

GreenNest

Helps users to collectively contribute to a greener planet.

UX Design in Web & Mobile Applications (CSIS 3375 - Section 001)

Team Members:

Name	Student ID	Overall Percentage Contribution
Sachini Epa (Team Lead)	300381972	33.33%
Theodore O. Amodu	300371625	33.33%
Frederick Okornoe	300373397	33.33%

App idea for Prototype

The proposed mobile application *Green Nest* is a sustainable application which encourages the user to adopt eco-friendly habits, reduce the impact done by their day-to-day activities and collectively contribute to a better, greener planet.

The app will have the following key features.

1. **Carbon footprint tracker:** Calculates the carbon footprint generated by each of the user's daily activities.
2. **Progress reports:** With user updates, the application will calculate the carbon footprint and generate visual representations to monitor the improvements over time.
3. **Personalized eco tips:** The user is given personalized tips to adjust their habits for continuous improvement.
4. **Gamified Elements:** Users are given challenges to engage in individually and in groups to make sustainability more engaging and fun. Users will earn eco-badges/ streaks when they complete challenges.
5. **Event Catalog:** Enable the user with information of the related environmental community events nearby.

The proposed application is best suited for individuals who are interested in building a healthy planet.

The proposed app stands out as a novel solution for encouraging sustainable living by effectively blending personalized advice, community involvement, and significant progress monitoring. Unlike conventional eco-apps in the same domain, GreenNest provides customized eco-tips that align with user habits, enabling sustainable practices to be both feasible and impactful. Users can visually observe the concrete outcomes of their actions, which reinforces positive changes in behavior without relying on competitive features.

Moreover, the app cultivates a spirit of shared responsibility by motivating users to engage in community-focused projects and local challenges. By presenting a comprehensive approach to sustainability in various aspects of everyday life, GreenNest changes sustainability from an overwhelming obligation into a fulfilling and manageable lifestyle, allowing users to make a meaningful contribution to environmental health.

The transformative experience of this mobile application lies in its effort to seamlessly integrate sustainable habits into the lifestyle of the user.

1. **Personalized sustainable journey:** The application provides tailored eco tips to help the user to easily blend sustainable habits into their lifestyle.
2. **Progress tracking:** Visual representations give the user an idea about the continuous progress over time to encourage them.

3. **Community Engagement:** Users are made aware of the community-driven environmental events, which will help them work collectively, share insights and foster a sense of belonging in a movement towards sustainability.

4. **Gamification:** The user will be awarded with eco badges based on the challenges completed.

We, as the designers, believe that the transformative experience, which will be a collective effort of the above features, would make adopting sustainable habits a manageable and less complex task.

Background Research

Market Competitor Apps

GreenNest enters a growing market of sustainability-focused mobile applications, each with unique features catering to eco-conscious users. The following competitor apps provide insights into the strengths and gaps within the current market, offering valuable direction for GreenNest's differentiation strategy.

1. JouleBug

- **Focus:** Gamifies eco-friendly actions such as recycling and energy conservation.
- **Strengths:** Engages users with community leaderboards and reward-based systems, fostering friendly competition.
- **Limitations:** Lacks deep personalisation and has a limited scope beyond general sustainability actions.

2. Aerial

- **Focus:** Tracks carbon emissions by analysing travel habits and purchase history.
- **Strengths:** Offers seamless integration with financial applications for automated tracking.
- **Limitations:** Lacks community-driven features and gamification, making user engagement less interactive.

3. Oroeco

- **Focus:** Provides detailed tracking of carbon footprint across spending, travel, and energy consumption.
- **Strengths:** Offers comprehensive tracking for individuals and families.
- **Limitations:** Data presentation can be overwhelming, with little emphasis on gamification for motivation.

4. Greenly

- **Focus:** Estimates carbon footprint based on financial transactions.

- **Strengths:** Provides actionable insights to help users reduce emissions.
- **Limitations:** A narrow focus on financial data limits broader sustainability tracking.

Market Inspiration Apps

To create a transformative user experience, GreenNest draws inspiration from apps that have successfully engaged users in behaviour change, motivation, and habit formation beyond sustainability. These applications serve as a reference for integrating innovative engagement techniques into the GreenNest platform.

1. Duolingo (Education & Gamification)

- **Inspiration:** Uses a highly engaging gamification model to encourage language learning.
- **Application to GreenNest:** Implementing streaks, levels, and badges to encourage sustainable behaviour.

2. Nike Run Club (Fitness & Progress Tracking)

- **Inspiration:** Provides real-time tracking, challenges, and personalized coaching for fitness goals.
- **Application to GreenNest:** Personalized eco-tips and challenges tailored to user behaviour and lifestyle.

3. Fitbit (Health & Habit Formation)

- **Inspiration:** Encourages habit formation through step tracking, daily goals, and achievements.
- **Application to GreenNest:** Encouraging eco-friendly habits with measurable milestones and reminders.

4. Reddit (Community Engagement)

- **Inspiration:** Encourages knowledge sharing and discussions through user-driven communities.
- **Application to GreenNest:** Creating an engaged community where users share experiences, challenges, and solutions.

How GreenNest Stands Out

GreenNest differentiates itself by integrating artificial intelligence to deliver personalized eco-tips and habit recommendations based on user preferences. Unlike competitors, it

combines gamification, community collaboration, and actionable insights in a single platform, making sustainability efforts more engaging and rewarding. By rewarding users for challenges and enabling global and local collaborations, GreenNest transforms everyday choices into meaningful environmental contributions.

Through market research and inspiration from successful habit-forming apps, GreenNest aims to redefine sustainability engagement and empower users to make a lasting impact on the planet.

PACT Framework

To ensure GreenNest effectively meets user needs, the PACT (People, Activities, Context, and Technology) framework is applied:

1. People:

- Environmentally conscious individuals looking to track and reduce their carbon footprint.
- Students, professionals, and families interested in sustainable living.
- Organizations promote eco-friendly habits among employees and communities.

2. Activity:

- Tracking carbon emissions from daily activities like travel, food consumption, and energy use.
- Participating in eco-friendly challenges and earning rewards.
- Engaging in community initiatives and sharing sustainability progress.
- Receiving AI-driven personalized eco-tips.

3. Context:

- A mobile-first experience designed for real-time tracking and habit formation.
- Social and environmental contexts influencing user behaviour and engagement.
- Integration with other apps (e.g., financial, fitness, and energy monitoring tools) for seamless tracking.

4. Technology:

- Artificial Intelligence for personalized eco-tips and habit recommendations.
- Gamification engine for challenges, rewards, and streak tracking.
- Cloud-based database for user activity storage and analytics.
- API integrations with financial apps, fitness trackers, and smart home devices.
- A community platform for social engagement and collaboration.

By considering these factors, GreenNest is positioned to deliver an engaging and impactful sustainability experience for its users.

Value Proposition

Green Nest is not just another application but an effort to make our home greener, happier. It is for everyone who's eco-conscious and will empower the user with guidance to reduce the negative impact on the environment in ways that keep the user engaged.

Requirements Gathering

Purpose or Objectives for Requirements Gathering User Study

The primary purpose of this study is to gather and understand user behaviour, motivations, and actions and to deduce how they affect the environment. Again, the study seeks to find user preferences and tastes to help design a platform or app that appeals to the user's senses. The study will ensure the app aligns with user needs while balancing educational value, usability and reward-driven participation.

The study aims to uncover the following:

- **Understanding User Demographics:** Identify the primary users of GreenNest, including age, profession, lifestyle, and eco-consciousness levels.
- **Analyzing the User Behaviors:** Investigate daily habits related to sustainability, such as carbon footprint awareness, recycling, and energy consumption.
- **Identify User Problem Points:** Determine challenges users face in adopting and maintaining eco-friendly habits
- **Assess Relevance Feature:** Validate the demand for features like carbon footprint tracking, personalized eco-tips, gamification, and community engagement and prioritize.
- **Gauge Motivation Factors:** Discover what incentives (e.g., rewards, streaks, challenges) best encourage users to engage with sustainable practices.
- **Evaluate Technological Preferences:** Understand user familiarity with mobile applications, AI-driven suggestions, and gamified interfaces.
- **Explore Community Engagement Needs:** Assess interest in environmental events, social challenges, and group-based sustainability initiatives.
- **Validate Market Differentiation:** Compare user feedback with competitor eco-apps to ensure GreenNest offers unique and compelling value.
- **Clarify ambiguities:** Use of feedback to help refine and finalize the project scope.

Choice of User Study and User Sample

To ensure the app meets expectations, with a sample size of 23, we conducted a survey, which we distributed via Google Forms to allow us to gather insights from a broad audience to help understand the user needs.

According to the context of our app idea, the target users of our application would be individuals who are interested in adopting sustainable habits to bring their carbon footprint down.

This includes,

- Students interested in sustainability
- Professionals interested in adopting eco-friendly habits
- Households interested in adopting greener practices
- Enthusiastic individuals who want to make a positive impact on the environment.
- To capture the feedback of the audience, we have conducted a single survey focusing on
- Current sustainability habits and awareness
- Common challenges/ difficulties in adopting sustainable habits.
- Importance of each feature in a sustainability app
- Any preferred feature in the app that the users would appreciate

Note: We have not chosen the dual perspective and used a single survey to capture the needs of the broad audience.

Draft of the User Study Survey or Interview

Survey Link:

<https://docs.google.com/forms/d/e/1FAIpQLSev4rsMcXfqTUVzMmdvyCeK8xzutfY0lrPuUqRrjZOhLMKPGg/viewform?usp=header>

1. What is your age range?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55+

2. Which best describes your occupation?

- Student
- Professional
- Self-employed
- Retired
- Other:

3. Do you use any apps/ tools to reduce/track the carbon footprint at the moment?

- Yes
- No

4. How involved are you in environmental sustainability efforts?

- Very involved
- Moderately involved
- Slightly involved
- Not involved

5. How often do you track your carbon footprint?

- Daily
- Weekly
- Monthly
- Annually
- Never

6. Which methods do you currently use to reduce your carbon footprint? (*Select all that apply*)

- Public transportation/biking
- Reducing meat consumption
- Energy-efficient appliance
- Recycling/composting

- None of the above

7. Rank this feature by importance for a carbon footprint app (*1 = Most important, 5 = Least important*): **Real-time tracking of emissions**

- 1
- 2
- 3
- 4
- 5

8. Rank this feature by importance for a carbon footprint app (*1 = Most important, 5 = Least important*): **Personalized reduction goals**

- 1
- 2
- 3
- 4
- 5

9. Rank this feature by importance for a carbon footprint app (*1 = Most important, 5 = Least important*): **Educational resources (articles, tips)**

- 1
- 2
- 3
- 4
- 5

10. Rank this feature by importance for a carbon footprint app (*1 = Most important, 5 = Least important*): **Carbon offset purchasing options**

- 1
- 2
- 3
- 4

- 5

11. Rank this feature by importance for a carbon footprint app (*1 = Most important, 5 = Least important*): **Social sharing/community challenges**

- 1
- 2
- 3
- 4
- 5

12. How interested are you in engaging with a community on social media for carbon reduction efforts (e.g., sharing eco-friendly actions, participating in sustainability challenges, joining discussions)?

- Very interested
- Somewhat interested
- Neutral
- Not very interested
- Not interested at all

13. Which of these metrics would you want the app to track? (*Select all that apply*)

- Transportation
- Diet
- Home energy usage
- Shopping habits (fast fashion)
- Waste production

14. How important is reducing your carbon footprint to you?

- Extremely important
- Moderately important
- Slightly important
- Not important

15. What barriers prevent you from reducing your carbon footprint? (Select all that apply)

- Lack of awareness
- Cost
- Time constraints
- Lack of motivation
- No barriers

16. How often would you use a carbon footprint tracking app?

- Daily
- Weekly
- Monthly
- Rarely

17. Would you participate in app-based challenges to earn rewards

- Yes
- No
- Maybe

18. What additional features would you like to see in a sustainability tracking app? (Open-ended question)

Data Visualization and Analysis

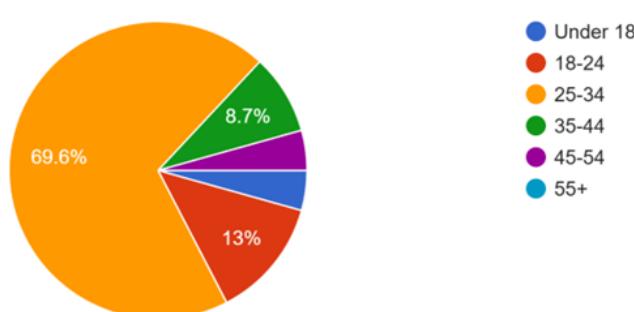
For the study, we have used a sample size of 23.

And here is the visual of the data collected for each question, respectively:

1.

What is your age range?

