

DESIGN AND MANAGEMENT OF FOOD WASTE MANAGEMENT APP(FOOD DONATION PLATFORM)

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INTRODUCTION

A food waste management app is a platform that allows users to donate food items they no longer need to others who may need them. The goal of this app is to reduce food waste and provide access to food for those in need. This document outlines the software requirements and analysis of the requirements for the app.

Purpose

The food waste management and donation platform aims at ensuring there's proper management of food wastage .So this document consists of a simple explanation about the system and its features.

Scope

The scope of the project includes developing a user-friendly platform with features such as search and filtering options to help users find available food donations as well as a way to facilitate the pickup and delivery of donations.

Current system

The current food waste apps fall under three main categories:

- 1)Food waste apps to cut food waste at home
- 2)Food waste apps for purchasing discounted food
- 3)Food waste apps for giving away extra food to people in need.

Let's take a closer look of this categories of applications

Apps to cut food waste at home:

The following apps are for personal use, preventing food waste in your fridge. They track expiration dates and make sure the food gets eaten before it expires.

1. NoWaste

Location: Anywhere

NoWaste is an app that tracks the expiration dates of food in your fridge and pantry. The food waste app allows you to manually enter your food's expiration dates and turn on notifications to send you a message when the food is about to expire.

NoWaste also boasts a social media community where you can share your food waste stats to help keep you (and everyone else on the app) accountable.

2. [OLIO](#)

Location: Anywhere

OLIO is an app that helps neighborhoods team up against food expiration and waste. Encourage your neighbors to download the platform so you and other community members can post food they no longer want.

This app is a great way to connect with your community, make friends, and prevent food waste in the process.

3. [Kitche](#)

Location: Anywhere

If you accidentally purchase something at the store you already had at home, Kitchie is a great app that prevents that. With a quick photo of your supermarket receipt, Kitchie will help you keep track of the food you have at home and ensure you never double up on the food you don't need.

The app is also catered specifically to you, recommending recipes based on your dietary habits.

Apps for purchasing discounted food:

Next, the following apps help connect businesses with consumers who can help redistribute or consume their nearly expiring food to keep it out of the trash.

4. [Flashfood](#)

Location: 10 US states and Canada, but expanding

The Flashfood app locates groceries near you nearing their expiration dates and can be purchased at a significantly discounted rate.

You can pay through the Flashfood app too. This app is excellent for anyone who is looking to snag good food for cheap.

5. [Food for All](#)

Location: Boston & New York (200+ restaurants)

The Food for All app allows restaurants to connect with customers and offer food that would otherwise be thrown away.

The discounts are often up to 80%, and you can purchase the meals one hour before the restaurants close. Download the app and enter your

location to see participating stores near you. The app also allows you to donate food to those in need.

6. [Too Good To Go](#)

Location: Denmark and New York, but expanding

Too Good To Go is an amazing food waste app – it displays stores, restaurants, bakeries, and cafes near you that sell their unsold food at a discounted price to prevent food waste.

Too Good To Go is a Certified B Corporation that has saved over 70 million meals worldwide. You can order food directly through the app, pick it up, and pay a fraction of the price! This saves you money and is a great way to prevent food waste.

7. [YourLocal](#)

Location: Denmark and New York

YourLocal is another app with a focus on saving food. It helps communities prevent food waste by giving people the opportunity to pick up surplus food from supermarkets and restaurants for a fraction of the cost. The app is relatively new and only available in Denmark and New York.

8. [Karma](#)

Location: Sweden, the UK, Denmark, France

karma is selling surplus foods at great discounts. Download the food waste app and see what's available to you! In addition, you can find takeaway food from more than 20K restaurants across Europe & the UK.

9. [Phenix](#)

Location: France & Europe

Phenix is for individuals (purchasing discounted food) and businesses (selling away food that didn't sell).

Find the businesses in your neighborhood offering anti-waste baskets made up of their unsold products of the day. It can be anything from supermarkets, grocery stores, caterers, bakeries, restaurants, etc. The price reduction is usually -50% on average.

