



Carbon Smart Mobile Application

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Design Challenge Group 3 (Dubai)

Carbon Smart - Empowering Sustainable Living

► What it's about?

- Carbon Smart is a smartphone application designed to empower individuals to lead a more sustainable lifestyle by tracking and reducing their carbon footprint.
- The app integrates innovative features such as personal carbon footprint tracking and sustainable shopping assistance to provide users with actionable insights and recommendations.

► Why it's useful?

- **Environmental Impact:** Enables users to minimize their carbon emissions and make informed eco-friendly choices.
- **Empowerment:** Empowers users by providing real-time data on their carbon footprint and offering personalized recommendations for sustainable living practices.
- **Health and Well-being:** Helps adopt sustainable habits, that not only benefits the environment but also contributes to improved health and well-being for individuals.

Carbon Smart - Empowering Sustainable Living

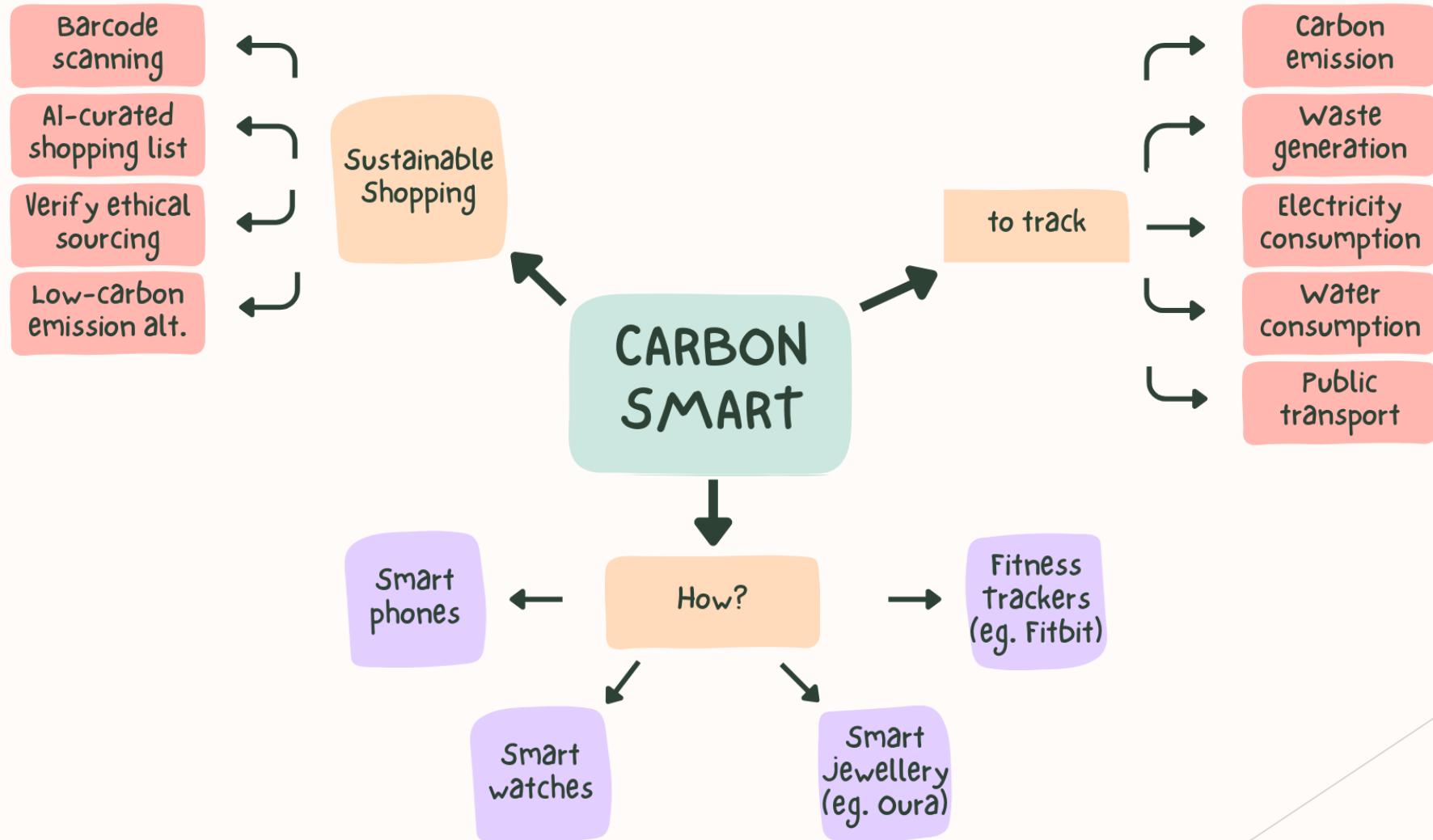
► What problem does it solve?

- In today's world, environmental sustainability is one of the most critical global challenges. The increasing carbon footprint, unsustainable consumption patterns, and lack of awareness about eco-friendly alternatives contribute to environmental degradation and climate change.
- Individuals often lack accessible tools and personalized guidance to track their carbon emissions, make informed purchasing decisions, and adopt sustainable lifestyle practices.
- Carbon Smart addresses these challenges by providing a user-friendly platform that empowers individuals to understand, monitor, and reduce their environmental impact effectively.

► How it's different?

- Combines wearable device data for personalized carbon footprint tracking and offers features like carpooling and public transportation suggestions based on users' emissions.
- Provides barcode scanning functionality to assess product sustainability, suggest eco-friendly alternatives, and generate smart shopping lists.
- By offering a comprehensive solution that integrates carbon tracking, sustainable shopping, and lifestyle recommendations, Carbon Smart redefines the user experience in promoting sustainable living.

The Plan



How is the app providing solutions?

- ▶ Personal Carbon Footprint:
 - Tracks individual carbon footprint, as it is essential for promoting sustainability.
 - Provides accessible tools to accurately measure and monitor daily carbon emissions.
 - Aids in integrating carbon tracking into daily routines without disrupting lifestyle.
 - Provides awareness about personal carbon footprint and its environmental impact.

- ▶ Sustainable Shopping Assistants:
 - Helps consumers make environmentally friendly purchasing decisions, without overwhelming them.
 - Provides a comprehensive platforms providing sustainability ratings for products.
 - Identifies eco-friendly alternatives while shopping.
 - Provides real-time environmental impact data during shopping.

User Research Overview

- ▶ Both the app's sustainability goals and mobile interface experience are included.
- ▶ Most Desired App Features:
 - Carbon footprint calculator
 - Sustainable shopping alternatives
 - Barcode scanning
 - Public transport availability
 - AI-curated shopping lists
 - Sustainability tips and challenges
- ▶ Most participants prioritize:
 - Participants value visual progress charts, achievement milestones, and gamification elements.
 - Community engagement features are welcomed, highlighting the importance of social support.
 - Live chat support is preferred for timely assistance.
 - Customization and personalization options are valued for tailored experiences.
 - Intuitive navigation and clean layouts.

How are the personas details inferred from the user study?

► User Study Methodology:

- Conducted surveys to get user data and evaluate which participant is eligible and available for an interview.
- Interview was conducted to gather more insight on target users' behaviours, attitudes, needs, and pain points.
- Then, overall analyse of demographic information, lifestyle choices, motivations, and preferences of participants regarding their sustainability journey, was done.

► Persona Development:

- Create fictional personas representing archetypal users within each segment.
- Personas includes details about the user, demographic details, goals, pain points and behaviour.
- Each persona is based on real data collected during the user study, ensuring they accurately reflect the diversity of user needs and preferences.

