

SmartRecipe

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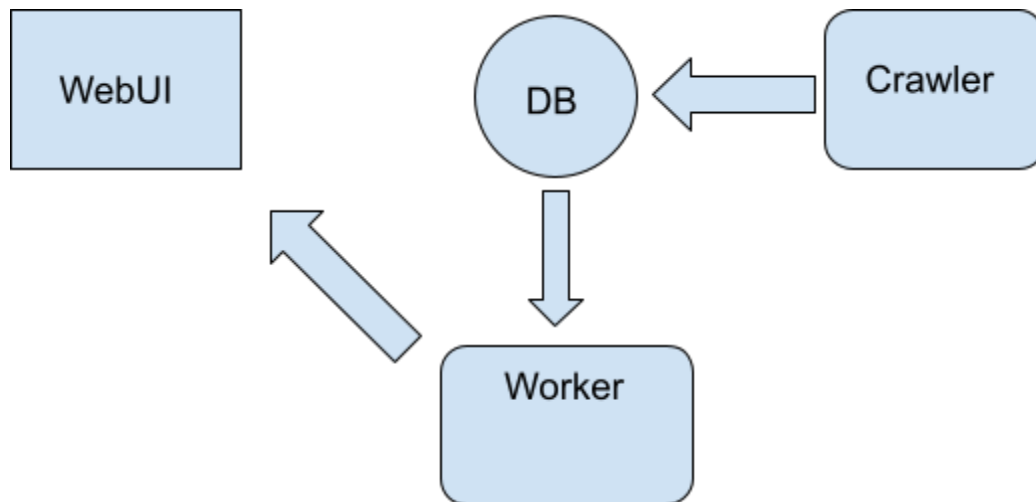
Chapter 1:

Team Vision:

Our team envisions developing **SmartRecipe**, a full stack application that maintains a database of recipes acquired from the internet or uploaded by the user that can be filtered by a list of ingredients given by the user. The goal of the application is to make the decision making process simpler for someone who is cooking at home by helping them to make full use of what they already have in their kitchen.

Core Components:

1. **Frontend (User Interface):** A user-friendly web app where users upload recipes, view recognized ingredients, and receive suggested recipes.
2. **Backend (Processing & Database):**
 - Recipe Collection: A crawler designed to regularly add new recipes to the database. Recipes would include the ingredient list and directions.
 - Recipe Database: Database of recipes matched with identified ingredients.
 - User Management: Login, saved recipes, and personalized recommendations.



Chapter 2:

The frontend will be built using React.js and will allow the user to input their pantry ingredients, view recipes, and see missing ingredients for other possible recipes

The backend will consist of a PostgreSQL database for storing the pantry ingredients inputted by the user, a Python-based recipe scraper (BeautifulSoup or Scrapy) that will be used to scrape recipe data from websites, and a recipe matching algorithm.

We will also be using Docker in order to containerize each of the components (User Interface, User-Pantry Database, Recipe Scraper, Recipe Matcher) of the application and keep the production environments consistent and portable.

Additionally, we will use GitHub Actions as our CI/CD pipeline to automate our developer workflow of building, testing, and deployment. Our CI/CD pipeline will build Docker images, run automated tests, push the images to a Docker registry, and deploy to CloudLab off of a git action.