# Programming Assignment-1

Pradeep Kumar Gontla

Golisano College of Computing and Information Sciences,

Rochester Institute of Technology

CSCI 724: Web services and the Service Oriented Computing

Prof. Xumin Lieu

2/12/2023

# Overview

The application is designed to take the input of raw material (ingredients) available and provide information about the nearest possible recipe that can be made using the ingredients mentioned. The application is built using the Flask framework to connect the front-end to the back end and the input ingredients are passed from the user interface to the back-end.

# Libraries Used

1. Flask imports: The application uses the Flask framework to handle the connection between the front-end and back-end.
2. Requests library: The requests library is used to connect to the APIs.
3. xml.etree.ElementTree library: The xml.etree.ElementTree library is used to update the payload as per the attribute

# Program Flow:

1. Ingredients are received from the user interface and passed to the "recipe" function.
2. The recipe function generates the recipe based on the ingredients passed and uses the Spoonacular API to retrieve the recipe information.
3. If the response from the Spoonacular API is successful, the response data is processed to retrieve the recipe title, image, used ingredients count, missed ingredients count, and missed ingredients.
4. The nutrition function is then called to calculate the nutrition in the given food material and uses the nutrition API to retrieve the nutritional information.
5. The convert_number_to_words function is then called to convert the calorie count to words.
6. The final result is returned in the form of a dictionary containing the recipe title, image, calories, calorie count in words, used ingredients count, missed ingredients count, and missed ingredients, which is further retrieved in recipe template.

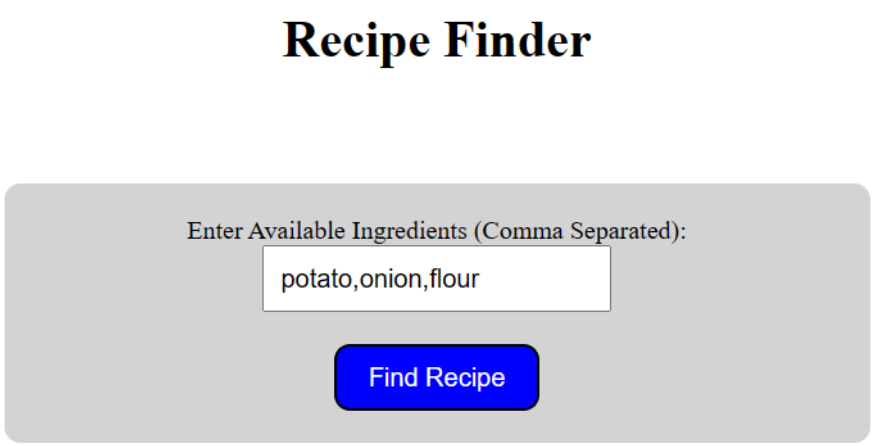
# API's Used

1. Spoonacular API: This restful API service, used to retrieve recipe information based on the input ingredients.
2. Nutrition API: This restful API is used to retrieve nutritional information based on the input ingredients.
3. Number Conversion API: This SOAP API is used to convert the calorie count to words.

# Functioning of the Application:

Step 1: Execute the exe file provided.

Step 2: Once the file is executed, an HTML page (as below) with a input text box is provided.




Step 3 : enter the ingredients available and click on find a recipe.

Step 4: The click event will trigger the recipe API and returns the recipe along with the calories and nutrition in that recipe retrieved from other API's .

# You can cook Curry Leaves Potato Chips

**Curry Leaves Potato Chips**

Calories per serving: 24.3

Calories in words: twenty four

UsedIngredientsCount: 1
MissedIngredientsCount: 2
MissedIngredients: ['chili powder', 'curry leaves']