Unique aspects of our personas

► Sylvia Teresa



○ About

- Passionate about sustainability and owns 2 businesses in the sector.
- Completed a research fellowship aiming to merge sustainability and business practices.
- Likes painting and listening to music.

○ Goals

- Wants to track her carbon footprint.
- Wants an app that can track her footprint based on electricity and water consumption, meat consumption, and fashion wear.
- Extremely interested in living a sustainable lifestyle.

○ Pain Points

- She takes off wearable devices that are on her hands and wrists. She would prefer a smart necklace or smart anklet.
- Afraid of "greenwashing" — where companies falsely advertise that they are environmentally friendly.

Behaviours

How interested are you in living a sustainable lifestyle?

1

5

How important is it to you to choose eco-friendly products when shopping?

1

5

How often do you shop for groceries, on a scale of 1-5?

Daily

Rarely

How often do you shop for clothing items, on a scale of 1-5?

Daily

Rarely

How often do you shop for other household items

Daily

Rarely

What is your carbon footprint (approx.)?

Low

High

Unique aspects of our personas

► Samaira Mohammad



○ About

- Motivated about sustainable living for the good of the future generations.
- Mother of two children, one boy and one girl.
- In her spare time, she is passionate about cooking and baking.

○ Goals

- Wants to track her carbon footprint.
- Wants an app that can track her footprint based on her food choices and synced across different apps.
- Moderately interested in living a sustainable lifestyle.
- Moderately important to her to choose eco-friendly products when shopping.

○ Pain Points

- Wants transparency regarding shopping choices and aid in shopping better, unlike most available apps.
- The community of like-minded people should be moderate to ensure user safety.

Behaviours

How interested are you in living a sustainable lifestyle?



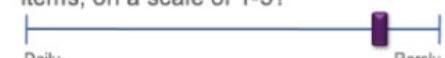
How important is it to you to choose eco-friendly products when shopping?



How often do you shop for groceries, on a scale of 1-5?



How often do you shop for clothing items, on a scale of 1-5?



How often do you shop for other household items

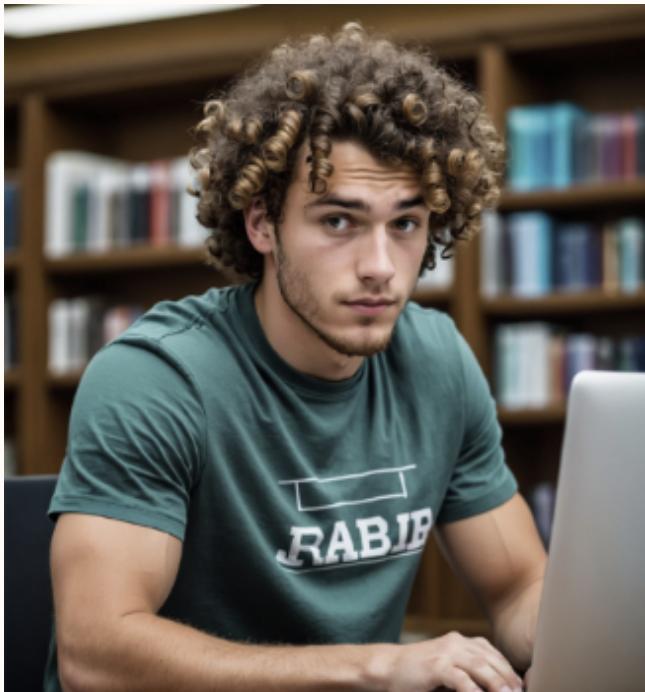


What is your carbon footprint (approx.)?



Unique aspects of our personas

► Xavier Smith



○ About

- A Computer Science student, motivated about living sustainably.
- Likes hiking in the outdoors and plant-based cooking.
- Not that important to choose eco-friendly products while shopping.

○ Goals

- Wants to track his footprint based on his transportation methods.

○ Pain Points

- Does not want to be overwhelmed by various views and features.
- Most apps in the field have color schemes that are green, however, he does not like the color.
- Wants to receive real-time data and seamless integration between his wearable devices and mobile apps, instead of waiting for some time for it to sync.

Behaviours

How interested are you in living a sustainable lifestyle?



How important is it to you to choose eco-friendly products when shopping?



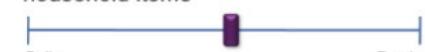
How often do you shop for groceries, on a scale of 1-5?



How often do you shop for clothing items, on a scale of 1-5?



How often do you shop for other household items



What is your carbon footprint (approx.)?



Persona Usage in Later Stages:

- ▶ Initial Sketch:
 - Using persona to design an initial sketch of the mobile application, for the purpose of exploring the feature to implement to meet user's standard.
- ▶ Lo-Fi and Hi-Fi prototyping:
 - Designing prototype's interfaces, features, and interactions tailored to the preferences and needs of each persona ensures a more engaging and user-centric experience.
- ▶ Testing and Validation:
 - Using personas to guide user testing helps ensure that the product meets the needs and expectations of different user segments, leading to better adoption and satisfaction.

Discussing scenarios

- ▶ Scenario 1:
Exploring Sustainable Shopping Alternatives
- ▶ Character:
Nisha, a 20-year-old entrepreneur residing in Dubai.
- ▶ Actions:
 - ▶ Uses the CarbonSmart app in a local grocery store.
 - ▶ Scans a product and receives detailed sustainability information.
 - ▶ Selects an eco-friendly alternative based on personalized recommendations.
- ▶ Outcome:
 - ▶ Makes informed choices aligned with sustainability goals.

Discussing scenarios

- ▶ Scenario 2:
Exploring Sustainable Shopping Alternatives
- ▶ Character:
Zoya, a busy student with a moderate interest in sustainability.
- ▶ Actions:
 - ▶ Uses the CarbonSmart app for skincare and beauty shopping.
 - ▶ Utilizes text-to-speech and speech-to-text options for accessibility.
 - ▶ Finds sustainable products aligned with her values and preferences.
- ▶ Outcome:
 - ▶ Feels empowered to make informed and sustainable choices.

Discussing scenarios

- ▶ Scenario 3:
Exploring Sustainable Shopping Alternatives
- ▶ Character:
Omar, a 21-year-old student with evolving interest in sustainability.
- ▶ Actions:
 - ▶ Explores eco-friendly commuting options using the CarbonSmart app.
 - ▶ Utilizes carbon footprint tracking and goal-setting features.
 - ▶ Makes gradual changes in transportation habits and energy consumption.
- ▶ Outcome:
 - ▶ Engages in sustainable practices and tracks progress effectively.