Phenix is a partner of more than 15,000 merchants in the following cities: Paris, Lyon, Rennes, Nantes, Grenoble, Montpellier, Toulouse, Bordeaux, Marseille, Lille, Reims, Caen, Quimper, Tours, La Rochelle, Limoges, Perpignan, Chambéry, Strasbourg, Dijon, Besançon.

You can also use it if you are from Belgium, Spain, Portugal, and Italy.

10. [GoMkt](#)

Location: New York, but expanding

You've probably heard that shopping locally is a great way to support your community. GoMkt takes this mission to heart.

Like other apps we've seen, goMkt encourages you to shop at local restaurants and shops that report excess inventory. The app can even send push notifications to your device to notify you of nearby product offerings.

11. [Imperfect Foods](#)

Location: 41 US states (most of the West South Central region, Midwest, Northeast, and all along the West Coast)

According to Imperfect Foods, visually unappealing food deserves love, too. This subscription box service sends affordable groceries to your door that would otherwise go to waste, whether that's due to the way they look or as a result of a surplus.

The food is perfectly edible (and delicious), but only particular food tends to be allowed onto the shelves due to grocery stores' strict guidelines.

The best part? You get to see what's about to be sent to you before it's sent and remove the items you don't want!

12. [Misfits Market](#)

Location: 44 US States

Much like Imperfect Foods, Misfits Market was created to give unique-looking food a home.

The company works directly with farmers and food producers to discover inefficiencies in the food system and sell food that would otherwise go to waste. Their products are sold for up to 40% off grocery store prices and deliver right to your door.

13. [Hungry Harvest](#)

Delivery: the US (Maryland, Washington, DC, Virginia, Greater Philadelphia, Southern New Jersey, Northern Delaware, South Florida, The Triangle Area & Charlotte in North Carolina & the Detroit Metro Area)

Like the previous two, Hungry Harvest rescues and sells affordable farm-fresh fruits and veggies that would otherwise go to waste. Every delivery saves at least 10 pounds of food from going to the landfill.

Hungry Harvest also donates food to local organizations for those in need. Since 2014, Hungry Harvest has rescued over 27 million pounds of produce and provided over 1.7 million pounds to people in need.

Apps for giving away extra food to people in need:

One of the most disturbing aspects of the food waste crisis is that millions of people going hungry could use that food. These apps help do justice by getting leftover food to those who need it.

14. [Food Rescue US](#)

Location: 21 US States

The Food Rescue US app connects businesses with surplus food to hunger relief organizations. It also helps volunteers easily transport the food from location to location.

Whether you want to sign your business up for the app or volunteer to help transport food, this app is a great way to minimize food waste and give back to the community. Currently, the Food Rescue US app has helped over 75 million meals stay out of landfills and get to those who need them most.

15. [Food Rescue Hero](#)

Location: the US

This app helps volunteers serve their community by transporting excess food from point A to point B. It matches users with the non-profits serving food nearby and guides them to the locations.

A “rescue” can be performed whenever the user has free time. In addition, the app provides background information on each of the non-profits so “rescuers” can get information about the organizations they are serving.

16. [Raeri \(formerly Transfarnation\)](#)

Location: New York

This app helps connect users with leftover food following their significant events to charitable organizations. Once they collect food, then they redistribute it to those in need.

The app connects volunteers, Uber drivers, and Lyft drivers with the event planners to ensure the food is picked up and delivered.

17. [No Food Waste](#)

Location: India This India-based app uses crowdsourcing to locate “hunger spots” in India and redistribute extra food to those places. If the food can feed more than 50 people, the No Food Waste app team will pick up and deliver the food to hunger spots.

Users drop off food at designated hunger spots (marked on the app) themselves if the food can feed less than 50 people.

18. [Yo No Desperdicio](#)

Location: Spain

Yo No Desperdicio is a Spain-based food waste app. Users post food that they no longer need, along with details describing the food.

