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The Gluten Escape

Final project report

四 D56 - Group 6 - MIS

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1121 - Data Structure - Final Project Report

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Final Project – Let's Beat Google!

Goal: On the top of a giant's shoulder, achieve advanced information searching with your expertise!

I. Introduction

1. Topic: A search engine that is specially used for searching information of **“gluten free” (無麩質)**, for example: **gluten-free food, recipe, restaurant, etc.**

2. Motivation:

The gluten-free diet has caused a wave of trend in Europe and America, and it has also been discussed in Asia in recent years. The reason why it has such a big impact is that a gluten-free diet can make the body healthier and reduce the inflammation of body organs. More and more people are choosing gluten-free foods to get a healthier diet and body.

One of our teammates is allergic to gluten and it is not easy to choose food. When dining out, she often can't find a restaurant that meets her dietary needs. In fact, there have been a lot of gluten-free restaurants in Taiwan in recent years, but it's hard to find them, because most restaurants' information is mixed together. So, we thought we could make a gluten-free search engine.

In addition, most of the gluten-free results from Google keyword search are imported foods. We hope to promote gluten-free foods made from local agricultural products in Taiwan with our own search engine, and support local agriculture with practical actions. We not only want to promote buying gluten-free food locally, but also promote the restaurants that use local agricultural products to make gluten-free cuisine.

3. Why can we beat google? (Our advantages)

- ① We can classify and organize Google's cluttered search results into different categories.

- ② Humanistic and social care toward Taiwan's local primary industry, Google doesn't have feelings as the search engine we designed.
- ③ Provide a more convenient and friendly environment for those who are allergic to gluten to search related information.

II. Search tricks

1. Ranked websites:

<https://tw.my-best.com/114737> (For food)
<https://reurl.cc/V4v8Ln> (For food)
<https://100-wellness.hk/collections/gluten-free> (For food)
<https://blog.eateat.com.tw/?p=86> (For food)
<https://reurl.cc/q0jkdD> (For recipes)
<https://reurl.cc/NymqGp> (For recipes)
<https://reurl.cc/MyxR4m> (For recipes)
<https://reurl.cc/0Z8Evk> (For restaurants)
<https://kaijun.com.tw/foodie-7/> (For restaurants)
<https://wowlavie.com/article/ae2200639> (For restaurants)

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More webs from Google.

2. Search keywords:

- ① 「無麩質」
- ② 「食品（物）、食譜、料理、餐廳、菜單」
- ③ 「台灣、在地」

In English: “gluten-free” “food” “recipe” “restaurant” “Taiwan” “local”

3. Score formulation:

The score of each web page will be like: **times that the keyword occurs * keyword weight**. The one which has a higher score will appear in the front while the ones with a lower score will be ranked behind. We first set the weight of keyword 「無麩質」 into 5.00.

By the way, users' searching process will be like:

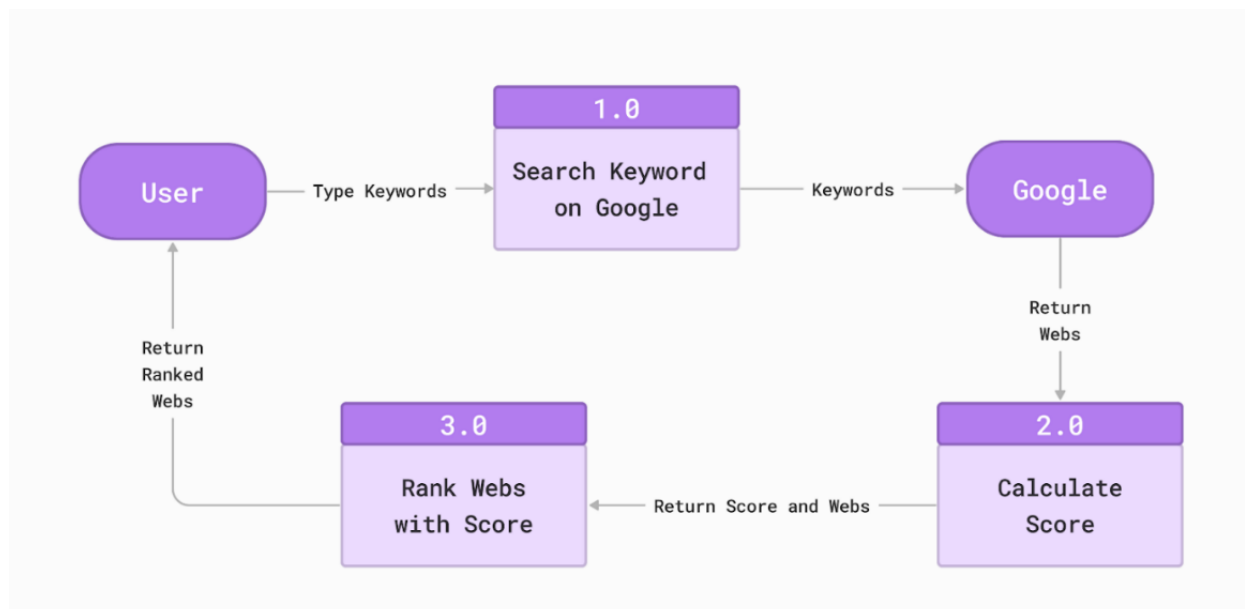
- ① If users want to search for gluten-free food, then they can input three keywords - 「食品（物）」 “food” (We will set the keyword weight into

