EE461L Phase 1 Report
Our Green Routine

Team Puma
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Team repository \\ https://github.com/jpandya1/TeamPuma

Phase 1 project leader: Kan Vanthanasuksan

Website URL: greenroutine.appspot.com

Completed tasks description
The webpages were developed using HTML, CSS, and JavaScript and the website is registered online with the Google Cloud Platform. The splashpage navigates users to each of the specialized pages and each of these pages were completed with the objective of reaching the minimum requirements for the phase 1 checkpoint (see design description below for more details). The recycling database page satisfies having links to 6 recyclable items, though specific data is hard-coded for this phase. The recycling guide page contains recycling tips for at least 5 items. The maps page displays a google maps box with an interface to select recyclable items. There is a basic outline that shows how the financial calculator and carbon footprint tracker will appear, though it's data and items are currently hard-coded as well.

Design description
The splashpage for Our Green Routine has a gallery of links that each link to the broader functionality of our website. These are links to our Recycling Database, the Recycling Guide, the Recycling Locator, Financial Calculator, and the Carbon Footprint Tracker. A navigation bar was also created with a link to the splashpage and About page.

The About page provides a description of the site, its purpose and its intended users. There is a section providing information on each member of Team Puma, listing names, majors, individual responsibilities, along with member-specific information from our group Github repository. Following this section is a description of the data sources and tools we use for Our Green Routine.

The Recycling Database link directs to the list of recyclable items. For Phase 1, we have 6 items listed: aluminum can, cardboard box, glass bottle, newspaper, milk jug, and scrap metal. Each recyclable item has an image to clearly indicate the material, along with instructors on how to recycle that item. Some of these items link back to our recycling guide.

The Recycling Guide offers users tips and advice on additional, commonplace items that they may be looking to recycle. Unlike the Recycling Database, the Recycling Guide takes a more personable approach to each item.

The Map locator allows users to find the recycling locations that is nearest to their current location or the location that they entered. Furthermore, the Map locator also allows users to search for recycling centers that recycles specific items. The user can indicate the item that they want to recycle and will see the nearest recycling centers and facilities that accepts the selected item. In this phase, we used an embedded Google maps that searches and displays the location entered into the search box by using the Google Places and Javascript API. In the next phase, we will obtain the recycle center location API from Earth911 and display it on this map.

The Carbon Footprint feature allows users to see the environmental impact they're making by tracking how much waste they recycle. The user can then input both the number and types of recyclable items to receive a summary of their contribution. The summary includes a breakdown of the carbon content and carbon emissions that the specific items possess. This is an efficient way to not only quantify the amount of emissions that were spared but also to credit the user with the impact they are making on the planet. These statistics will be displayed using percentages of each material the user recycles.

The Financial Calculator provides insight into how much money the user is able to save by recycling. They can input the quantity and type of recyclable items to a table. This table will illustrate the amount of money the user spends on recyclable items and how much those materials are worth. This will allow the user to see the financial impact of their recycling efforts documented over time.

