GreenCircle

PROJECT PROPOSAL

Alberth Rodriguez | Anjali Rajesh | Anthony Okoduwa | Ching Chen Su
Emre Aydin | Masahiro Kanamaru | Naoya Sasaki | Tia Le Santo | Trish Clemente

Table of Contents

Project Overview 4

About GreenCircle

The Problem

Our Solution

Design Process 6

Market Research

Competitive Analysis

User Persona

Features

Sitemap

User Flow

Mid-Fidelity Wireframes

Final Mockups

Branding

UI Kit

Future Improvements

Technical Overview 28

Cloud Feature

Platform

Security Feature

Tech Stack

System Architecture

Database Model

Component Tree

Technology Used

Project Timeline 38

Designers

Developers

Team 40

Who are we?

References 44

Project Overview

About GreenCircle

Making A Difference Is One Tap Away

GreenCircle is a mobile application that empowers users to take part in nature cleanup events in a more convenient, engaging and impactful way within their community. The application informs users of what areas around them have cleanup events available, whilst providing real-time data from the waste tap collection counter. To foster additional engagement and growth, GreenCircle celebrates accomplishments and takes the user on a journey of growth - from a Sapling to an Evergreen!

With GreenCircle, any individual or community can take action, see the impact they've made, and enjoy a do-good, feel-good experience.

The Problem

The current signup processes to join cleanup events often lack clear information and location based options. Additionally, the use of pen and paper to tally the different types of waste collected is inconvenient to the user, as they have to hold too many items, which could lead to errors. Most information about cleanup events comes through social media and websites, and often doesn't allow for spontaneity – as most events are planned weeks or months in advance. Users may lose interest over time due to the whole process of cleanup events, so they need motivation, support and meaningful insights about the places they're conducting the cleanups.

Our Solution

Waste Collection Counter

Intuitive waste collection counter to eliminate the need for pen and paper – reducing errors, and enhancing convenience during the cleanup.

Education and Wellness Widget

Providing information about wildlife, safety tips, environmental issues and wellness articles – fostering a deeper connection and understanding of the impact made.

Location Based Events

Browse, create and join cleanup events with transparent information including accessibility considerations, encouraging spontaneity and community experience.

Achievements

Celebrate achievements and view both individual and community impact with real-time data, making cleanup efforts more enjoyable and engaging.

Design Process

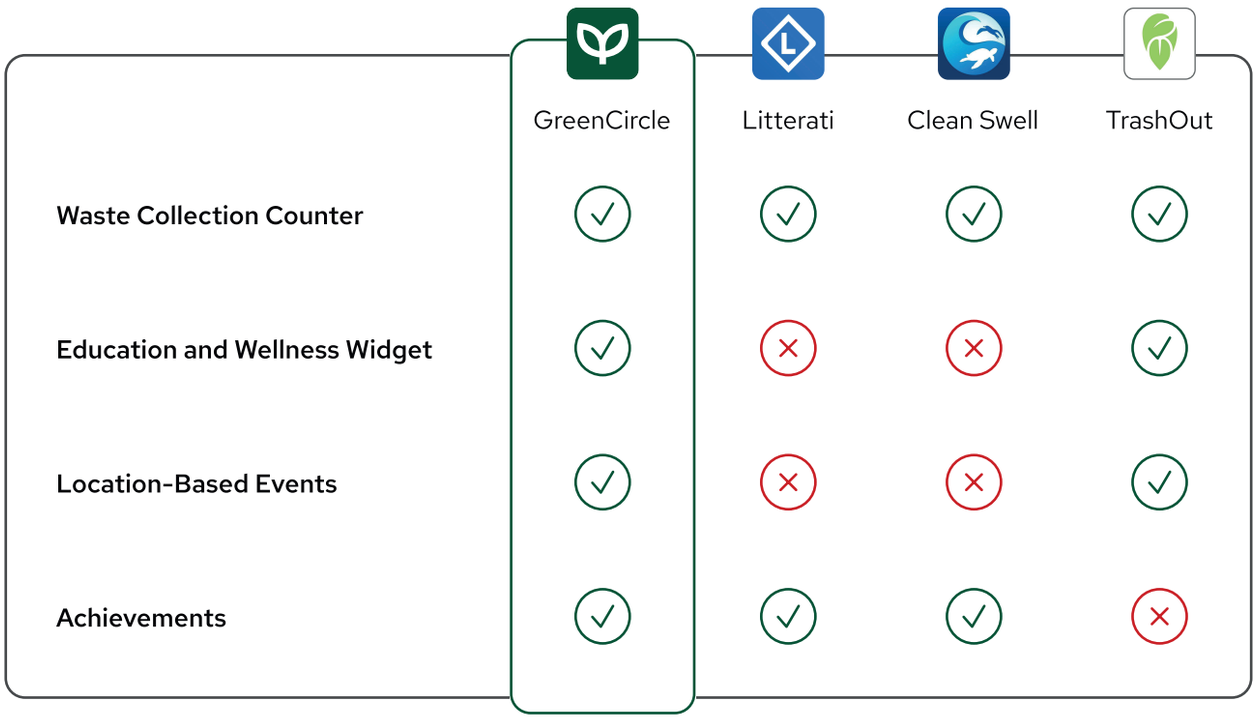
Market Reserach

Most people are environmentally conscious to a degree, and wish to be a part of the solution when it comes to combating issues such as climate change and waste reduction.

Nature based cleanups are a great way to build community and help to make a tangible difference to the environment.

Whilst many of our competitors utilize their own version of a collection counter for trash collection tallying - they don't, however, include all the features we have implemented with GreenCircle.

Competitive Analysis



Litterati

URL: https://www.litterati.org

Litterati is a global platform that encourages users to pick up and document litter in their communities. The app allows users to photograph litter, tag its location, and categorize the type of waste.

- **Strengths:** Engages a global community to tag and map litter with advanced analytics and integration of AI
- **Weaknesses:** Lacks educational content and event coordination

Clean Swell

URL: https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/clean-swell-app/

Clean Swell is designed for tracking trash collection during beach, waterways and ocean cleanups. Users can log the type and amount of debris they collect.

- **Strengths:** Detailed impact reporting for marine debris tracking and ability to share records with experts worldwide
- **Weaknesses:** Limited scope to just coastal areas

TrashOut

URL: https://www.trashout.ngo

TrashOut is an app that allows users to report illegal dumps of trash and organize cleanup events. It helps address illegal dumping areas worldwide.

- **Strengths:** Effectively maps illegal dumps and collaboration with municipalities and NGOs
- **Weaknesses:** Less emphasis on organized cleanup events and user engagement

User Persona

We interviewed 10 potential target users before creating our main persona. We gained valuable insights which allowed us to ensure that our design aligns with the needs of our users. We discovered that the majority desired a way to understand their impact after participating in cleanups, as well as environmental issues in general. We also learnt that they found it challenging to discover nearby events with clear details. Additionally, we learnt that whilst some enjoyed the idea of competitive elements via gamification, the majority preferred a more spontaneous approach without the pressure of competition.

These findings led us to develop key features of GreenCircle, which are explained in detail within the Features pages. These include; **Location-Based Events** to help users easily find and join cleanups based on their location, **Waste Collection Counter** to track their trash collection during the cleanup, **Education and Wellness Widget** to provide educational and mindful tips, and **Achievements** to foster user engagement through personal milestones.

Our approach ensures the ability for users to take part in nature cleanups in a more convenient, engaging, informative, and impactful in and around their community.

Gen

Age:	Location:	Occupation:
28	**Vancouver**	**Front Desk Agent**

“I am interested in connecting with my community and contributing towards a greener environment.”

Interests

- Beach and park cleanup events
- Tree planting
- Educational workshops

Frustrations

- Transparency of event details
- Manual collection of trash
- Lack of ways to learn about impact
- Lack of cleanup engagement

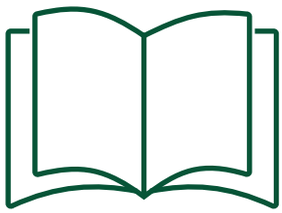
Goals

- Education on environmental issues and impact
- Access to a map for finding cleanup events easily
- Making more meaningful actions within the community
- Visibility of different types of trash collected

Features

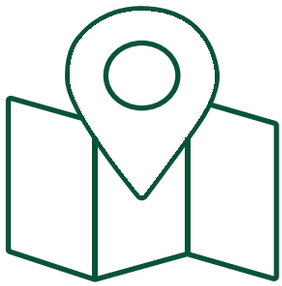
Waste Collection Counter

This feature empowers users and benefits the app in several ways. Users can ditch the pen and paper – with a simple tap for each type of trash collected, the app offers a real-time and convenient way to track their cleanup progress. But the benefits go beyond user experience, as this data becomes the backbone of GreenCircle's valuable data collection.



Educational and Wellness Widget

The Green Circle app's educational widget empowers users by offering informative content accessible anytime, anywhere. This goes beyond environmentalism, promoting a holistic approach that connects users to their surroundings and well-being. To further enhance this feature, safety tips can be integrated, including pre-cleanup guidelines. This commitment to user safety fosters responsible participation in cleanups and enriches the overall Green Circle app experience.