Low Fidelity Prototypes

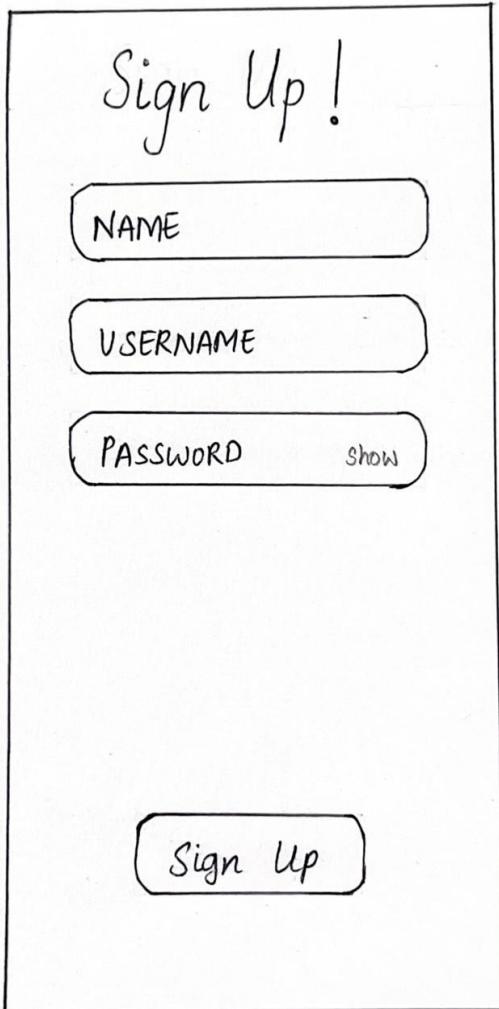
Sign Up !

NAME

USERNAME

PASSWORD show

Sign Up



Home

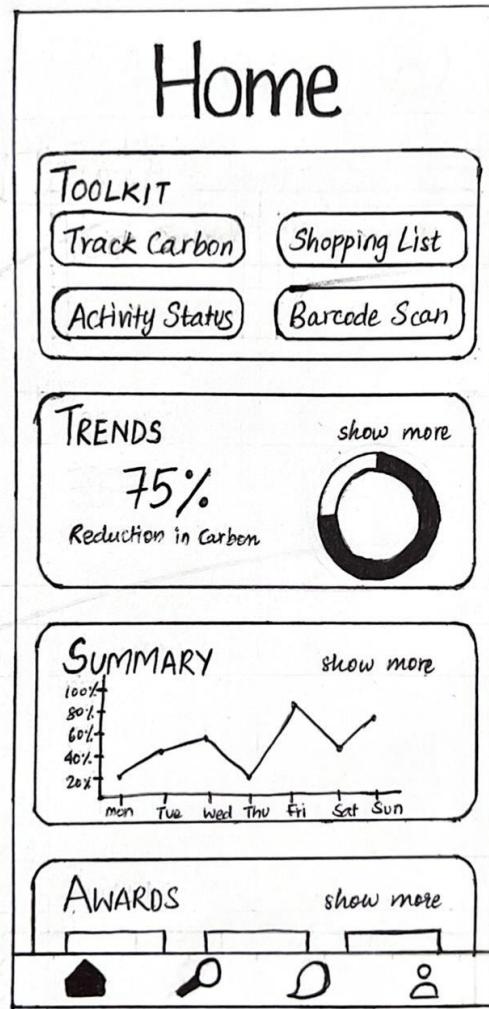
TOOLKIT

Track Carbon Shopping List

Activity Status Barcode Scan

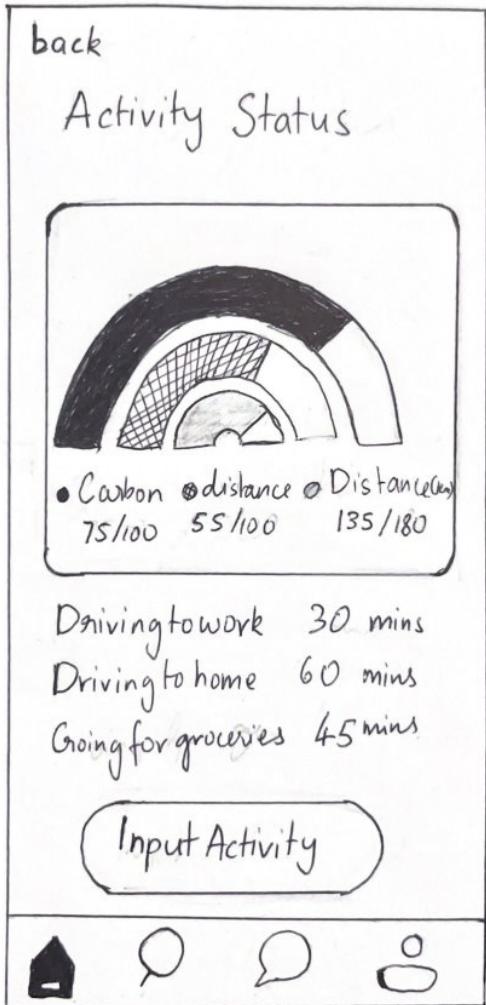
TRENDS show more

75% Reduction in Carbon



- ▶ These are the Low Fidelity Prototypes of the Sign-Up page and the Home page, respectively.

Low Fidelity Prototypes



- ▶ These are the Low Fidelity Prototypes of the Activity Tracking page and the Over-view page (displayed after a barcode is scanned), respectively.

Hi-Fi prototype QR Code



- ▶ Scan QR code to view Hi-Fi prototype.

Hi-Fi prototype Demo

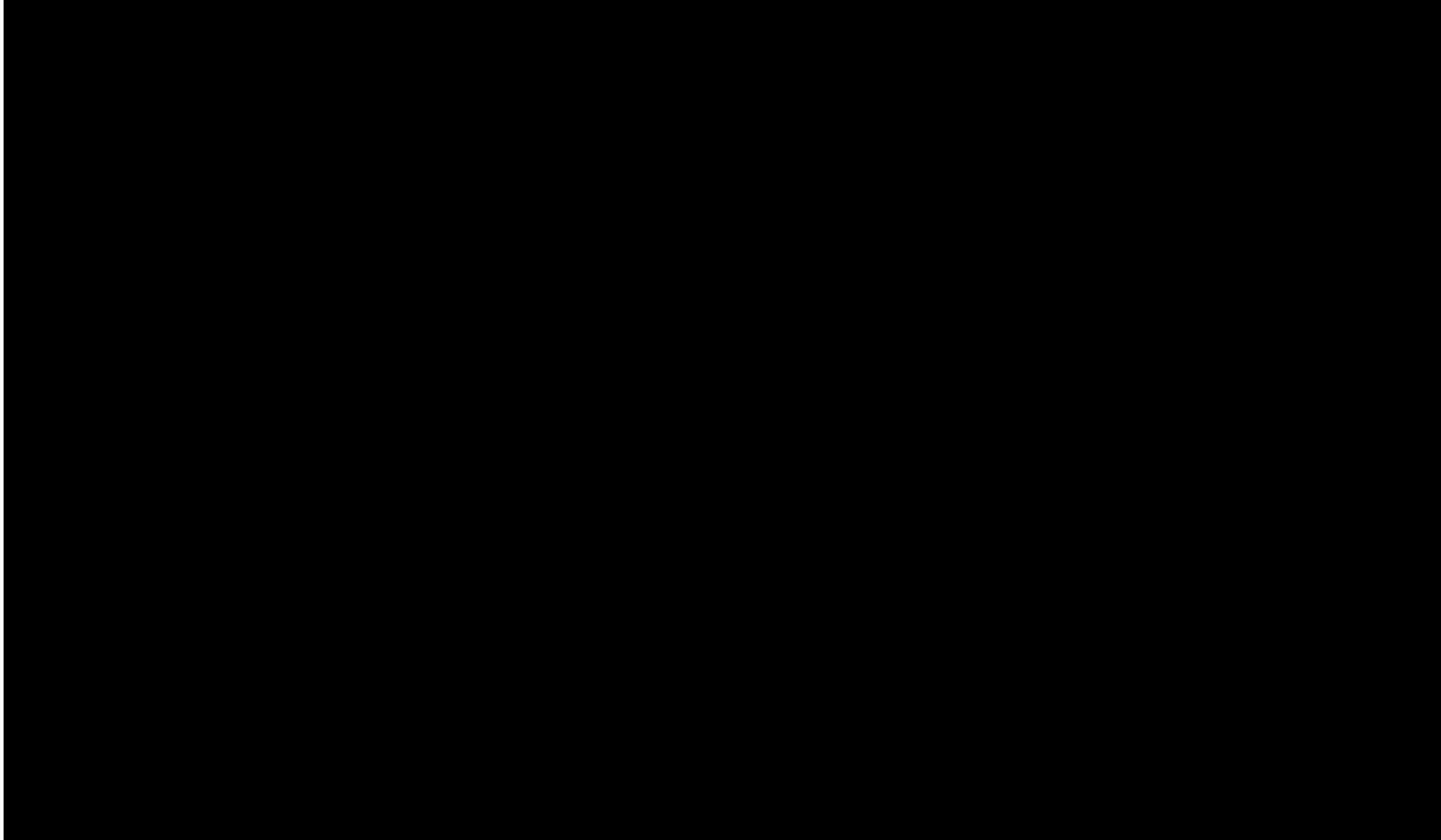
- ▶ High-Fidelity Prototype Preview:

