Dish-It

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https://github.com/CMPT-276-FALL-2024/project-16-moons.git

Overview of the project and the problem it aims to solve

This project is created to help individuals, who want to cook more at home, by allowing them to explore meal recipes based on the ingredients they already have at their household. By allowing the users to input ingredients that they already have access to, the users will be prompted with a variety of new means/recipes, which will help promote creating food at home instead of having to opt for take out food. This is beneficial for a lot of users, an example would be a university student as this demographic already deals with the financial burden of tuition, rent which in a city like Vancouver is incredibly expensive, and not to add their other expenses. This application will aid students by avoiding food waste and encourages smarter shopping by providing recipes that use what they have on hand. In addition to helping with spontaneous meal creation, this project will feature a meal planning tool that allows users to organize their meal for the week! This will allow cooking to be more manageable and less stressful. How about individuals with dietary restrictions or food allergies? Well, this application will also offer filters to ensure that the recipes align with their needs, making cooking more accessible and safer for everyone. While this project is ideal for individuals, it can also be useful in any household, simplifying the cooking process and promoting a more efficient usage of household ingredients. Whether it is someone who is new to cooking or someone who is experienced at cooking, this project offers a practical solution for meal planning and recipe discovery.

How the idea came to be and why it's important

People often find themselves with ingredients at home but not knowing what to cook. Sometimes households find themselves with a lot of ingredients that are going to waste. Sometimes people also just want something new but don't really know how to get started. As for other individuals, maybe they want to start eating healthy while also reducing their food waste. *Dish-It* It aims to fix the problem by helping users discover new and exciting dishes using the ingredients they already have. *Dish-It* will have users input ingredients that they already have available at home or would like to have, *Dish-It* will generate a recipe idea and help the users through the cooking process with step-by-step instructions. This will not only encourage people to cook more often, but also help them expand their cooking knowledge with food cuisines they may have never tried before. *Dish-It* hopes to promote smart grocery management, ensuring that fewer ingredients go to waste as often in grocery households will tend to buy ingredients but end up never using it thus leading to wasting food and money. Additionally, this will also help with households that fall back on takeout, users can now feel confident in their ability to create delicious dishes from what they have on hand. In summary, our idea will empower people to explore new recipes, and make the most of their groceries, and save money by making food at home and not rely on take out.

Potential users and their needs

1. University Students
    a. Needs:
        i.   Save money on groceries.
        ii. Minimize food waste by having more planned meals.
        iii. Discover quick and easy meals using limited ingredients.
    b. How the Application fulfills the needs:
        i.   Suggests a simple, budget friendly recipe with clear instructions
        ii. Offers a meal planning feature that will allow students to cook in bulk so it does not interfere with their busy schedules.
        iii. Allows students to input the ingredients they have and create potential meal ideas to avoid unnecessary grocery runs.

2. People who live by themselves
    a. Needs:
        i.   Avoid food waste when cooking for an individual
        ii. Discover variety and new dishes to avoid repetitive meals.
        iii. Manage time efficiently by finding recipes that suit their lifestyle!
    b. How the Application fulfills the needs:
        i.   Helps users cook with ingredients that they already have (avoiding wasting food)
        ii. Introduces new recipes, helping them not always the same food. Most people eat out at times as they are tired of their food at home.
        iii. Filters recipes by portion size so they can cook for an individual!

3. High School Students (Teenagers)
    a. Needs:
        i.   Learn how to cook basic and fun recipes.
        ii. Explore cooking without feeling overwhelmed by complex instructions.
        iii. Discover meals that are quick, easy, and tailored to what's available at their household.
    b. How the Application fulfills the needs:
        i.   Provide simple step-by-step instructions for teenagers learning to cook to build confidence and trust.
        ii. Will have engaging and creative recipes that are easy to follow.

      iii. Have meals based on ingredients that teenagers can easily find at home. This can encourage them to try cooking instead of relying on takeout or processed foods.

4. Adult of Families
   a. Needs:
      i. Save time and money when shopping for grocery/meal planning.
      ii. Manage dietary restrictions or allergies within a household.
      iii. Reduce food waste.
   b. How the Application fulfills the needs:
      i. Reduce stress on parents after work by having a meal plan that lessens the load of having to think of ideas of what to eat, while also having a plan for grocery products.
      ii. Filters recipe to allow parents to view recipes that respect dietary restrictions and allergies.
      iii. Helps reduce food waste by suggesting recipes using ingredients that already have at home before it expires.

