CS 30700: Project Charter

Team Number: 22
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Problem Statement:
As climate change becomes a greater issue in our society, people are becoming more climate-conscious and are looking for a way to track its effects on the planet. A great way to help combat climate change is by lowering your carbon footprint and the best way to do that is to first understand how your choices in your day-to-day life affect your overall footprint. Our goal is to create a carbon awareness platform to monitor levels of carbon output in everyday life. What sets our website apart from other personal carbon footprint calculators is that we show how your daily choices affect your carbon score and have social features to foster a more climate conscious society.

Project Objectives:
- Build a website that allows a user to track their personal carbon footprint
- Calculate the carbon score based on what the user enters
    - The carbon score is calculated based on the user's entered data where eco-conscious actions are viewed favorably and unsustainable practices are viewed negatively
- Make a visual representation of a user's carbon footprint
- Create a server that allows users to view other people's carbon scores and compare them with their own
- Create a leaderboard that ranks the top 10 best users based on who has the best carbon score
    - Have a weekly ranking system to keep users engaged
- Allow friends to see your carbon emission levels

Stakeholders
- Users: Purdue University students
- Developers: Annalise Kimura, Brian Gillis, Paul Kraessig, Rishab Koka
- Project Coordinator: Nanyi Jiang
- Project Owners: Annalise Kimura, Brian Gillis, Paul Kraessig, Rishab Koka

Deliverables:
- Carbon footprint database creation
- User sign up, profile, add friends
- Tracker platform
- Tree lighting
    - Grow a virtual tree to represent carbon habits

- Social aspects, which include:
    - Goal setting; when a goal is completed, a post is made
    - The tree that grows when carbon emission is minimal; photo uploads with each milestone; map of campus to see friends' trees (similar to snap maps)
    - Leaderboard (top 10 campus-wide, can see friends rankings)
    - If you complete a positive carbon action, you can send a friend fertilizer or help their tree
    - Create a user profile
    - Can create groups based on similar interests and a possible discussion board
- Use React for the front end, Node.js for the backend, and Firebase for the database
    - Firebase
        - Store User login information
        - Store list of user’s friends
        - Store user carbon score
            - Both Lifetime and weekly
            - Other statistics pertaining to a user's carbon score