Location-Based Events

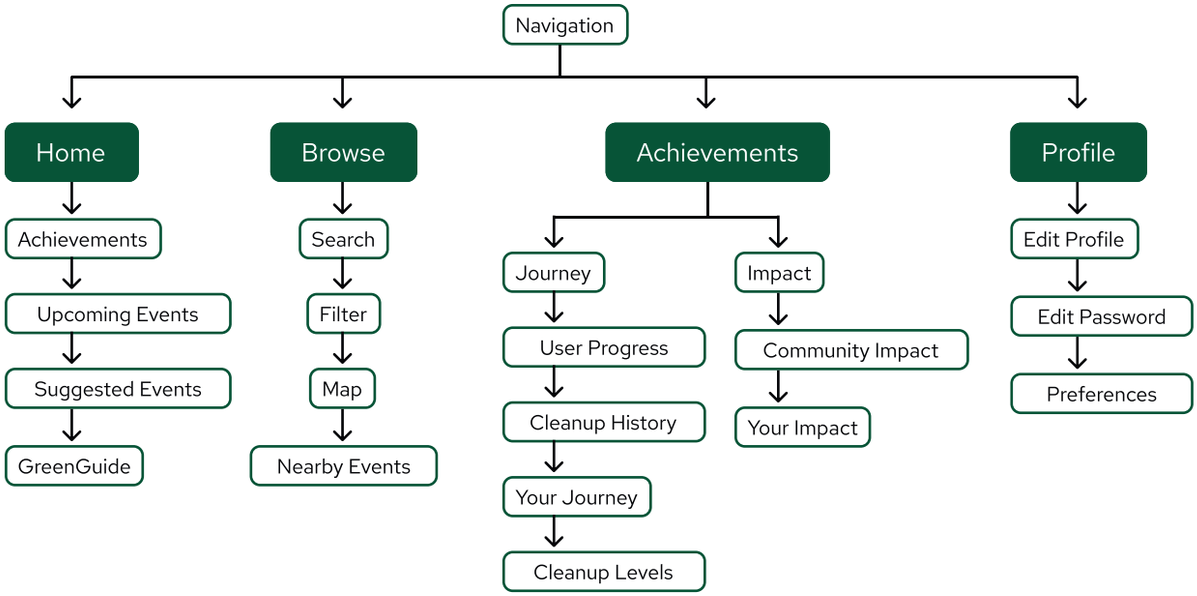
This functionality utilizes user-friendly mobile technology to address a key hurdle in cleanup initiatives: accessibility and awareness. The feature goes beyond simply locating events and provides clear navigation routes, ensuring a smooth arrival. Additionally, users can filter events based on their preferences, ensuring a smooth cleanup experience.

Achievements

With achievements via gamification, users are motivated to see their real-time progress and results of the difference they have made to the environment within their community. As users participate in cleanup events and collect trash, they'll witness growth from a virtual seedling to a thriving evergreen!

Sitemap

The GreenCircle website navigation offers a clear structure for users to explore cleanup opportunities and track their environmental impact. Starting with the "Home" page, users can delve into the "Browse" section to find events happening nearby, with potential filtering options for location, date, or category. Clicking on an event reveals details like description, location (likely linked to a map), date and time, meeting point, and even suggestions for similar events or other cleanups nearby. The "Achievements" section showcases user progress through cleanup participation, possibly using gamification elements. The "Impact" section highlights the overall environmental impact of user efforts. Finally, the "Profile" section provides a personalized hub for managing account settings, editing information, viewing clean-up history, and accessing the GreenGuide, containing resources on sustainability.



User flow

GreenCircle's user flow seamlessly guides both new and existing users on their cleanup journey. New users sign up and set their preferences before arriving at the homepage featuring upcoming cleanup events. From the homepage, users can browse events by map or list, join existing events, or lead their own by providing details and inviting participants. During cleanups, users can check in and access event information. After check in, they can track waste collected with the collection counter. Upon completion, users check-out and potentially view a summary which leads back to the homepage where they can explore educational resources. The profile section allows managing user information, settings, and logging out.

Waste Collection Counter

To track the amount of waste you collect during cleanups, the Waste Collection Counter provides a user-friendly way to record your impact.

Educational and Wellness Widget

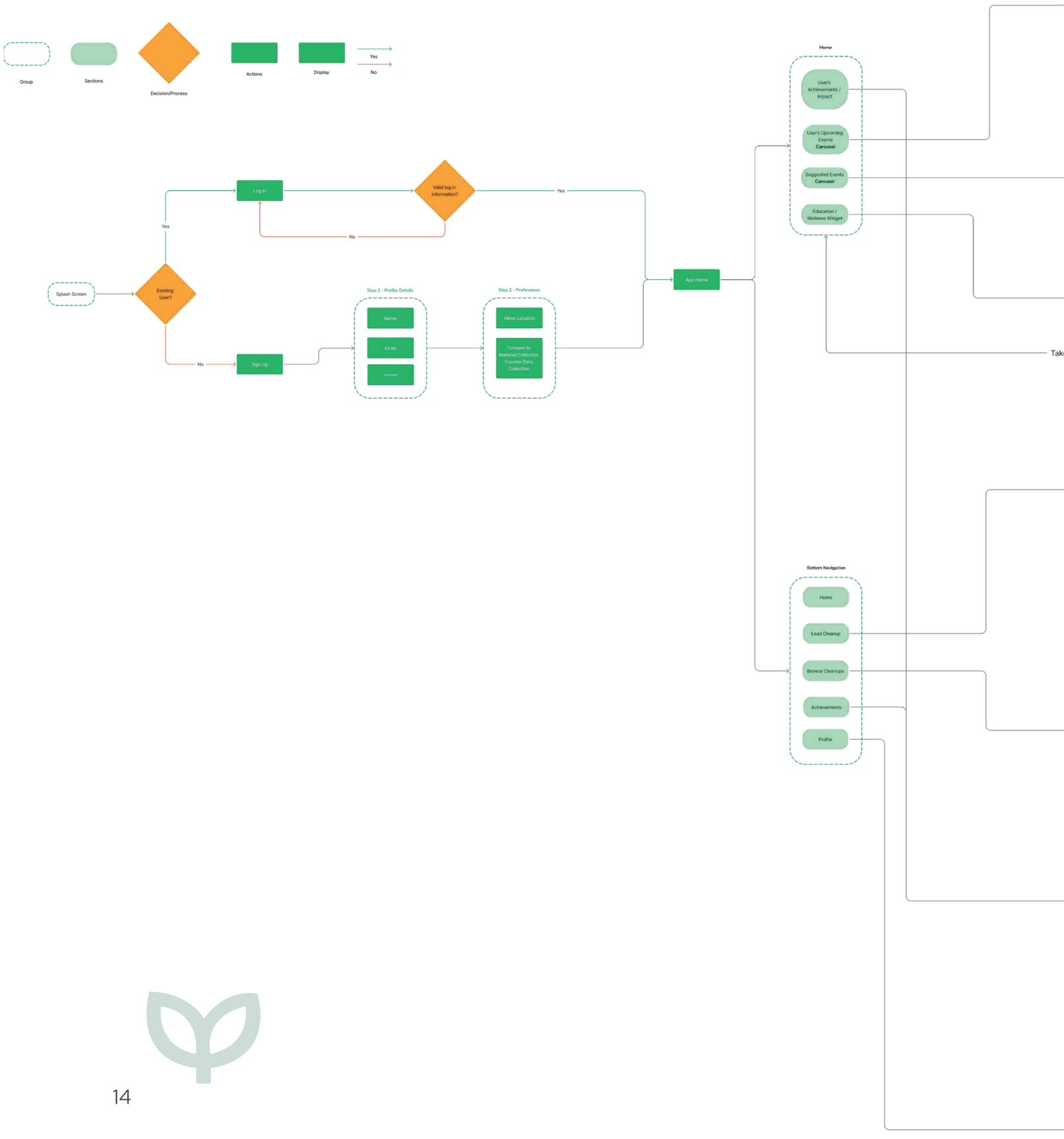
For environmental learning and well-being on the go, the Educational and Wellness Widget offers articles, infographics, and multimedia content directly within the app.

