Akshat Goyal, Ashvin Lohiya, Shreeyan Shayan, Vineel Guntupalli

Instructions Manual

Table of Contents

Product Testing Instructions

Introduction

A common problem for college students and households is that they have a set of ingredients, but do not know what dishes can be made from them. Many times, people get bored of eating the same things and want to try out new dishes to expand their culinary options. Chef.ai tackles this problem by taking in a set of ingredients from the user and giving them the closest recipe that can be made using them. In addition to this, chef.ai would also give computer generated recipes using machine learning (generative models). These would be completely new recipes that we have never seen before.

System Requirements

As the app is deployed on the web, any computer with a working internet connection should be fine.

The Link

The link to access the app is → http://chefai-seeded.herokuapp.com/
Do not use https else google login would not work.

Program Structure

The login-page

This is a page where two options are given to the user, either to login through google, or logging in without signing in.
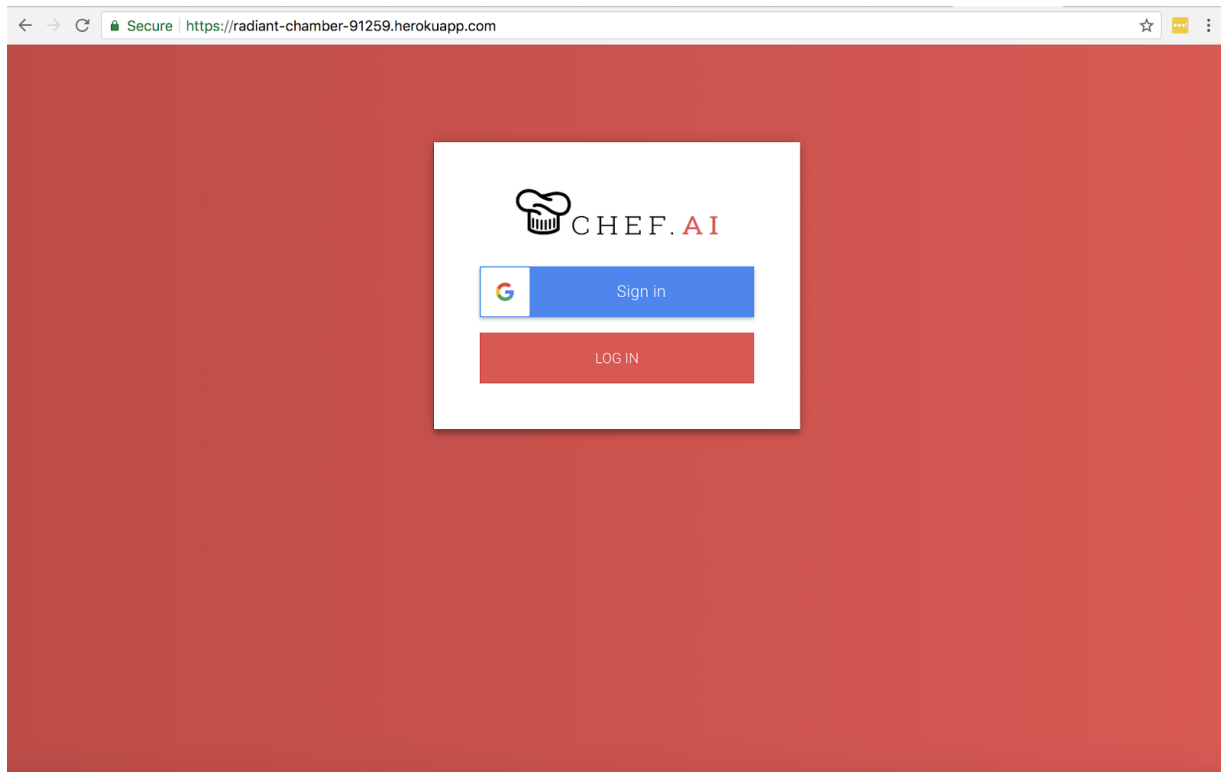
The "Sign in" button would guide you through signing in with your google account with the help of a pop-up window.

The "Log in" button enables you to login as a guest without the need for you to log into your google account.

Logging in by any of the above two mentioned methods takes you to the "ingredients" page of the app.

<u>The ingredients page</u>

The ingredients page has two autofill bars. The top one is used for the ingredients that the user wants to include in the recipe and the bottom one is used for the ingredients the user does not want in their recipe

In the top bar, as you start typing for any ingredient, there's an autofill that will help you input ingredients.

If the same ingredient is put in both the autofill bars, an error message would be displayed after submission. The autofill bars are case insensitive.

