 4: Fill out the form correctly, and step 5: Submit and select a reward. There is also a mobile version of the FAQ, about us, and contact us pages.

Finally, due to screen space constraints, the visual map would not display in the mobile edition. The search bar, however, remains. Users will have three options for selecting trash's location: sharing his current location by clicking the top button, looking for a location in the search box, or typing a location into the form.

Lite mobile version

This version will support feature phones, low-end phones, and older phones. This version's criteria include having simple functionality, asking adequate information from users, having a basic design while being professional and understandable, just loading HTML, CSS, and JavaScript, and no libraries.

Images: Lite mobile version

Because feature phone users typically have a poor Internet connection or limited mobile data capacity, we encourage that they report garbage via Hotline; alternatively, they can utilize the report form. The user will proceed in the same manner as in previous editions. However, we are unable to provide a search box (from the Google service) in this version due to space constraints and a desire to decrease Internet consumption.

Because we do not import other libraries (Bootstrap), the subject of this version may differ from others. However, in order to provide a pleasant customer experience, the simple design, which is still professional and clear, will be used.

Limitation and open issues

Although we made every effort to deliver the finest and most full product possible, there are certain limitations and unresolved issues, such as the website's support for just a few major browsers, the input form's lack of total control, and the search box for location's reliance on Google cloud API.

Trash Patrol is now operational on several common browsers, including Google Chrome, Safari, Opera, and Firefox. Others may create problems or fail to load the theme fully.

We still need to work on back-end programming in order to control the entire input form. To govern the process, we must transmit the input from the website to the database (back-end).

Google cloud API provides a service that allows us to locate users using Google Maps. However, in order to use this service, we will need to make an investment or find a sponsor.

Conclusions

Finally, we created a totally front-end system in order to give a website that allows individuals in Lobitos to report garbage conditions. There are three variants based on the device's screen size: PC, mobile (high-end), and light mobile (low-end). Each version has its own set of qualities as well as restrictions. We think that by combining our concept, the development of the system, and the participation of the locals, we can all work together to make Lobitos a cleaner and more developed place in the future.

Assessment of the group achievement

In three weeks of working on this project, we, team Asif 3, had a clear strategy and a list of accomplishments to ensure that the project was completed on time.

We attempted to determine the project's requirements based on the materials provided at the very first meeting. However, there were certain points that were unclear, so we contacted TA Asif, and then we created a project timetable and a site map to divide the job. We have set deadlines for each goal in the timetable. On June 9th, each member was required to give at least two personas and four scenarios, for a total of ten personas and twenty scenarios. That information can assist us in identifying the need for a website. For example, because consumers may have a low-end phone, we require a lite version with a low-capacity request. Or, because there are so many different types of users, such as young/old people, individuals with high/low education, and locals/tourists, we need to give a variety of ways for them to report the location of garbage. The design phase was then brainstormed. We considered how to create a website that everyone, even blind users, could simply use. As a result, we chose to create a website using the Bootstrap package, HTML, CSS, and JavaScript. We developed it in three prototypes, with deadlines of June 15th, 19th, and 22nd. To ensure that the work was distributed evenly, we uploaded all steps and prototypes to Trello and labeled them with the names of the participants.

We decided our website should have at least 5 pages in the first prototype, so we each took one. They are the landing page, the introduction page, the location page, the users' contact page, and the successful page. I selected the location page. We created the layout, specified the functionality required, color, and location of items for each page during the meeting. Then we began working on our own until the next meeting. After that, we could combine all of the pages into a single one.

The location page is utilized in my work to indicate the location of the garbage. At begin, I added a navigation bar to the top of the website. The headline is "Choose a location" which is self-explanatory. The page's body then comprises two elements: a Google graphic map and an address form. I also attempted to develop a search box where people could look up a place on Google Maps. However, in order to use the Google Cloud platform, you must have a billing account and a payment card. However, this is only a research project. As a result, we opted to keep it as is. This feature will almost certainly work if we add a credit card and create a billing account.
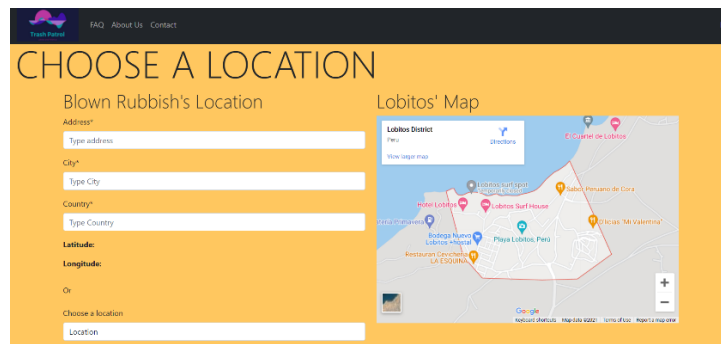
Image: Demo page