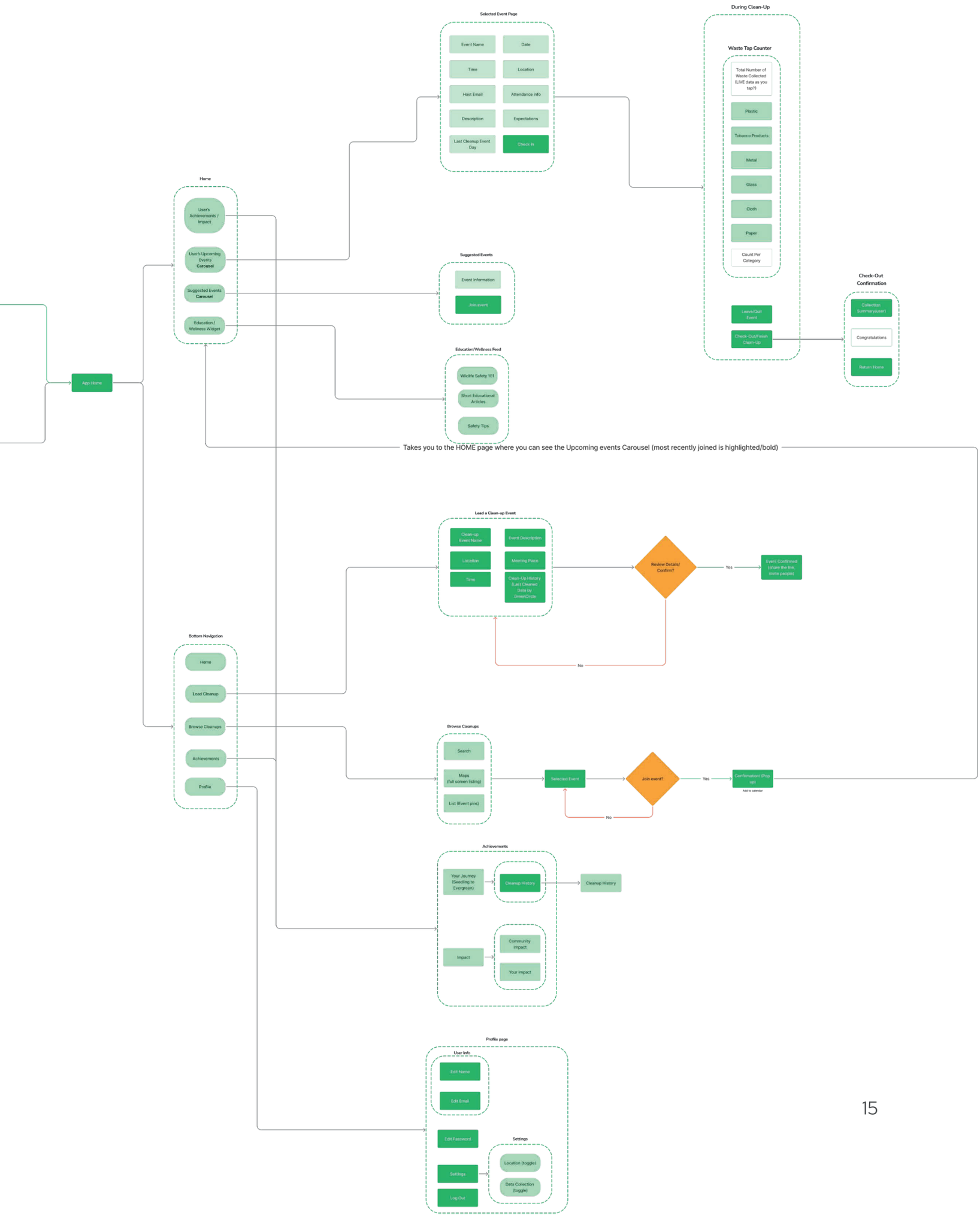
Location-Based Events

Discovering upcoming cleanup events happening near you is easy with GreenCircle's Location-Based Events feature, allowing you to browse through an interactive map or list view.

Achievements

Staying motivated on your environmental journey is encouraged by the Achievements feature, where you celebrate achievements and view both individual and community impact for your cleanup participation, creating a gamified experience.


Group
Sections
Decision/Process
Actions
Display
Yes
No
Splash Screen
Existing User?
Yes
No
Log In
Valid log in information?
Yes
No
Sign Up
Step 1 - Profile Details
Name
Email
Password
Step 2 - Preferences
Allow Location
Consent to Material/Collection Counter Data Collection
App Home
Home
User's Achievements / Impact
User's Upcoming Events Carousel
Suggested Events Carousel
Education / Wellness Widget
Bottom Navigation
Home
Lead Cleanup
Browse Cleanups
Achievements
Profile

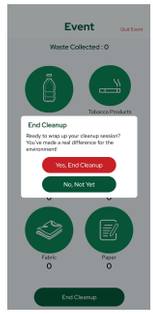

Selected Event Page
Event Name
Date
Time
Location
Host Email
Attendance info
Description
Expectations
Last Cleanup Event Day
Check In
During Clean-Up
Waste Tap Counter
Total Number of Waste Collected (LIVE data as you tap?)
Plastic
Tobacco Products
Metal
Glass
Cloth
Paper
Count Per Category
Leave/Quit Event
Check-Out/Finish Clean-Up
Check-Out Confirmation
Collection Summary(color)
Congratulations
Return Home
Home
User's Achievements / Impact
User's Upcoming Events Carousel
Suggested Events Carousel
Education / Wellness Widget
Suggested Events
Event Information
Join event
Education/Wellness Feed
Wildlife Safety 101
Short Educational Articles
Safety Tips
App Home
Takes you to the HOME page where you can see the Upcoming events Carousel (most recently joined is highlighted/bold)
Lead a Clean-up Event
Clean-up Event Name
Event Description
Location
Meeting Place
Time
Clean-Up History (Last Cleaned Data by GreenCircle
Review Details/ Confirm?
Yes
Event Confirmed! (share the link, invite people)
No
Bottom Navigation
Home
Lead Cleanup
Browse Cleanups
Achievements
Profile
Browse Cleanups
Search
Maps (full screen listing)
List (Event pins)
Selected Event
Join event?
Yes
Confirmation! (Pop up)
Add to calendar
No
Achievements
Your Journey (Seedling to Evergreen)
Cleanup History
Cleanup History
Impact
Community Impact
Your Impact
Profile page
User Info
Edit Name
Edit Email
Edit Password
Settings
Settings
Location (toggle)
Data Collection (toggle)
Log Out

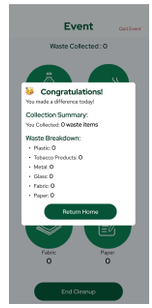
Mid -Fidelity Wireframes

We kicked off with mid-fidelity wireframes. This sweet spot between basic structure and visual details allowed us to gather crucial user feedback early on. Focusing on core functionality first ensures a solid foundation before we invest in aesthetics. This effective approach let us iterate quickly and create a product users will love.

Waste Collection Counter

This feature utilizes the mobile device for easy one-tap counting, eliminating the need for pen and paper. This data is crucial for gamification and helps identify areas with higher waste accumulation.



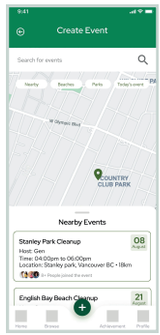


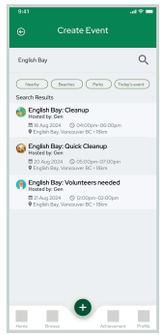
Educational and Wellness Widget

Accessible on the go, this feature provides environmental education, sustainable living tips, and mental health resources. It empowers users with knowledge and tools to make positive changes, fostering a sense of connection to the environment.

Location-Based Events

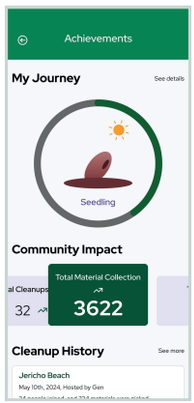
Utilizing GPS and maps, this feature helps users discover nearby cleanups, filter events by preference, and easy navigation. This increases accessibility and participation in cleanup efforts, whilst data visualization shows areas needing attention.

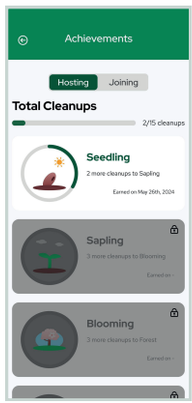


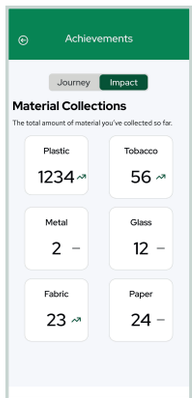


Achievements

This feature utilizes a growing plant as a visual representation of progress and impact. Users can track trash collected across categories and see the number of cleanups they've participated in. This gamification approach keeps users engaged and motivated by celebrating their accomplishments.







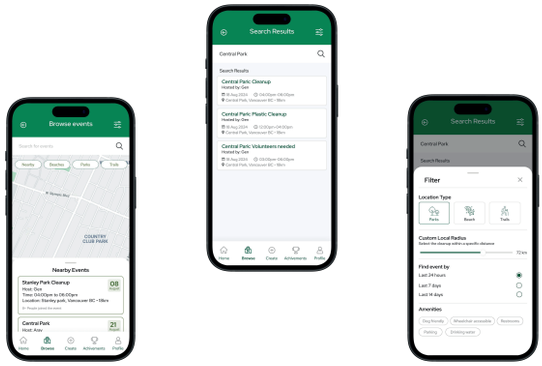
Final Mockups

Onboarding

Our onboarding flow gets users started quickly. We show the impact they can make, highlighting the app's ability to track progress and ditch the use of pen and paper. Also, users discover how to join cleanups and utilize the intuitive counter for logging waste. A "seedling" metaphor visualizes progress and collective goals, motivating users to tap and begin their cleanup journey.

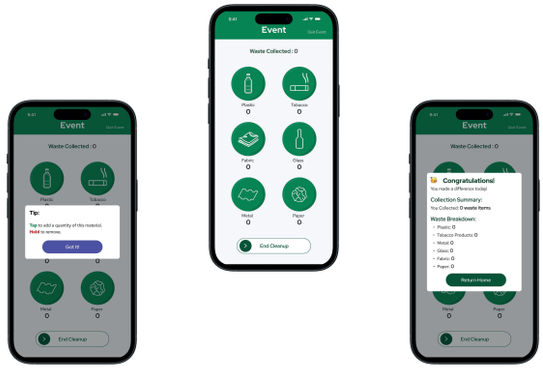
Location-Based Events

No more scrambling to find cleanup events. Our app shows them all on a map, so users can see what's happening nearby. You can even filter events by interests and receive directions straight to the cleanup spot.