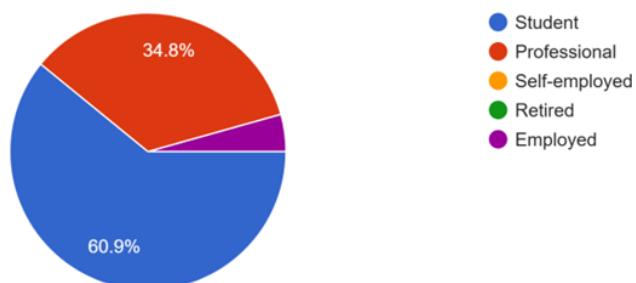
23 responses



2.

Which best describes your occupation?

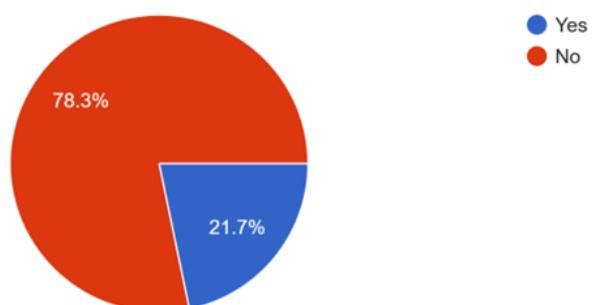
23 responses



3.

Do you use any apps/ tools to reduce/track the carbon footprint at the moment?

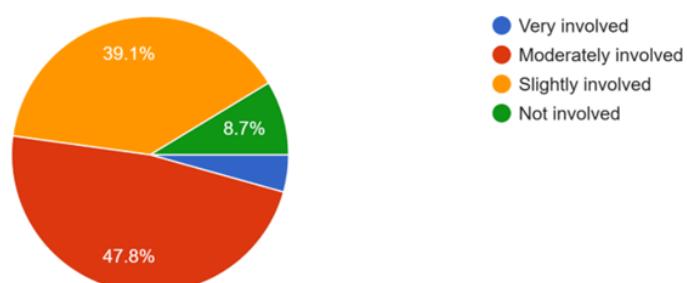
23 responses



4.

How involved are you in environment sustainability efforts?

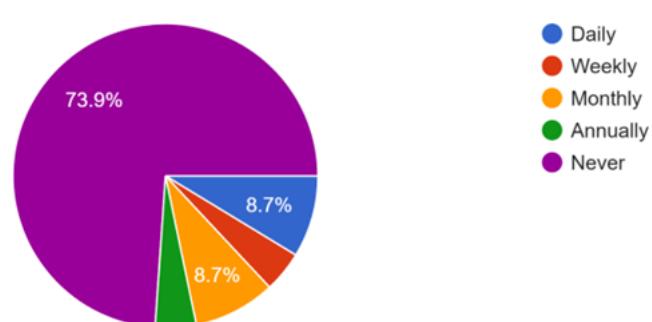
23 responses



5.

How often do you track your carbon footprint?

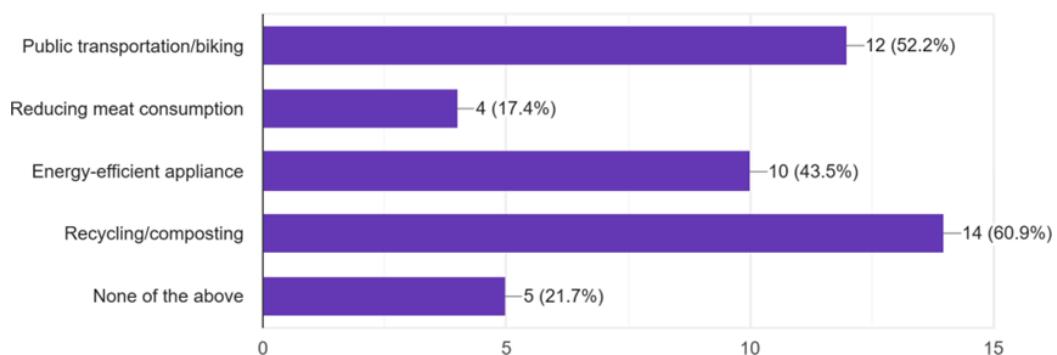
23 responses



6.

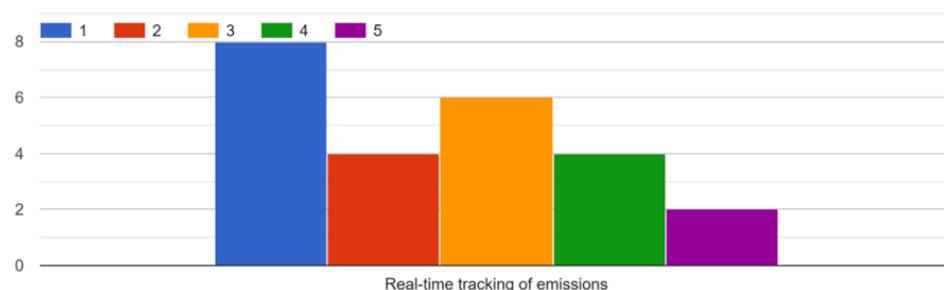
Which methods do you currently use to reduce your carbon footprint? (Select all that apply)

23 responses



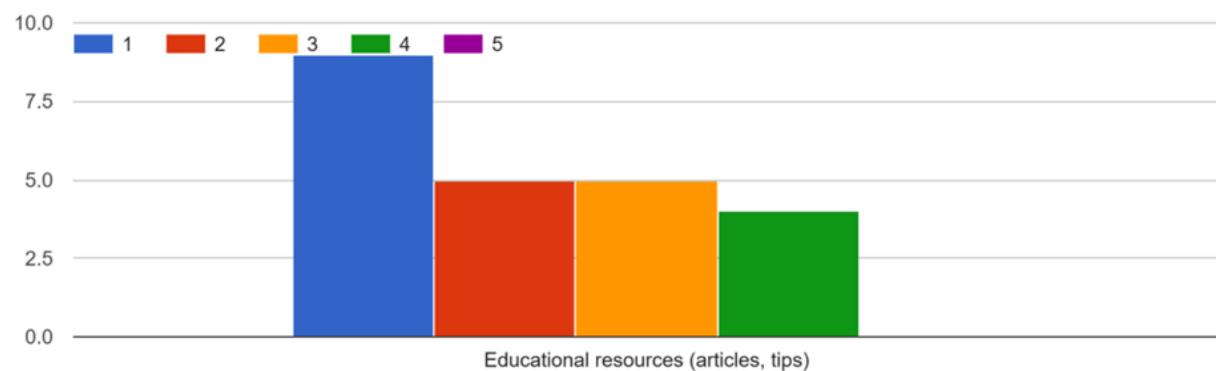
7.

Rank this feature by importance for a carbon footprint app (1 = Most important, 5 = Least important)



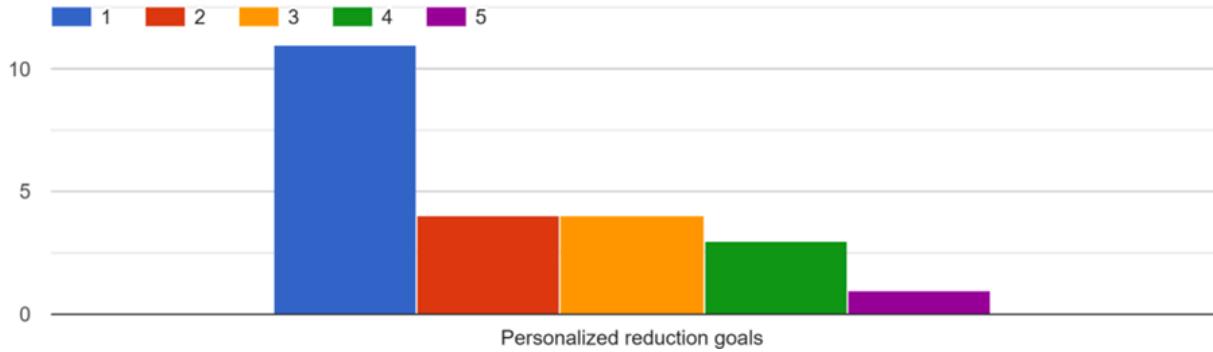
8.

Rank this feature by importance for a carbon footprint app (1 = Most important, 5 = Least important)



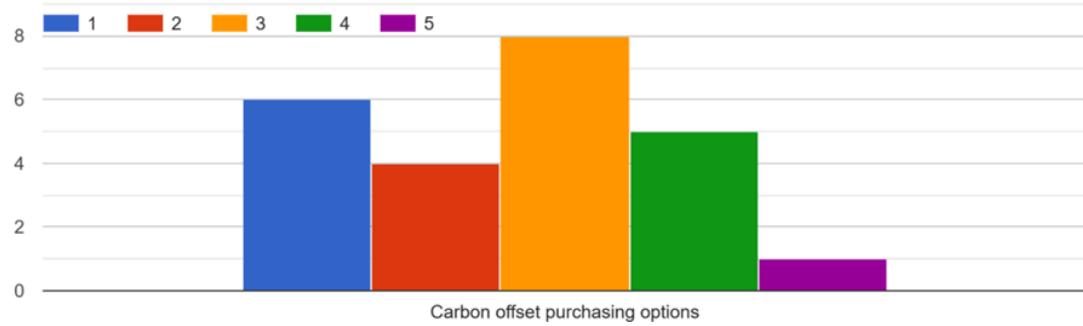
9.

Rank this feature by importance for a carbon footprint app (1 = Most important, 5 = Least important)



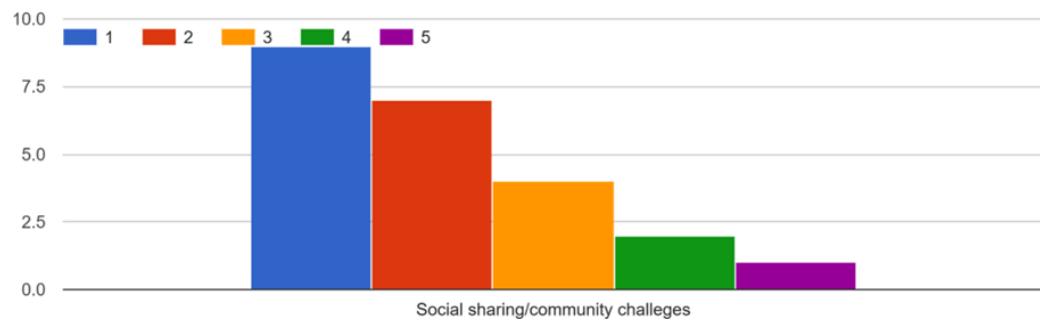
10.

Rank this feature by importance for a carbon footprint app (1 = Most important, 5 = Least important)



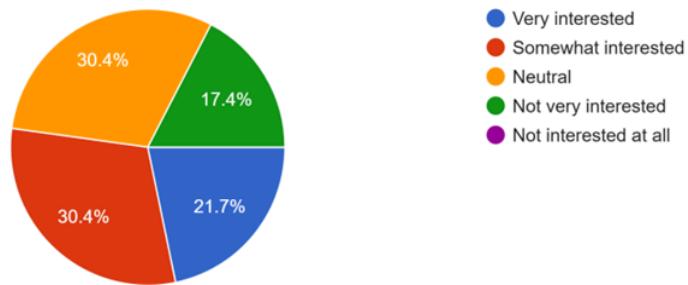
11.

Rank this feature by importance for a carbon footprint app (1 = Most important, 5 = Least important)



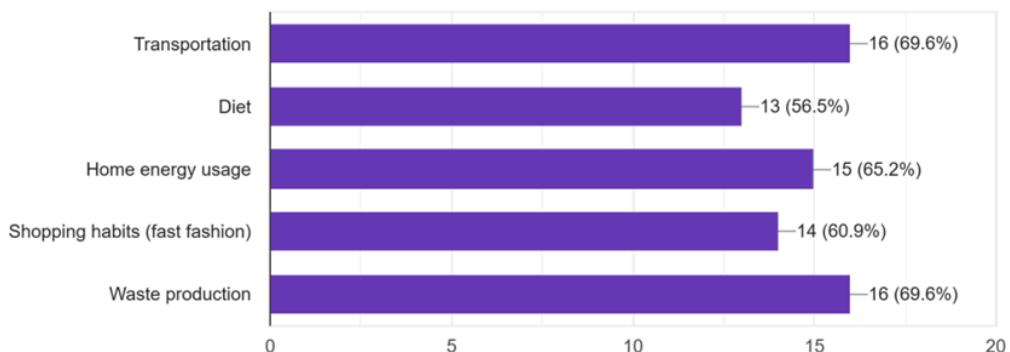
12.

