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Product Backlog

Problem Statement:

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.

Background Information:

Usually college students and even households have ingredients and raw materials leftover with them. They are unable to think of recipes which use most of their leftover ingredients. Chef.AI will enable them to unleash the power of Machine Learning and use their ingredients to make new dishes. This not only enables them to use their ingredients (saving a lot of waste), but also allows them to taste new dishes thus expanding their culinary options.

We're keen to solve this issue because we've all faced problems while cooking when we don't know what to make with the set of ingredients we have. Usually this ends up in either throwing away the ingredients as they go unused or run to the grocery store to get other things. With such a product, this problem would be solved with the added advantage of cooking new things.

Environment:

We will use HTML, CSS, Javascript, jQuery, Bootstrap and flask templating for the user interactions on the front-end. We are using Python (flask) for the backend. Scikit Learn and Tensorflow will be used to implement the machine learning algorithms and Orange will aid in testing and tweaking the same. Other python libraries such as NumPy, Pandas etc will all be used to manage the data sets.

Requirements

Functional -

Backlog ID	Functional Requirements	Hours	Status
1	As a user, I would like to be able to login into Chef.AI using Google credentials	4	Planned for Sprint 2
2	As a user, I would like to be able to access the website as a guest.	2	Planned for Sprint 1
3	As a user, I would like to see the list of all recipes	8	Planned for Sprint 1
4	As a user, I would like to see the pictures of respective ingredients on the recipe page	6	Planned for Sprint 2
5	As a user, I would like to sort the recipes based on calories	2	Planned for Sprint 2
6	As a user, I would like to sort the recipes based on proteins	2	Planned for Sprint 2
7	As a user, I would like to sort the recipes based on sodium content.	2	Planned for Sprint 2
8	As a user, I would like to sort the recipes based on fat content	2	Planned for Sprint 2
9	As a user, I will be able to sort both ascending or descending	1	Planned for Sprint 2
10	As a user, I would like to be able to search for ingredients.	8	Planned for Sprint 1
11	As a user, I would like to see autofill while searching for ingredients.	8	Planned for Sprint 1
12	As a user, I would like to be able to delete selected ingredients.	4	Planned for Sprint 1
13	As a user, I would like to enter ingredients that I don't want in my recipe.	4	Planned for Sprint 1

14	As a user, I would like to select if I want a preexisting or a computer-generated recipes.	1	Planned for Sprint 1
15	As a user, I would like to see the closest pre-existing recipe when I select that respective option.	10	Planned for Sprint 2
16	As a user, I would like to see the closest computer-generated recipe when I select that respective option.	15	Planned for Sprint 2
17	As a user, I would like to use a navigation menu to change between different sections of the app.	4	Planned for Sprint 1
18	As a user, I would like to be able to share recipes.	2	Planned for Sprint 2
19	As a user, I would like to select a recipe and read it	4	Planned for Sprint 1
20	As a user, I would like to be able to switch to between reading and cooking mode.	1	Planned for Sprint 2
21	As a user, I would like to be able to see highlighted steps in cooking mode	4	Planned for Sprint 2
22	As a user, I would like to be able to go to next or previous step inside cooking mode	2	Planned for Sprint 2
23	As a user, I would like to be able to go to home page after clicking the logo.	1	Planned for Sprint 1
24	As a developer, I would like to inspect my code, unit inspect my code, and inspect the design of my code.	100	Planned for Sprint 1 and 2
	Total	197	

Non-Functional-

Backlog ID	Non- Functional Requirements	Hours	Status
25	As a developer, I would like to learn how to set up local development environment using Flask.	4	Planned for Sprint 1
26	As a developer, I would like to learn Flask, orange and Tensorflow.	20	Planned for Sprint 1
27	As a administrator, I would like all the recipes to be selected from our data.	4	Planned for Sprint 1
28	As a developer, I would like to be able to parse recipe directions for training the model.	4	Planned for Sprint 1
29	As a developer, I would like to be able to train a probabilistic machine learning model to find closest recipes.	15	Planned for Sprint 2
30	As a developer, I would like to classify similar ingredients in separate clusters.	8	Planned for Sprint 1
31	As a developer, I would like to develop and design the application in such a way that additional features can be implemented without breaking existing features	4	Planned for Sprint 1 and 2
32	As a developer, I would like to design the application in such a way that it should be extremely simple to single out a broken feature of the app and repair it without affecting the normal functioning of the application and any of its features.	4	Planned for Sprint 1 and 2
	Total	63	

Use Cases:

Case: Google Login

Action:

1. Click Google button
3. Input credentials

System Response:

2. Open Google login
4. Login user
5. Close Google login

Case: Guest Login

Action:

1. Click Guest login button

System Response:

2. Redirect to Chef.AI landing page

Case: List all recipes

Action:

1. Click the button

System Response:

2. Display list of pre-existing recipes

Case: Sort the recipes based on calories

Action:

1. Click the calorie sort button

System Response:

2. Display the sorted list of recipes based on calorific value

Case: Sort the recipes based on proteins

Action:

1. Click the protein sort button

System Response:

2. Display the sorted list of recipes based on protein value

Case: Sort the recipes based on sodium content

Action:

1. Click the sodium sort button

System Response:

2. Display the sorted list of recipes based on sodium value

Case: Sort the recipes based on fat content

Action:

1. Click the fat sort button

System Response:

2. Display the sorted list of recipes based on fat value

Case: Sort the recipes in both order, ascending as well as descending

Action:

1. Select the ordering option, either ascending or descending

System Response:

2. If ascending option is selected then recipes will be displayed in ascending order based on either calories, proteins, sodium or fat
3. If descending option is selected then recipes will be displayed in descending order based on either calories, proteins, sodium or fat

Case: Search for ingredients

Action:

1. Enter the ingredients in search bar

System Response:

2. It will autofill while entering ingredients

Case: Delete selected ingredients

Action:

1. Click on the cross sign next to ingredients

System Response:

2. It will delete the selected ingredients

Case: Exclude particular ingredients

Action:

1. Enter the ingredients

System Response:

2. Not Display those recipes which contains the entered ingredients.

Case: Select between computer generated and pre-existing recipes

Action:

1. Click the pre-existing button
3. Click the computer generated button

System Response:

2. Display the closest recipe from data
4. Display the closest recipe generated by computer using ML algorithm.

Case: Share recipes

Action:

1. Click the share button

System Response:

2. Recipe link will be

Case: Select between read and cook mode.

Action:

1. Click on read mode button
3. Click on cook mode button

System Response:

2. Open the recipe normally
4. Open the recipe in Cook mode where user can see the current step highlighted.
5. Can go to next and previous steps in cook mode

Case: Redirect to home page

Action:

1. Click on the Chef.AI logo

System Response:

2. Redirect to the Chef.AI home page.