Project Name & Members

Climate Awareness

Mohamed Bashir (Individual project)

Project sponsor

Dr.Tim Maciag

Business need/opportunity

Climate change app that educates the Community about climate issues. Climate change can be caused by various activities. The users will have an awareness of climate change and how to take action to reduce their carbon footprint. This project is intended to spread awareness through educating community so that they can improve their lifestyles and come to together to change the world. This app aims the following:

- Monitor user's carbon footprint (e.g., including carbon footprint calculator, questionaries to determine user's carbon footprint usage, giving user's incentive to earn badges as long as their carbon footprint is low, share their carbon footprint score with others to challenge them and inspire others to keep their carbon footprint low)
- Ability to carpool with other that are nearby
- Content sharing amongst users.
- Chatting capabilities

Reflections on project planning

My project focuses on the sustainable development goal number 13: Climate Action under the sub-category: target 13.3 improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Why: this project is intended to spread awareness through educating community so that they can improve their lifestyles and come to together to change the world.

How: by allowing users to participate questionnaires to determine their carbon footprint then showing personalized tips

What: providing knowledge base content, monitor user's carbon footprint and ability to carpool as well as allowing the community to communicate via chat and forum post

In the community characteristics, I defined it as self-designing. Although, there other apps that exists which allow the user to keep track of their carbon footprint. However, some of the apps that exists lacked interactive design and wanted to configure new technologies to integrate chatting capabilities, content sharing amongst users, allow user to share their progress with other and challenger other to reduce their lower impact in the environment.

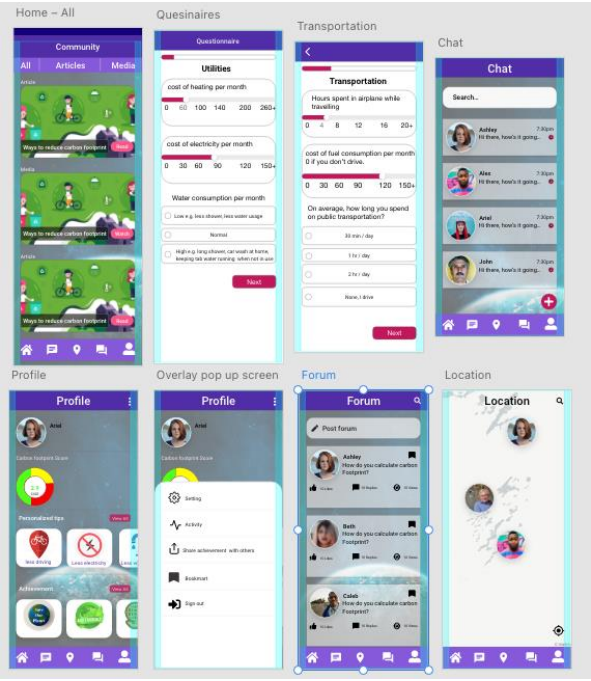
North star: high-school and college/University students. I chose these target audience as my north star because I wanted my work to reach young members in the community to understand the risks associated with climate change if we do not take action and also to encourage them to change their

lifestyle and reduce their impact on environment as well as saving planet. Carry over audiences are teachers, parents, neighbors, etc. These carryover customers are also important because they can encourage young folks to participate in more and encourage them to lower their carbon footprint.

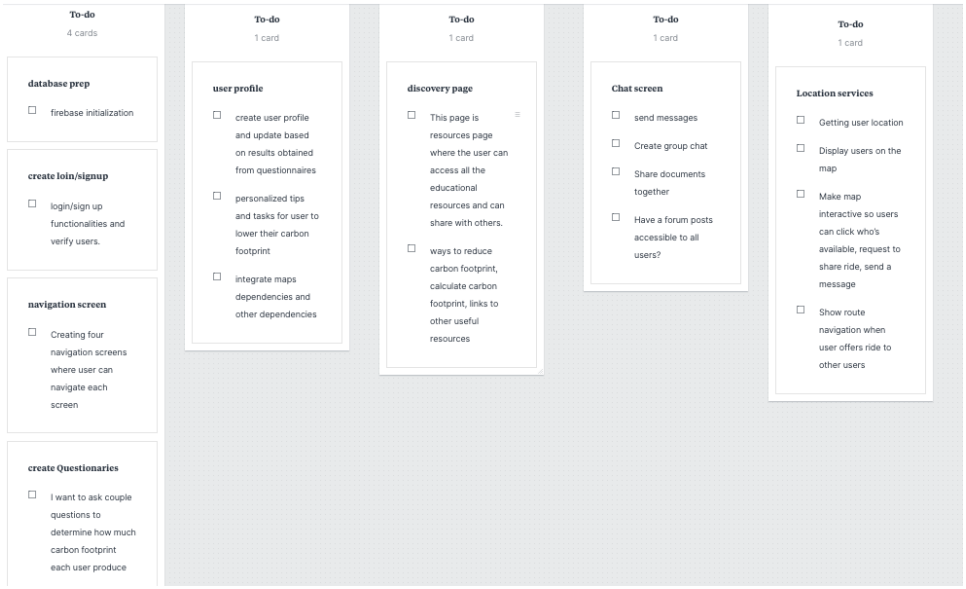
Assumption made were time constraints as well as limitation on google maps as I envisioned to include ability to car pool.

I have selected flutter to work on this project because flutter allows you to code faster, save time in developing and having one codebase across all your platforms. This allows me to validate my idea of this app as I progress through developing the app. On the backend, I used firebase to do authentication, store and querying data as well as Realtime streaming as the user make posts. Below are attachments for initial prototypes and work breakdown for each MVPs.