<https://www.figma.com/proto/EclfaJgpsCroGoUHYpvcu1/High-Fidelity-Prototype-Updated?type=design&node-id=6-1977&t=k2IEU9O6L2IqQLjH-0&scaling=scale-down&page-id=0%3A1>

- ▶ High-Fidelity Prototype Figma Link (for documentation only):

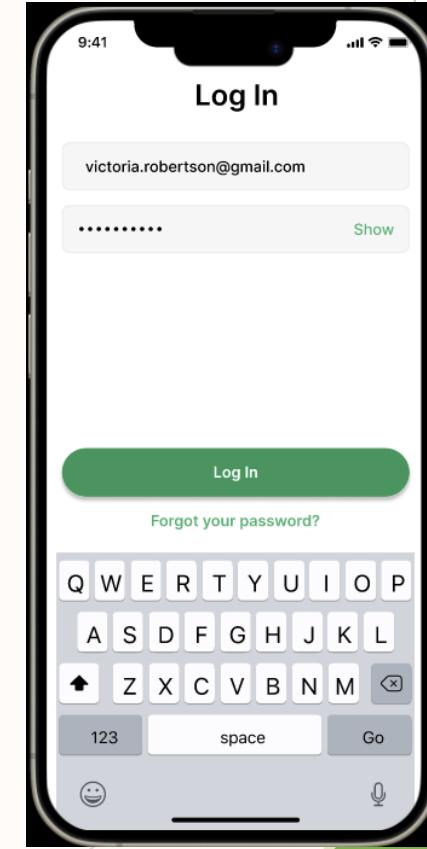
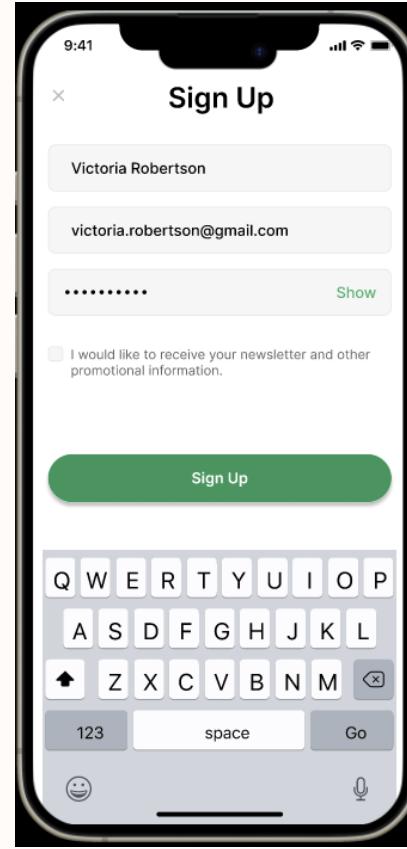
<https://www.figma.com/file/EclfaJgpsCroGoUHYpvcu1/High-Fidelity-Prototype-Updated?type=design&node-id=6-2027&mode=design&t=k2IEU9O6L2IqQLjH-0>

Demo Video for App's functionality and interaction



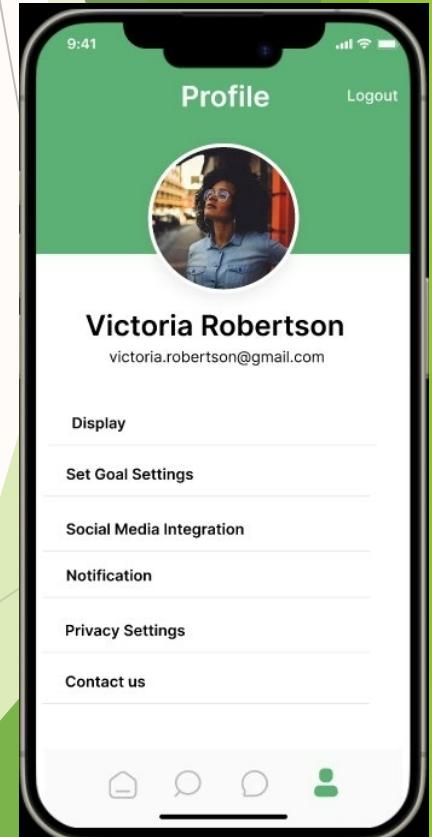
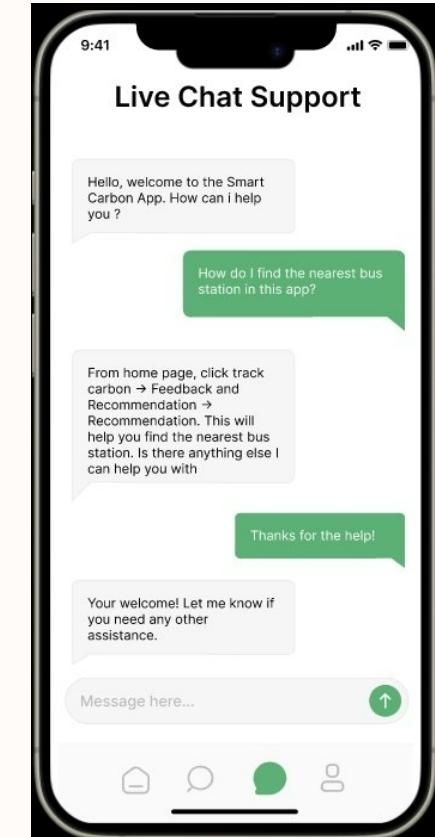
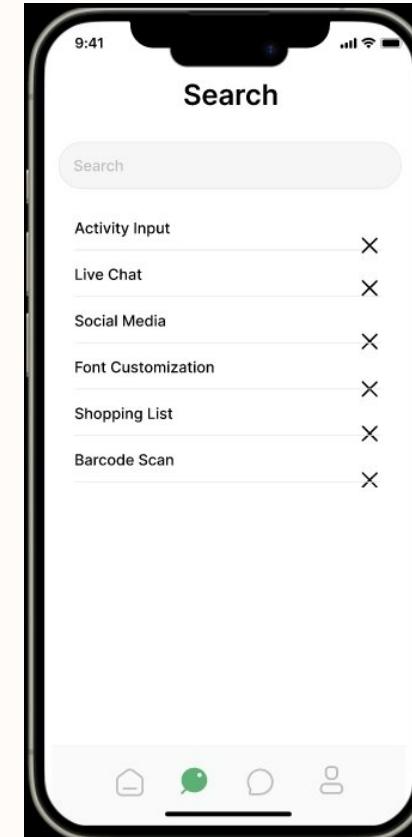
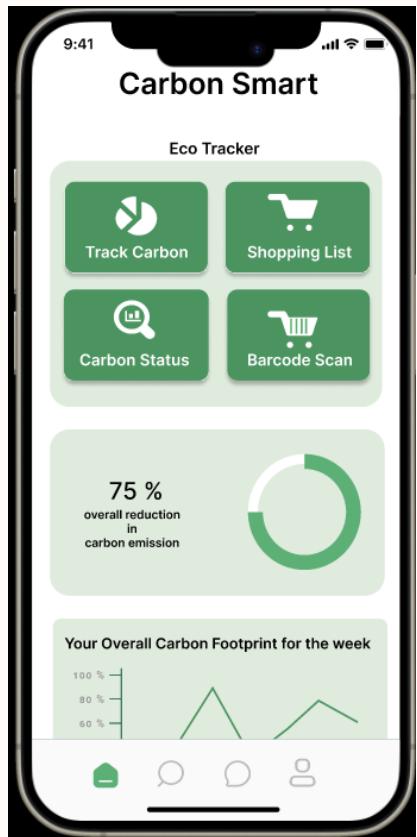
High Fidelity Prototype Screenshots