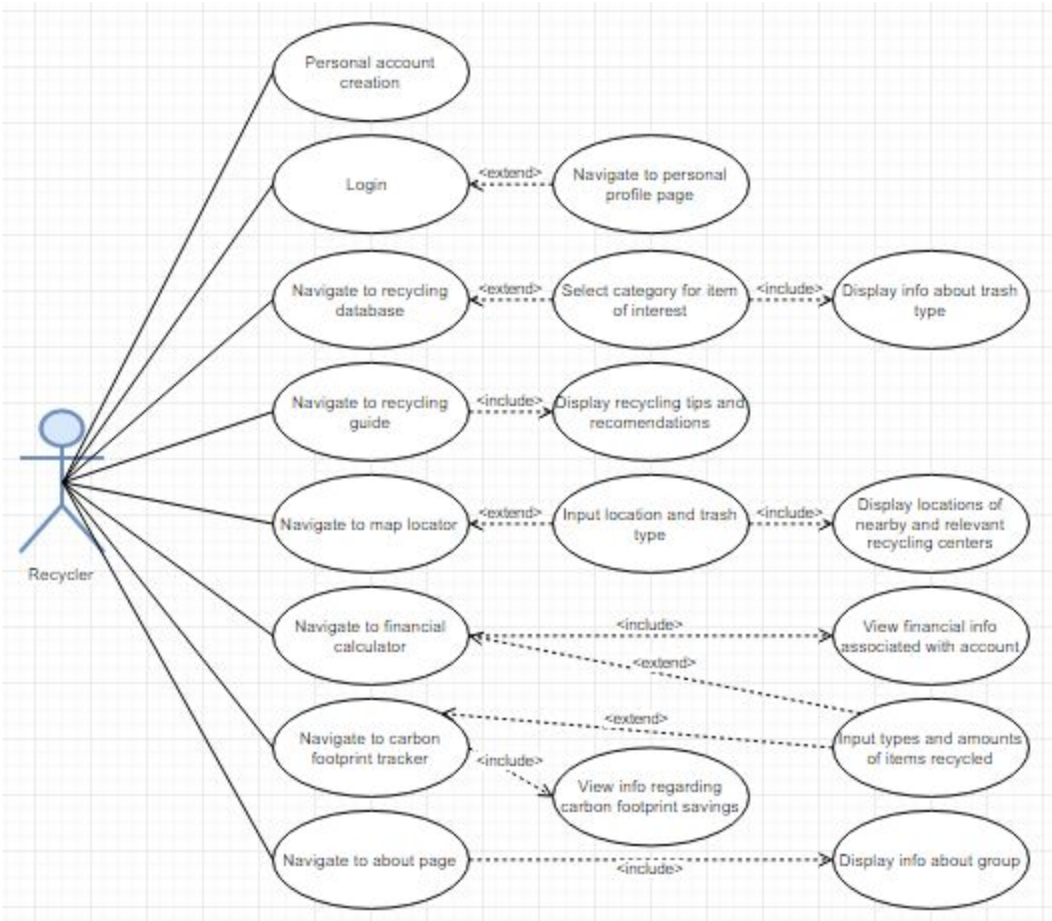


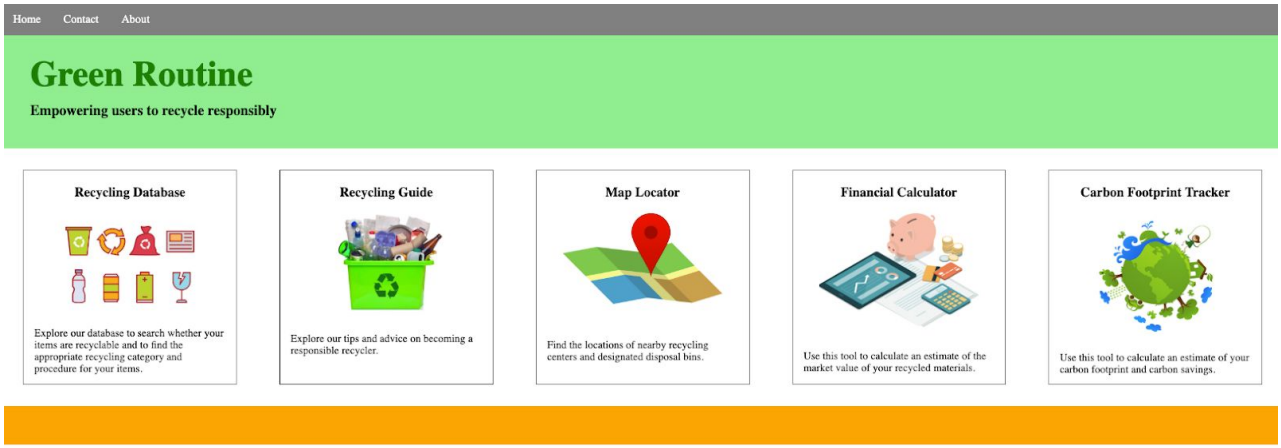
Figure 1. Updated use-case diagram for website

User Stories:

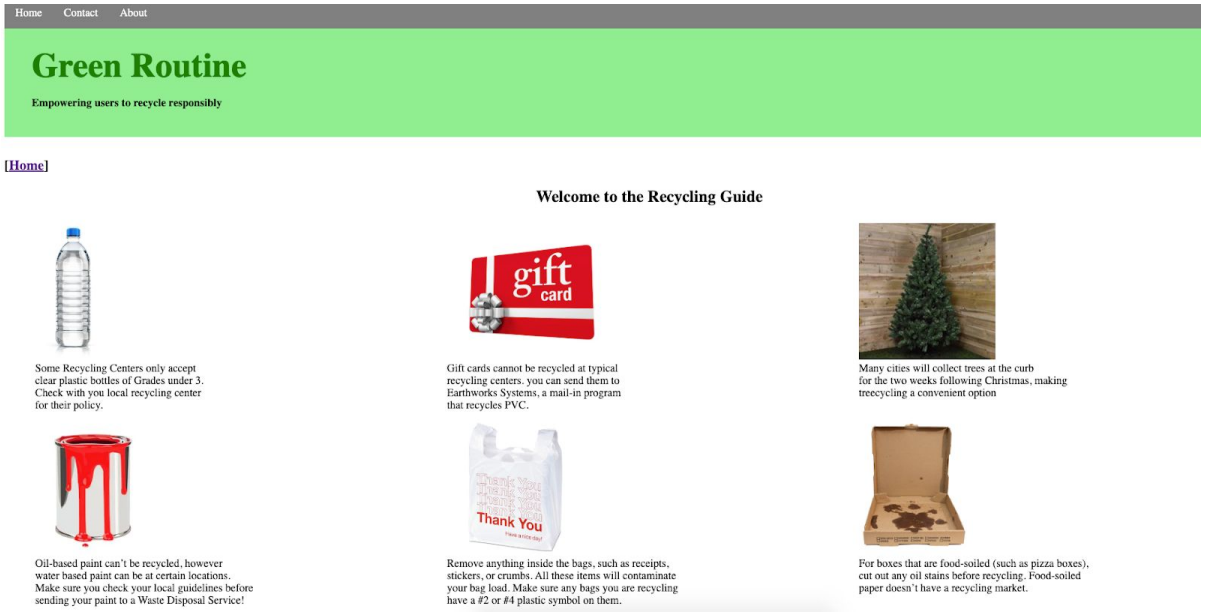
1. As a recycling enthusiast I want easy access to recycling locations so that I can recycle with the least amount of travel.
2. As a novice recycler, I want to know which items can and cannot be recycled so that I don't waste the time of recycling centers.
3. As a novice recycler, I want to know which items need to be manually altered to meet recycling requirements, so that my recycled items aren't wasted.
4. As a user of "Green Routine", I want to know how much my recycling has reduced my carbon footprint, so that I can see how my efforts are helping our environment.
5. As a user of "Green Routine", I want to know the financial impact that recycling has made for me, so that I have a tangible reference to what results from my efforts.