How interested are you in engaging with a community on social media for carbon reduction efforts (e.g., sharing eco-friendly actions, participating in sustainability challenges, joining discussions)?
23 responses



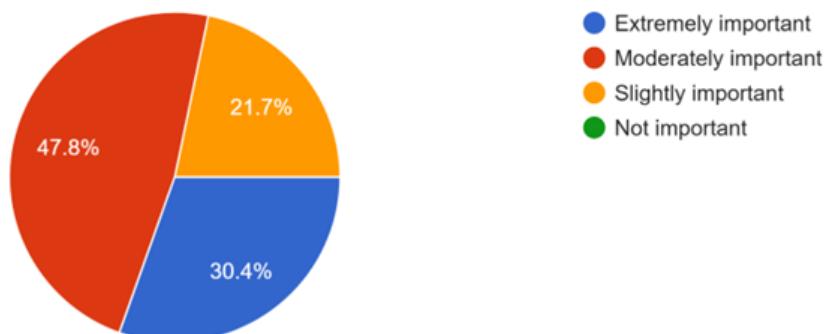
13.

Which of these metrics would you want the app to track? (Select all that apply)
23 responses



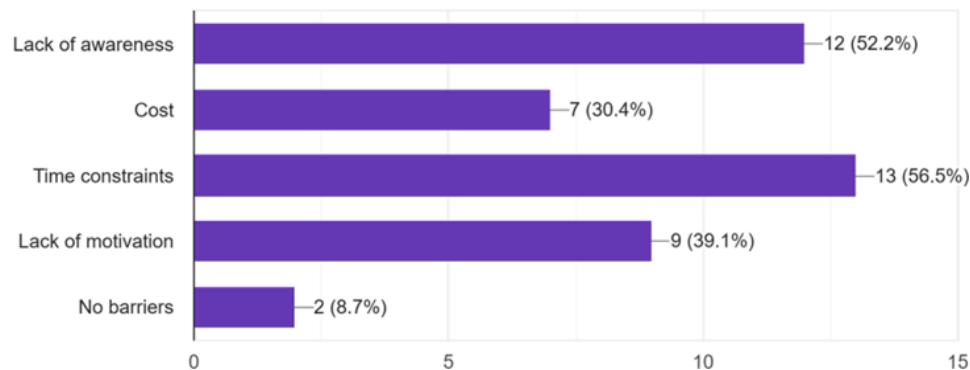
14.

How important is reducing your carbon footprint to you?
23 responses



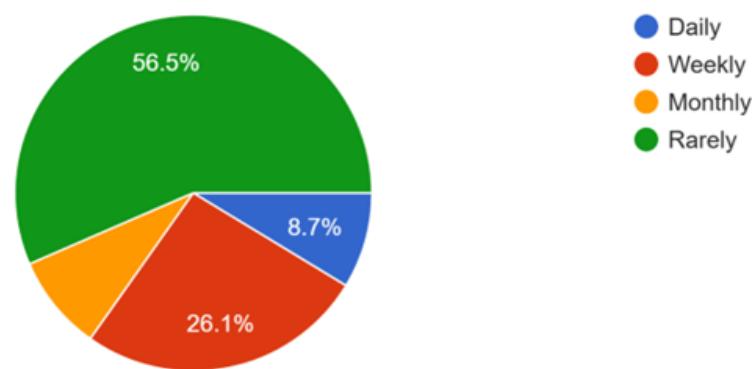
15.

What barriers prevent you from reducing your carbon footprint? (Select all that apply)
23 responses



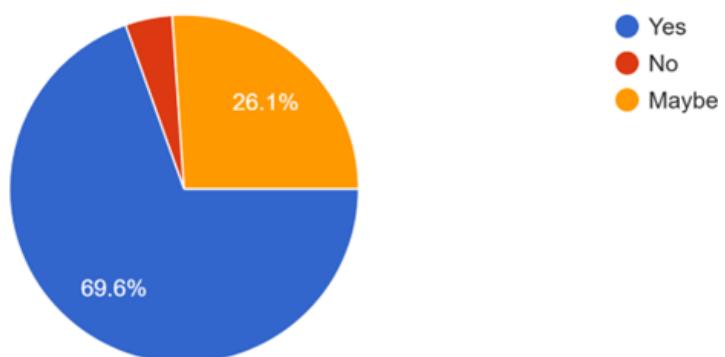
16.

How often would you use a carbon footprint tracking app?
23 responses



17.

Would you participate in app-based challenges to earn rewards
23 responses



18.

What additional features would you like to see in a sustainability tracking app?

5 responses

None

Making it user-friendly

1. A graph to visualize the overall impact, comparing my efforts to real world equivalent Ex- you saved a plant today / you saved a fish from extinction  / you kept a baby panda's home safe 2. A leader board to compare my sustainability efforts with others and track my progress

Daily check-ins

Yes

For the last open-ended question in the survey, only 5 out of 23 responded and below points were suggested as additional features the audience would like to see, in addition to the features stated in the survey.

1. Graphical representation of the overall impact
2. Leaderboard to compare individual sustainability efforts
3. Daily check-ins

We believe that the first two suggestions would make the application more useful and will encourage the users more to keep using the app. Therefore, we will be integrating the first two suggestions into the application to make it user-friendly and appealing while accommodating the audience's needs.

Quantitative Data Summary

For the rankings related to the carbon footprint app features:

1. Personalized reduction goals (e.g., "Set a goal to reduce your energy consumption by 10% this month")
 - Mean: 2.0
 - Median: 1.0
2. Educational resources (articles, tips) (e.g., "How to reduce plastic waste," or "Energy-saving tips for your home")
 - Mean: 2.1

- Median: 2.0

3. Real-time tracking of emissions (e.g., "Track your CO2 emissions live based on activities like driving or energy use")

- Mean: 2.0
- Median: 3.0

4. Community engagement (sharing eco-friendly actions, participating in challenges) (e.g., "Join sustainability challenges and share your achievements on social media")

- Mean: 2.0
- Median: 2.0

5. Integration with other sustainability apps/tools (e.g., "Sync with other apps like fitness trackers or energy usage monitors")

- Mean: 3.2
- Median: 3.0

6. Suggestions for eco-friendly products or services (e.g., "Recommendations for reusable water bottles or green energy plans")

- Mean: 2.8
- Median: 3.0

Insights from the Results

- The most highly ranked features are Personalized reduction goals and Educational resources, with low means and medians, suggesting that most respondents find these features highly important.
- Community engagement, Integration with other apps/tools, and Suggestions for eco-friendly products received mid-range ratings, with means and medians closer to 3, indicating moderate importance.
- User Interest and Involvement: Many users indicated that they are moderately or very involved in environmental sustainability efforts.

Carbon Footprint Tracking App Preferences

- Key Features Desired: The most important features for users in a carbon footprint tracking app are real-time emissions tracking and personalized reduction goals.

- Educational Resources: Educational resources (like articles or tips) were also highly valued.
- Community Engagement: A significant number of users expressed interest in participating in social sharing or community challenges.
- Frequency of Use: Many users use the app frequently (daily or weekly), suggesting that the app should provide continuous tracking and notifications to maintain regular engagement.

How This Changes App Requirements

- User Education: Incorporate educational resources to support users in understanding and reducing their carbon footprints.
- Social Features: Include community features like sharing eco-friendly actions or participating in challenges, as this was a noted interest.
- Personalization: Focus on offering personalized carbon reduction goals and real-time tracking, as these were highly rated in the survey.

In addition to the above, we will also take the preferred features suggested by the respondents like visualizing individual efforts and generating a leaderboard into account.

Requirements Generation

Personas and Scenarios

Persona 1:



Name: John

Black Age: 42

Works as a software engineer

- He lives with his wife and child
 - Tech-savvy
 - Travels to work daily
 - Has an outgoing personality
 - Sustainability enthusiastic
 - Loves outdoor activities with the family and getting to know people in the same age group
1. John has been noticing the increasing alarms about global warming and is feeling guilty for the negative impact his activities have.
 2. He often discusses the importance of protecting the environment with the family and mentions that every small step matters.
 3. As a software engineer, he believes in working with technology and data-driven insights. He is looking for an efficient tool to identify how he can do better and comes across GreenNest.
 4. Despite being a busy professional, *GreenNest* always recommends John potential ways of reducing his carbon footprint by suggesting tips based on his lifestyle.
 5. John finds these tips really helpful, and after a busy week, John feels energized and even more motivated to do his part for the environment by seeing how his efforts have positively contributed through the visuals.
 6. John loves to attend related events suggested by the app with his family and working with like-minded individuals, believing that his child would inherit the habit of protecting the environment.

Persona 2



Artur Whitmore Age: 68
Retired CEO of a company
Background:

1. Retired CEO of a manufacturing company
2. Proud of building a successful business, but now seeks purpose in retirement
3. A chain smoker, he views smoking as a reward for his hard work
4. Lives in a large, energy-inefficient suburban home
5. Drives a gas-guzzling vintage car
6. He has a garden but uses chemical fertilizers and pesticides
7. Wants to leave a legacy but is unaware of his environmental impact

Persona 3

JOE'S STORYBOARD

INTRODUCTION TO JOE AND CONCERN ABOUT SUSTAINABILITY:

1. Joe is a 17-year-old high school student. She loves soccer, but balancing school, work, and life leaves her little time for anything else.

2. She wants to do something about the planet's future, but feels overwhelmed by her busy life.

3. Joe cares about sustainability but doesn't know where to start. With everything on her plate, she struggles to incorporate sustainability into her routine.

DISCOVERING GREENNEST APP AND STARTING THE GREENNEST APP:

4. One day, Joe stumbles upon the GreenNest app and thinks it might help her find small ways to reduce her carbon footprint.

5. The app promises easy eco-tips and challenges that fit into her busy life.

6. She thinks, 'I can do this!' and decides to give it a try.

COMPLETING THE CHALLENGE, EARNING A REWARD AND FEELING MORE ENGAGED

7. Joe completes the task and feels good about her small action. She checks her progress on the app, and it shows that she has saved X amount of CO2 today.

8. Joe gets an eco-badge for completing the challenge. It feels rewarding! The app sends her a motivational message: 'Great job! Keep it up to make a big difference!'

9. Joe is feeling more engaged with sustainability. She texts her friends, telling them about the badge she earned. The app encourages her to do more small actions every day.

A CONTINUOUS REMINDER

10. Joe is feeling more engaged with sustainability. She texts her friends, telling them about the badge she earned. The app encourages her to do more small actions every day.

11. Joe feels proud that she's making a difference. The GreenNest app has helped her stay on track without overwhelming her.

12. Joe is feeling more engaged with sustainability. She texts her friends, telling them about the badge she earned. The app encourages her to do more small actions every day.

Requirement Generation

Analysis of Persona 1:

1. Proactive
2. Sociable
3. Optimistic
4. Ambitious
5. Diligent
6. Optimistic
7. Environmentally-conscious
8. Tech-savvy
9. Optimistic
10. Inquisitive
11. Resilient

Analysis of Persona 2:

1. Retired professional
2. Traditional, old school and reluctant to change
3. Hardworking
4. Proud
5. Environmentally harmful
6. Reward-oriented

Analysis of Persona 3 (Storyboard):

1. Joe is proactive
2. Cares about the environment
3. Diligent
4. Inquisitive
5. Sociable
6. Optimistic

7. Ambitious
8. Resilient

Requirements Generation Based on Scenario/ Story Analysis

1. Login/ Registration
2. Real-time tracking of emissions
3. Personalized reduction goals
4. Personalized generation of eco-tips
5. Progress Tracking
6. Community engagement events
7. Social media integration
8. Reward mechanism - gamification
9. Smart home and IOT integration
10. Eco-friendly marketplace
11. Access to Educational resources on sustainability
12. Leaderboard

Synthesis of Requirements Gathering and Generation

Based on the insights gained from the survey, we can categorize requirements into essential, moderate and low-priority. This will help to identify the most necessary features of the app and also offer a clear path for feature prioritization and development. Here are the requirements drawn from the survey:

Essentials (Must-haves)

These are the high-priority features, strongly ranked by users:

1. Real-time tracking of emissions
2. Personalized reduction goals
3. Personalized generation of eco-tips
4. Education resources

Moderate Priority

These are features that add value but are not essential for the app's baseline functionality.

These are the moderately ranked options

1. Eco-friendly marketplace
2. Community engagement events
3. Reward mechanism - gamification
4. Progress tracking
5. Leaderboard

Least Priority (Want-to-Haves)

These features, while appealing to certain users, are not essential for the app's success

1. Visual impact representation'
2. Social media integration
3. Smart home and IOT Integration

A detailed analysis of the survey reveals several outcomes. Users often cited the lack of motivation as a factor in sustaining the usage of the app. Gamification and social engagement could help in increasing app usage.

Also, the importance of education cannot be overstated. Providing easily digestible content can help users overcome the hurdle of awareness.

Finally, it is essential to customize the app to suit each user's preference. The different preferences among users highlights the need for flexibility and personalized experiences that accommodates different lifestyles.

