

REVOLUTIONIZING FOOD DELIVERY SERVICES WITH HOME-COOKED MEALS

INTRODUCTION

For our Capstone project, we are not working for a pre-existing organization but rather for our Professor who is acting as our client while we work on the HomeEats initiative. The HomeEats initiative is the default project pre-approved for our class.

SYSTEM DESIGN

Our team will be developing a web application called HomeEats, which will serve as a food delivery service, similar to UberEats and Grubhub, but tailor made for home-cooked meals. HomeEats will allow consumers to finally have the ability to access fresh, home-cooked meals without having to go buy ingredients or prepare the dish themselves. Unlike other food delivery platforms, this convenience does not come at a sacrifice of food quality or fresh ingredients. To use the platform, consumers create an account on the site, enter their location and instantly view a large selection of dishes being cooked by amateur cooks in the area. They can view all the ingredients in the dish, the type of cuisine it originates from, estimated preparation time, and background on the chef, including reviews from previous customers. Once they select the dish they want, customers purchase the dish directly online, at which point the chef will be notified that an order has been placed and begin cooking. Home chefs will be able to specify when they are online and available to cook, how many orders they can take at a time, and in the case of a bulk order being placed in advance, they will have a few hours to choose whether or not to accept the order.

This application will be built using primarily Django, which is a popular framework based in the Python programming language often used for web applications of this scale. Our application will also connect to a PostgreSQL Database which will store all the information on the site from cooks and customer user accounts to dishes, reviews, and purchases. In order for our team to simultaneously contribute to the project, all of our code will be hosted in Github, an online software development platform. The project will be completed over the course of the Fall and Spring semesters of the 2019-2020 school year through our CS Practicum class and our client is Ahmed Ibrahim, the course professor. This is not a project for an external company, it is an internal project not meant for profit.

Our team will meet with our client bi-weekly at the end of each sprint cycle. For our purpose, a sprint cycle is a two-week development period where each team member is tasked with a feature to implement or work on, which can be seen in Figure 1 below. The purpose of the sprint cycle is to allow for continuous planning, focused development, and short-term goals that the team can set and strive to reach. For example, a sample sprint goal may be implementing the customer landing page where they can browse through dishes. The following sprint goal may be adding filters to the dishes to allow for improved site navigation. These chronological short-term goals will lead up to the long-term goal of launching a fully functional site, allowing customers to order meals directly from cooks in their area, and give full administrative control to our client.

HomeEats fits into the health and social dimensions of the food delivery app market by providing the same convenience and ease of use without sacrificing food quality.

SYSTEM REQUIREMENTS

Gathering system requirements are very important because it provides a solid foundation

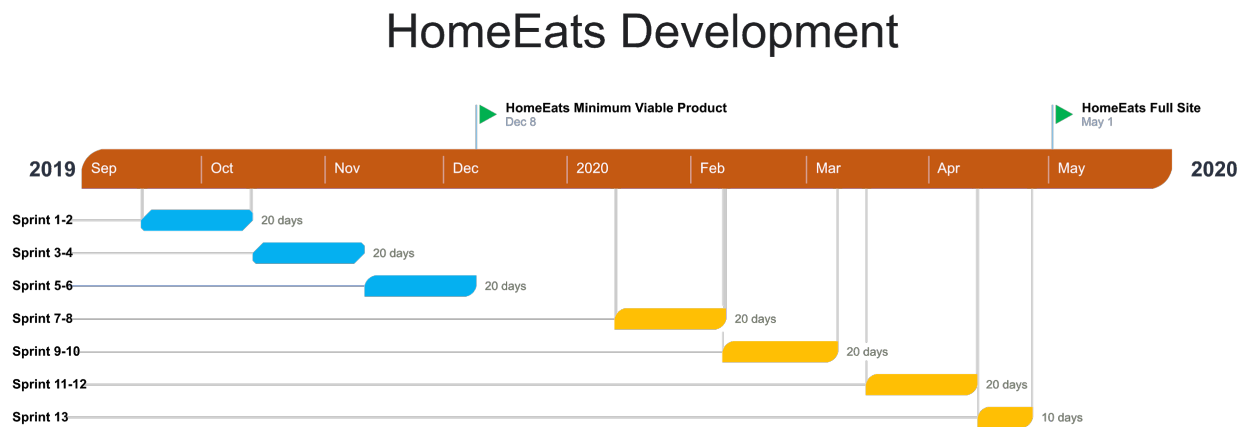


Figure 1: HomeEats Development Timeline (Created by Saboo, 2019)

for the system and gives the project team a clear roadmap of the development cycle and how to prioritize tasks based on time and importance. For our application there are three main user categories: the cook, the admin, and the customer. Below are our requirements split up by category as well as necessity.

Minimum Requirements

Admin Users.

