

Hunger Warrior

Team B14

CS 4513

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Professor Strauss

Team members:

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Project Motivation

The project motivation behind Hunger Warrior is rooted in ailing the fight against food insecurity and food waste in the United States of America.

According to the USDA's latest Household Food Insecurity in the United States report, "more than 35 million people in the United States struggled with hunger in 2019." And with the current pandemic, Americans have been facing the highest rates of food insecurity and homelessness to date. Additionally, "the United States is the global leader in food waste, with Americans discarding nearly 40 million tons of food every year." In order to combat this, our group came up with the idea of providing a service that can reallocate food resources from grocery stores to those in need at homeless shelters. Not only is this a solution for some of the "37 million people across America — including 11 million children — suffering from food insecurity" but also for reducing the amount of food waste that the United States produces each year. In doing so, this also allows for solutions to other problems that come with the massive amount of food waste produced.

According to the World Wildlife Federation, the "production of wasted food in the United States is equivalent to the greenhouse emissions of 37 million cars. If Americans continue on the same path of food loss, the environmental impact could be disastrous." There is clearly also an environmental need for an application like Hunger Warrior. In addition to the improvement of environmental conditions and the food insecurity rate, our solution can also save massive amounts of money. "According to the US Department of Agriculture (USDA), Americans waste more than \$161 billion each year on food..." Our product can act as an intermediary, matching shelters with local grocery stores to ensure an efficient transfer of product.

Our goal is to make the Hunger Warrior application accessible to everyone so that grocery stores and shelters are able to easily implement our project into their own communities.

Source: <https://www.rts.com/resources/guides/food-waste-america/>

Project Description

Hunger Warrior will be a web application dashboard that will facilitate safe and legal food distribution. Hunger Warrior will overcome the obstacle of navigating food safety laws, by vetting the food before it is delivered. This will take into account food safety laws in tandem with inventory management practices.

Hunger Warrior provides value to both the grocery stores and shelters. For grocery stores, it provides a better waste management system for their food items that are about to expire or be thrown out. Hunger Warrior also provides a tracking service to participating grocery stores by logging food donations to use for tax incentives and exemptions. The Hunger Warrior service is not only beneficial to grocery stores, but also beneficial for the shelters because they will be able more easily acquire food items from reputable sources. This allows for the shelters to further minimize costs of buying food and costs of maintenance.

Application Components and Functionalities:

1. The application will have a back-end to verify food safety compliance standards and will do this via survey when grocery stores log and commit new food items to the database.

Furthermore, the application will include a shelter matching and management system guided by shelter food item requests, location, and grocery store inventory information.

2. The application will include a front-end that will consist of a dashboard with different tools.

The dashboard will change depending on one of three user states:

a. Shelter State

- i. Requesting certain food items
- ii. Viewing available food inventory at grocery stores in area
- iii. Tracking shelters current item inventory
- iv. Creating partnerships with different grocery stores
- v. Verification tool for confirmation of food deliveries
- vi. Viewing employee delivery information

b. Grocery Store State

- i. See food requests pending in area
- ii. Load food information/pricing into system
- iii. View tax incentive information
- iv. Manage/View employee database for who would deliver food to shelters

c. Super User/Admin State

- i. Add grocery stores and load inventory
- ii. Add local shelters and calculate need
- iii. Match shelters with grocery stores in local area
- iv. Organize delivery dates and travel arrangements

Project Deliverables

As specified in the course outline the project deliverables are:

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| - Project Team Selection From | September 20 |
| - Project Proposal | September 22 |
| - Requirements and Analysis Specification (SRS - Requirements) | September 27 |
| - Software Project Management Plan (SPMP) | October 4 |
| - Project Description | October 6 |
| - Design Description (SDD) - Initial
(w/ initial code) | Starting
December 8
(Due by
December 13) |
| - Presentation | Starting
December 8 |