To conclude, the synthesis reveals a roadmap for developing an engaging and effective carbon tracking app. By focusing on essentials or must-haves and moderately prioritised features and want-to-haves, the app can cater to a wide range of users.

Design

Design Patterns Chosen

- **Bento Box Model:** The Home screen contains an overview of the overall app where each section has its own clearly defined purpose and visual space.
- **Bottom Navigation Bar:** The bottom navigation bar with "Home", "Store", "Games", "Events" and "Profile" buttons is used at the bottom of each frame to ensure smooth navigation.

- **Tabbed Navigation:** Tabs have been used in screens such as “progress tracker”, “games” and “leaderboard” to include more details of each screen to the user while keeping the frames clean.
- **List Views:** Lists have been used in screens such as leaderboard as an effective way to present a collection of items.
- **Card Based Layouts:** Card layouts are used in screens like marketplace, Education and gamification screens to organize information into distinct and digestible chunks.
- **Chips:** Chips are used in the marketplace screen to filter out the items and give the user a compact, relevant and focused view.

Rationale for the Design Choices

- **Bento Box Model:** This choice was made to give each feature a specific, defined space. We believe that this design segment the complex content in a way that captures the users attention at once.
- **Bottom Navigation Bar:** This choice was made for its ease of access to the core app features like home, store, games, events and profile that are of equal importance, following the established mobile user interface conventions that the users are already familiar with.
- **Tabbed Navigation:** This choice was made to organize related content within a specific area, preventing information overload and enabling the user to switch between different views of related content.
- **List Views:** This choice was made to enable the user to quickly scan a collection of items (in the form of ordered/ unordered lists) and identify an individual item with ease.
- **Card-Based Layouts:** Cards were used in the app design to make the content visually separated and clear, making it easier to read and interact with. Cards can be used to group related content, providing a better user experience.
- **Chips:** Chips were used in the marketplace screen to present multiple options to the user without cluttering the screen. This allows the user to select preferences with a single tap.

Overall workflow on Figma

1. Onboarding and Personalization

Welcome/ Login Screen: App introduction with options to log in, such as logging in with Google, Apple ID and a signup option.

Sign Up and Questionnaire: The new users are taken through a sustainability questionnaire to identify their habits and better capture the carbon footprint value to build the profile.

2. Home and Navigation

Home Screen: This acts as the central hub displaying quick statistics, key tips and access to all the core features.

3. Progress Tracking

Progress Tracker screen: This screen provides the user with appealing visuals, such as line charts, pie charts, to make them understand their journey. This screen also includes personalized tips for the user that are generated depending on the user's sustainability habits captured via the questionnaire.

4. Gamification

Games screen: This screen enables the user to engage in the sustainability journey by introducing gaming elements such as challenges, badges etc. The screen displays the ongoing challenges, badges earned and the leaderboard to keep the user motivated.

5. Events and Community

Events screen: This screen suggests related sustainability events with the user, enabling them to engage with like minded individuals to make the experience more interactive.

6. Marketplace

Marketplace screen: This screen enables the user to buy green products to contribute more towards sustainability.

7. Educational Resources

Educational Resources screen: This screen enables the user to refer to materials to improve their knowledge in related topics in the form of articles and videos.

Screenshots of all the screens

Welcome Page

Your guide to sustainable living, one eco-friendly step at a time

Signup Page

Username
Type your Username

Password
Type your New Password
Confirm your New Password

SUBMIT

SIGN UP WITH GOOGLE

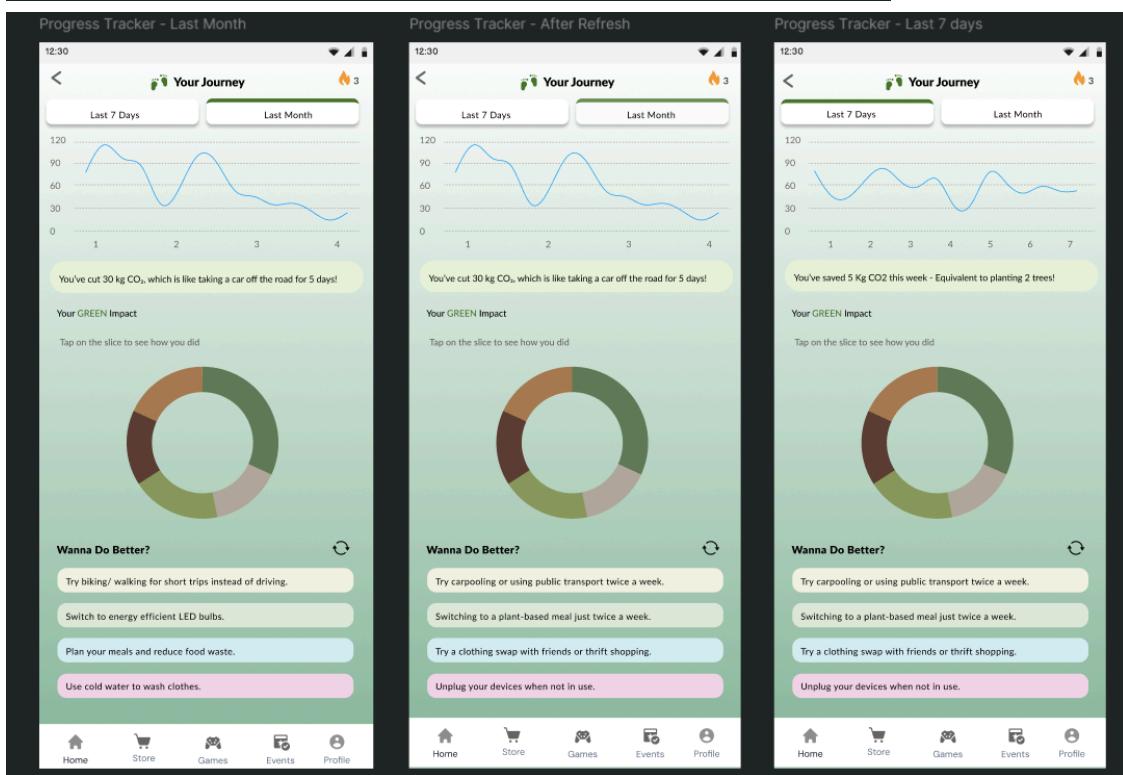
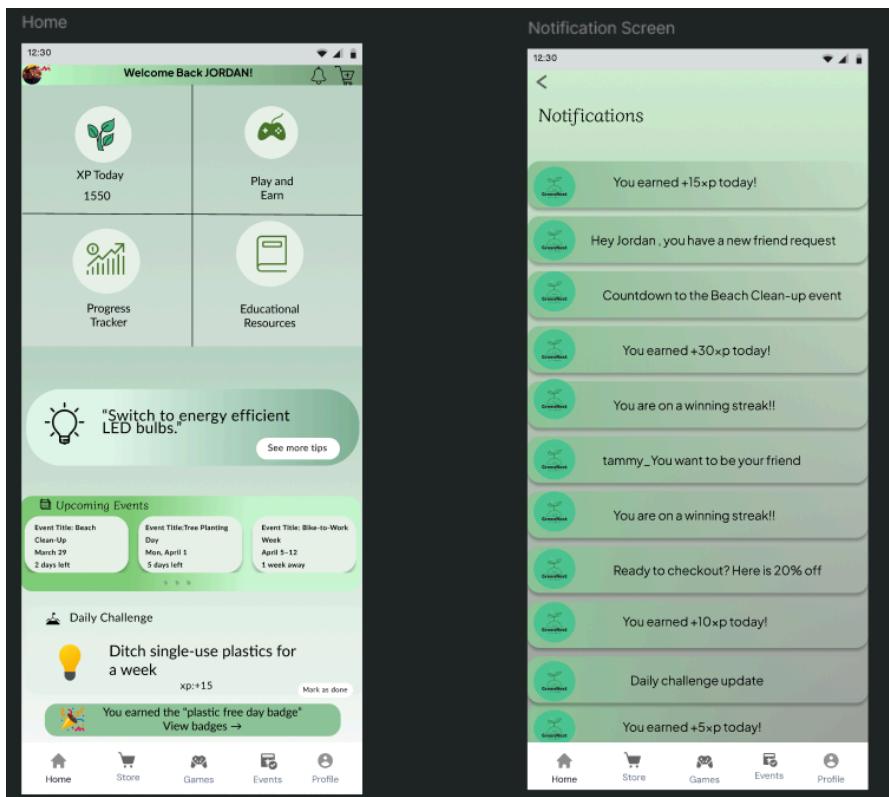
SIGN UP WITH APPLE ID

LOGIN

Personalized Questionnaire

Personalized Questionnaire 4

Personalized Questionnaire 5



Gamification

Gamification - Intm

Gamification - screen 4

Gamification - screen 5

Leaderboard

LB - Find Me

LB - WW

LB - WW - Find Me

The screenshots show a mobile application interface for a gamification feature. The top row shows the 'Gamification' screen with a trophy icon, a level up message ('Level Up your Green Game!'), and a badge section. The bottom row shows the 'Leaderboard' screen with a list of users by name and score for Canada and Worldwide. The middle row shows specific screens for 'Intm', 'screen 4', and 'screen 5' with similar trophy and badge sections.

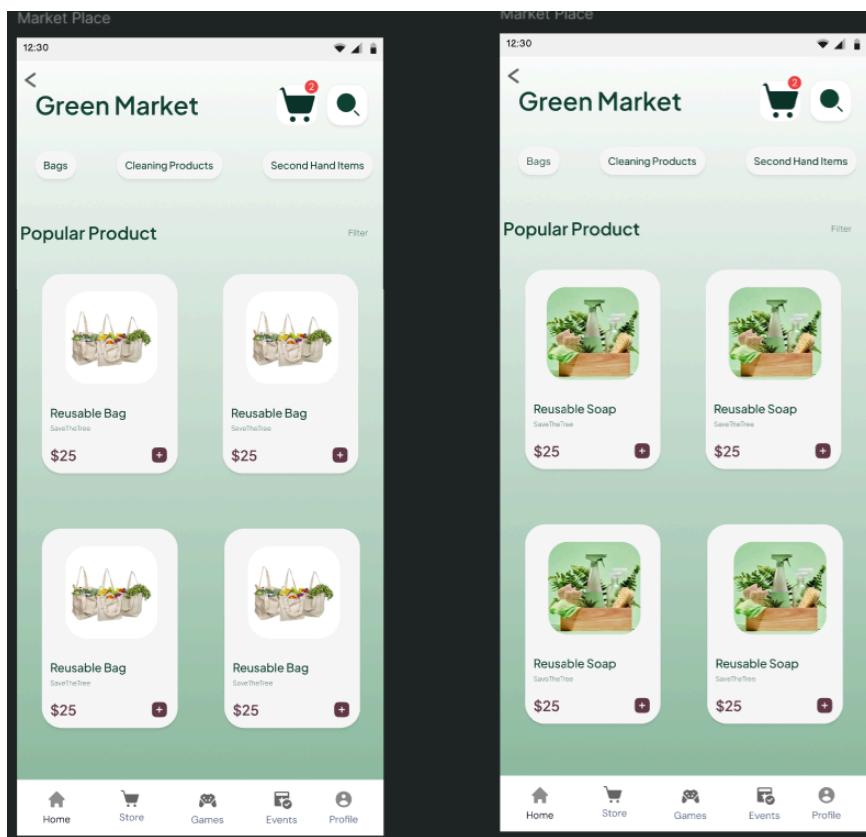
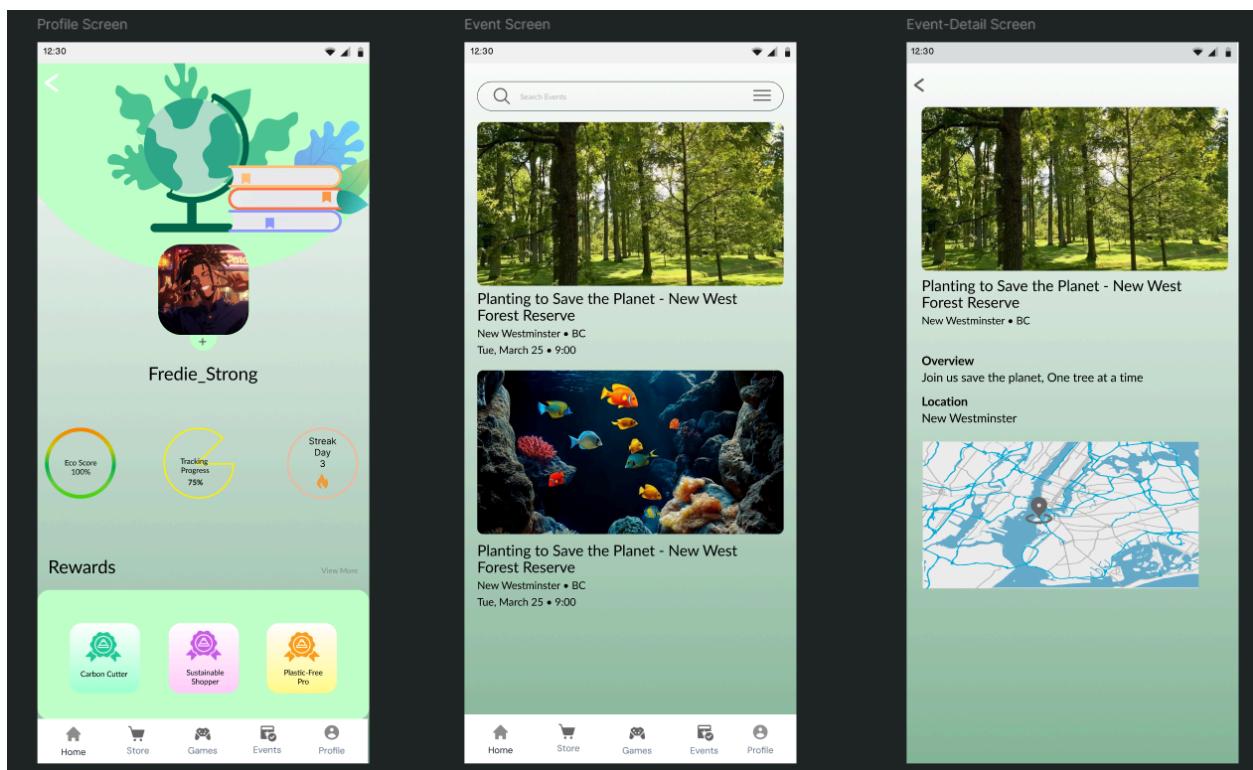
Screen	Category	User 1	User 2	User 3	User 4	User 5
Gamification	Eco Level	Sprout	Sprout	Sprout	Sprout	Sprout
	Score	1550	1550	1650	1550	1550
	Progress	100	100	100	100	100
	Badges	Water Saver	Carbon Cutter	Sustainable Shopper	Plastic-Free Pro	Water Saver
	Leaderboard	Alice Gray	Sam Patterson	Rachel Wood	Jack Wilson	Thomas White
	Score	15600	15300	14100	13600	13400