If users see an item they want, they can schedule a meet-up to collect the items and perhaps even swap items. The app essentially serves as a social media app for preventing food waste.

Food waste is an epidemic all around the world, but especially in the US.

Preventing this waste has so many benefits as it saves money & resources, helps feed the hungry, and is much better for the environment.

Downloading food waste apps are great for anyone, no matter your motivation for preventing food waste.

Current challenges faced

Inadequate food quantity: Donor entities may have varying quantities of food for donation. Thus, recipient entities cannot rely solely on a single donor, which may create additional costs. Lack of awareness: People who want to individually donate food are unaware of the channels to do so.

Proposed system

The proposed system is a food donation platform that allows individuals and even businesses to upload excess food for people to see. This will reduce the rate at which food is wasted simply because the population is not aware that there is that surplus in food and also give an opportunity to those buying to get it at a cheaper price or even for free.

Problem Statement

There is a significant amount of food waste in our society, which has negative environmental and social impacts. At the same time, there are people who struggle with food insecurity and could benefit from access to food at a cheaper price or for free. Therefore, there is a need for a food waste management platform that allows individuals and businesses to donate excess food, which can then be made available to those in need.

Functional Requirements

1. User Registration

- Users should be able to create an account by providing their name, email address, phone number, and location or address.
- Users should be able to set their food preferences, such as vegetarian, vegan, meat lover, gluten-free, diabetic etc.

2. Food Donation

- Users should be able to upload information about the food they want to donate, including the type of food, quantity, expiration date, and location.
- Users should be able to choose to offer the food for free or at a discounted price.
- Users should be able to edit or delete their donation listings.

3. Food Receivers

- Recipient users should be able to upload information of the kind of food they want to receive so that in case there is a donor or a donation to be made they are contacted first. Examples are the orphanages, ranchers, zoo keepers.

4. Food Search

- Users should be able to search for available food based on their location, food preferences, and availability.
- Users should be able to filter the search results based on the type of food, quantity, and price.

5. Food Pickup

- Once a user finds a food item they want, they should be able to contact the donor to arrange for pickup.
- The platform should provide a messaging system to facilitate communication between the donor and the recipient.

6. Tracking

- The platform should track the number of donations made by each user and provide them with a donation history.
- Users should be able to view their donation history and see the total amount of food they have donated.

7. Feedback

- Users should be able to rate and provide feedback on the quality of the food they receive.
- The platform should use this feedback to improve the quality of donations and build trust among users.

8. Social Sharing

- Users should be able to share their donation activities on social media to raise awareness about food waste management and encourage others to donate.

9. Payment method

- The platform should have an agreed payment method, one that will benefit both parties to use when making payments.

Non-Functional Requirements

1. Performance

- The platform should be able to handle a large number of users and donations without slowing down.
- The platform should have a fast response time for search and messaging features.

2. Security

- User data should be stored securely and protected from unauthorized access.
- The platform should use encryption to protect user data during transmission.

3. Usability

- The platform should have a user-friendly interface that is easy to navigate.
- The platform should be accessible to users with disabilities.

4. Technical Requirements

a. Platform

- The platform can be developed for both iOS and Android systems.

b. Programming Languages and Frameworks

- The platform should be developed using Swift for iOS and Java for Android.
- The platform should use a backend framework such as Django or Ruby on Rails.

c. Database

- The platform should use a relational database such as MySQL or PostgreSQL to store user data and donation listings.

Analysis of Requirements

Requirements analysis refers to the process of defining the expectations of stakeholders on a project, in this case, the stakeholders of the food waste management platform.

Stakeholders

We have the following as stakeholders;

- **User:** They are expected to upload available food stuff on the platform to either be donated or sold at a discounted price which they decided themselves.
- **Food waste management app:** The app is expected to provide a search for foodstuff according to customer preferences.
- **Customer:** They are expected to be able to search and request for foodstuff. They are also expected to be able to receive donations.