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October 1, 2017
CS 361

Vision Statement

Title: Food Trucks Fight Hunger
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Problem: It is known that restaurants produce a lot of food waste worldwide, with just the U.S. alone wasting around 30-40% of the food supply, according to the U.S. Department of Agriculture.[1] Currently, the food truck industry has been experiencing rapid growth, generating about $2.7 billion in revenue this year, up from $650 million in 2012.[2] As some food trucks do not operate with a brick-and-mortar restaurant, there is limited storage for food, and the market can still be volatile. Without set, known numbers of customers at large events or day-to-day business, food waste is an issue, as vendors prepare copious quantities of food based on estimations that may or may not end up correct. Additionally, not all food truck vendors operate with a large team nor with experience in the food industry, which may exacerbate the issue. I currently work on a food truck and see the food waste, firsthand, that results from food preparation that due to extenuating circumstances such as weather, equipment, etc., ends up as waste.

Solution: A solution to the food waste produced by food trucks and mobile food vendors would be to set up a database with vendors and shelters and/or food banks that are willing to take food products to distribute to or repurpose for those in need, such as the homeless and struggling families. Although some shelters and organizations have their contact information available, phones aren't always answered and there is the possibility that they can't immediately take in large amounts of perishable food that needs to be distributed or refrigerated quickly.[3] This database can be used for a website and an app for vendors to quickly identify and contact the organization(s) that would be willing to accept the leftover food, and for the organizations to reach out to vendors to receive food donations. The organizations could also post what types of foods they'd be willing to take, when they could take it, and vendors could post what they have up for donation. The three most key features that this software system should have are the following:

1. A database of mobile food vendors and food banks/organizations that both sides can access.
2. A communication system for vendors and organizations for contacts and information.
3. A notification system that would show which vendors have food donations and which organizations can accept them, as well as travel distance.

   The database will store essential information, both food vendors and of the organizations. Organizations can post data, such as donation times, places, and types of food. The food vendors can post data showing what type of food they can donate, or view the data that the organizations post for easy access. The data should include distance as well, for the donor to go to whichever organization is closest, for convenience. I realize this need for a database to store relevant information for mobile food vendors. I work with a food truck owner and have met others as well; they have all been through events where they overprepared food and were left with an excess, some that couldn't be frozen due to the ingredients, and others that couldn't be frozen as they were already defrosted (therefore, for food safety, can't be frozen again). Currently, there is no great resource that has easily accessible information for food vendors and organizations. If all of this information was put in a database with travel distance or a map (i.e. Google Maps), then it'd make it much easier on the mobile food vendor to find an organization to donate their food to rather than throw it out as food waste. Donations may also

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be tracked if food truck owners (which are usually small businesses) want to file it in their taxes to receive tax cuts, if possible.

The communication system is important for users to quickly contact each other with information, or to request information. Office phones aren't always able to be answered, so text communications within an app may be useful in such a setting. Vendors will be able to contact organizations with specific questions that the organization will be able to answer, even if the usual contact may be out of the office. This is the least important feature, as users can still call or text, if the contact information is available in the database. Ahmad of Feeding Forward experienced lack of communication with the organization when she had a donation of 500 sandwiches and tried to contact organizations that would take the food, of which a third didn't even pick up the phone.[3] These organizations probably are busy with day-to-day operations and management, and not all of them can afford to have a line that is always available and answered; this communication system could be useful in bridging the gap in communication between vendors and organizations.

The notification system would be useful as vendors would quickly get a feel for how far organizations are for donation drop-offs, to find which location is the most convenient. If an organization puts out data accepting food, vendors within a certain distance (which can be changed in the settings) will receive a notification to make sure they see the call for food. I have worked in large events where, due to extenuating circumstances such as weather, there was excess food due to poor turnout. The type of food that my food truck makes can't be frozen, due to marinades and breading, as well as prior defrosting (can't be frozen again). The chicken has to marinate overnight and the breaded chicken has to be prepared ahead of time as it's a three-step process that would be difficult to prepare on the truck during an event to meet demand while also maintaining food safety standards. To maintain a quality product for the consumer, some sides are unable to be repurposed, therefore there are many ways that food waste is produced. There were also some events where the organizers estimated the turnout and were very wrong with their calculations, if they were based on any data at all. This results in overpreparation of food, most likely perishable foods, especially with the focus on fresh, high-quality foods today. These events are not always held in the same places, therefore a notification system showing the closest donation drop-off organization would be very helpful to the vendors. Mobile food vendors work long hours and after an event, there is a lot of work yet to be done; finding the closest organization to an event or an otherwise specified location would be very helpful after a long, taxing day.

Economic Viability: Food banks and organizations are always asking for donations. Although many prefer non-perishable goods for easier storage and distribution, there is still a large market of food waste that can still be repurposed to battle hunger. There are many organizations, for-profit and non-profit that currently exist, from the Red Cross to lesser known soup kitchens that are all possibilities to channel leftovers. Mobile food vendors would rather see the food that they prepped cooked and used to feed people rather than in the trash, which is a waste in the truest sense. Some vendors find it difficult to dispose of their food waste, as there are specific standards that must be met even with disposal. It also costs the vendor to dispose of waste at their commissary (commercial kitchen with which they have a contract) and to use materials for disposal, such as trash bags, costs that still add up, especially with the vast amount of food waste that is possible on any given day. I believe vendors and organizations would be willing to work together to decrease the amount of food waste and hunger simultaneously, and connecting vendors with otherwise lesser-known organizations and soup kitchens, which could use perishable foods and have storage space for them, would be extremely beneficial to both parties. In the age of technology where almost everyone owns a smartphone or computer, this technology would be very useful.

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Conclusion: This solution would help two parties work together to inflict positive change in two causes that are prevalent in society: hunger and food waste, where one can be used to impact the other. The mobile food business has been growing in profitability, with more trucks and carts popping up around the world, especially in major cities. As a large industry, this increases the possibility and the quantity of food waste, especially for those who are not experienced in the food industry, therefore take less steps in eliminating or lessening their food waste. With the problem of hunger ever-present in the world, vendors and organizations must work together to combat it, as tackling both issues together is of utmost importance to the world.

References
[1] http://www.restaurant.org/advocacy/Food-Waste

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[3] https://www.cnet.com/news/feeding-forward-app-delivers-food-to-homeless-shelters-in-real-time/