Note: The system only accepts the ingredients in its data (which come in autofill). It's not expected to accept anything else apart from that. Same holds for the second autofill bar. There is an upper limit of 10 ingredients on both the bars and a lower limit of 3 ingredients on the first bar. The error messages displayed convey the respective error.

CHEF.AI

Enter ingredients to include in your recipe

bread x• chic ken

Enter ingredients to exclude from your recipe

Toggle ML Generated Recipe   ⬤
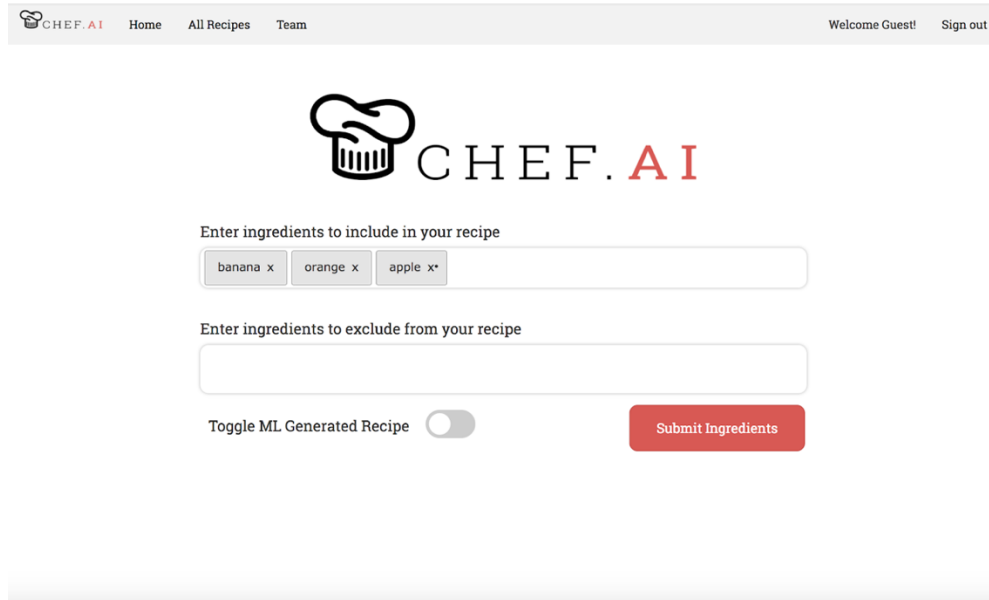
Submit Ingredients

As can be seen, the autofill gives the option closest to what you're typing. Press enter to select that ingredient. You can use either press backspace or the small 'x' button on each ingredient to remove it from the list.

The toggle button at the bottom can be used repeatedly to toggle the type of recipe that will be generated. It should display the correct type of recipe even after multiple toggles.

1. <u>Pre-existing Recipe (Toggle Off)</u>
   This would return a recipe (in our data) which is closest to the ingredients you inputted in both the autofill bars.
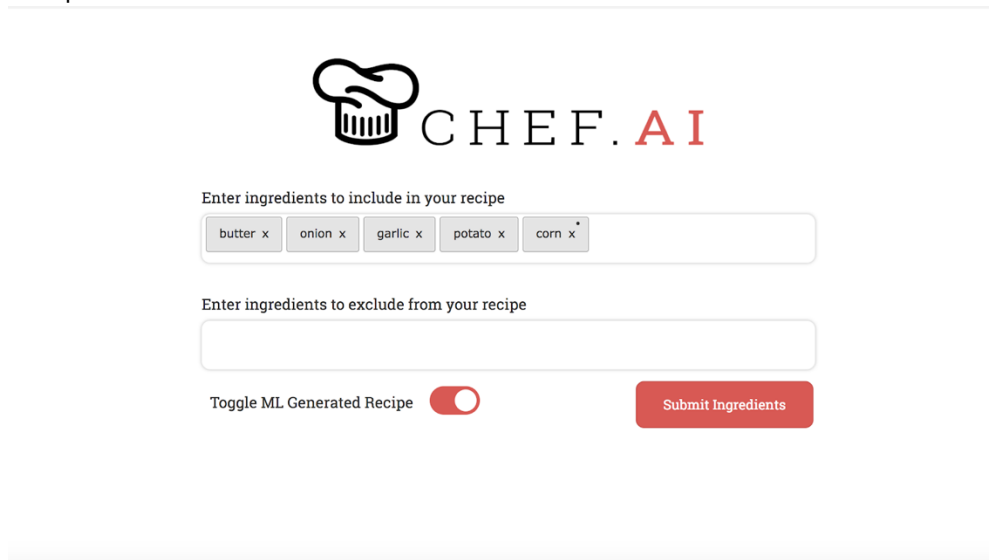   Example:

   Result would be a preexisting recipe. More details in the next sections.