- ▶ The screens shown below are the login, sign in and login.



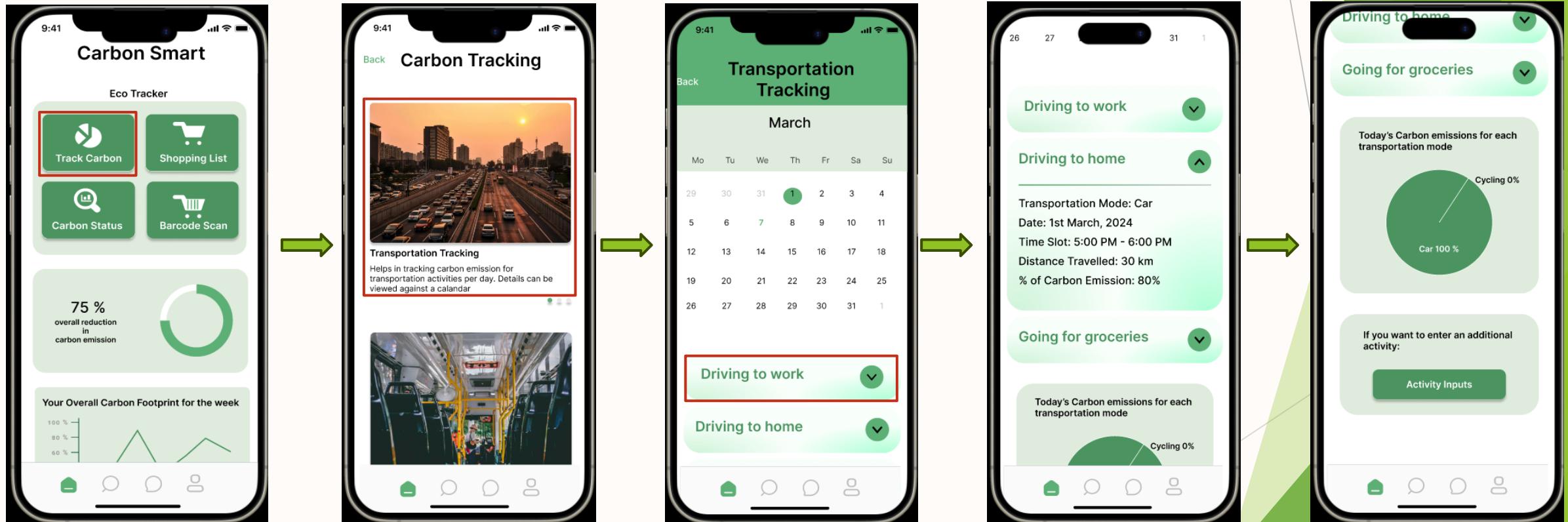
High Fidelity Prototype Screenshots

- The screens below give an overview of the bottom navigation bar's screens. These are Home, Search, Live Chat Support and Profile screens.



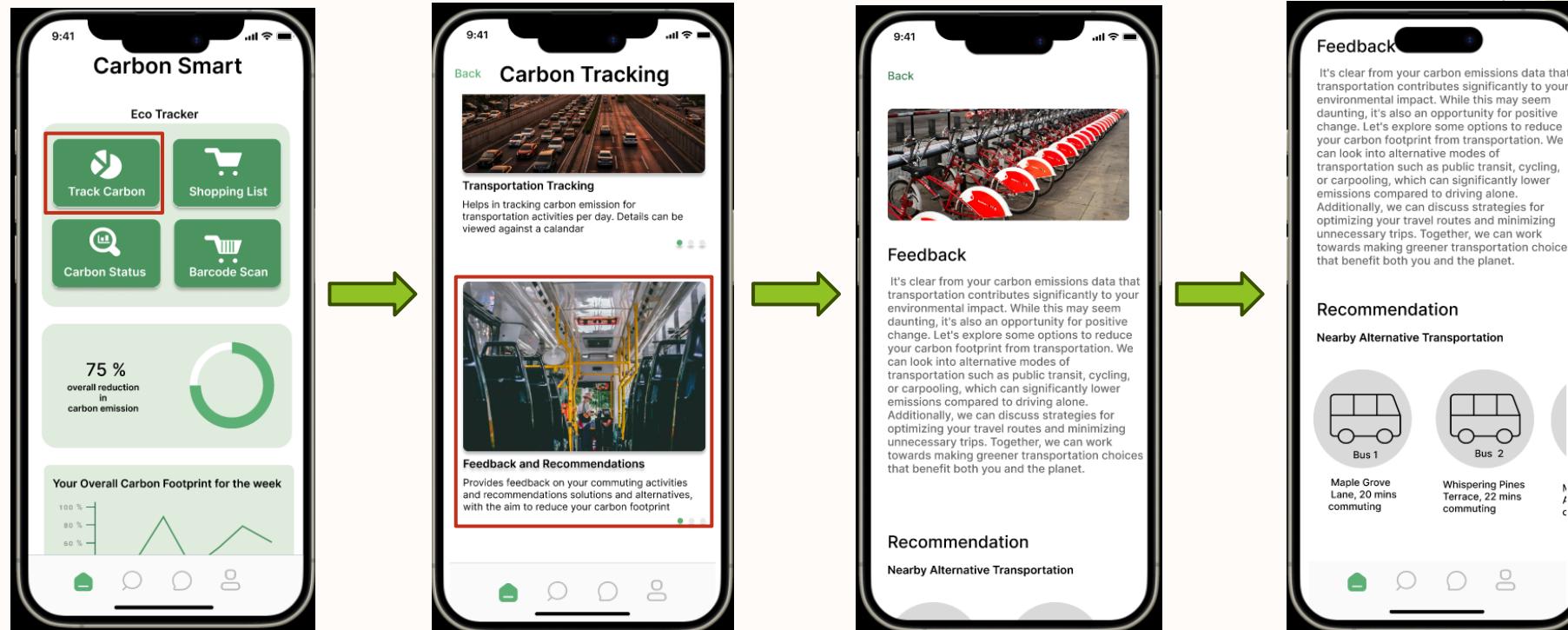
High Fidelity Prototype Screenshots

- ▶ The Carbon Calculator aids in tracking carbon emission for transportation activities per day. Details can be viewed against a calendar.



