**Business Case**

**“FOOD FOR GOOD”**

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# Executive Summary

## Issue

Wastage of food has resulted in, several hungry and malnourished people and animals,

Increased levels of harmful gases, decrease in revenue at grocery stores and restaurants, and increase in the costs for the disposal of food.

## Anticipated Outcomes

With the introduction of the “Food for Good” application, the current issues such as food wastage, hunger, malnourishment, loss in revenue, etc., will be addressed.

This app will help the undernourished people and animals receive healthy food which would otherwise go for a waste.

It’ll help restaurants market their products by letting them put up ads on the delivery trucks.

The technology will help reduce costs and time by avoiding the involvement of manual labor.

## Recommendation

Several other functionalities and options were considered during the planning of the project, “Food for Good”

This particular technology and plan trumps the other alternatives, since it strategically works out to be less expensive, more beneficial, and less time consuming.

This application is can be used by both android as well as IOS users. The above mentioned benefits can be achieved by the application by,

1. Allowing the users to donate the good food that will otherwise be disposed, to the hungry
2. Helping reduce the cost of disposal, helping plan the revenue better with visible calculations
3. Helping users Advertise for their restaurants and groceries stores on the delivery trucks for promotion

## Justification

Introducing the application to reduce food wastage, will result in fewer hungry people, fewer hungry animals, reduce loss of revenue at grocery stores to a great extent, and increase the number of healthier trees and plants.

The app will also help grocery stores estimate the quantity of food they would need to order, resulting in profits. Even after the reduced numbers, if there happens to be any leftover food, it wouldn’t go for a waste. This food will be used to help the people and animals in need.

This app also helps restaurants advertise their latest and upcoming dishes on the food delivery trucks which will help the promotion of the restaurant.

If we do nothing about the current situation, it’ll result in, One billion malnourished people in the world, Poor nutrition causing nearly half (45%) of deaths in children under five - 3.1 million children each year, release of tones of Greenhouse gases, and wastage of tons of food.

 An alternative would be for the Government to take some measures and reduce food wastage by using manual labor. But, it wouldn’t be as effective and it’ll involve a lot of resources, finance, and time.

Initial estimates for the “Food for Good” Project would be:

1) 15% reduction in food wastage in the first 12 months in the U.S alone

2) 15% reduction in the wastage of revenue at grocery stores all over the world in the first 12 months

3)  20% reduction in the release of greenhouse gases all over the world in the first 12 months

4) 50% reduction in the number of hungry people and animals all over the world in the first 12 months.

# Business Case Analysis Team

The following individuals comprise the business case analysis team. They are responsible for the analysis and creation of the Food For Good Project business case.

|  |  |  |
| --- | --- | --- |
| **Role** | **Description** | **Name/Title** |
| Finance Analyst | Provide financial breakdown for the project and evaluate various options from the financial point of view. | Preet Parmar |
| Product Marketing Analyst | Responsible for developing marketing and advertising strategies of the product | Noopur Kamble |
| Information Technology Analyst | Process flow, Technical Migration and Implementation | Shruti Singhal |
| Project Manager | Manages the business case and project team. Sets the project plan, approves the roll-outs for each phase. | Letitia Dsouza |
| Technical Support & Quality Analysis | Handle Customer care and incident management after production release | Taj Pooviah Palacenda |

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# Problem Definition

## Problem Statement

While all around the world around one billion people stay undernourished, in US itself around 40 million tons of food is wasted by households, retailers and food services every year. In less than a quarter of the food that is wasted in the United States, United Kingdom and Europe the world’s population could be lifted out of malnourishment. Around 10% of all greenhouse gas emissions come from producing, transporting, storing and preparing food that is never eaten. The following statistics can explain how food wastage and disposal is affecting the world-

* The amount of food lost and wasted every year is equal to more than half of the world’s annual cereals crops (2.3 billion tons in 2009/10)
* Poor nutrition causes nearly half (45%) of deaths in children under five - 3.1 million children each year
* The production of food that is wasted generates “3.3 billion tonnes of greenhouse gases” and uses up to “1.4 billion hectares of land – 28 per cent of the world’s agricultural area”
* The irrigation water used globally to grow food that is wasted would be enough for the domestic needs (at 200 litres per person per day) of 9 billion people – the number expected on the planet by 2050

## Organizational Impact

There is no organizational impact to the developing team as it is a new venture. The food suppliers or vendors will have an app to assist them in distributing and disposing of excess food. They will save on the effort to dispose of excess food and instead will give it to the pickup trucks who will deliver it to the food banks and other recipients. No modification in the present systems otherwise.