Screen	Category	User 1	User 2	User 3	User 4	User 5
Leaderboard	Canada	Alice Gray	Sam Patterson	Rachel Wood	Jack Wilson	Thomas White
	Worldwide	Alice Gray	Sam Patterson	Rachel Wood	Jack Wilson	Thomas White
	Name	Alice Gray	Sam Patterson	Rachel Wood	Jack Wilson	Thomas White
	Score	15600	15300	14100	13600	13400
	Home	Store	Games	Events	Profile	Home
	Find Full Leaderboard	Show Full Leaderboard	Leaderboard	Leaderboard	Leaderboard	Find Full Leaderboard

Screen	Category	User 1	User 2	User 3	User 4	User 5
LB - Find Me	Canada	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Worldwide	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Name	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Score	1780	1750	1700	1700	1700
	Home	Store	Games	Events	Profile	Home
	Find Me	Leaderboard	Leaderboard	Leaderboard	Leaderboard	Find Me

Screen	Category	User 1	User 2	User 3	User 4	User 5
LB - WW	Canada	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Worldwide	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Name	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Score	85600	85500	84000	83800	81000
	Home	Store	Games	Events	Profile	Home
	Find Me	Leaderboard	Leaderboard	Leaderboard	Leaderboard	Find Me

Screen	Category	User 1	User 2	User 3	User 4	User 5
LB - WW - Find Me	Canada	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Worldwide	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Name	Sophia Hayes	Noah Harrington	Olivia Benet	Benjamin Foster	Steven Grey
	Score	1880	1850	1800	1800	1750
	Home	Store	Games	Events	Profile	Home
	Find Me	Leaderboard	Leaderboard	Leaderboard	Leaderboard	Find Me



Market Place

Green Market

Added to bag (2)

- Reusable Bag
- SaveSomething Reusable Bag
- Color: Calcre
- Size: L

\$2.99

- Naples Eco Soap
- SaveSomething Reusable Bag
- Color: Green
- Size: L

\$2.99

Bag Order Total (2) \$5.98

Add Card

Checkout

Continue Shopping

\$25 + \$25 +

Home Store Games Events Profile

Educational Resources - Vid...

Educational Resources - Arti...

12:30

Search

Videos Articles

What is SUSTAINABLE LIVING

Sustainability Living: What does it mean?
23k view | 2 years ago

8 Ways to Live a Simpler, More Sustainable Life
33k view | 9 days ago

#sustainable #living #greenwashing #pantry #ecofriendly
6.2k view | 2 months ago

SUSTAINABLE LIFESTYLE SECRETS

Zero Waste Lifestyle: Your Guide to Sustainable Living
4k view | 9 months ago

12:30

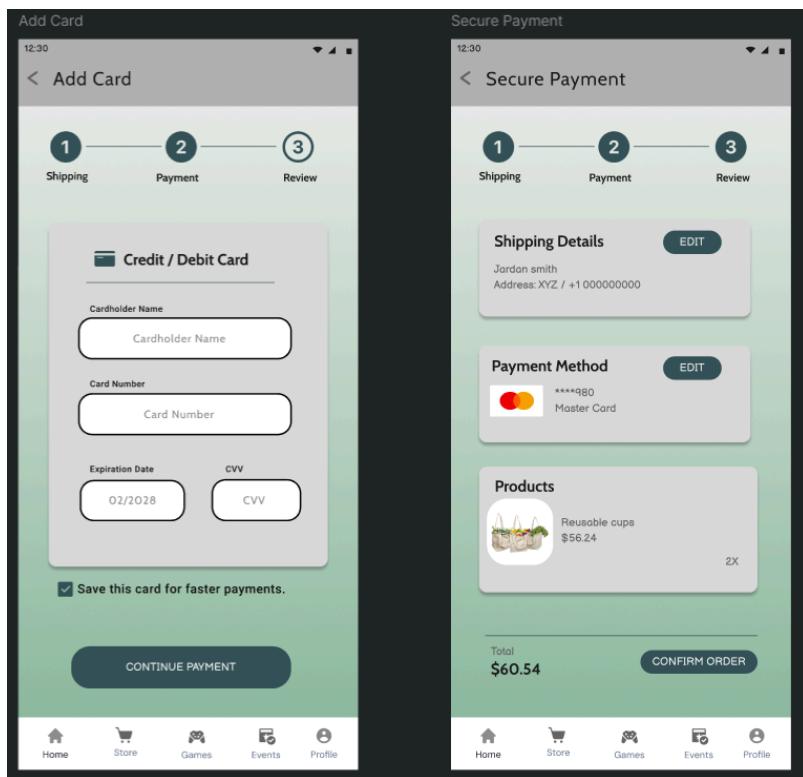
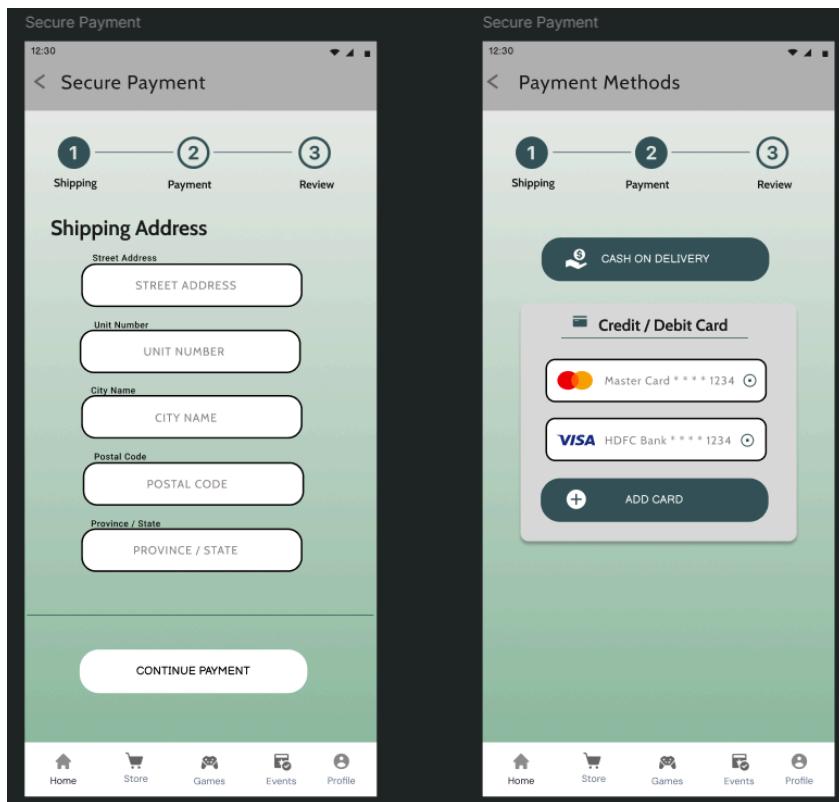
Search

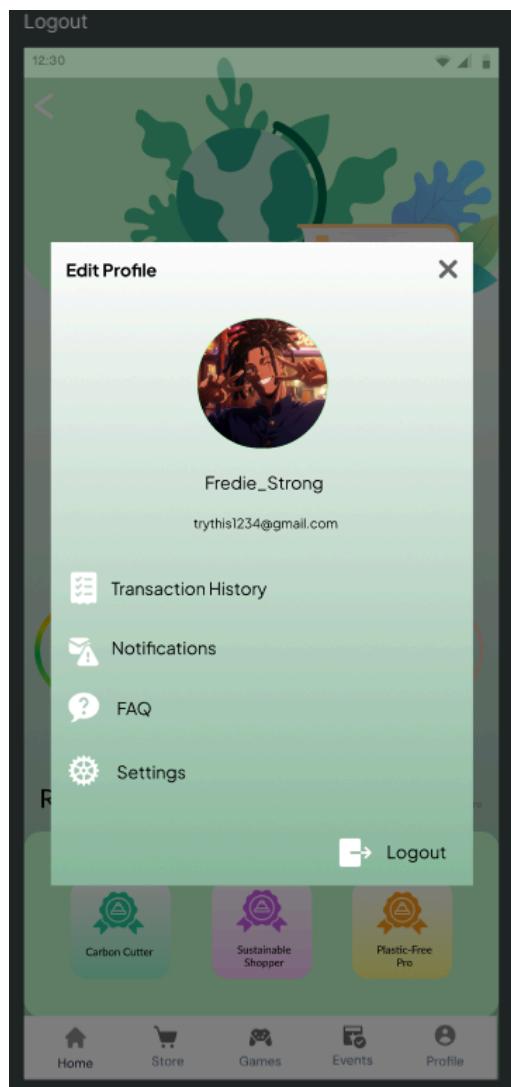
Videos Articles

Reduce Your Carbon Footprint
BBC NEWS Climate Change & Sustainability Environmental Sustainability Sustainability News - Science Daily Updates From Bill Gates - Clean Energy Innovation Nature Sustainability A More Sustainable Bathroom

1.1K 23 hrs ago 1.1K 2 hrs ago 1.1K 1 hrs ago 1.1K 8 hrs ago 1.1K 3 days ago 1.1K 2 hrs ago 2.3K 2 days ago 9.1K 1 day ago

Home Store Games Events Profile





Designer-Based Prototype Evaluation

Provide USER JOURNEY MAP for your app: You may choose to illustrate the user journey map as a big picture framework to identify various touch points in your app, or you may choose to do the map for the primary features.

Stage	User Goal	Touchpoints	User Actions	Opportunities
Onboarding	Learn about the app, Set up a personalized profile by answering the questions	Welcome Screen, Sign up, Questionnaire	Sign up, answer the sustainability questionnaire	Smooth transitions, engaging onboarding UI and clear benefit messaging
Home	Explore main features	Home Screen, Navigation Bar, Notification icon	Tap on the navigation icon View personalized tips View summarised stats	Use of the bento box model for quick scan Provide call-to-actions for better user engagement
Progress Tracking	Track personal progress View carbon footprint value breakdown View personalized eco-tips	Progress Tracker screen Line Chart Pie Chart Personalized tips section	Toggle timeframe, View personal progress, view carbon footprint value breakdown View personalized eco-tips	Use of charts for better understanding Use of general terms to make the user understand their progress better
Gamification	Complete Challenges Earn Badges	Gamification screen Challenges Badges Leaderboard	Complete Challenges Earn badges View personal eco level View Full Leaderboard Find personal standing in the leaderboard	Use of micro animations Personalized challenges
Events	Find sustainability related events	Event List Event Details	Browse for events View event details	Smooth transitions
Marketplace	Browse for sustainable products Filter Sustainable products Add to cart	Product Catalog, Filtering chips, Secure payment screen	Filter Sustainable products Browse for sustainable products Add to cart	Card view for clear information Smooth transitions

Educational Resources	Browse for resources View resources	Articles tab, Videos tab	Browse for videos Browse for articles Watch videos View Articles	Card view for clear information Smooth transitions
------------------------------	--	-----------------------------	---	---

User-based Prototype Evaluation (User Study 2)

Purpose or objectives for Prototype Evaluation User Study

- Evaluate overall user experience: Determine the general satisfaction level of the users who use the GreenNest prototype.
- Assess ease of navigation: Identify how easy it is for the users to move across the screens or app features.
- Identify most engaging/ useful features: Understand the features that the users find most useful and engaging in promoting sustainable habits.
- Uncover user issues/ difficulties: Identify any areas that cause frustration or confusions (possibly dead-ends) when using the prototype.
- Gather feedback on the questionnaire and capture possible improvements: Determine the comprehensiveness of the questionnaire and identify possible improvements to better capture the users' habits that will contribute to the carbon footprint.
- Capture the usability and ease of use of the core features: Understand how easy it is to use the main features of the app, like Home, Progress Tracker, Events, Gamification, and Marketplace, without any confusion
- Identify potential improvements for each screen: Capture possible elements that would improve the functionality of each screen from the user's perspective.
- Collect suggestions for the overall improvements: Capture ideas that would positively contribute to the improvement of the app.