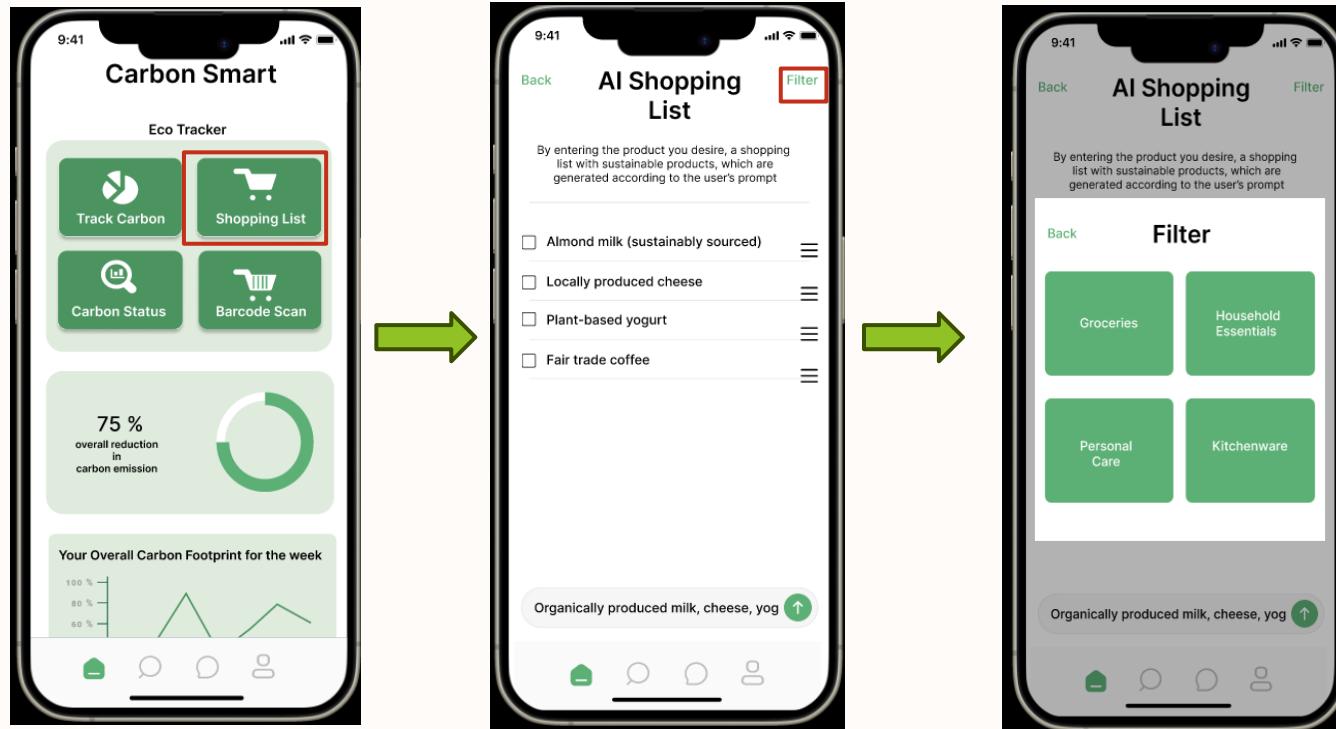
High Fidelity Prototype Screenshots

- Feedback and Recommendation provides feedback on your commuting activities and recommendations solutions and alternatives, with the aim to reduce your carbon footprint



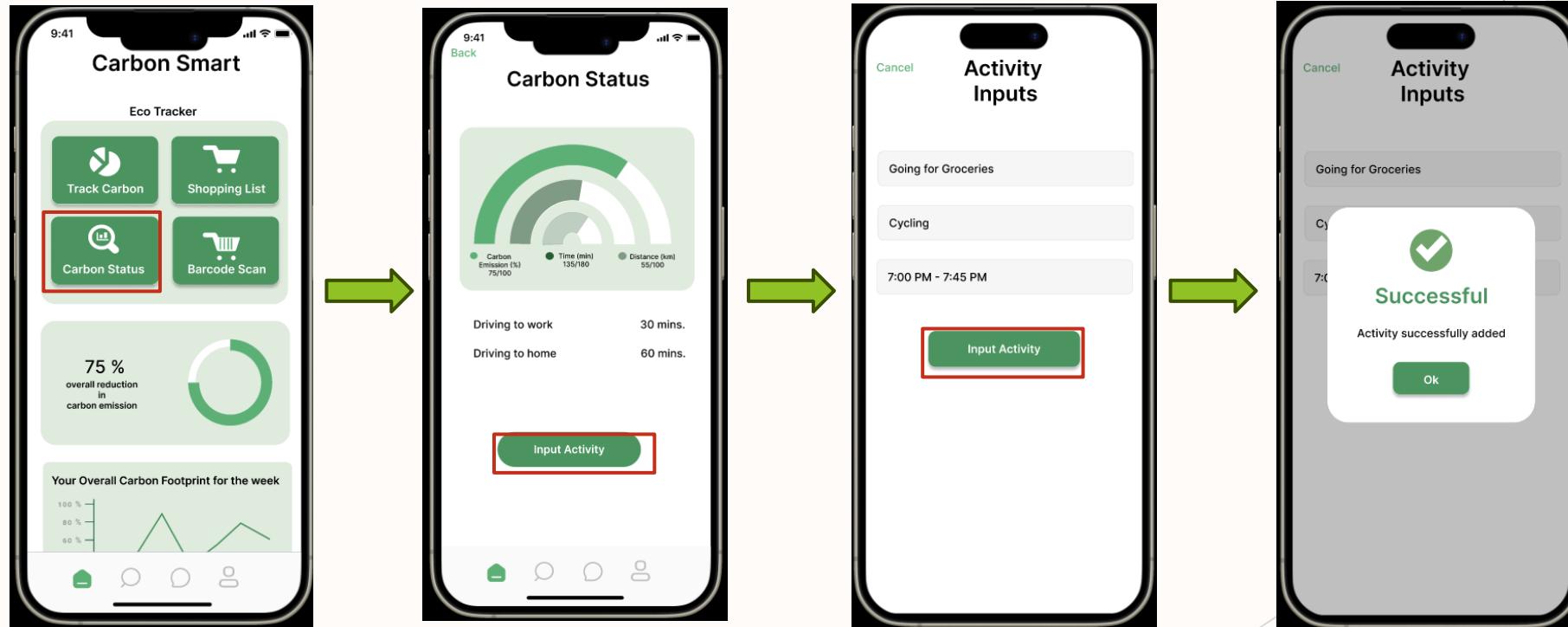
High Fidelity Prototype Screenshots

- ▶ In Shopping list, by entering the product you desire in the prompt, the shopping list will generate its sustainable alternatives.