Features and Functionality:

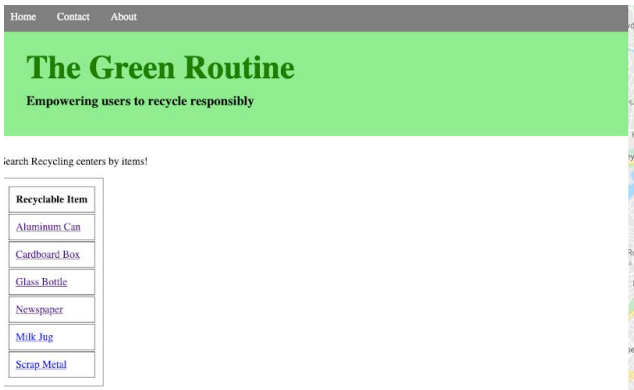
Splash page:

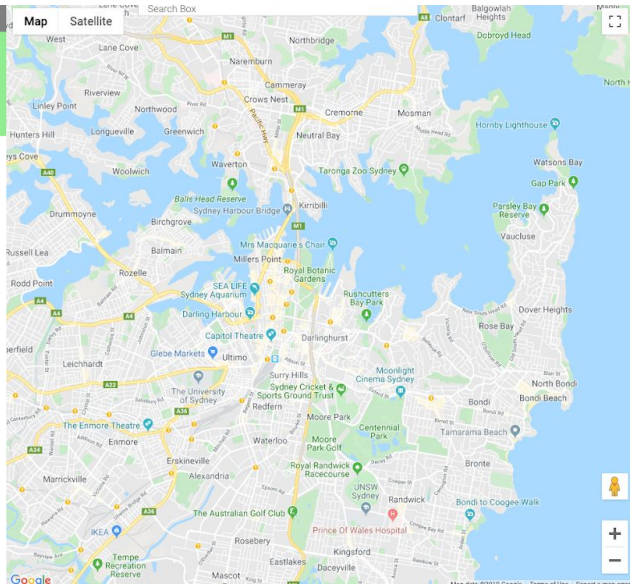


Recycling Guide:



Map Locator:





Financial Calculator:

Carbon Footprint Tracker:

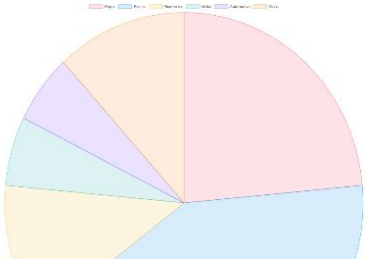
Green Routine

Empowering users to recycle responsibly

Carbon Footprint Calculator

Date	Item	Category	Carbon content (grams)	Quantity	Total emission (grams)
10/01/2019	Coke Bottle	Plastic	82.8	2	165.6
10/02/2019	DVDs	Electronics	160	3	480
10/03/2019	Aluminum tray	Metal	400	1	400
10/04/2019	Newspaper	Paper	30	3	90
10/04/2019	Coke can	Metal	82.8	1	82.8
10/06/2019	Milk jar	Glass	200	2	400
10/10/2019	Car Battery	Automotive	1200	1	1200

Your Saved Carbon Emission!



Tools, Software and Frameworks

Our Green Routine is built using HTML5, CSS, and Javascript. In Phase 1, the pages are primarily static. In future stages, we will use the search API provided by Earth911.com to provide users with a means to search for specific items.

Team Puma utilizes Slack and GroupMe for communication. GitLab is used for posting User Stories on the issue boards. Our Green Routine is hosted on the Google Cloud Platform.

Testing

For Phase 1, no testing was performed. The focus of the deliverables was web development and information management.