

CS 160 Feature Documentation

San Jose State University

CS-160 Sec 03 - Software Engineering

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Project Name:

EcoTrack

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Introduction

Our product will be a website that helps environmentally conscious users track their utility usage, such as water, electricity, and gas. Users will log their utility usage data into the website, which will then graphically represent the data to help users visualize their usage trends. The website will also offer advice on how users can save on their utility usage. With the visual representation and our feature set, we hope users will change their utility usage habits to benefit the environment.

Features

Sign Up and Login

To use the EcoTrack website, users must first create an account. To sign up, users must enter their email address, username, and password. Once a user has finished creating their account, they can start using EcoTrack to keep track of their utility usage. All useful and important information, such as username, password, and utility usage data, will be stored in the user's account, which they can access at any time.

Notification Settings

Users will receive notifications that are reminders for them to log their utility usage data. Users can also change their notification settings through two dropdown menus, one for frequency and the other for notification type, located on their dashboard page. Users can choose between receiving daily or weekly notifications for frequency preferences, and text or email notifications for type preferences.

However, in our project's current iteration, users can only get notifications through the webpage, which itself is limited to friend-related notifications.

Logging Data

For a user to log their utility usage data, they must navigate to the website's data entry page. On the data entry page, users will be presented with three text fields for each utility type: water, electricity, and gas. Users can then enter the usage amount for each utility in their respective text fields and hit the save button. The user's usage data will then be updated to include the newly logged data. Users can only log one "full" data sequence per day. If they attempt to log more data on the same day, it will overwrite their older data for that day.

Displaying Usage

Users can view their utility usage data on their dashboard page. EcoTrack retrieves a user's data from the last seven days and displays it on the dashboard in the form of bar graphs. The website presents the data for each type of utility, each with its separate bar graphs. If there is no data available, EcoTrack will display a warning message to indicate that the user has not entered their usage data.

Offering Advice

After users log their usage data, EcoTrack will offer different pieces of advice on how users can reduce their utility usage. Each type of utility has light advice and strong advice. The lighter pieces of advice are easy to follow and are for users whose usage is under a defined threshold. The stronger pieces of advice are harder to accomplish, but would help users save

more, and are for users whose usage surpasses the threshold. The thresholds are the daily average usage of each utility type from Santa Clara County households. Users will receive a random piece of advice every time they log their data.

Weekly Challenges

EcoTrack has weekly challenges that users can view on the website's challenges page. Each challenge comes with reward points to encourage users to save more on their utilities. Users can choose which challenges they wish to participate in. Once a user joins a challenge, the challenge's status will be updated to include the user's progress and be placed in the user's ongoing challenges. Once a user has completed a challenge, they will be rewarded points, and the challenge's status will be updated to indicate that it has been completed.

Friend Leaderboard

Users can add other users as friends and engage in friendly competition using the leaderboard. The leaderboard, located on the website's community page, shows a user and the global leaderboard. It also shows each user's point tally, how many challenges they have completed, and ranks them according to the number of points they have earned. There is a tab for friends where you can view your current friends, their points tally, and the number of challenges completed.

Environmental News

EcoTrack also offers environmental news articles on the website's news page. The page displays information about the news article, such as its title and source. Users can view the list of news articles and access links to learn more about current environmental events that are happening around the world.

In the project's current iteration, the news that is available are placeholders and the user cannot view real news yet.