Title: Leftovers
Group Members: Hritvi Sheth, Rachel Tu, Urvi Ganorkar, Ama Dadzie, Yael Berrol

Description and Motivation
For many individuals and families, cooking can be a struggle. It can be challenging to make healthy food that tastes good. It can also be difficult to plan ahead when shopping for food, and many people end up with excess food that they let go to waste. Inexperienced meal planners may be challenged by having to organize their menu in advance when shopping, and we aim to take that pressure off of our users. Our goal is to create Leftovers, a platform that customizes recipes to what a user already has in their fridge and generates a shopping list for any missing materials from each recipe.

Our website will display recipes personalized to the user's dietary restrictions, kitchen appliances, budget, and food preferences in addition to what they already have in their fridge. We intend to have 3 main stages to our design process: research and interviews, lo-mid fidelity prototype, and high fidelity prototype. Through this process we will create a resource for anyone struggling to use their ingredients wisely, and ultimately our website will help to reduce food waste and promote a healthier lifestyle for our users.

Problem
As society advances, various innovative technologies are developed to help reduce our carbon footprint. However, it is important that we integrate simple behavioral changes into our daily lives as well. Households are the largest contributors to food waste within the food production and consumption pipeline, contributing approximately 61% of the 931 million tons of food waste generated in 2019 (UN Environment Programme, 2021). In turn, this waste turns into greenhouse gas emissions, placing immense pressure on our readily deteriorating environment.

According to the CDC (2020), the prevalence of obesity in the US was reported to be 42.4% in 2018. Nearly half of the population is highly vulnerable to major heart issues and health complications. This percentage can be reduced by eating at home instead of ordering takeout or going to restaurants. Eating out generally costs more and is less healthy (Tiwari et al., 2017) When eating out, there is not always full transparency regarding what is in the food, therefore making it easy to forget about nutritional value. Making one's own food encourages more conscious eating and reflection on nutrients.

Justification
As college students, being able to provide meals for ourselves in an efficient manner is crucial to our daily lives. We are met with the problems listed above, and Leftovers allows us, and several others, to take steps towards solving them. Our idea is

differentiated from the several other websites/apps/companies in the same space, which is why we chose to move forward with it. We have constructed a brief competitor analysis to justify the making of our product.

1. [SuperCook](#) is a website that curates recipes for users based on the ingredients they have selected. Although their website is slightly overwhelming at first, it is fairly easy to use and has a number of attributes needed to find a recipe based on the items in the user's fridge. However, it does not account for allergies, several diet restrictions (they only have a select few), utensils the user has, and a personal budget (which is a crucial factor for college students).
2. [BigOven](#) is a similar website which allows users to select up to three ingredients to see which meals can be made. However, it does not account for any allergies/dietary restrictions, utensils the user has, personal budget, cuisine preference, and more.

SuperCook and BigOven are examples of services for users to make meals based on the ingredients they already have. However, the two websites lack inclusivity and personalization - which we plan on incorporating into our website by adding the aspects that were missed.

Proposed Solution

Our solution is a meal planning website that makes use of what the user already has available to them at home to suggest recipes that fit their needs, likes/dislikes, and budget. The process of using the website is divided into 3 parts: personalization, selection, and generation.

In order to provide the most custom experience for each user, the consumer will be guided to create an account. During this onboarding process, they will be asked to identify allergies, dietary restrictions, and dislikes. Users will also be able to identify cuisine preferences and make note of what kitchen appliances they have. A personal budget can be set based on any time increment (weekly, monthly, etc) if the user wants to find specifically priced options. There will be an option to use notifications.

Upon completion of the personalization process, the user will be led to the main page where they have the option to select from a variety of food options that they already have. These selections, as well as the settings added during personalization, will be used to generate recipe options. Each recipe will be presented alongside the time taken to prepare and the ingredients the user is missing. Dedicated recipe pages will expand on this preview and display and exact visualization of what ingredients the user does and does not have. Recipes can be added to a 'shopping cart' that will be added to their meal plan.

The user's profile will host the list of recipes they have chosen. Additionally, there will be a generation option that will collect all the identified missing ingredients in each recipe into a grocery list that the user can email or text to themselves in order to make the process of shopping for their chosen recipes easier.

Timeline & Milestones

Milestones	Date to be completed by
Research and Interviews	February 7th
Low-mid Fidelity Prototype	February 17th
High Fidelity Prototype	March 7th

We would like to do research and conduct interviews by February 7th. Our research will involve looking into the effects of food waste, cost and health benefits of eating out as opposed to cooking at home, as well as food insecurities. In doing this research, we are hoping to truly understand our defined problem and how our solution addresses them. We will also be researching other websites with similar ideas to what we are proposing to help us different and improve ours. We will also conduct interviews to gather more information from our target audience which initially started out as only college students but has expanded to include everyone because we understand that food insecurity nor is a restricted budget limited to college students. These interviews will give us more insight to what our audience is looking for in terms of food and recipes, and using what they are able to afford and what would be most beneficial to them.

After our research and interviews, we will move on to working on our low-mid fidelity prototype. Our low-mid fidelity prototype will be done by February 17th. This prototype will be our rough, hand drawn versions of our website. They will then be translated into a simple and basic prototype without color or branding as we brainstorm what our website will look like in terms of content and layout. This will give us a sense of which direction to take our website and illustrate the user flow and how our users will interact with it.

In between working on our low fidelity and our high fidelity prototype, which will ultimately be our final completed functional website, we will do some testing. We will have a few users that are in our target audience test our website to see how our low fidelity prototype is working and if they are able to understand the functionality of our website. We may conduct another round of interviews or have a survey for them to complete at this point as well. All the information gathered from our testing will then be

used to implement features or changes that were unclear, missing, or unnecessary in our high fidelity prototype. In addition to these new changes, we will be including color, images, and branding, and have the website be more interactive and functional.

References

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