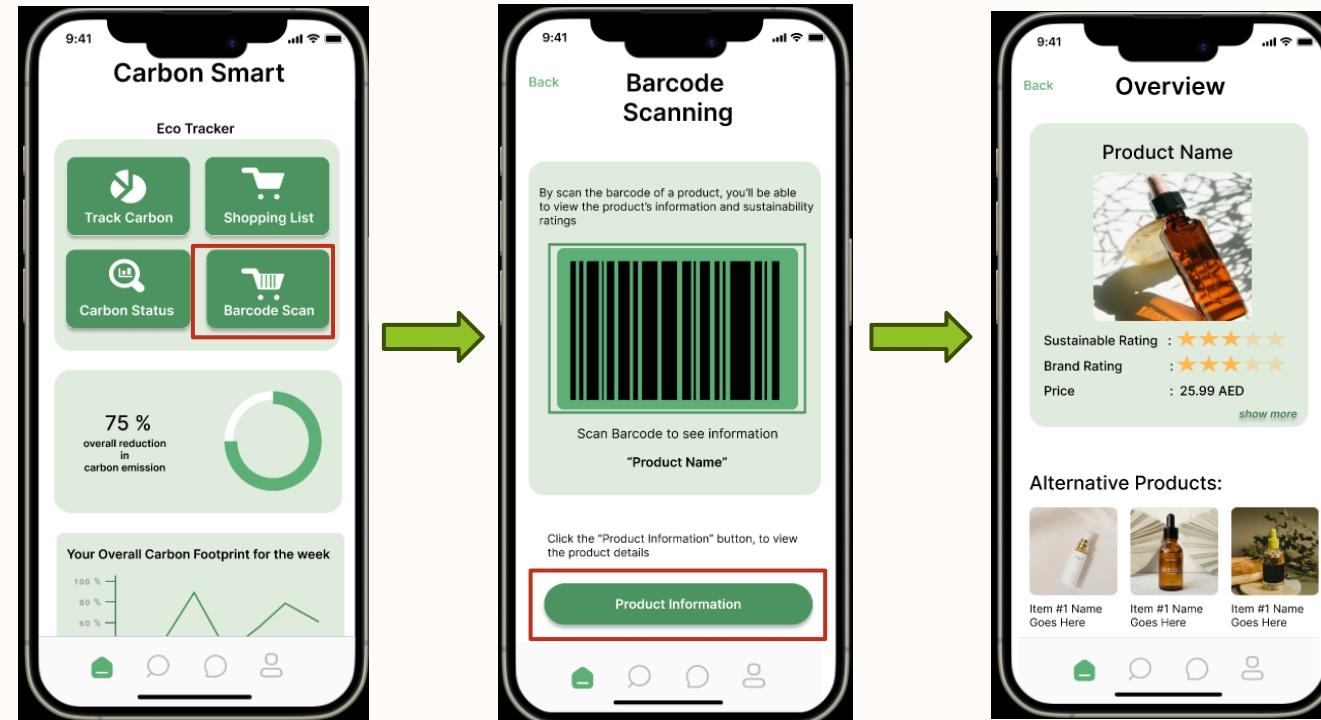
High Fidelity Prototype Screenshots

- The activity status bar displays the percentage of carbon emissions for the total distance and time a person has commuted that day.



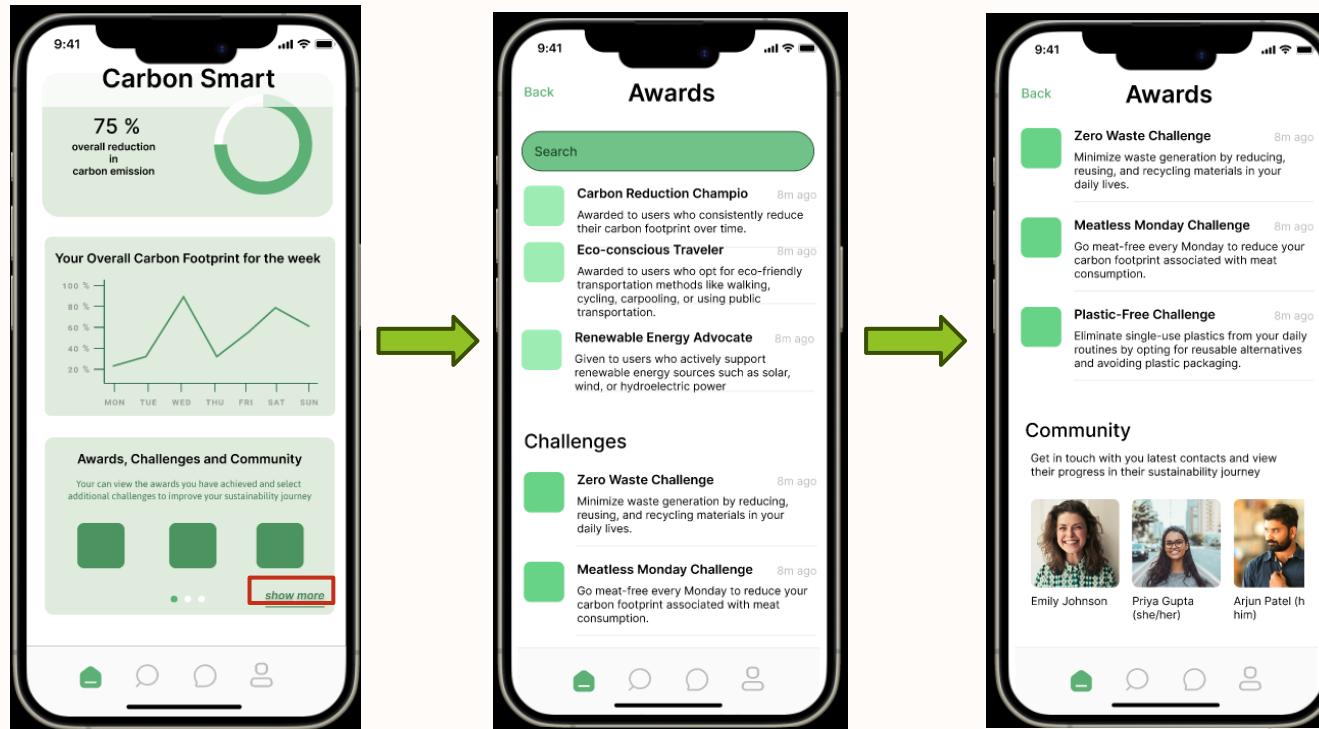
High Fidelity Prototype Screenshots

- In barcode scanning, by scan the barcode of a product, you'll be able to view the product's information and sustainability ratings.