5. Athletes / Active Individuals
   a. Needs:
      i. Maintain a balanced diet!
      ii. More clarity for what exactly goes into their food that they are eating.
      iii. Accommodate for specific dietary restrictions!
   b. How the Application fulfills the needs:
      i. Include filters for dietary requirements so if someone wants to increase their protein intake, they can put high in protein recipes.
      ii. Allows athletes to have an input on what they already have or want to have in foods and give them a result they are looking for.
      iii. For athletes that are struggling to hit their goal of a certain group of foods, the filter can help them hit those goals.

Persona

1. ## University student:

   Greg is a freshman in university who just moved into his dorm, and it's his first time living alone without the help from his parents. With UberEats being so expensive, he needs to turn to either instant noodles or cooking. The only problem, he knows what proteins he likes along with fruits and veggies but doesn't know what to cook. This is where he turns to our platform which will not only give him recipes he can use to cook his favorite foods but also help him plan his meals between his busy study sessions.

2. ## People who live by themselves

   Maria is a middle-aged woman who lives all alone in her single room apartment. Besides being alone, one of her biggest problems is cooking for one. All the cookbooks she uses are for large serving sizes which always leaves her with lots of leftovers, which fills up her small fridge. Thankfully, our website allows her to find new recipes with serving sizes for 1 and leave leftovers behind her.

3. ## High School Students

   Katrina is a student in high school and wants to add a new skill to her developing arsenal, cooking. The only problem, her only experience with cooking is watching it on MasterChef which scares her with how complex cooking can be. Katrina, however, found our website, which allows her to learn and explore new recipes. By providing simple and easy to follow step-by-step instructions, Katrina doesn't have to be scared of cooking and can develop her skills in the kitchen.

4. ## Adult of Families

   Deborah is a mother to 3 boys and to make things even harder, her youngest son, Tom, is allergic to dairy. This makes her life very hard to plan 3 meals every day, with dairy being a main ingredient to a lot of meals. Our website, luckily, has a function which Deborah can use to filter out any dairy so that her family can not only explore new recipes safely, but also relieves Deborah of the stress of meal planning every day.

5. Athletes/ Active Individuals

Jack is a bodybuilder who has a need to abide by a diet with specific macronutrient intakes daily. Being a bodybuilder, he needs a high amount of protein and low salt intake, which makes cooking a delicious meal difficult. This is why he usually just sticks to his usual bland meal, chicken and rice. However, our website has just the features for him which allows him to find delicious meals while following his diet. Our website has filters that allow for Jack to specify that he wants recipes high in protein. Not only this, but recipes shown will display the amount of macronutrients included in each recipe so that Jack can ensure that his diet is being properly followed.

Chosen APIs

Edamam Meal Planner (Main API/Features)
Features
- Personalized diets (28 nutrients)/Filters:
  - Filter by time of day or dish type
  - 40 Diet and Health labels to filter recipes by
- Finding recipes based on ingredients
- Nutritional/Recipe Analysis

Spoonacular (Main API/Features)
Features
- Recipe Searching
- Min/Max serving sizes
- Meal Planning

Tasty (Backup API/Features)
Features
- Find recipes and list the recipes. Will even find recipe if you only know parts of the recipe's name
- Given a recipe, it will show the recipe in detail (ingredients, nutrition info)
- Given a recipe, it will show similar recipes

The MealDB (Backup API/Features)
Features
- Users can search up meals by name
- List meal categories
- Lookup a single random meal

Feature Stories

1. ## Giving a list of ingredients and giving recipe

   Aden is an individual who goes shopping every three weeks. It is currently Monday and his grocery is running low, only having a couple of ingredients left. Usually Aden would opt for getting take out however, with *Dish-It* he will now be able to input what ingredients he has left over and allow him to create dishes that he would have not expected what he can make!

2. ## Food analyzer (nutrients)

   Jack, a dedicated bodybuilder in his teens, wants to follow a strict diet due to him being a teenager. He would require to eat more to ensure that he is not stunting his growth. He will use *Dish-It* to analyze what nutrients he is eating when cooking and give him a visual representation and measurements so he is more aware of what he would be needing to eat more of either protein, carbohydrates, etc.

