HomeMade RecipeBowl

Your Ingredients, Our Recipes

Group - 10

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Problem Statement?

Often, people get into a situation where they want to cook something delicious but are short on ingredients at home.
Many times people see an image of a delicious looking dish, but they don't know it's recipe.

What already exists?

Recipes-by-name search system and Recipes recommender search system

Existing Problems...

- No Recipes-by-Ingredients search system
- No Recipes-by-Images search system
- No Ingredients-Recipe and Image-Recipe datasets.

Our Contribution...

- Scraped Ingredients-Recipe and Image-Recipe datasets.
- Training Image-to recipes model using Convolutional Neural Network
- Recipe generator using character-level RNN text generation ML technique.

What is HomeMade RecipeBowl?

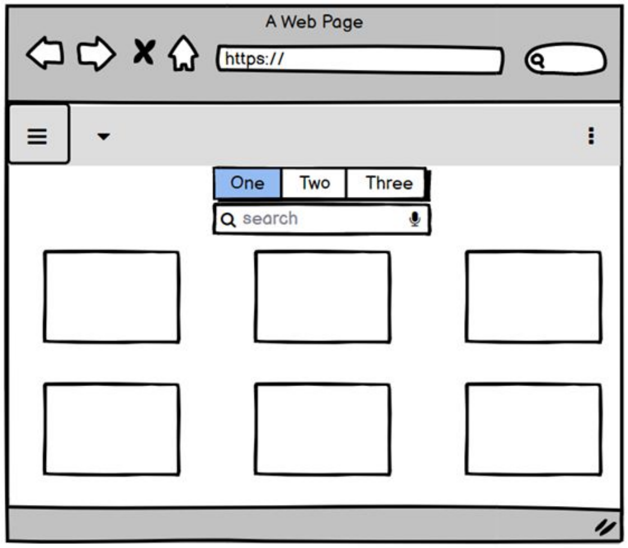
- A dynamic website incorporating machine learning techniques.
- Search options:
  - Search by Ingredients
  - Search by food image
  - Search by cuisine
- Output: self generated recipes
- It is a recipe generator system and not a recommender system!!

Technologies Used...

- Website front end: React, CSS, HTML, JavaScript, AJAX
- Website Back end: Flask (Python Framework)
- Database: SQLite
- Deep learning: Tensorflow and Keras Framework
- Web Scraping: BeautifulSoup (Python)

Web Technologies…

- **Web Scraping:**
  - Scraped datasets using BeautifulSoup library in Python.
  - Scraped the following websites for Ingredient-to-Recipe dataset:
    - Epicurious
    - All Recipes
    - Food Network
  - Scraped the following website for Image-to-Recipe dataset:
    - Chefkoch (has multiple images for many single recipes)
  - Scraped the following website for Cuisines dataset:
    - All Recipes
- **Website Frontend:**
  - Used React framework for the website's frontend. In particular:
    - JavaScript
    - CSS
    - AJAX
    - Router



- **Website Backend:**
  - Used Flask, a Python framework, for the website's backend.
  - Laid several routes for the "POST" requests.
- **Database:**
  - Used SQLite database management system for databases.
  - Created the following two databases:
    - User Login

      Users*(Id, username, email, password, bio)*
    - User Favorite Recipes

      Favorites*(Id, username, recipe_name, recipe_ing, recipe_inst, recipe_img)*
- **Robots.txt added ;)**