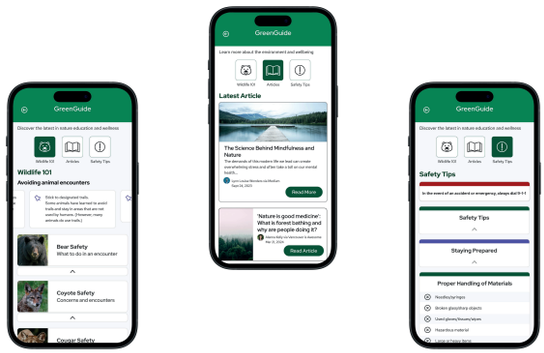
Waste Collection Counter

We designed screens that make it super easy to keep track of how much trash users collect. Just tap a button for each type of trash, and the app keeps a running total. No more messing with pen and paper! This also helps us understand what kind of trash ends up where - and allows us to send the data collected to local organizations and councils for further education and awareness.



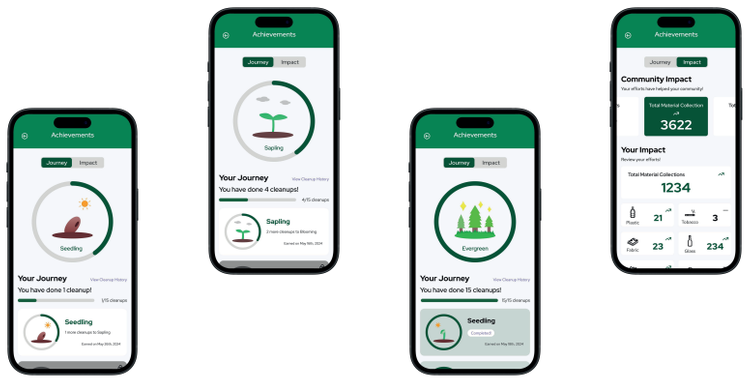
Educational and Wellness Widget

We built a special section in the app packed with information about the environment, including articles about sustainably, safety tips for cleanups and ways to stay mentally healthy. Think of it like a pocket-sized guide to being awesome for the planet and yourself!



Achievements

We added a fun element to keep users motivated! As you participate in cleanups and collect trash, you'll watch a virtual plant grow. The more you do, the bigger and stronger your plant gets! It's a cool way to see the impact you're making and stay excited about cleaning up our world.



Branding

Primary Logo

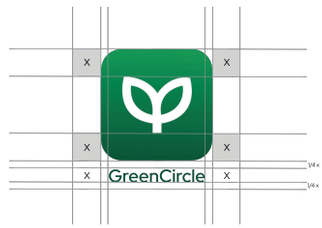
The GreenCircle logo, featuring two leaves cradled by a branch, is a powerful symbol of nature's resilience and the collective action it inspires. The leaves represent growth and environmental well-being, while the branch signifies the interconnectedness of our actions.

Secondary Logo

The GreenCircle secondary logo takes a combination mark approach, combining the impactful image of the primary logo (two leaves and a branch) with the clear, written name "GreenCircle."

Safe Zone

To maintain optimal visual impact and brand recognition, the GreenCircle logo requires a clear and consistent "safezone."



Color Variations

The GreenCircle logo comes alive with multiple color variations, empowering strategic use across diverse branding materials. This versatility ensures the logo maintains clear visibility on different backgrounds, catering to accessibility needs.

Colors

GreenCircle's colour palette is inspired by nature. Deep green (#005435) anchors the app in environmentalism, while the lavender accent (#5940c1) adds a touch of elegance and symbolises renewal. Black (#131313) ensures clear text, white (#FFFFFF) provides clean backgrounds, and a dash of red (#c70e0e) adds a touch of urgency for calls to action.

Typography

GreenCircle's user experience prioritizes clarity and impact through the Red Hat typeface family. Red Hat Display, with its bold presence, tackles headings and titles, ensuring they grab user attention. Red Hat Text, optimized for smaller sizes, takes care of body text like descriptions and instructions, ensuring effortless reading on various screens.

Headings

32px **Heading 1**

28px **Heading 2**

28px Subtitle 1

24px Subtitle 2

Text

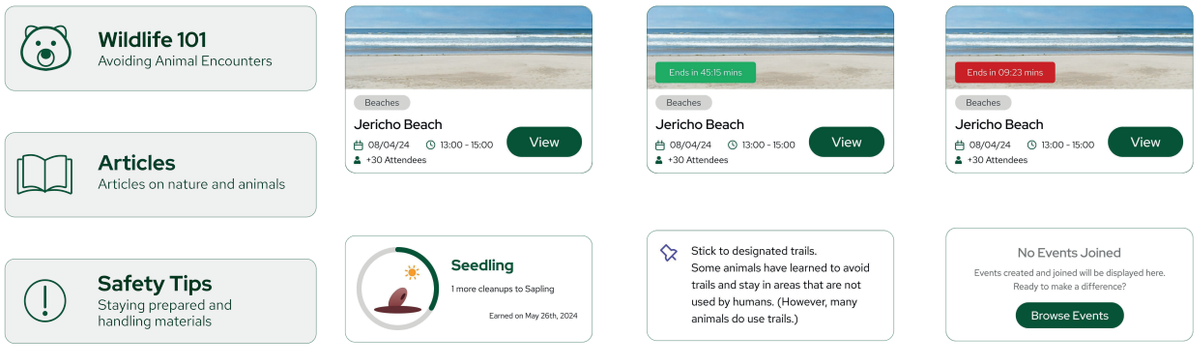
example paragraph text

GreenCircle is a mobile application that empowers users to take part in nature cleanup events in a more engaging and impactful way.

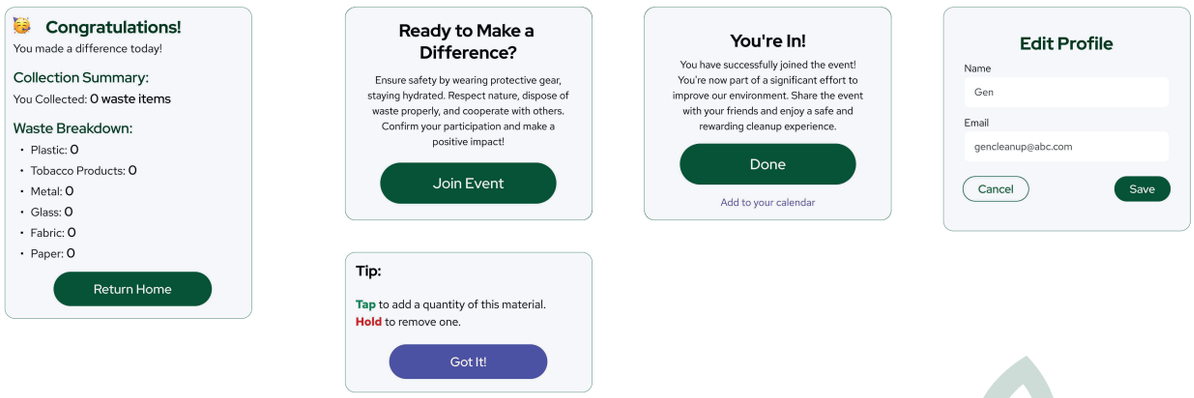
UI KIT

GreenCircle's UI Kit is not just pre-built elements; it's a blueprint for anyone to recreate the app's unique look. Every icon and illustration is custom-designed, infusing fresh personality. The authenticity extends to all screen elements – cards, modals, buttons, input fields, tabs, toggles, tool tips, snack bars, drop downs – meticulously crafted to integrate seamlessly. This handcrafted UI Kit empowers anyone to build screens that resonate with GreenCircle's brand and stand out from the crowd.

