

REQUIREMENTS ANALYSIS

Functional Requirements:

These are also the core functionalities of the application:

- The system shall allow the user to login using their credentials that were used when signing up.
- The system shall allow the user to post events such as beach cleanups, planting of trees.
- The system shall also allow users to indicate their attendance to the events posted.
- The users shall be able to monitor and calculate their footsteps throughout the day and be self-rewarded if satisfied.
- The application shall be able to calculate the amount of carbon emissions produced each day and therefore, be a means of car-pooling and encourage users to carpool with those in their community whose destinations are close.
- The system shall provide users with useful tasks for a cleaner eco-lifestyle and allow each user to track their progress via a chart when they complete certain eco-friendly tasks.
- The system shall allow users to take part in challenges and earn a badge on the website as well as physical rewards such as vouchers, gift certificates etc.

Additional Features:

- The system shall display business' advertisements as these businesses would sponsor rewards for the users of the application.
- The system shall provide information about environmental protection and conservation as well as contact information for iCareTT and other garbage collectors.

Non-Functional Requirements

Performance/Efficiency

- Maximum application start-up time of 5 seconds.
- Real-time event updates/refreshes at one second intervals.

Scalability and Capacity

- Able to host at least 10000 (expandable with app and user growth) user profiles in database system storage.

Safety/Security

- Event meetups can only be viewed by members of the application.
- Users should only agree to carpool with mutual friends or persons they have met and know from cleanups etc.

- Car-pooled pick-ups and drop-off locations are ensured to occur in safe, well-lit public areas.
- The user's basic profile information can only be viewed by each other or a system administrator providing no access to personal information by persons ineligible to use the application.

Accessibility and Usability

- UI easily understood by people ranging from ages 16 and above with the ability to be easily navigated and utilized.
- Homogeneity between both Android and iOS applications, both applications provide the same easy-to-access UI and provides the same feature set.

REQUIREMENTS SOLICITATION JUSTIFICATION

All the functional requirements constitute the core functionality of the proposed system, that is, the system can only be functional, unique and fulfil the idea with these included. These requirements are the registration and login profiles to ensure the safety of the users of the application. The features which make the application unique are the ability of users to post and update cleanup events, users can track the amount of footsteps made daily as well as calculate the levels of carbon emissions of their trips which can encourage them to carpool with other users of the application in their communities. The application also provides a platform in which users can participate in daily eco-friendly tasks and their progress (in points) can be tracked via a chart. Users with a great amount of points will be rewarded with vouchers and gift certificates from the sponsors who will in turn, gain advertisement for their businesses.

SPRINT 1:

February 4th - February 17th

- Sign-up form, confirmation link sent to user's email.
- Login using credentials (username and password).
- Database setup and populate with test data.

SPRINT 2:

February 18th - March 3rd

- Code events page in which users can post events
- Code how the users will indicate their attendance to events

SPRINT 3:

March 4th - March 13th

- Code the daily tasks/challenges page.

- Create the tasks and challenges.
- Create a page for the display of environmental protection and conservation and contact information of iCareTT and other garbage collectors.

SPRINT 4:

March 14th - March 28th

- Code how the footsteps would be tracked.
- Calculation and monitoring carbon emissions.

SPRINT 5:

March 29th - April 4th

- Page where users can organize to carpool with other users in their communities to reduce the carbon emissions.
- Refactoring
- Final Testing