Choice of User Study and User Sample

To ensure the app meets expectations, with a sample size of 5, we conducted a survey, which we distributed via Google Forms, which allowed us to capture insights on user experience, feature usability and overall impact of the prototype.

According to the context of our app idea, the target users of our application would be individuals who are interested in adopting sustainable habits to bring their carbon footprint down.

This includes,

- Students interested in sustainability

- Professionals interested in adopting eco-friendly habits
- Households interested in adopting greener practices
- Enthusiastic individuals who want to make a positive impact on the environment.

Note: We have not chosen the dual perspective and used a single survey to capture the needs of the broad audience.

Draft of the User Study Survey or Interview

Survey Link:

https://docs.google.com/forms/d/e/1FAIpQLSc4bnJq3SZM_qy9_Ufw_A6UvdEiUDCwl9EKdWEvA3c3LLfOlw/viewform?usp=header

Section 1: General User Experience

1. How would you rate your overall experience using the GreenNest prototype?



2. How easy was it to navigate through the app?

- Very easy
- Somewhat easy
- Neutral
- Somewhat difficult
- Very difficult

3. Did you encounter any usability issues or confusing elements?
- -----

4. Which feature(s) did you find the most useful? (*Select all that apply*)

- Progress Tracker
- Gamification (Badges, Leaderboard, Challenges)
- Events
- Questionnaire to identify habits
- Educational Resources
- Other (please specify)

Section 2: Feature-Specific Feedback

5. Did the questionnaire capture all of your sustainability habits?
 - Yes, most of them
 - Somewhat
 - Neutral
 - A little
 - Not at all

 6. Please specify any other category you think would help in capturing your current carbon footprint.
-

Section 3: Home

7. On a scale of 1–5, how easy did you find the home screen to use?



8. Did the Home screen provide a clear overview of the app and its features?
 - Yes, everything was clear
 - Somewhat clear, but could be improved
 - No, I was unsure what to do

 9. Do you suggest any modifications for the home screen?
-
-

Section 4: Progress Tracker

10. On a scale of 1–5, how easy did you find the home screen to use?



11. Did the progress tracker help you understand your sustainability impact?
 - Yes, very much
 - Somewhat
 - Neutral

- Not really
- No, not at all

12. Do you suggest any modifications for the progress tracker?

Section 5: Gamification

13. On a scale of 1–5, how engaging did you find the gamification features (badges, leaderboard, challenges)?



14. On a scale of 1–5, how easy did you find the gamification features to use (badges, leaderboard, challenges)?



15. Which gamification element was most motivating for you? (select all that apply)

- Badges
- Leaderboard
- Challenges
- None of the above

16. What type of challenges would you like to see in the app?

17. Would you be interested in sustainability-related events through this app?

- Yes
- No
- Maybe

18. Do you suggest any modifications for the gamification screen?

Section 6: Events

19. On a scale of 1–5, how easy did you find the events feature to use?



20. Which type of events would you be interested in?

- Webinars & expert talks
- Community clean-up events
- Sustainability workshops
- Competitions (e.g., plastic-free challenge)
- Other (please specify)

21. Do you suggest any modifications for the events page?

Section 7: Educational Resources

22. On a scale of 1–5, how easy did you find the educational resources feature to use?



23. How helpful were the educational resources in providing sustainability information?

- Very helpful
- Somewhat helpful
- Neutral
- Not really helpful
- Not helpful at all

24. Do you suggest any modifications for the educational resources screen?

Section 8: Overall Impact & Improvements

25. Would you recommend this app to others?

- Yes, definitely
- Maybe
- No

26. Are there any features that you expected to see but not available now?

27. What improvements would you suggest?

28. Any other comments?

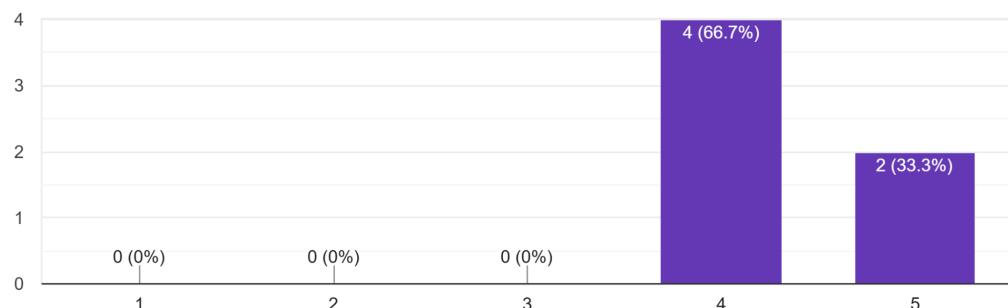
Data Visualization and Analysis

For the user evaluation study, we have used a sample size of 6.

And here is the visualization of the data collected for each question, respectively:

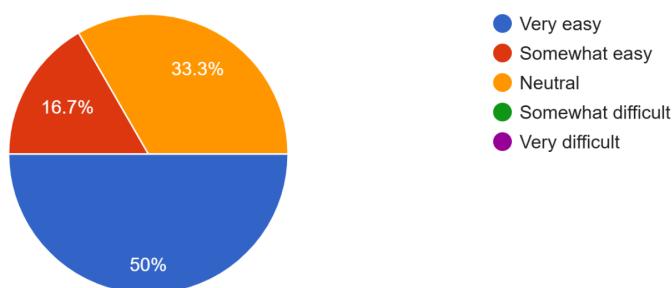
1.

How would you rate your overall experience using the GreenNest?
6 responses



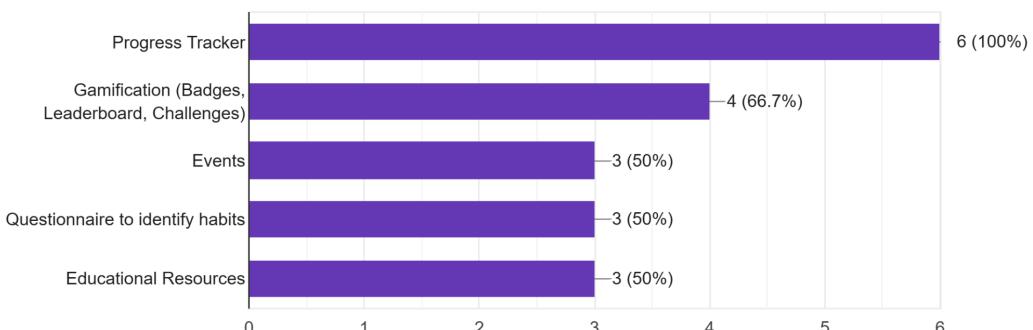
2.

How easy was it to navigate through the app
6 responses



3.

Which feature(s) did you find the most useful (Select all that apply)
6 responses



4. Did you encounter any usability issues or confusing elements 6 responses

No

No issues encountered

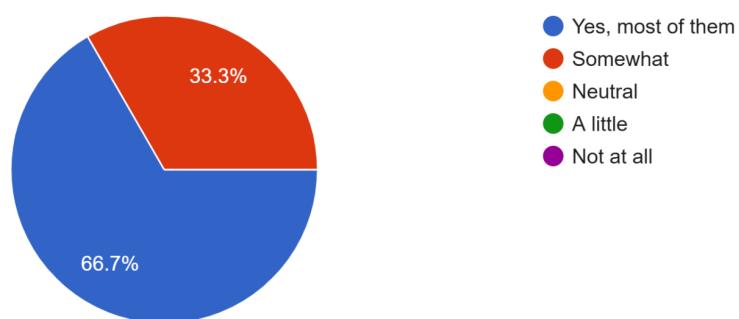
The carbon footprint breakdown was bit confusing and it will be better if you can show the percentages at a glance instead of clicking on it.

NONE

5.

Did the questionnaire capture all of your sustainability habits?

6 responses



6. Please specify any other category you think would help in capturing your current carbon footprint. 3 responses

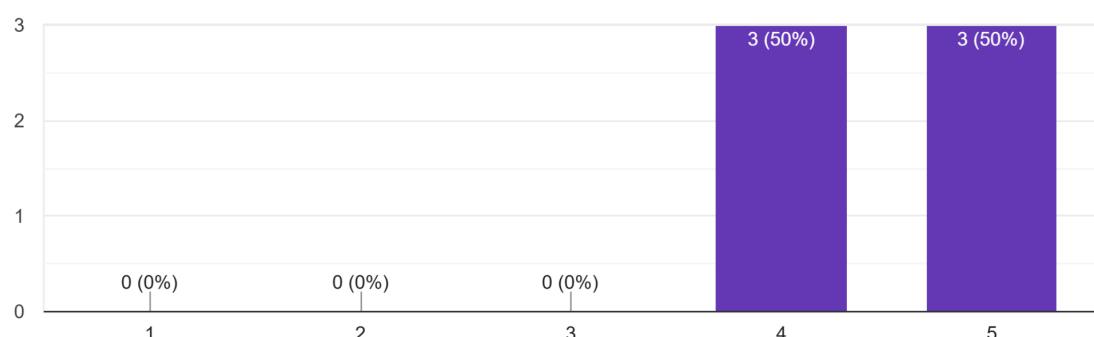
None

The app pretty much covers the major categories for tracking carbon footprint that I know of.

7.

On a scale of 1–5, how easy did you find the home screen to use?

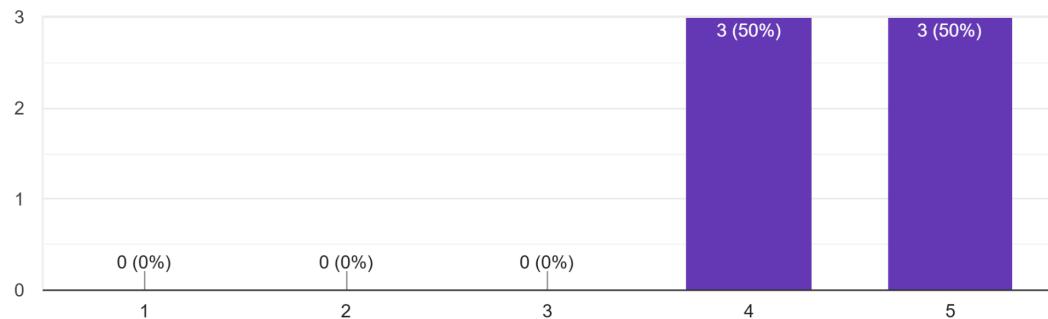
6 responses



8.

On a scale of 1–5, how easy did you find the home screen to use?

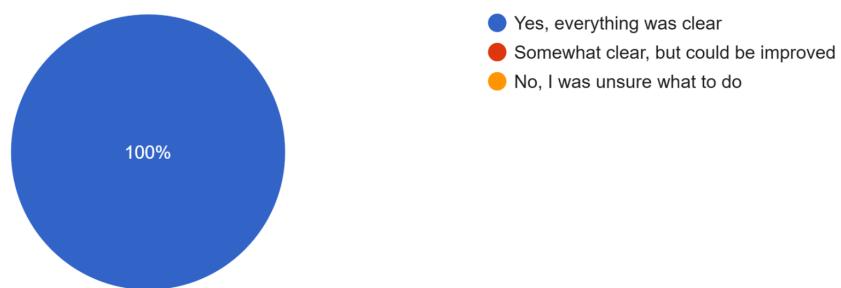
6 responses



9.

Did the Home screen provide a clear overview of the app and its features?

6 responses



10.