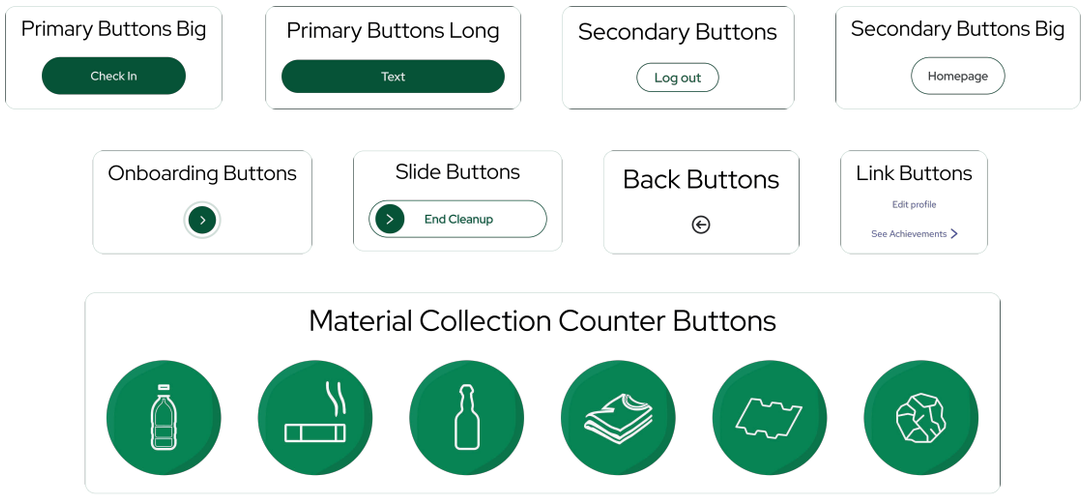
Cards



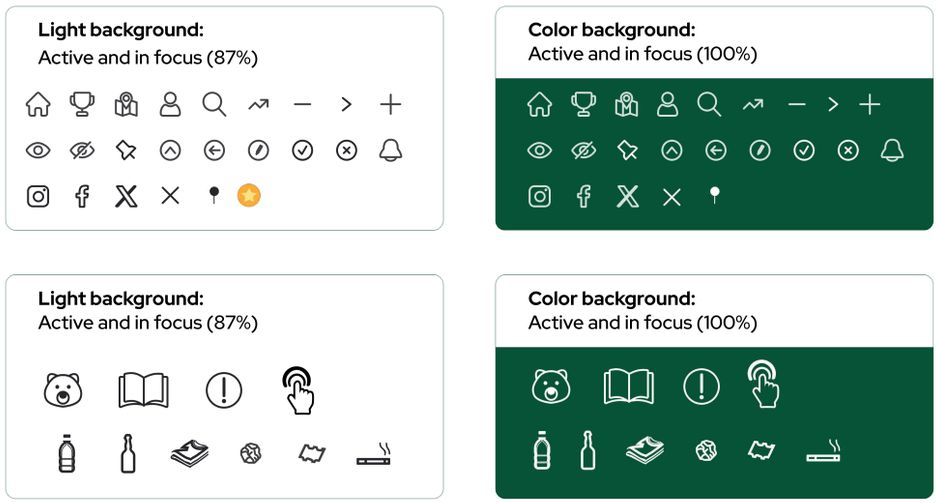
Modals



Buttons



Icons



Illustrations

Future Improvements

We conducted interviews with our original group of users, that we spoke with at the start of our journey. We showed them our latest mockups, with hopes to learn about what we could improve to make a better application for everyone.

Positive feedback

- Overall the application is easy to use and the design is appealing. It looks great for version 1
- The light element of gamification is successful
- The upcoming events section is easy to notice and provides relevant information
- The positioning of it being at the top of the homepage makes sense
- The safety tips and articles sections within the GreenGuide are interesting

Considerations for improvement

- The ability to customise the homepage would be great, such as changing the order of sections
- Having an apple watch integration would make it easier to log trash collected, using just one hand
- The screen for marking waste as collected could be more fun and interesting - currently the design is a bit plain
- For the hosted and joined events pages, it would be nice to see 'joined' before 'hosted', considering more people may join over hosting
- It might be nice to separate an event that a user has created on the homepage, although the current icon indicating that does makes sense
- Implementation of a profile photo might be a nice add-on for some users
- It could be a good idea to include the ability to block certain users at cleanup events

Future Features

Social Feed

Users will be able to share their cleanup activities, achievements, and environmental or well-being tips within or beyond their community. This fosters a strong community and encourages more spontaneous participation through social interaction and support from others.

Notifications

This feature will send users timely notifications and reminders about upcoming and suggested events, cleanup progress, and important environmental news, ensuring they stay informed with up-to-date information.

AI Technology

Integrating artificial intelligence will provide users with an interactive and immersive experience during cleanups. Utilizing features such as detecting and identifying different types of trash materials in real-time, this can also be used as a learning tool about the user's environmental impact.

Technical Overview

Cloud Feature

We used AWS EC2, PM2 and NGINX for hosting our back-end to ensure appropriate scalability and stability (availability).

Stability

- PM2 ensures that your Node.js application remains up and running by automatically restarting it if it crashes.
- NGINX can act as a load balancer, distributing incoming traffic across multiple instances of your application. This ensures that no single server becomes a bottleneck, improving availability.

Scalability

- NGINX can handle a large number of concurrent connections and can be scaled out by adding more load balancers as needed.
- The application can also be easily scaled horizontally by adding more EC2 instances. AWS allows you to use Auto Scaling Groups to automatically adjust the number of instances based on traffic demand.
- CI/CD pipeline by GitHub Actions ensures that new features, bug fixes, and improvements can be rolled out quickly and consistently across all instances. This minimizes downtime during updates and allows you to scale development and deployment efforts.

Platform

We used React Native to develop the app for both iOS and Android, ensuring that the app is accessible, efficient, and provides a high-quality experience for all users.

- Cross-Platform Development: React Native allows us to write a single codebase for both iOS and Android, reducing development time and costs.
- Mobile Accessibility: Since users always carry their mobile devices, having a mobile app ensures that they can easily create, join, and track clean-up events on the go.
- Native Performance: React Native provides near-native performance and a smooth user experience on both platforms.
- Community and Support: React Native has a large community and extensive support, which will help us quickly resolve any development issues and continuously improve the app.

Security Feature

JSON Web Token(JWT)

JWT is a compact and simple open standard token. JWTs are small in size, which helps reduce latency and loads on users' devices. We'll use it for authentication because it is easier for user's devices to process while providing sufficient protection for credential data. Other than that, controlling the validity period of JWT is simple.

Expo Secure Store

Expo Secure Store is an expo library that provides encrypted ways to store sensitive data for both Android and iOS devices. It utilizes Keychain on iOS and Keystore on Android to secure and access sensitive data. It prevents sensitive data from being easily accessible through local storage. In our use case, we'll store data like JWTs in the Secure store to prevent malicious attacks.

Tech Stack

Our application is built on the MERN stack (MongoDB, Express.js, Node.js, and React), enabling us to develop a full-stack solution with a cohesive workflow using only JavaScript. This stack provides high performance and scalability due to its non-blocking architecture and support for asynchronous operations.

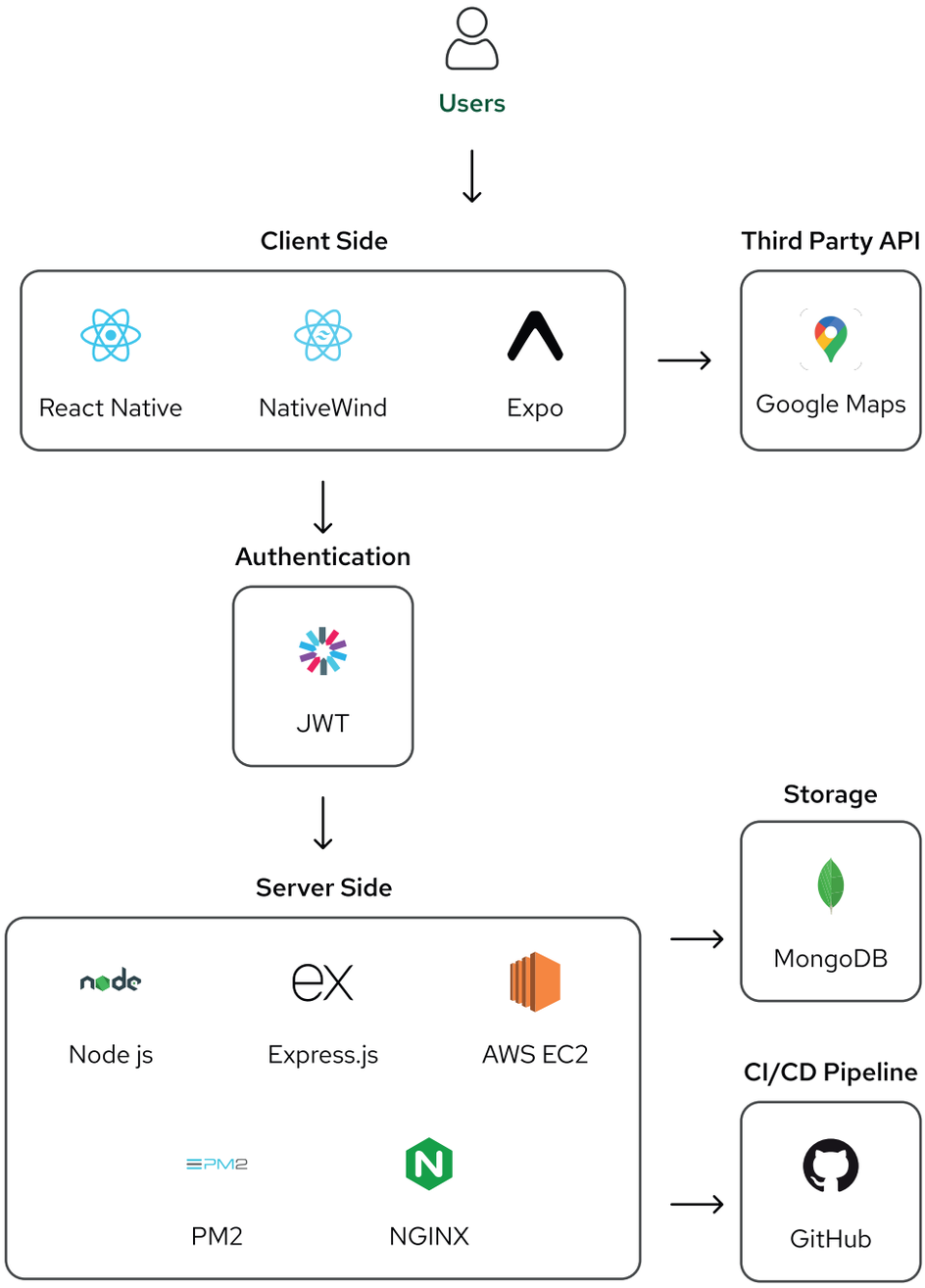
Front End

We opted for React Native to develop a performant and user-friendly interface across multiple platforms, including iOS and Android, without compromising on performance or user experience. We utilized Expo to streamline setup and development, allowing for quick project initialization and testing on actual devices without the need for configuring Xcode or Android Studio. Styling is handled by NativeWind, chosen for its efficiency, consistency, responsiveness, and customizability. User authentication is managed with JWT (JSON Web Tokens), simplifying the authentication process. Once authenticated, user information and access tokens can be exchanged securely, facilitating seamless authorization. Additionally, we integrated the Google Maps API to enable location based event browsing.