## Technology Migration

In order to effectively develop this application we have divided our tasks into the following phases:

**PHASE I: PRE-PLANNING FOR HOW TO BUILD AN APP**

* Define the project and create use cases-Connecting with food supplier to understand the categories of food wasted, shelf life and present disposal techniques.
* Do your research. Is there already an app on the market similar to the one you are thinking to build? If so, how can you do it better?

**PHASE II: MENTAL PROTOTYPING / DISCOVERY** (A mental prototype is a brainstorm to help define a concept in visual terms. It’s the first opportunity to start to see how the app might evolve…and to get a reality check.)

* Reach out to the possible food banks and government center who could utilize different food categories. This phase would also require the involvement of possible transportation of food to these reserves. How the food will be collected, transported and distributed.
* Involve the development team or technical architect. Ideally, the development team is involved at the beginning of the project, but if the technical people who are actually going to build your mobile app aren’t already on board, now’s the time to bring them in. This is when you can determine if your idea is feasible, can be successful and what expectations you should have for time and budget.
* Storyboard. With the use cases you created in Phase 1, create rough sketches of the idea on a sketchpad, whiteboard, or template tiles. This is the first visual representation of all the screens and will help uncover usability issues.

**PHASE III: TECHNICAL FEASIBILITY ASSESSMENT**

* Get access to the data. Mobile app needs to access usable data. The web-based platform will be populated with all possible food categories (perishable/nonperishable).
* Determine what devices and users (food supplier and receivers) are we building the app for.
* Refine project definition and establish go-to-market strategy. By the end of this phase, the team may have new ideas for the app or have determined that some of the initial functionality isn’t feasible. At this point, brainstorm, ask questions and review the status.

**PHASE IV: TACTILE REFINEMENT OF USE CASES**

* Build a rapid prototype. “Rapid” is the operative word – build a prototype that gets the app *concept* into a user’s(retailers, restaurants, suppliers) hands as quickly as possible so you can see how it works for the most common use case. Use rough, not exhaustive, wireframes.
* Bring your stakeholders in to touch the prototype to garner feedback as early as possible.
* Help the supplier connect with the receivers and connect them to the delivery options.

**PHASE V:  DESIGN THE APP AND PREPARE FOR DEVELOPMENT**

A User Experience (UX) Designer can create the interaction architecture of the design elements. A User Interface (UI) Designer for mobile solutions can create the look and feel of your app. This is a multistep process with its own review stages. The end result is visual direction and blueprints that inform your engineers of the envisioned final product and how interaction should feel, move and flow.

**PHASE VI: BUILD THE MOBILE APP WITH AGILE PRACTICES**

Agile Development. Agile is the preferred approach for mobile development due the importance of collaboration, transparency, and rapid iteration to adapt to change. These practices of adapting to change are critical to finding success in the ever-evolving mobile channel.

**PHASE VII: TEST THE MOBILE APP**

Get some of your target users to help you test it.

* UAT testing. User acceptance testing is a process to discover whether your mobile app works for users. In other words, put your app in the hands of a few people in your target audience. Once your app has passed the UAT test, you know that the solution “works”.
* BETA testing. Make your app available for a beta trial, either through an open solicitation for participants or the enrollment of previously identified groups. Feedback from beta users will help you determine whether or not the app’s functions are operating well in a real-world environment.

**PHASE VIII: DELIVERY AND MAINTENANCE**

The web-based platform will go live with on-going support from the team. Continuously build new enhancements, fix problems, and ultimately ensure its success to your business.

