Pennsylvania Resources Council

Executive Summary

Community Partner
Omoye Aikhuele
Michael Stepaniak
Justin Stockdale
Student Development Team
Sai Dhulipalla
Rebecca Kern
Ziren Zhou

Background

Pennsylvania Resources Council, PRC, is the oldest grassroots environmental nonprofit in Pennsylvania whose mission is *"to lead and promote individual and collective actions to preserve Pennsylvania's environmental resources for each generation."* PRC works to meet their mission in a variety of ways, primarily through environmental education programs and waste management events.

Project Description

Project Opportunity

One of PRC's services to the community is hosting the Recycling Hotline for the Pennsylvania Department of Environmental Protection. PRC receives calls from citizens across the state asking for recycling information on a variety of different items. This process requires data to be managed in two places: searching for a location near the caller where the item can be recycled and tracking caller information. The main problems in their previous process was that: (1) PRC's information was stored in Excel spreadsheets making searching through their data hard to manage (2) The recycling locations are ever-changing and there was no indication of when data was last verified (3) Tracking calls and lookups both were two separate processes that used the same information, but required PRC to do double the work for each call.

Project Vision

Our proposed solution to these problems was to store PRC's recycling hotline resources in a database from which they could easily retrieve, update, and verify information. This system would also contain the ability to record calls, thus streamlining their calling procedure. This would serve as an internal resource that could be used by all employees of PRC using the hotline and would allow information to be consistent, securely stored, and easily accessible across the organization.

Project Outcomes

Throughout the iterative consultation process, the application was deployed weekly for user feedback. Each week suggested changes and other newer features were added. During the semester, there were a list of features, bugs, etc. for us to implement that was consistently updated. These action items were ranked by importance of functionality to the overall application and completed accordingly. From low fidelity wireframes to our MVP to our final product, the user and the experience of taking a call and searching for what the caller had asked was prioritized. PRC worked with us closely to be sure that we were on the same page as we developed a solution to their problems.

Project Deliverables

Our deliverable is a web application built with Ruby on Rails that can record hotline call information in a spreadsheet, search for recycling locations in PA by county and zip code, and verify the integrity of the information in the database. We have preloaded the database with information from PRC's current spreadsheets and included the git repository containing the code, and documentation and tutorials about the system to help train future employees.

Recommendations

Although we have a large percentage of their Excel spreadsheets populated into our database, we highly encourage PRC to continue to collect, verify, and add more information to the database, since its value will only increase with more data. During this semester, our efforts were focused on building an internal tool that provides value for PRC employees, which is why our web app is not very public friendly. We advise future development to be focused on making the app public facing, which includes features such as account management, UI updates, using the Google maps API to display locations, and more. In addition, since PRC creates reports on the hotline, future teams should build visualization tools to help PRC better understand their user base.

Student Development Team

Sai Dhulipalla served as developer and project manager. She is a third-year student majoring in Information Systems with a minor in Business Administration. She will be interning at Salesforce this summer and is looking toward a career in software engineering or product management.

Rebecca Kern led as the primary project manager and a developer. She is a third-year junior majoring in Information Systems. She will be working as an intern at Capital One this summer focusing on mobile development.

Gerry Zhou served as the head quality assurance manager and played a huge role in the development process. He is a junior majoring in Information Systems with a minor in Computer Science. He will be studying at CMU this summer and pursuing a career in software development.