

# Recipeazy DEV- Page

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## Introduction

Recipeazy is an application that generates personalized recipes based on user-provided ingredients. This document provides an overview of the development process and highlights key aspects of the application.

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## Technologies Used

- Front-end: React, Next.js
- Back-end: Node.js
- API: OpenAI API

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# Development Process

## 1. Setting up the OpenAI API

- The OpenAI API provides the core functionality for generating recipe suggestions based on ingredients.
- The **Configuration** and **OpenAIApi** classes from the **openai** package were imported to interact with the API.
- An API key was obtained from OpenAI and stored in the **Configuration** object.

## 2. Handling HTTP Requests

- An async function was created to handle incoming HTTP requests from the front-end.
- The function checked if the OpenAI API key was properly configured and returned an error response if not.
- The function retrieved the list of ingredients from the request body and checked for empty inputs.
- If the inputs were valid, the function generated a prompt for the OpenAI API using the provided ingredients.
- A request was sent to the OpenAI API to generate a recipe based on the prompt.
- The generated recipe was parsed and sent back in the HTTP response.

## 3. Prompt Generation

- The **generatePrompt** function was created to generate a prompt for the OpenAI API.
- The function received the list of ingredients, split it into an array, and capitalized the first letter of each ingredient.
- The capitalized ingredients were joined into a comma-separated string and added to the prompt.

## 4. Parsing the Generated Recipe

- The **parseRecipe** function was implemented to parse the recipe generated by the OpenAI API.
- The generated text was split into parts based on newline characters.
- The function identified the sections for ingredients and instructions by searching for specific headings.
- The title, ingredients, and instructions were extracted from the text and returned as an object.

## 5. Front-end Implementation

- The front-end of the application was built using React and Next.js.
- The user interface allowed users to input ingredients and submit a request to generate a recipe.
- The form data was sent to the back-end via an HTTP request.
- Loading and error states were implemented to provide feedback to the user during the API request.
- The generated recipe, including the title, ingredients, and instructions, was displayed on the page.

## 6. Image Generation

- As an additional feature, an image of the generated recipe was created using the OpenAI **images** API.
- The **axios** package was used to send a POST request to the OpenAI images endpoint.
- The request included the recipe title as a prompt to generate a relevant image.
- The response from the API, containing the generated image URL, was displayed alongside the recipe.

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## Conclusion

The Recipeazy application provides users with personalized recipe suggestions based on their provided ingredients. The development process involved integrating the OpenAI API, handling HTTP requests, generating prompts, parsing the generated recipe, and implementing the front-end interface. The application demonstrates the capabilities of the OpenAI API and showcases the potential of AI-powered recipe generation.