Back End

Our database solution is MongoDB Atlas, a robust cloud-hosted database that ensures data security and offers horizontal scalability, allowing us to handle increasing volumes of data and traffic effectively. The back end is hosted on AWS EC2, chosen for its stability and scalability. EC2 instances can be easily scaled horizontally, and the Auto Scaling Groups feature allows automatic adjustment of instance numbers based on traffic demand. To ensure the stability of our Node.js application, we employed PM2, which keeps the application running smoothly by automatically restarting it in case of crashes. We also use NGINX to manage a large number of concurrent connections, with the capability to scale out by adding more load balancers as needed. Our CI/CD pipeline is configured using GitHub Actions, facilitating continuous integration and deployment.

System Architecture



Database Model

This data model is designed to support our mobile app, which organizes events, tracks user participation, and manages locations and collections of items associated with those events.

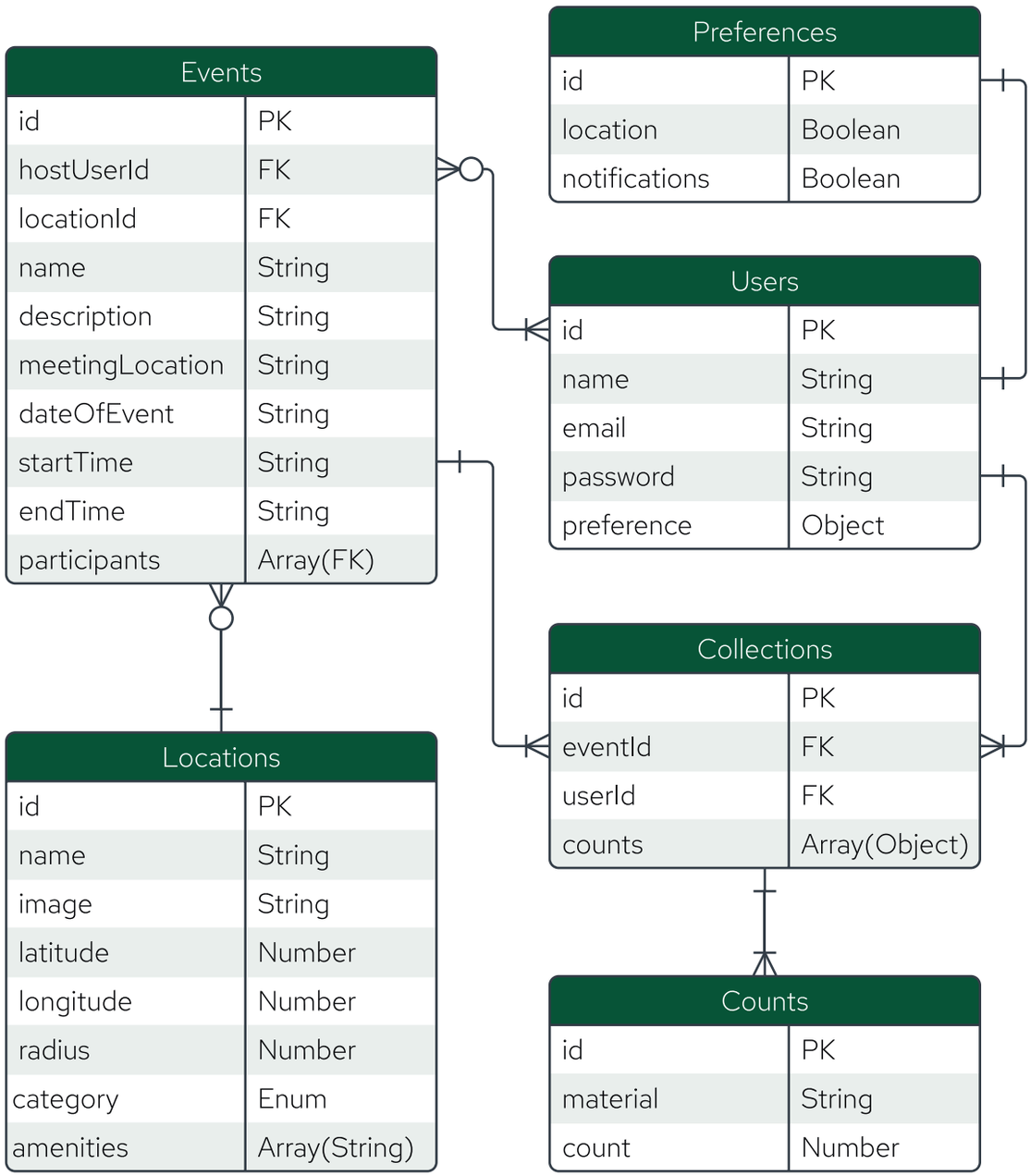
The Events table includes references to locations, host users, and participants. These references can be populated when retrieving event data, enabling us to gather all necessary information in a single API call. Each event has attributes such as name, description, meeting location, date, start time, end time, and participants.

The Collections table, which manages collections of items related to events, has been designed to include a separate Counts table. This separation allows for easy scaling and flexibility in adding new material types without altering the data structure. Each collection is associated with a specific event and user, and contains a list of items with their respective counts.

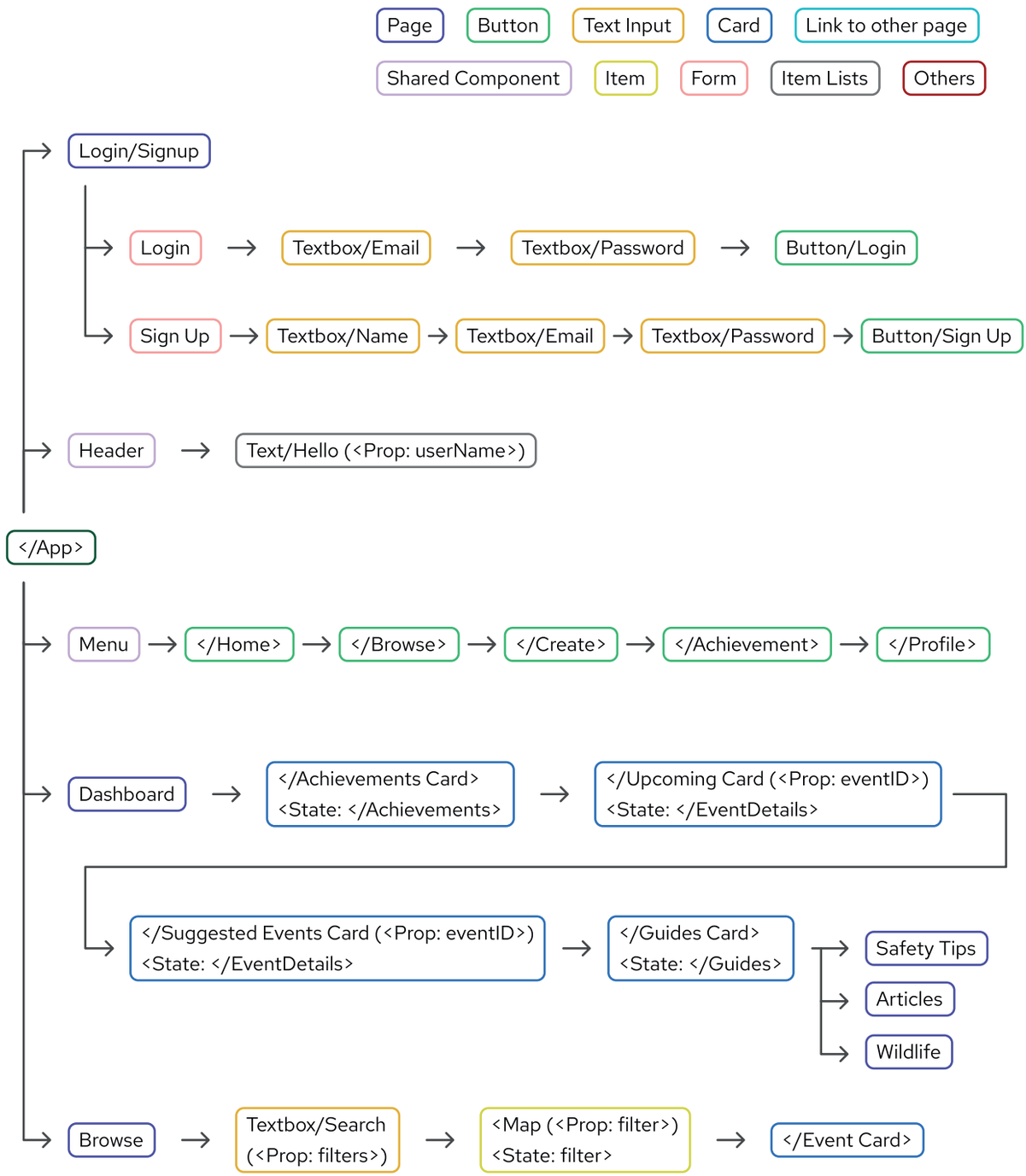
Users can create and join events, specify their preferences (such as location and notification settings), and maintain collections of items. The Users table includes user details and preferences, while the Preferences table stores the actual preference settings.