2. <u>ML generated recipe (Toggle On)</u>
   This would return a recipe which has never been seen before. It's generated by Machine Learning. It would contain a bunch of steps which are closest to the ingredients you input.
   Example:

Result would be a ML generated recipe. More details in the next sections.

Preexisting Recipe Page

Ingredients chosen: banana, orange, apple

Ingredients included in recipe: orange, apple

Tropical Fruit Granita

Ingredients

- 3 cups tropical fruit juice blend (such as pineapple-orange-passion fruit)
- 4 1/2 tablespoons sugar
- 1 1/2 tablespoons dark rum
- 1 tablespoon fresh lime juice
- 3/4 teaspoon vanilla extract

Directions

1. Stir juice and sugar in large bowl until sugar dissolves. Add rum, lime juice and vanilla. Pour mixture into shallow baking dish. Freeze until mixture is entirely crystallized, stirring frequently and scraping crystals from around edges, about 5 hours. (Can be prepared 2 days ahead. Cover and keep frozen.)
2. Using tines of fork, scrape frozen juice mixture to form small flakes. Spoon granita into goblets and serve.

Cooking Mode!

Nutritional Information

- Fat: None
- protein: None
- calories: None
- sodium: None

Share this Recipe!

This follows the standard template of a pre - existing recipe. The components to this are:

- Ingredients chosen (The ingredients input by the user)
- the ingredients included in the recipe (The ingredients which are part of the recipe displayed).
- The name and the picture of the recipe
  Note - An API is being used for the images. If any image is not displayed, it's possible the API couldn't find a picture, it's not a defect on the product side
- Ingredients - The ingredients needed to make the given recipe
- Directions - The steps to make the recipe.
- Cooking Mode - There's a special cooking mode for each recipe which helps the user to get a better readability while reading / making the recipe. Once you click on the cooking mode, a screen like this would be displayed.
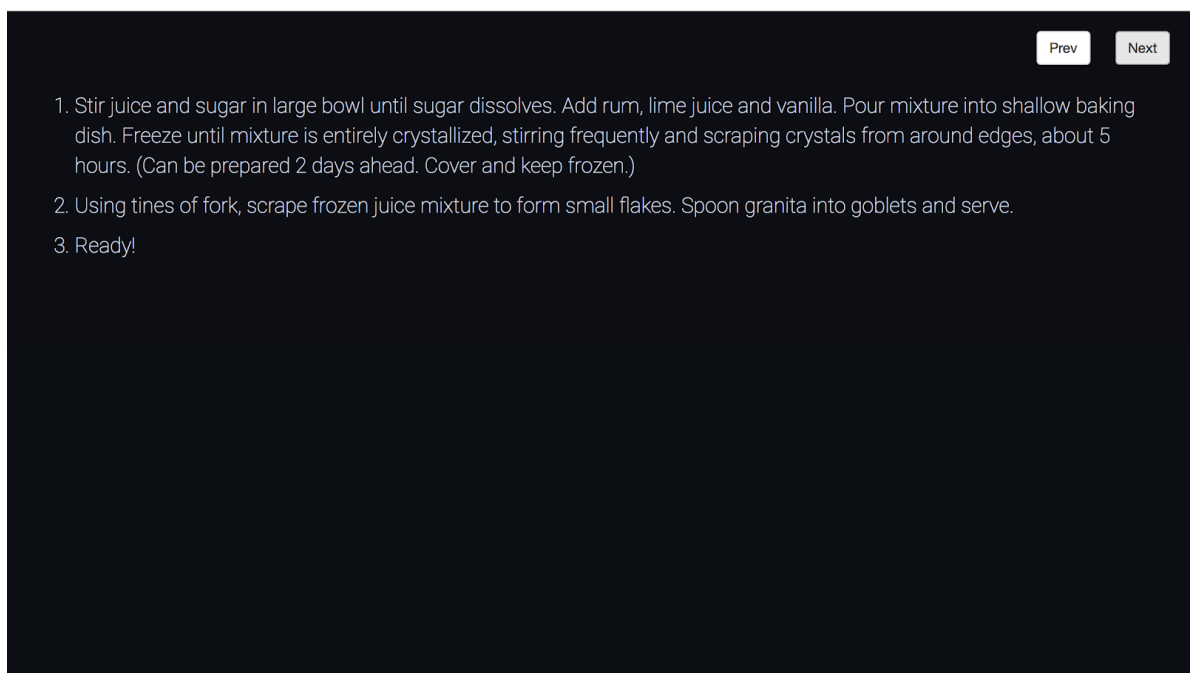
Clicking on next and prev would give you the respective steps. Hit back on the browser to go back to the recipe page. Next would keep going to the next step until the final step comes as 'Ready!' on all the recipes, smaller and larger. The first step would always be displayed on the page irrespective of the amount of times previous is clicked.