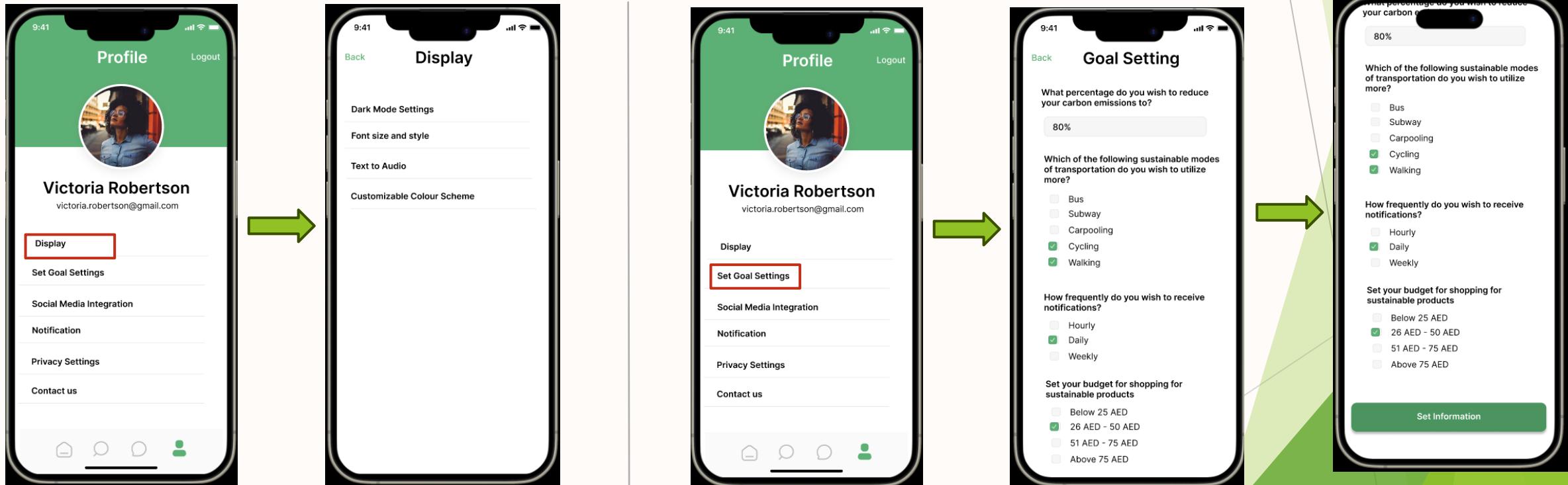
High Fidelity Prototype Screenshots

- In Awards, Challenges and Community, a user can view the awards you have achieved , select additional challenges to improve their sustainability journey and engage with a community of sustainable oriented people.



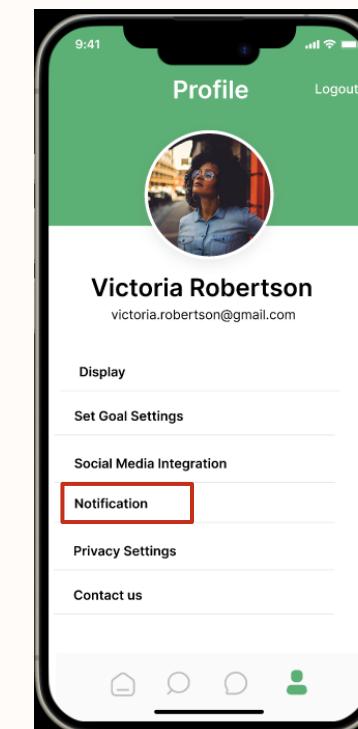
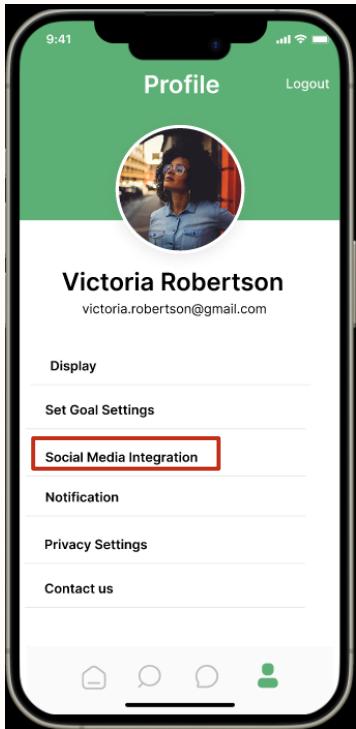
High Fidelity Prototype Screenshots

- ▶ For Display, the user can customize the visual and textual aspects of there screen, while navigating the app.
- ▶ In Set Goals Setting, the user can personalize and set their goals for the Carbon Footprint Tracking and budget for the Sustainable Shopping.



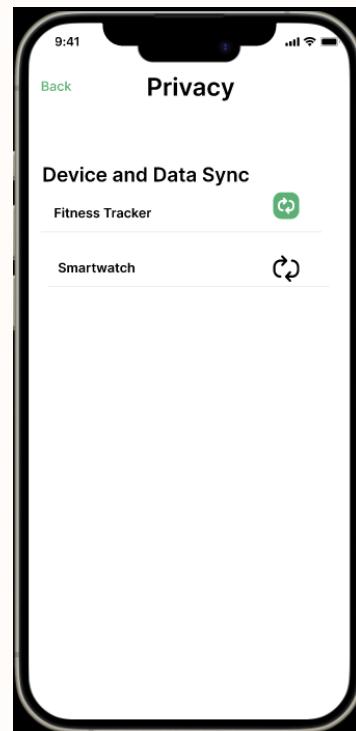
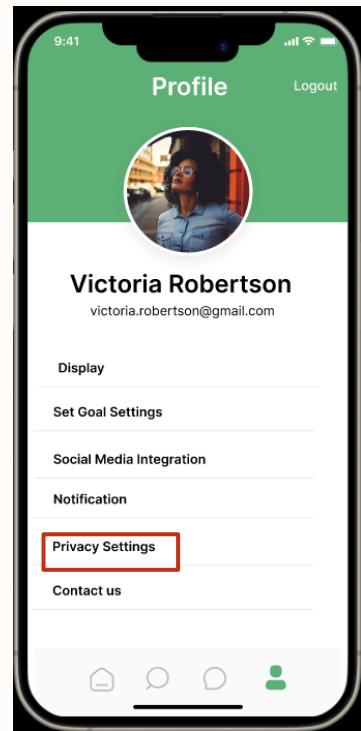
High Fidelity Prototype Screenshots

- ▶ In Social Media Integration, user can celebrate their progress and awards by sharing it on their social media platform, for their loved once to see.
- ▶ User can be notified when they have achieved an award, a new activity is created for them to participate in, a reminder sent to them for reminding them to remain in track towards their sustainable journey and when so sustainable tips are being shared.

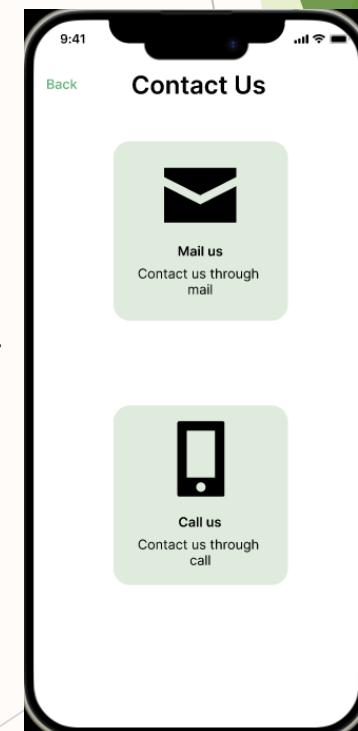
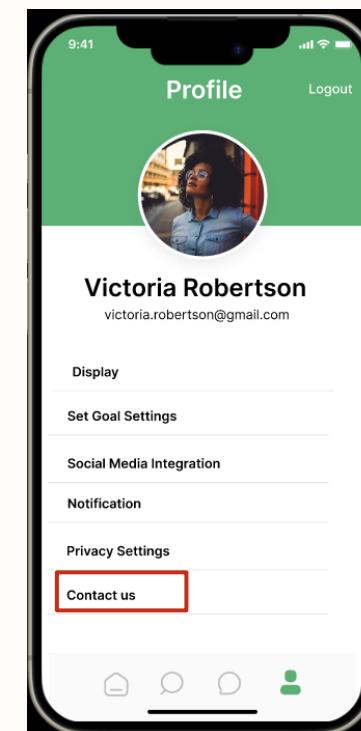


High Fidelity Prototype Screenshots

- ▶ Here, the user can sync their data between their wearable device and this mobile application



- ▶ In Contact us, user has additional ways of seeking support, apart from the “Live Chat Support”. They can directly contact staff via mail or phone call.



Q&A



Thank
You