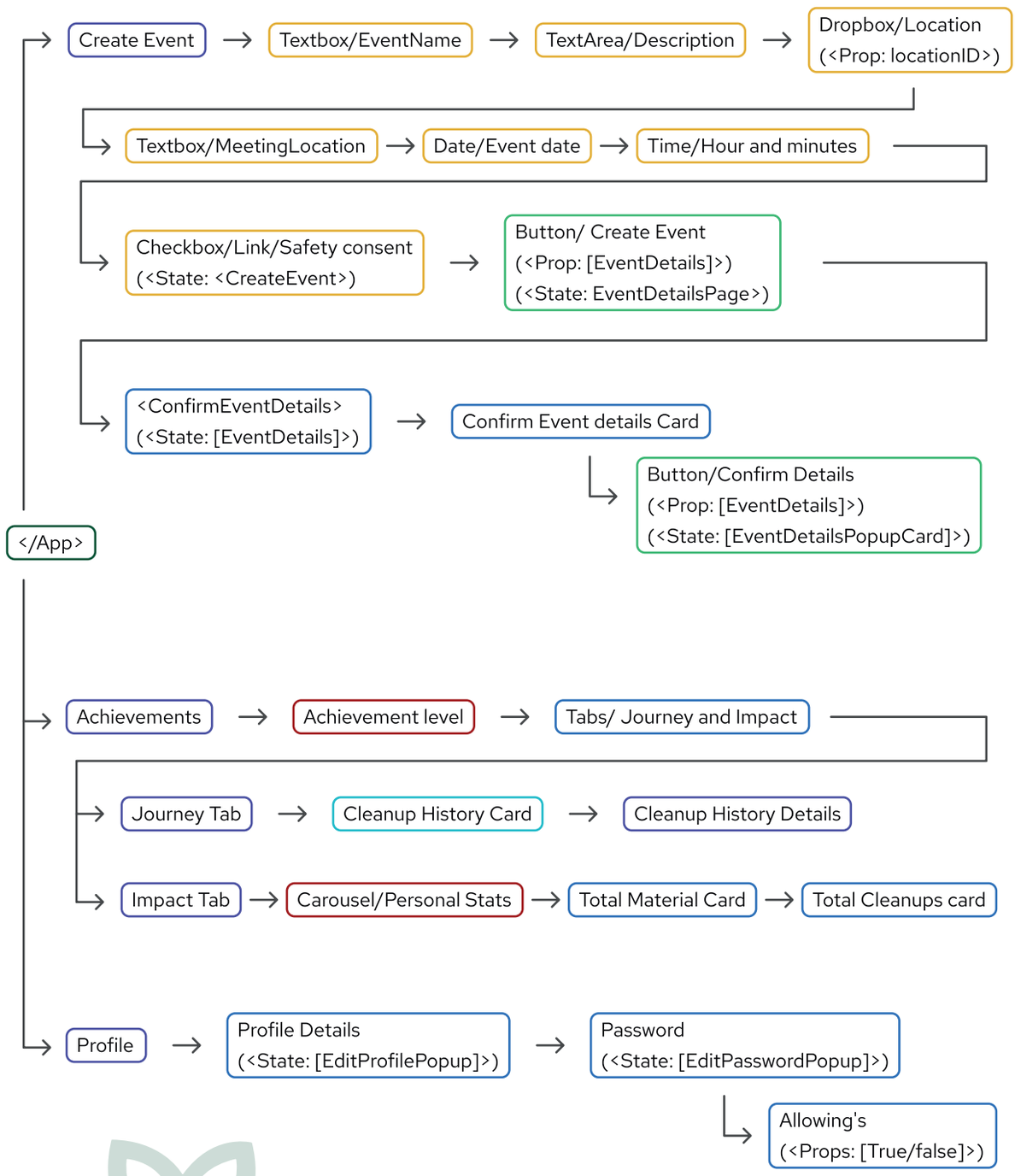
The Locations table stores details about event locations, including coordinates, radius, category, and amenities. This information helps in managing and selecting event venues efficiently.

The relationships between these entities ensure that data is interconnected and easily accessible, enhancing the overall functionality and performance of the app. By structuring the data model this way, we facilitate efficient data retrieval, scalability, and maintainability, providing a seamless user experience.


Events
id PK
hostUserId FK
locationId FK
name String
description String
meetingLocation String
dateOfEvent String
startTime String
endTime String
participants Array(FK)
Preferences
id PK
location Boolean
notifications Boolean
Users
id PK
name String
email String
password String
preference Object
Collections
id PK
eventId FK
userId FK
counts Array(Object)
Locations
id PK
name String
image String
latitude Number
longitude Number
radius Number
category Enum
amenities Array(String)
Counts
id PK
material String
count Number

Component Tree




Create Event
Textbox/EventName
TextArea/Description
Dropbox/Location
(<Prop: locationID>)
Textbox/MeetingLocation
Date/Event date
Time/Hour and minutes
Checkbox/Link/Safety consent
(<State: <CreateEvent>)
Button/ Create Event
(<Prop: [EventDetails]>)
(<State: EventDetailsPage>)
<ConfirmEventDetails>
(<State: [EventDetails]>)
Confirm Event details Card
Button/Confirm Details
(<Prop: [EventDetails]>)
(<State: [EventDetailsPopupCard]>)
</App>
Achievements
Achievement level
Tabs/ Journey and Impact
Journey Tab
Cleanup History Card
Cleanup History Details
Impact Tab
Carousel/Personal Stats
Total Material Card
Total Cleanups card
Profile
Profile Details
(<State: [EditProfilePopup]>)
Password
(<State: [EditPasswordPopup]>)
Allowing's
(<Props: [True/false]>)

Technology Used

Design Softwares

Figma

Illsutrator

Photoshop

Premiere Pro

Canva

After Effects

Figma was our primary tool for collaboration within all design aspects, creating our User Flow, Design System, UI Kit, Components, Wireframes, Mockups and Protoypes. Figma was also utilized for designing marketing and social assets, our landing page and the Project Proposal documentation, ready for printing.

Adobe Illustrator was used for some logo iterations. Adobe Photoshop was used to create designs for one of GreenCircle's main features, the Waste Collection Counter buttons. Adobe Aftereffects and Premiere Pro were used to create our promotional video for the project, and Canva served as a tool to create a visual presentation of our 12 week journey from concept to MVP.

Development Stack

React Native

NativeWind

Expo

JWT

Google Maps

Github

Node js

Express.js

AWS EC2

PM2

NGINX

MongoDB

Please refer to Tech Stack page.