- Prototypes



- Initial MVP break down



Please note: better screen shots can be found at the project GitHub below.

Prototype screenshots:

https://github.com/moehared/ENSE-405-ClimateAwareness/blob/main/Documentation/software%20design/Hi_FI/climateAweraness.pdf

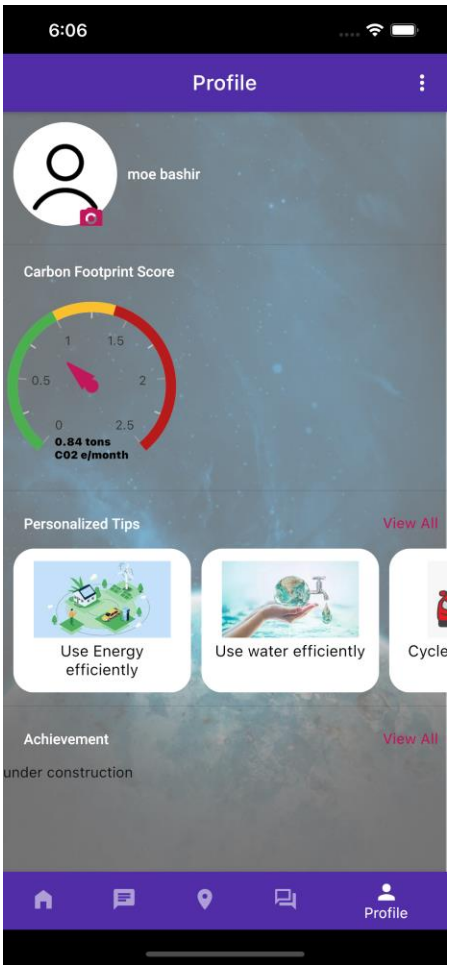
Work breakdown for MVPs

https://github.com/moehared/ENSE-405-ClimateAwareness/blob/main/Documentation/Emerging%20Picture%20%26%20Project%20managment/Ch%204%20-%20Project%20Scope%20Statement%20Template.pdf

Home page screen:

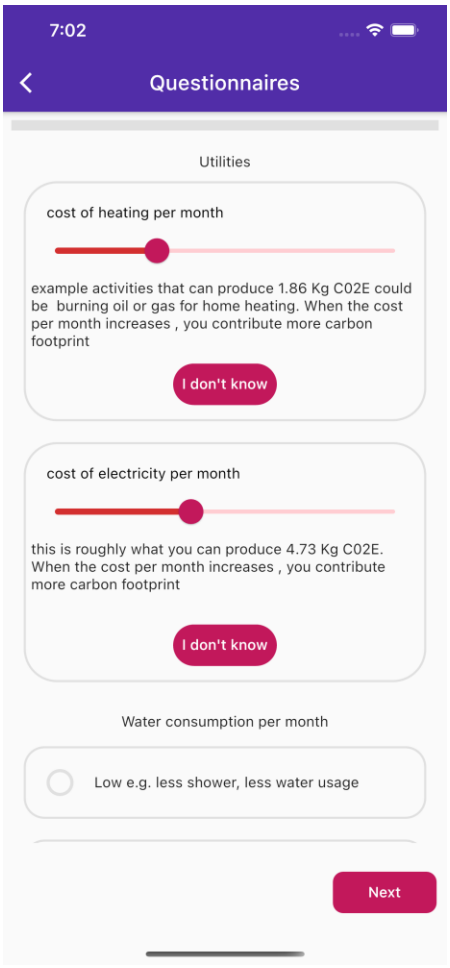
Key features:

Here key features are filtering between article and media, this allows the user who are interested in reading an article to go to article screen and browse article to read. Also, the more horizontal icon button is signifier to the user to interact with so they can either edit their post, bookmark, share or report.



Key features:

Here the user can scroll personalized tips or view all to click on each tip to learn how they can take action and further learn by redirecting them a link.



Key features:

Here as the user slide through slider, the user is given a feedback of their selection. Here, the user is given an example of activity that can cause their carbon footprint and as they slide more, their carbon footprint increases.

Reflection on project results

I really liked this project as I am still learning flutter, this project helped me achieved the envisioned VVP using flutter as technology stack. I was able to translate my design and prototype to actual real solution as I incrementally developed more MVPs. One thing I did not like is the process of having MVP every week, it felt like pressure to accomplish MVP every week while I was doing everything by myself and doing other projects for other classes. However, I am happy with the outcome of my progress as I was able to push myself to design, developed and deliver all my envisioned MVPs.

Everything in the project went smoothly. There has being some minor issues with iOS and Android simulators and this have to do with apple computer with M1 chip but I believe once I upgrade flutter to latest version it should hopefully get fixed.

In the software design activities, I designed my project with community orientation in mind because as the app will be used to educate and spread awareness, I wanted to make content sharing to be accessible and useful to others in the community.

I would follow the same approach used in this project for future projects because I found this process to be useful. As technology steward, it's our responsibility to know about the community we are designing applications and involving varies activities such as doing exhausted research, knowing about technology configurations (knowing about what technology solution exists and improving on them) and selecting and installing these technologies.

Instead of delivering MVPs every week, I think I would deliver MVPs every two weeks. This will allow me to have more time to structure the code and development of the project.

There are still a lot of work that needs to be done for future MVPs. The chatting capabilities, locations and forum posts would need to be designed and developed. Also, I would need to figure out how I can prevent users making malicious posts such as posting inappropriate images or sites.