- As an admin, I want to approve any cook account before it is created, so that I can guarantee the customers a reliable experience
- As an admin, I want to make sure any updates to a cook's personal account information are reviewed, to maintain their accuracy
- As an admin, I want to be able to review reports and reviews, and potentially ban users or cooks, to keep the site safe from bad actors
- As an admin, I want to be able to view the orders that a cook has received.
- As an admin, I want to be able to view all accepted orders with total amount paid including amount going to the cook and HomeEats.
- As an admin, I want to be able to view cooks' cancelled order history with reasons.
- As an admin, I want to be able to set which reasons a cook can give for cancelling an order.
- As a system administrator I want to ensure that a payment option is selected prior to an order being processed, so that I can ensure meals are paid for before a cook begins to prepare the dish.

Cook Users.

- As a cook, I should be able to apply as a cook with my First Name, Last Name, Address, and Kitchen License
- As a cook, I should not be able to login to my account unless my application has been approved

- As a cook, I should be able to set what plates are available as soon as I log in, so that I can quickly get online and start receiving orders
- As a cook, I should be required to enter/edit my name, email, phone and address, so that I can be contacted in many ways
- As a cook, I should be able to add a new dish to my list of available dishes
- As a cook, I should be able to set a picture, ingredients, price, time to deliver, name, and type of food
- As a cook, I should be able to set which dishes I'm willing to make, so that I don't have to make dishes that I don't have their ingredients.
- As a cook, I should be able to report customers and their reviews, in order to protect my reputation from unfounded criticism and ban disrespectful or malicious customers
- As a cook, I should be able to make a separate account if I want to order through the site, so that I don't get confused between things I've ordered and things I have to cook
- As a cook, I should be able to set my own delivery range centered at my address, so that I am not pressured to deliver outside of my comfort zone
- As a cook, I should be able to tag food as vegan, allergy, etc. so that customers can choose foods which are suitable for them
- As a cook, I should be able to set a certain mileage I'm willing to travel so that I can have quick and efficient delivery service
- As a cook, I should be able to set a limit on how many meals I can make in a specified time frame, so that I don't get overbooked
- As a cook, I should be able to set when I am open and closed, so that customers can't attempt to order food from me when I am not available

- As a cook, I should be able to accept or reject meal orders so that I have control over what meals and how many meals I am making
- As a cook, I should be able to set an estimated cooking and delivery time, so that customers are aware of an approximate waiting time

Customer/Diner Users.

- As a customer, I should be able to see the ingredients in the dishes I plan to order
- As a customer, I should be able to see a picture of the dish I plan to order
- As a customer, I should be able to see the cost of the dish I plan to order
- As a customer, I should be able to see the estimated time of cooking for the dish I plan to order
- As a customer, I should be able to view the type of food I plan to order (e.g. Chinese, Thai, Indian, Mexican, etc.)
- As a customer I should be able to sort the dishes by price
- As a customer I should be able to sort the dishes by rating
- As a customer I should be able to only see dishes from cooks who can deliver to me
- As a customer I should be able to sort the dishes by the type of food I plan to order (e.g. Chinese, Thai, Indian, Mexican, etc.)
- As a customer I should be able to rate the food I purchase on a scale of 0-5 stars
- As a customer, I should be able to favorite a cook or a dish, so that I can easily find the cook or dish again
- As a customer, I should be able to review the dishes that I order, so that other customers are aware of the quality of that dish

- As a customer, I should be able to see a delivery status that indicates started cooking, on the way, and delivered so that I know when to expect my food
- As a customer, I should be able to set multiple addresses so that my food can be delivered to a location, even if I am not yet there
- As a customer, I should be able to see an average rating for each dish if the data is available
- As a customer, I should be able to cancel an order that has not started cooking yet so that I don't waste food and money if I change my mind
- As a customer I want to be able to tip the chef preparing my dish so that I can reward and encourage my favorite chefs.

Desired Requirements

Admin Users.

- As an admin, I want to be able to view revenue reports that can be adjusted to a specific timeframe (week, month, quarter, semi-annual, annual, custom).
- As an admin, I want to be able to view cooks' online time and offline time per week.

Cook Users.

- As a cook, I should be able to set a limit on how many meals I can make in a specified time frame, so that I don't get overbooked

Customer/Diner Users.

- As a customer, I should be able to order at least 3 hours in advance

Optional Requirements

Customer/Diner Users.

- As a customer, I want to be personal information to be anonymous when messaging the cook, so that my information is kept private
- As a customer I want to be able to message my cook to be able to customize the order to my liking.

WORKS CITED

Saboo, Shivani. (2019). *HomeEats Development Timeline*. [Figure 1]. *Prospectus* (Unpublished undergraduate thesis). School of Engineering and Applied Science, University of Virginia. Charlottesville, VA.