- Nutritional Information - This has information about the Fat, Protein, Sodium and Calories content in the recipe.

Note - At times dataset has missing values and are represented by None. This does not mean an error, it's missing data in the dataset.

- Share - You can share the recipes on Social Media. You can select from a wide variety of sharing options available. If sharing fails for some reason, the API used is at fault. The app itself does not have an error.

There's a possibility that no recipe is generated, the user would be notified about it with an appropriate error message.

CHEF.AI

Enter ingredients to include in your recipe

| red wine x | yogurt x | pork x | corn x | papaya x |

Enter ingredients to exclude from your recipe

| lime x | oregano x | butter x | olive x | cinnamon x |

Toggle ML Generated Recipe ⬭   **Submit Ingredients**

Output

Error!

No Recipe found.

ML generated Recipe Page

Ingredients chosen: butter, onion, garlic, potato, corn

Ingredients included in recipe: butter, onion, garlic, potato, corn

Our chef says Bon Appétit!

Ingredients

- butter
- onion
- garlic
- potato
- corn

Directions

1. melt butter
2. heat onion
3. add garlic
4. sauté potato
5. brown corn

Cooking Mode!

As this example (As given above as well), this would be a standard template of a ML generated recipe. The components to this are:

- Ingredients chosen (The ingredients input by the user)
- the ingredients included in the recipe (The ingredients which are part of the recipe displayed).
- Ingredients - The selected ingredients in the ML generated recipe.
- Directions - Verb Noun pairs generated by Machine Learning Algorithms.

Note: The protein, sodium, calories, fat values are not displayed in ML generated recipes.

Navigation Bar
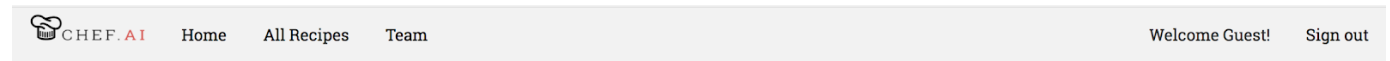
The Navigation Bar is available at the top of the app. Clicking on Chef.AI logo takes you back to the main page (ingredient page) with two autofill bars. The Home button also performs the same function. All recipes page takes you to a page which has the list of each and every recipe in the dataset.

The Welcome Guest string would be replaced with <Name of User> if the user logs in using google credentials.

The team link talks about the development team behind the product.

The sign out button enables you to sign out of your google credentials and takes you back to the login page.

All Recipes Page

| CHEF.AI | Home | All Recipes | Team | | Welcome Guest! | Sign out |

All Recipes(1)	Previous	Next	🏠

Lentil, Apple, and Turkey Wrap

Boudin Blanc Terrine with Red Onion Confit

Potato and Fennel Soup Hodge

Mahi-Mahi in Tomato Olive Sauce

Spinach Noodle Casserole

The Best Blts

Ham and Spring Vegetable Salad with Shallot Vinaigrette

Spicy-Sweet Kumquats

Korean Marinated Beef

Ham Persillade with Mustard Potato Salad and Mashed Peas

Sort By: [original ⬍] Order: [Asc ⬍] [Submit]

The all recipe page has 10 recipes displayed on each page. You can use the 'Previous' and 'Next' buttons to navigate through the list of recipes. If the recipes finish on both the ends, we keep displaying the same list of recipes.

All Recipes(3)	Previous	Next	🏠

The number in front of All Recipes(3) denotes the page number you're on (This means, currently it's displaying the recipe numbers 21-30).

The home button navigates you back to the All Recipes(1) page. It should change the list of recipes displayed (unless on the first page).

 Alternatively, you could also sort the recipes according to your needs.

Sort By: ✓ original   Order: [Desc ⬍]   [Submit]
protein
sodium
calorie
fat

You can sort by the above 4 mentioned attributes and they can be in Ascending or Descending order. The sorting works in any combination of the 4. This can be verified by opening the recipes returned in different configurations.

On clicking next and previous after submitting, the drop-down menus retain their values. (If you sort by sodium ascending, and click on next page after submitting, the drop down would display sodium ascending.)

Clicking on any recipe would take you the respective recipe page (The preexisting recipe page).