# Project Overview

The Food For Good Project overview provides detail for how this project will address the problem of food wastage by restaurants and ensure delivery to the Food Banks. The overview consists of a project description, goals and objectives for the FFG Project, project performance criteria, project assumptions, constraints, and major milestones. As the project is approved and moves forward, each of these components will be expanded to include a greater level of detail in working toward the project plan.

## Project Description

The Food for Good Project was designed to save the food being wasted by restaurants in the proximity of food banks and homeless shelters. The application will let the food donors to run a profit analysis to help them understand the sales, and donate the leftovers or products less in demand. The constraint we are trying to re-solve is handling requests from multiple restaurants that schedule for a food pick around the same timing. We have proposed to solve this problem with our refrigerated storage units installed at the restaurants partnered with us. The perishable food could last till the delivery truck arrives. The truck will cover pick up points till the Food Banks and on its return place the storage units back at the restaurants. Since the trucks will be used during the closing hours for multiple eateries, we have decided to use them in the day shift to pick food from Grocery outlets. These outlets have tinned food most of which can last a longer duration, the outlets can check the sales of which products are not profitable and donate during the day.

## Goals and Objectives

Our Solution is to design a mobile App that accepts Food Donation requests from restaurant owners. Our aim is to provide at least 1 Meal a day to the hungry.

|  |  |
| --- | --- |
| **Business Goal/Objective** | **Description** |
| Express Delivery of Food | We will have delivery truck that picks the food before its expiry and have it delivered at Food Banks or Feeding Centers before their expiry |
| Food Quality certifications | Experts certification on food quality once the restaurant / outlet registers to partner with us |
| Supply and demand analysis | App to provide restaurant owners on the supply and demand analysis to avoid ordering excess food. |
| Digital Marketing | Provide advertising the partnering restaurants. |

## Project Performance

The following table lists the key resources, processes, or services and their anticipated business outcomes in measuring the performance of the project. These performance measures will be quantified and further defined in the detailed project plan.

|  |  |
| --- | --- |
| **Key Resource/Process/Service** | **Performance Measure** |
| Express Delivery | Delivery of Food before 9:30pm, since the food needs to be fetched from the storage units and has no dependency on restaurant closing times. |
| Reduced Wastage | The retailers, restaurants and other suppliers should save considerable resources not only by reducing excess preparation but also on delivery and disposal. |
| Food Quality Expertise | Food Providers will be tested before they can be a part of the initiative.  As a result of this, food consumers can be reliable about food quality  and standards |
| Financial Advisor | Keeps a track of the finances for the project, tracks the NPV on a regular basis, and comes up with other financial decisions in order to boost the financial state. |

## Project Assumptions

As the initial phase of the Food for Good Project begins, some assumptions which have been analyzed are listed down. While we delve into the project further, additional assumptions will be learnt and listed down accordingly. Some are listed below:

* Adequate funding from investors and sponsors to purchase trucks, cold storage units and fuel
* Food has not expired and would be edible when donated
* Restaurants, from where food is collected, are well in proximity and accessible to the delivery trucks
* Suitable number of efficient developers/engineers to develop the application and fix bugs
* Adequate tech support/customer care if the application fails during the work hours

## Project Constraints

The following list corresponds to the initial constraints of our project - Food for Good. As project planning begins and further analysis is performed, additional constraints will be identified and added simultaneously. Some of them are as follows:

* Food Providers (Restaurants) and Consumers (Shelters and NGOs) which are located within a given radius only can participate in this initiative
* While being transported, if the food gets spoiled, it needs to be thrown away and we cannot be accounted for this loss
* Although we will try assisting our customers throughout, tech support will be limited during business hours. If any complaints are received beyond these business hours, they will be forwarded to our support team which might lead to a slight delay
* Food delivery and pick up can be done only during the closing hours of restaurants and other food providers
* There could be a delay due to the breakdown of trucks
* Delay caused due to maintenance and break down of storage unit needs to handled

## Major Project Milestones

The following are the major project milestones identified at this time. As the project planning moves forward and the schedule is developed, the milestones and their target completion dates will be modified, adjusted, and finalized as necessary to establish the baseline schedule.