3. ## Meal Planner

   Greg is a busy college student, living alone and working 2 jobs. Because of his very busy schedule, he needs an app that can plan out all his meals ahead of time. *Dish-It* allows Greg to create a meal plan with his specific dietary goals and displays all required ingredients to reduce shopping and pondering time.

4. ## Recipe Searching

   Maria was watching Gordon Ramsay cook a beautiful beef wellington on his show, but her power went out and she wasn't able to find how to cook one. This is where *Dish-It* comes into play. Maria can easily type in our search bar "beef wellington" which will present her with an easy-to-follow beef wellington recipe so she can be just like Gordon.

5. ## Specific food diets

   Deborah needs to plan for meals with all of her sons' allergies. By using our filtering options, she can easily avoid recipes that would trigger allergic reactions from her son. She can also use the feature to filter out recipes that include other ingredients that aren't available to her family, or ones that they simply don't like.

6. Find recipes for specific serving sizes

Abigail lives alone in her small one-bedroom apartment with a tiny fridge. One of her biggest fears is cooking too much food and overloading her fridge. Luckily, *Dish-It* has a feature that lets her search for recipes for 1 to 2 servings, so she no longer needs to worry about her fridge space. And if she wants to have friends over, she can also specify recipes for a bigger number of portions as well!

7. Set Min/Max calories per meal

Tristan is trying to lose weight and after taking a course on diets in university, he knows that a calorie deficit is needed. *Dish-It* has a feature that lets Tristan find recipes where he can specify the max amount of calories he wants in each meal, so that he can be more comfortable cooking knowing he will meet his goal.

8. Finding similar recipes to the one you like

Scott just found a new recipe using *Dish-It*, it's been his go-to meal for the past 3 weeks. The only problem is that he's starting to get tired of this meal. One of our features is that he can find similar recipes similar to his favorite one, so he can change it up whenever he's bored.

9. Generate random recipe

Jenna is a single mom and a very indecisive shopper. She is also not very creative, and does not know what to cook for her and her children from time to time. *Dish-It* can help immensely with her decision-making by generating random recipes for her to scroll through in hopes of finding the one.
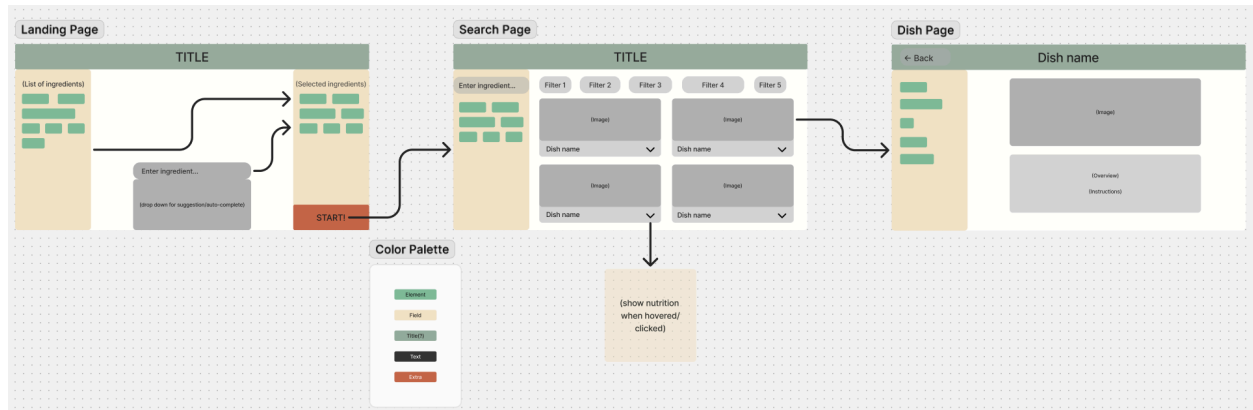
Front-end Technology Stack

HTML
  ● Base code of a website
CSS
  ● For styling purposes
JavaScript
  ● Utilized in a lot of applications
  ● Great for front-end developing
React
  ● We want to get experience with a high-demand framework

For the front-end technology stack, we chose to use HTML, CSS, JavaScript, and React as our front-end

library. HTML provides us with the functional structure for web content, while CSS allows for extensive

customizability and styling options. JavaScript is a familiar scripting language utilized in many

applications and is great for front-end development. React.js is a very popular JavaScript library that

enhances the stack and gives us a chance to gain practical experience.