Project Management and Productivity

Trello

Slack

Google Drive

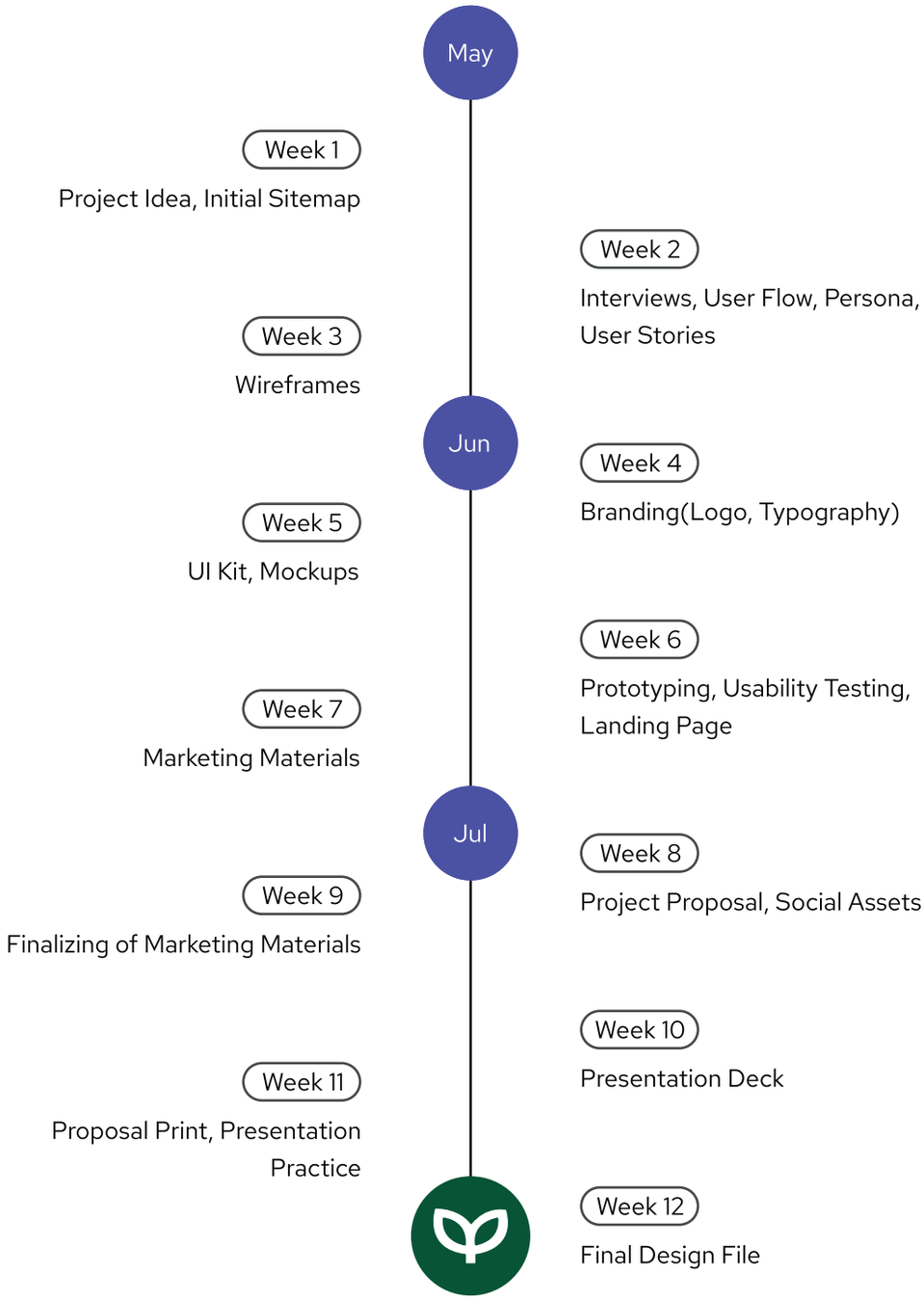
Google Docs

Google Sheets

Trello was our primary project management tool, ensuring seamless progress tracking of tasks across the wider team. We used Slack for communication, both written and via video meetings for check-ins and progress updates.
We used Google Docs and Google Sheets for documentation of progress and Project Proposal content. The design team also used these tools for user testing and storing all documents, icon SVG and images.

Project Timeline

Designers



Developers

May

Week 1

Project Idea, Initial Sitemap

Week 2

Research and Planning Tech Stack, System Design, Repository

Week 3

Research and Planning Tech Stack, Data Model, Define Structure, R&D of third parties' API and npm modules, Learn Frontend Stack

Week 4

Data Model, R&D of third parties' API and npm modules, Component Tree, Backend Implementation

Jun

Week 5

Component Tree, Backend Implementation, R&D of third parties' API and npm modules, Define Structure

Week 6

Backend Implementation, R&D of third parties' API and npm modules, Main Features

Week 7

Backend Implementation, R&D of third parties' API and npm modules, Main Features

Jul

Week 8

Alpha Build

Week 9

Styling Implementation, Alpha Bug Fix

Week 10

Styling Implementation, Alpha Bug Fix, Beta Build

Week 11

Beta Bug Fix

Week 12

Beta Bug Fix, Code Freeze

Team

Who are we?

We are a passionate and dedicated group of individuals with a diverse set of skills. Over the past 12 weeks, we have worked collaboratively to develop GreenCircle – from concept to a functional MVP mobile application.

Our journey was about more than just building an app, it was to enhance the process of nature cleanups and make more of a meaningful difference within the community. We are proud of our accomplishments and look forward to our continued growth!

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Alberth Rodriguez

Full Stack Developer

alfaroso

https://github.com/ALFAROSO

Empowered by industrial engineering, finance and human resources experience, I streamline operations and craft solutions through my programming skills to drive positive change and simplify people's lives.

Anthony Okoduwa

UX/UI Designer

anthony-okoduwa

https://www.behance.net/anthonyokoduwa7

With a background in International Relations and Diplomacy, I am passionate about designing intuitive interfaces, researching user needs and creating more efficient designs for a better user experience.

Anjali Rajesh

UX/UI Designer

anjali-rajeshh

https://www.behance.net/anjalirajesh

With a background in animation and graphic design, I've crafted user-friendly interfaces and experiences. I'm now learning to incorporating AI into design. I focus on user research, design exploration, and craft minimal interfaces as part of my continuous learning journey.

Ching Chen Su

Full Stack Developer

ching-chen-su

https://github.com/andysu1126

A former strength and conditioning coach, I've recently ventured into the realm of program development, focusing on the front-end aspect and gaining more knowledge on backend development.

Emre Aydin

Co-Lead Developer

eemraydin

https://github.com/eemraydin

I began my career as a programmer and transitioned to an Account Manager role. Now, I've returned to programming, eagerly delving into both back-end and front-end development for mobile applications.

Masahiro Kanamaru

Co-Lead Developer

masahiro-kanamaru

https://github.com/s1120258

Starting as a Software Engineer, I have developed a package software that helps design electronic devices. Driven by curiosity and helping users, I aim to solve more problems as a full-stack developer.

Naoya Sasaki

UX/UI Designer, Project Manager

naoyasasaki

https://www.naoyasasaki.com

Through my background in system engineering, I align design ideas with development execution. I organize processes and refine UI and UX details, while properly managing the time, project and team.

Tia Le Santo

Lead UX/UI Designer

tialesanto

https://www.behance.net/tialesanto

I have a background in animation, digital marketing and PR. I am passionate about user-friendly, simple design with strengths in organization, leadership and communication of ideas in UI and UX projects.

Patricia Clemente

UX/UI Designer

pat-clemente

https://patclem98.wixsite.com/e-portfolio

Passionate about graphic design, marketing, content creation and now UI/UX design, I bring people's visions to life. I aim to create effective and efficient solutions that enhance daily experiences.

References

Market Research

- Precedence Research: https://www.precedenceresearch.com/environmental-technology-market
- Columbia Climate School: https://news.climate.columbia.edu/2022/09/19/the-growing-awareness-and-prominence-of-environmental-sustainability/
- National Geographic: https://education.nationalgeographic.org/resource/worlds-plastic-pollution-crisis-explained/
- Earthday: https://www.earthday.org/how-our-trash-impacts-the-environment/

Competitive Analysis(App logo images)

- Litterati - The Global Team Cl: https://play.google.com/store/apps/details?id=org.litterati.android&hl=en_CA
- Clean Swell: https://play.google.com/store/apps/details?id=org.oceanconservancy.cleanswell
- TrashOut - World Cleanup Day p: https://play.google.com/store/apps/details?id=me.trashout&hl=en_CA

Technology Used icons

- Google drive: https://iconduck.com/icons/240291/google-drive
- Google docs: Google Docs icon by Icons8
- Google sheets: Google Spreadsheets icon by Icons8
- Slack: https://iconduck.com/icons/94899/slack-icon
- Trello: Trello icon by Icons8
- Figma: https://iconduck.com/icons/94295/figma
- Canva: https://commons.wikimedia.org/wiki/File:Canva_icon_2021.svg
- Premiere Pro: https://en.m.wikipedia.org/wiki/File:Adobe_Premiere_Pro_CC_icon.svg
- After Effects: https://en.m.wikipedia.org/wiki/File:Adobe_After_Effects_CC_icon.svg
- Illustrator: https://iconduck.com/icons/240216/adobe-illustrator
- Photoshop: https://iconduck.com/icons/240222/adobe-photoshop

System Architecture icons

- React: https://iconduck.com/icons/94810/react
- Native Wind: https://www.nativewind.dev/
- Expo: Expo icon by Icons8
- Google Maps: https://iconduck.com/icons/14092/google-maps
- JWT: JWT icon by Icons8
- Nodejs: Nodejs icon by Icons8
- Express Js: Express Js icon by Icons8
- MongoDB: https://iconduck.com/icons/13127/mongodb-original
- PM2: https://iconduck.com/icons/27806/pm2
- NGINX: https://iconduck.com/icons/102257/file-type-nginx
- Github: https://iconduck.com/icons/2159/github
- AWS EC2: https://iconduck.com/icons/94013/aws-ec2

Icons in Team pages

- LinkedIn: https://iconduck.com/icons/1883/linkedin
- Website: https://iconduck.com/icons/139008/website-click

Information for GreenGudie pages

- https://lynnwonders.medium.com/the-science-behind-mindfulness-and-nature-a-powerful-combo-for-reducing-stress-boosting-mental-bd49e4542206
- https://dailyhive.com/canada/canadian-lake-best-spots-clearest-water-on-earth-peyto
- https://greatergood.berkeley.edu/article/item/three_new_ideas_about_happiness_and_well_being
- https://vancouver.ca/files/cov/cleanup-safety-checklist.pdf
- https://bcparks.ca/
- https://www2.gov.bc.ca/gov/content/home

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