|  |  |
| --- | --- |
| **Milestones/Deliverables** | **Target Date** |
| Project Charter | 01/01/20xx |
| Project Plan Review and Completion | 03/01/20xx |
| Project Kickoff | 03/10/20xx |
| Phase I Complete | 04/15/20xx |
| Phase II Complete | 06/15/20xx |
| Phase III Complete | 08/15/20xx |
| Phase IV Complete | 09/25/20xx |
| Phase V Complete | 10/15/20xx |
| Phase VI Complete | 11/10/20xx |
| Phase VII Complete | 11/30/20xx |
| Phase VIII Complete | 12/20/20xx |
| Closeout/Project Completion | 12/31/20xx |

# Strategic Alignment

The Food for Good Project is in direct support of several of FOOD SAFEST and ISPECTION SERVICE **(FSIS)**). By directly supporting these strategic plans, this project will improve our business and help move the company forward to the next level of maturity.

|  |  |  |
| --- | --- | --- |
| **Plan** | **Goals/Objectives** | **Relationship to Project** |
| 20xx FSIS Information Management | Use of proper information technology for the project | This project uses the latest and needed technology to increase the quality and the efficiency of the project. |
| 20xx FSIS benchmarks for food quality | The quality of the food delivered should be within a certain points set by FSIS | The quality of the food delivered is checked against the quality set by FSIS each time the food is delivered to any customer to maintain a good quality of food. |
| 20xx FSIS Strategic Plan for Human Health | Human health is given the utmost priority in all the decisions | This project keeps the human health in consideration before taking any decisions. |

# Cost Benefit Analysis

The following table captures the cost and savings actions associated with the Food For Good Project, descriptions of these actions, and the costs or savings associated with them through the first year. At the bottom of the chart is the net savings for the first year of the project.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Action** | **Action Type** | **Description** | **First year cost** | |
| Investment from the inventors as well as government | Savings | Investment from the inventors as well as government | $800,000 | |
| Investment from the inventors as well as government | Cost | Cost for purchasing the equipment and supplies, like truck, storage units etc. | -$600,000 | |
| Software Development | Cost | Cost to develop a new software as per the requirements of the project | -$100,000 | |
| Training and recruiting new employees | Cost | Cost to recruit and give required training to the new recruits | -$100,000 | |
| Income from the restaurants | Savings | Income from restaurants for the ads we will be displaying for them | $80,000 | |
| **Net First Year Saving** | | | | **$80,000** |

Based on the cost benefit analysis above we see that by authorizing the Food for Good Project will save $80,000 spent on food in the first year alone. This represents a significant improvement in our operating costs and is a clear indicator of the benefit this project will have after partnering with restaurants and initial funding.

# Alternatives Analysis

The following alternative options have been considered to address the business problem. These alternatives were not selected for a number of reasons which are also explained below.

|  |  |
| --- | --- |
| **No Project (Status Quo)** | **Reasons For Not Selecting Alternative** |
| Traditional wastage of food | * Unnecessary expenditure on ordering excess quantity. * Food Banks need to ask for donations for making food available. * Volunteers needed to prepare food at Homeless Shelters/Donations |
| **Alternative Option** | **Reasons For Not Selecting Alternative** |
| **Let Restaurants, Retailers donate food on their own** | * Extra time ,effort and expenditure for suppliers * Managing and delivering perishable food timely is necessary requires efficiency and common platform * Suppliers are not connected to food banks |
| **Alternative Option** | **Reasons For Not Selecting Alternative** |
| Preventing food wastage through manual process  instead of using the application | * Higher expenditure on phone calls * Reduced efficiency since the food updates might not be real-time and would lead to a time lag |

# Approvals

The signatures of the people below indicate an understanding in the purpose and content of this document by those signing it. By signing this document, you indicate that you approve of the proposed project outlined in this business case and that the next steps may be taken to create a formal project in accordance with the details outlined herein.

|  |  |  |  |
| --- | --- | --- | --- |
| **Approver Name** | **Title** | **Signature** | **Date** |
| Bruce Wayne | Head of Federal Finance Dept. |  |  |
| Oliver Queen | FSIS Inspector |  |  |