Based on the feedback and the timeline, we decided to divide the website into three versions in the second prototype: desktop, mobile, and lite mobile. Debashis was involved in desktop optimization. Mart and Tomer were in charge of mobile optimization, while Mikail and I were in charge of feature phone optimization (lite mobile). We communicated via Whatsapp throughout the process to ensure that everything was consistent.

During the process, I provided the initial version of light mobile, while Mikail provided the design. Then I put them together in the initial edition of lite mobile. We chose to remove all pictures except the logos, Google graphic maps, and some CSS design from Bootstrap. We attempted to include simple but sufficient capabilities, as well as a design layout that was appropriate for small and outdated displays. The background should be lighter, the text darker, and the buttons should be highlighted. The colors chosen would make it easier for both regular people and individuals who are colorblind to read and understand the information.
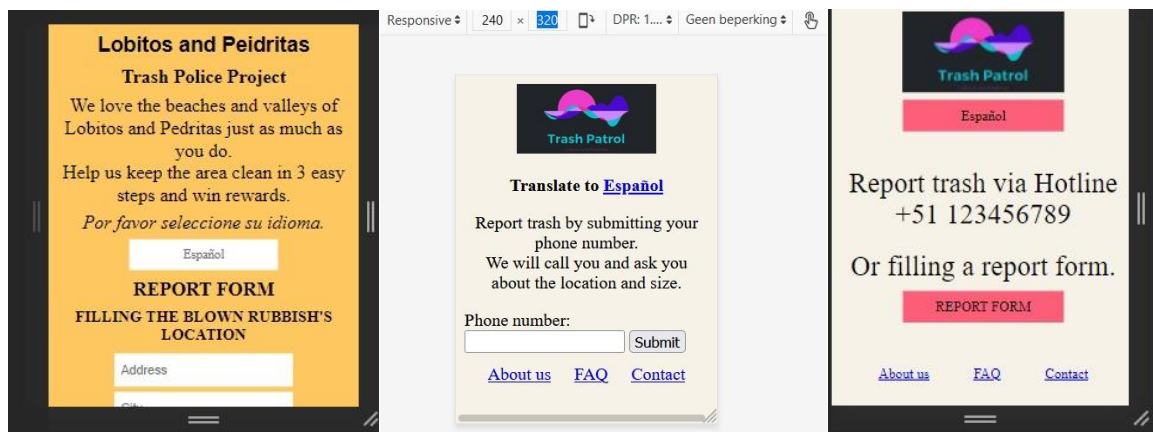
1st version by Minh Dinh   *1ˢᵗ version by Mikail*   *Combined version*

At the following meeting, we merged all versions into an one large file, then updated the style and rebuilt certain items with fresh ideas to ensure that everything was obvious and consistent. After that, we presented that version to TA and a few friends to get feedback, which was also recorded in Trello. From now on, we started with the 3ʳᵈ prototype (the final one).

We incorporated comments from our second prototype to upgrade our website. Each team member selected one or two targets to update. Because I had already worked on the feature phone version, I chose three goals for the lite version: adding FAQ, contact us, and about us pages. I also addressed various problems and errors with button navigation, spelling typos, and the grid of all items.

After the third prototype, we met every day through Zoom to finish the system, correct problems, and upload all versions to Github.

Overall, our team has a reasonable timeline and a clear plan of action. As a result, we collaborate to create the most comprehensive system possible. There were definitely discussions and conflicts going on. However, we always tried to do the best we could as a group. Personally, I've learnt a lot about group projects, how to break down large challenges into smaller ones, and how to create accessible and comprehensible systems that can serve as many people as possible. Understanding our customers is one of the most crucial skills we can have. Because we can give a decent solution to individuals when we understand what they need. Despite certain unresolved difficulties and restrictions, we hope that our product satisfies all of the criteria.

Reference

[1] *Ewb-uk.org*, 2021. [Online]. Available: https://www.ewb-uk.org/wp-content/uploads/2020/09/EcoSwell-Design-Brief-2020-A4.pdf. [Accessed: 24- Jun- 2021].