Do you suggest any modifications for the home screen? 4 responses

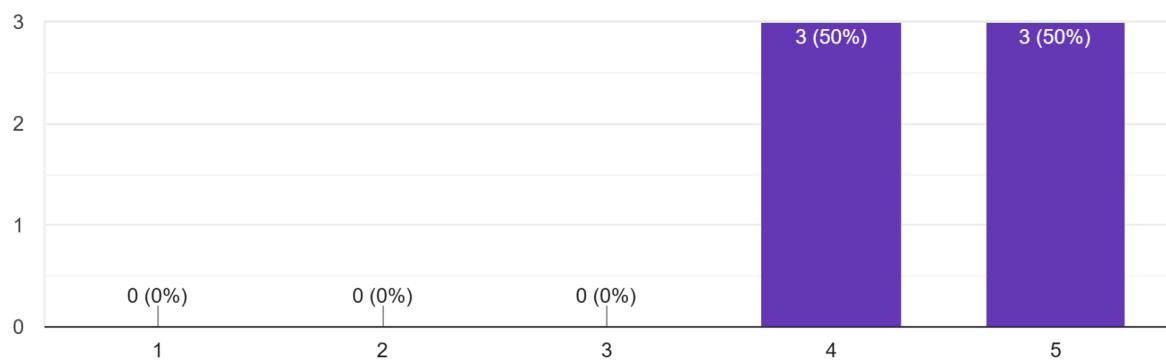
No

I'm not much of a designer, so I don't have any suggestions in this aspect.

11.

On a scale of 1–5, how easy did you find the progress tracker to use?

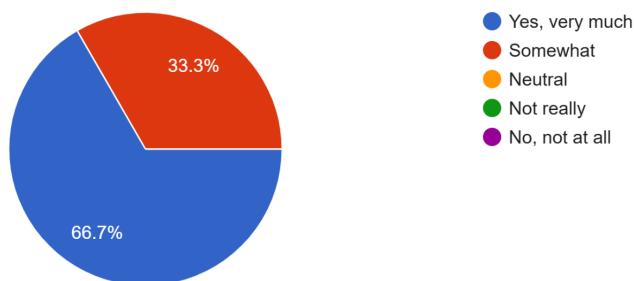
6 responses



12.

Did the progress tracker help you understand your sustainability impact?

6 responses



13. Do you suggest any modifications for the progress tracker? 4 responses

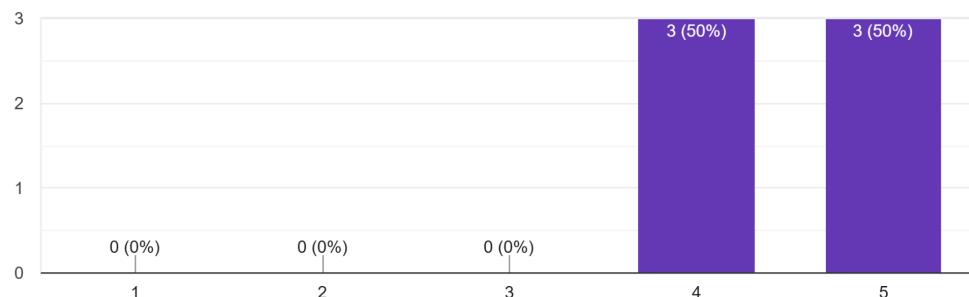
No

No suggestions.

14.

On a scale of 1–5, how engaging did you find the gamification features (badges, leaderboard, challenges)?

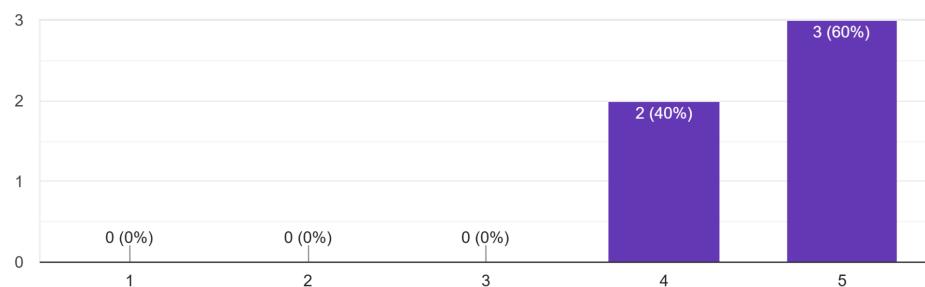
6 responses



15.

On a scale of 1–5, how easy did you find the gamification features to use (badges, leaderboard, challenges)?

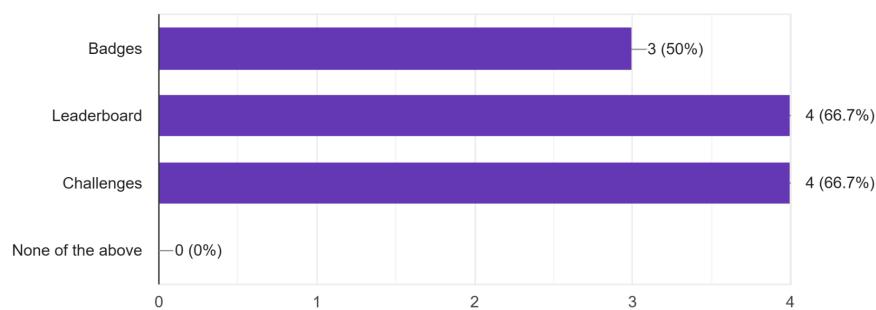
5 responses



16.

Which gamification element was most motivating for you? (select all that apply)

6 responses



17.

What type of challenges would you like to see in the app?3 responses

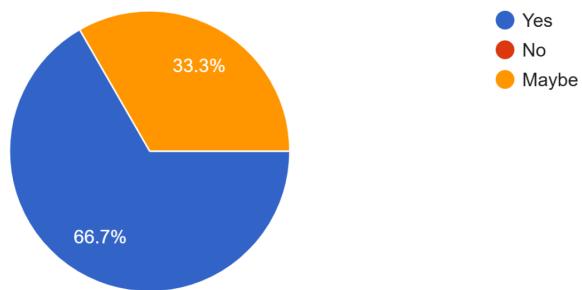
None

Challenges associated with renewable energies and usage of green materials

18.

Would you be interested in sustainability-related events through this app?

6 responses



19.

Do you suggest any modifications for the gamification screen?4 responses

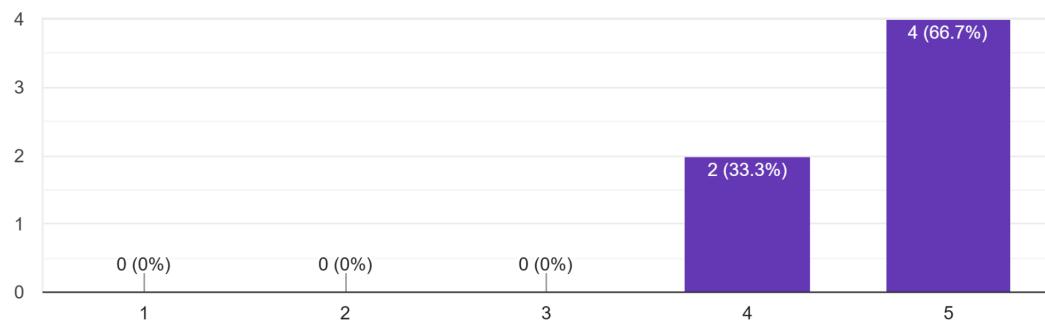
No

No, I don't have any suggestions

20.

On a scale of 1–5, how easy did you find the events feature to use?

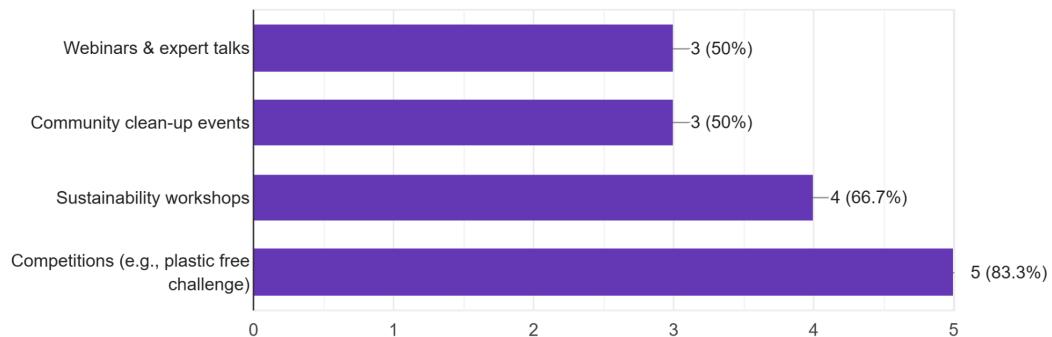
6 responses



21.

Which type of events would you be interested in?

6 responses



22.

Do you suggest any modifications for the events page? 3 responses

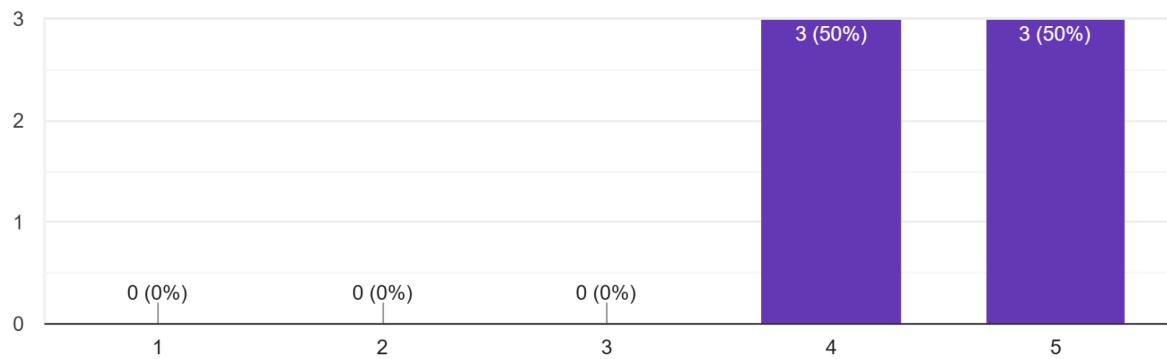
No

None

23.

On a scale of 1–5, how easy did you find the educational resources feature to use?

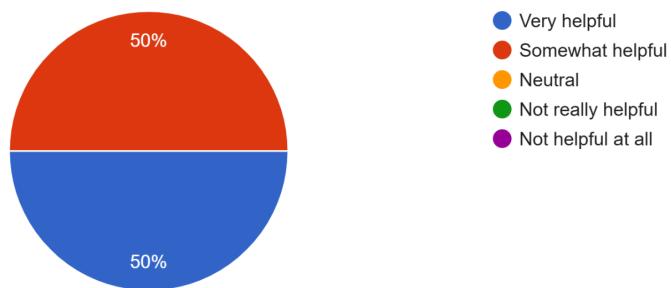
6 responses



24.

How helpful were the educational resources in providing sustainability information?

6 responses



25.

Do you suggest any modifications for the educational resources screen? 3 responses

No

25.

Would you recommend this app to the others?

6 responses



26.

Are there any features that you expected to see but not available now?

3 responses

No

27.

What improvements would you suggest?

2 responses

None

28.

Any other comments? 1 response

No

Data Visualization and Analysis

The total number of participants who responded to the survey is 6.

Visualization – Mean & Median of Quantitative Feedback:

Both means and medians are relatively consistent, indicating that feedback was fairly uniform across users.

Mean & Median Summary (Rounded to 2 decimal places):

Category	Mean	Median
Overall Experience	4.33	4.5
Ease – Home Screen	4.33	4.5
Ease – Progress Tracker	4.33	4.5
Engaging – Gamification	4.17	4.0
Ease – Gamification	4.2	4.0
Ease – Events	4.5	5.0
Ease – Educational Content	4.33	4.0

Users generally rated all app features above 4, showing a positive reception across the board.

In the use evaluation survey, we have included several open-ended questions we thought might be useful to better capture the user feedback.

1. Did you encounter any usability issues or confusing elements?

This question was added to the survey to find if the user gets confused with any of the visuals used in any of the frames and feels lost while using the app. Identifying dead ends was also a main intention of including this question in the survey.

4 of the 5 users did not find any usability issues or confusing elements and one user mentioned that it would be better if the details of the carbon footprint value breakdown pie chart can be displayed at a glance rather than having the user interact with it to see all the categories and their contribution which would force the user to do few more taps.

2. Please specify any other category you think would help in capturing your current carbon footprint.

This optional question was added to the survey to identify if the user feels that the app does not address any category (apart from what is included - transportation, energy, water, diet and waste) that contributes much more to the carbon footprint in the questionnaire.

We got 2 responses for this question, and no response mentioned any additional category that would help to better capture the carbon footprint.

3. Do you suggest any modifications for the home screen?

This question was added to the survey with the intention of identifying if the users are satisfied with the way we have designed and organized the home screen, and to capture if they expect to see any additional features/ navigation paths in the home screen.

We got 3 responses for this question, and no response suggested any modifications for the home screen.

