

Environmental Foodprint

Executive Summary

Community Partner

Michelle Tom

Paul Fischbeck

Chris Hendrickson

Student Development Team

Karen Irvine

Anne Lueh

Jackie Pan

Background

The Environmental Foodprint team consists of Michelle Tom, Paul Fischbeck, and Chris Hendrickson, PhD and professors from Carnegie Mellon University respectively. For Michelle's fellowship, she explored the relationship between US food consumption patterns and changes in energy use, blue water footprint, and greenhouse gas emissions. Her research advisors were Paul and Chris.

Project Description

Project Opportunity

Michelle, Paul, and Chris wish to present the findings of their research in a transparent and accessible way. In an effort to promote human health and environmental sustainability, they need a platform that consumers, students, researchers, healthcare professionals, and policymakers can use to understand the nutritional value and environmental impact of various foods and diets.

Project Vision

We proposed to create an educational and interactive calculator that acts as a vehicle for publicizing their research in the form of a web application. The application will allow users to input foods into their meals so they can easily visualize the nutritional and environmental impact certain foods have on both their health and the environment. Users will also be able to compare their specific diet to the USDA recommended diet and other diets.

Project Outcomes

Our team built a relational database to store the nutritional and environmental food data. We set a strong foundation for this project; we heavily analyzed the project requirements, developed high fidelity semi functional wireframes, conducted rounds of user testing and created a preliminary web application. The administrator of the application is able to upload CSV files containing data, and the information will be updated automatically. With the calculator, visitors can easily add and remove foods to their "plate" to interactively see the change in nutritional and environmental impact.

Information about Michelle, Paul, and Chris' research is accessible through the website, thus effectively publicizing their work.

Project Deliverables

The final deliverable is a Ruby on Rails application, deployed on a DigitalOcean server. On top of the application, we will deliver thorough documentation and provide a guide so future developers will understand the code and reasoning behind the decisions we made, and the clients will know how to maintain the application on their part.

Recommendations

We recommend that the Environmental Foodprint team continue with development to incorporate the ability to compare meals in the future. Currently, the application functions as a basic interactive calculator for users to build a meal and view its impacts. There is a lot of groundwork already laid out for future development, so we recommend adding additional features and implementing more user stories. We have heavy documentation on what the long term vision for the project is, so there is a clear goal for the future and much room for expansion.

Student Development Team

Karen Irvine managed client relations and acted as content area expert. She is a third-year student majoring in Information Systems with a minor in Business Administration. This summer, she will be interning at Deloitte.

Anne Lueh served as project manager and design lead. She is a third-year student majoring in Information Systems with a minor in Global Systems and Management. This summer, she will be interning at PNC.

Jackie Pan was the quality assurance lead and technical lead. She is a third-year student majoring in Information Systems. This summer, she will be interning at Bloomberg.