4. Do you suggest any modifications for the progress tracker?

This question was added to the survey with the intention of identifying if the users are satisfied with the way we have designed and organized the progress tracker, and to capture if they expect to see any additional features on the screen.

We got 3 responses for this question, and no response suggested any modifications for the progress tracker.

5. What type of challenges would you like to see in the app?

This question was added to the survey to capture the type of challenges that the users would like to see in the app to keep the app more interesting and engaging.

We got 3 responses for this question, and while 2 responded that they do not prefer any specific type of challenges in the app, one response mentioned that they would prefer challenges that are associated with renewable energies and the usage of green materials.

6. Do you suggest any modifications for the gamification screen?

This question was added to the survey with the intention of identifying if the users are satisfied with the way we have designed and organized the gamification screen, and to capture if they expect to see any additional features in the screen.

We got 3 responses for this question, and all responses mentioned that they do not expect any modification to the game's screen.

7. Do you suggest any modifications for the events page?

This question was added to the survey with the intention of identifying if the users are satisfied with the way we have designed and organized the events, and to capture if they expect to see any additional features on the screen.

We got 3 responses for this question, and all responses mentioned that they do not expect any modification to the events screen.

8. Do you suggest any modifications for the educational resources screen?

This question was added to the survey with the intention of identifying if the users are satisfied with the way we have designed and organized the educational resources screen, and to capture if they expect to see any additional features in the screen.

We got 3 responses for this question, and all responses mentioned that they do not expect any modification to the educational resources screen.

9. Are there any features that you expected to see but are not available now?

This question was added to the survey to identify if the current app organization/features do not include any of the features a general user would expect from an app in a

similar domain. This question was specially targeted to the users who had used an app earlier to capture the carbon footprint tracker app, to ensure that the app covers all the features that the user would expect.

We got 3 responses for this question, and all responses mentioned that the app includes the features they expect to see.

10. What improvements would you suggest?

This question was added to the survey as a general question on the entire application, to identify if the user expects any kind of improvement in any of the features available.

We got 2 responses for this question, and none of the participants suggested any improvements to the app.

11. Any other comments?

This question was added to capture any other user feedback that falls outside of the above questions.

We did not have any further comments from the participants.

Insights from the Results:

Insights from the Results:

- Overall Positive Experience

Most users rated their overall experience using the GreenNest app very highly, indicating a strong initial reception of the prototype.

- User Interface is Intuitive

All ease-of-use scores (Home Screen, Progress Tracker, Events, and Educational Resources) scored above 4, showing that the navigation and layout were generally user-friendly.

- Gamification is Effective, but Slightly Less Intuitive

While users found the gamification features engaging, they rated the ease of use of these features slightly lower, suggesting some small usability improvements could enhance the experience further.

- Events Feature Rated Most Usable

The Events section received the highest usability rating, showing it was very well received and easily understood by users.

- Consistent Feedback Across Participants

The close alignment of means and medians across categories suggests consistent and reliable feedback, with few outliers in responses.

What We Learned About the Prototype

- The core navigation and layout of the app are effective and easy to use for most users.
- Users enjoy interactive elements like gamification, though some minor improvements to clarity or placement could help make those features even more intuitive.
- The current design of the Events section is a strong point and could serve as a UX model for enhancing other features.
- The prototype is ready for refinement, not a redesign, and small usability tweaks would strengthen an already solid foundation.

Changes to the design based on Prototype Evaluation

As per the user evaluation conducted, below are the comments we received from the users.

1. It is better to show the carbon footprint value breakdown at a glance in the progress tracker screen.
2. It is better to have more challenges that are associated with renewable energies and the usage of green materials.

Changes Done After the User Feedback

1. It is better to show the carbon footprint value breakdown at a glance in the progress tracker screen - We believe that this is a valid suggestion as having the information available at a glance rather than an interactive chart would improve the usability, as the target information can be captured with a smaller number of taps.
2. It is better to have more challenges that are associated with renewable energies and the usage of green materials. Taking this suggestion, we have included a challenge associated with renewable energies and the usage of green materials as a start.

Changes that are major and cannot be done in this iteration of the project

When considering the feedback/ suggestions we received from the user evaluation survey, we believe that both the suggestions can be accommodated in the same iteration and therefore, we have already made the changes in the prototype to make it cater for the user requirements while improving usability.

Conclusion

Green Nest is an effort to hold hands with eco-conscious individuals to make the planet healthier. By bringing personalization, challenges and community events together, it provides a user with a platform to take meaningful steps towards sustainability.

We would like to express our sincere gratitude to all the participants who took time out of their busy lives to fill out the surveys and provide feedback for us. Your invaluable insights will immensely contribute to the development and usability of our application, GreenNest. We also highly appreciate the support and guidance provided by our professor, Padmapriya Arasanipalai, throughout the project to make it a success.

References

JouleBug, "JouleBug Sustainability App," [Online]. Available: <https://www.joulebug.com>. [Accessed: Feb. 8, 2025].

Aerial, "Aerial Carbon Footprint Tracker," [Online]. Available: <https://www.aerial.com>. [Accessed: Feb. 8, 2025].

Oroeco, "Oroeco Climate Change App," [Online]. Available: <https://www.oroco.com>. [Accessed: Feb. 8, 2025].

Greenly, "Greenly Carbon Footprint Tracker," [Online]. Available: <https://www.greenly.earth>. [Accessed: Feb. 8, 2025].

Duolingo, "Duolingo Language Learning App," [Online]. Available: <https://www.duolingo.com>. [Accessed: Feb. 8, 2025].

Nike, "Nike Run Club App," [Online]. Available: <https://www.nike.com/nrc-app>. [Accessed: Feb. 8, 2025].

Fitbit, "Fitbit Health & Activity Tracker," [Online]. Available: <https://www.fitbit.com>. [Accessed: Feb. 8, 2025].

Reddit, "Reddit Community Engagement Platform," [Online]. Available: <https://www.reddit.com>. [Accessed: Feb. 8, 2025].

Work Date/Hours logs for student (or each team member)

Sachini Epa

Date	Number of Hours	Description of work done
Jan 22, 2025	1	Research on potential app ideas
Jan 23, 2025	1	Background search on the Green Nest app idea and its features.
Jan 26, 2025	1	Brainstorming session with the professor and discussion with the team to finalize an idea.
Feb 01, 2025	0.5	Google Meet meeting with the team members to plan the project proposal document.
Feb 03, 2025	0.5	Creating the github repository with the ReadMe file and adding collaborators.
Feb 05, 2025	0.5	Working on the project proposal – Proposed App idea for the prototype
Feb 06, 2025	0.75	Working on the project proposal – Proposed App idea for the prototype
Feb 07, 2025	0.5	Working on the project proposal – value proposition, title page and closing
Feb 09, 2025	1	Final touches to the proposal document and submission
Feb 13, 2025	1	Reading online material to familiarize myself with Figma.
Feb 17, 2025	1.5	Watching the Group discussion to go through the requirement document guidelines and plan the next steps

Feb 25, 2025	1	Watching YouTube materials to familiarize with the Figma features.
Mar 05, 2025	1	Group discussion to discuss the next steps, modifications to the user survey and sending the user survey to the professor for feedback.
Mar 06, 2025	0.5	Creating a draft requirement document, modifying the user survey based on the professor's feedback
Mar 12, 2025	1	Going through the example personas and writing a persona for the project.
Mar 15, 2025	2	Working on the requirements document, analyzing Fredrick's persona for requirement generation, creating the group and project in Figma.
Mar 16, 2025	1	Fine tuning the requirements document and submission.
Mar 20, 2025	0.5	Group meeting – Discussed the design of the prototype.
Mar 22, 2025	1	Browsing the Figma community to find useful resources for our app design.
Mar 23, 2025	1	Group meeting – Divided the workload among the members and dug deeper into how each screen should look like, color scheme
Mar 23, 2025	2	Sketching the progress tracker and gamification screens.
Mar 25, 2025	1	Group meeting – Discussed the frames and got feedback of the team on the progress tracker and the gamification frames.

Mar 26, 2025	2	Started working on the progress tracker frames, referred to interactive pie charts to adapt to the frames.
Mar 27, 2025	3	Worked on the visual elements in the gamification frames in Figma, explored Figma resources to learn about animations.
Mar 28, 2025	3	Worked more on the gamification frames and the educational resources frames.
Apr 1, 2025	1	Working on the gamification, educational resources and progress tracker screens to make it more appealing.
Apr 5, 2025	4	Worked on fine tuning the prototype and fixing the issues we found when using the prototype. Started working on the final report - worked on the sections design patterns and rationale, user based prototype evaluation for the user evaluation survey (survey 2)
Apr 7, 2025	2	Worked on the final report - worked on the sections changes to the design based on Prototype Evaluation, user evaluation survey results
Apr 8, 2025	3	Worked on the final report - worked on the overview in Figma, user journey map and final formatting and submission

Theodora O. Amodu

Date	Number of Hours	Description of work done
Feb 01	0.5	Google Meet meeting with the team members to plan the project proposal document.

Feb 03	1	Researched for the Background research and PACT Framework
Feb 04	1.5	Worked on writing out the Background Research, the market competitor apps, the market inspiration
Feb 7,	1.5	Worked on the PACT framework
March 17	1	Had group meeting where we discussed how to go about the second part of the project and we concluded on the type of survey to give out
March 19	1.5	Researched on the purpose of conducting the user study , checking their lifestyle, age group and their goals
March 22	0.5	Did a personal draft of the user survey that will be sent out
March 5	1	Group meeting discussing and checking on our progress and reviewing the survey and also agreed to send our survey to our lecturer
March 11	1	Worked on part of the document, did my research and sent out my share of survey questions
March 12	0.5	Sent out more surveys and followed up
March 12	3	Worked on the word document and the quantitative analysis of the chart while giving insight and solutions. I also got feedback/input from my team members if it was good so far
March 12	1.5	Watched class video to refresh memory on how to go about preparing my persona and scenarios
March 13	3.5	Worked on my Persona and scenario using a storyboard using visuals and canvas. This was really challenging as it was my first time but worked out well after practice and research

March 13	0.5	Group meeting with team members on discussing the next steps
March 16	0.5	Updated the document and had group meeting
March 20	0.5	Did research on Figma
March 21	3	Created Logo, started Figma project: welcome page, questionnaire and sign up. Also tried out the prototype
March 23	1	Group meeting with team members, dividing each task
March 25	4	Group meeting in school with work on figma
March 26	3	Worked on figma
March 27	1	Did some finishing touches on my part of the screens
March 28	2	Added new screens and had some trouble with the prototype for a particular screen. Was not able to figure it out.
March 29	1	Started to combine documentation
March 30	3	Designed a new screen, which had to do with the payment sections, to link to the marketplace
April 1	2	Started on the documentation
April 3	1	Continued documentation and added some/corrected the home screen and questionnaire screen
April 6	1	Corrected my screens and added a few corrections to the prototype
April 7	2	Continued working on documentation

April 8	1	Finished the documentation, edited and reviewed
---------	---	---

Fredrick Okorne

Date	Number of Hours	Description of Work Done
Feb 17, 2025	1	Group meeting and discussion on best way to approach project
Feb 26, 2025	2	Research and brainstorming on prototyping
Feb 28, 2025	1	Studying and exploring different UI's
March 1, 2025	1.5	Initial research on and studying of questions necessary for survey
March 4, 2025	2	Drafted questions for survey for requirements gathering
March 5, 2025	1	Group meeting to brief group meeting on progress of work and discuss the way forward regarding survey
March 9, 2025	.5	Group meeting and discussion on personas
March 10, 2025	.5	Explored the different types of prototypes
March 10, 2025	.5	Explored the different types UI animations
March 10, 2025	.5	Explored the different types of UI trigger
March 14, 2025	.5	Generated traits and character of persona
March 14, 2025	.5	Worked on persona, analyzed and deduced traits from Theodora's persona

March 15, 2025	1.5	Analysis and synthesis of findings from survey
March 15, 2025	.5	Introduction paragraph for purpose for requirements gathering
Marc 18, 2025	.5	Looked at various sigma prototypes to draw inspiration
March 20, 2025	.5	Group discussion on prototype design
March 21, 2025	1	Familiarised myself with figma community and how to use various figma tools
March 23, 2025	1	Group meeting - work distribution and planned for prototype outlook
March 26, 2025	1.5	Started work on screens assigned to me - planned layouts and its structure
March 27, 2025	2	Planned and worked on the bottom navigation bar to help in navigation to various screens.
March 28, 2025	2	Designed and profile screen for application, detailing clear visualization and user interaction of the screen
March 29, 2025	2.5	Designed and worked on frames for events and event details screen
April 1, 2025	3	Designed and worked on frames for the marketplace and logout screen
April 2, 2025	1.5	Worked on payment confirmation and checkout screen

April 3, 2025	1	Made prototype links between screens
April 5, 2025	1	Made a few edits and finalized prototype and prepare for presentation