5.00.) / 「在地」 “local” (set the keyword weight into 5.00) / 「台灣」 “Taiwan” (set the keyword weight into 10.00)

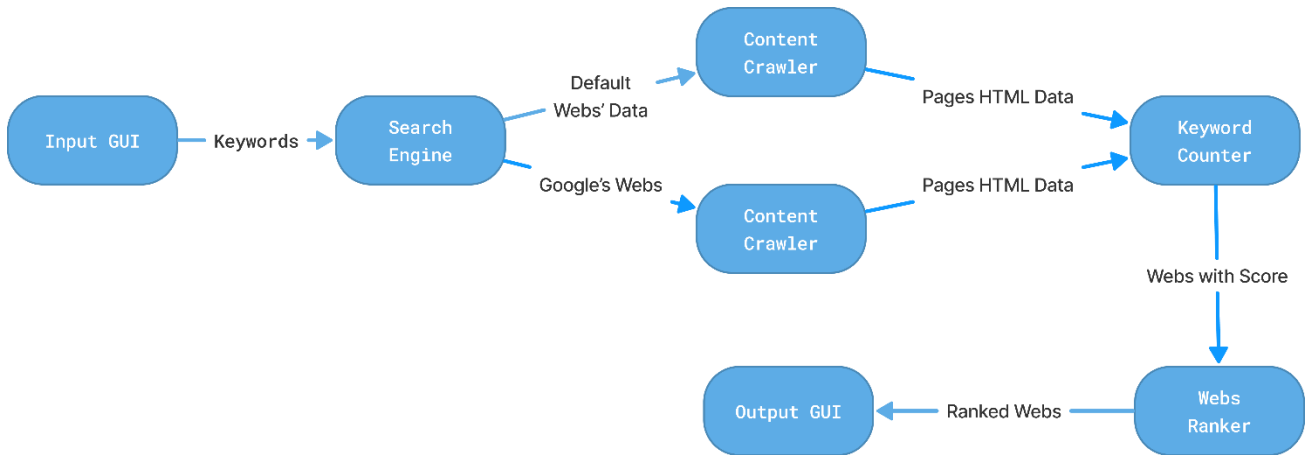
- ② If users want to search for gluten-free recipes, then they can input two keyword - 「食譜」 “recipe” (We will set the keyword weight into 1.00.) / 「料理」 “cuisine” (set the keyword weight into 1.00)
- ③ If users want to search for gluten-free restaurant, then they can also input four keywords - 「餐廳」 “restaurant” (We will set the keyword weight into 1.00.) / 「在地」 “local” (set the keyword weight into 5.00) / 「台灣」 “Taiwan” (set the keyword weight into 10.00) / 「菜單」 “menu” (set the keyword weight into 1.00)

III. System design

1. Data flow diagram



2. System structure diagram



IV. Schedule

1. Stages:

- 11/16 Proposal deadline
- 11/30 Finish designing
- 12/6 Complete GUI
- 12/18 Back-end code & Testing
- 12/30 Complete slides & code
- 1/4 Project demo
- 1/11 Project code and final report upload

2. Gantt chart (甘特圖/時間表)

Date	11/13-11/18	11/19-11/24	11/25-11/30	12/1-12/6	12/7-12/12	12/13-12/18	12/19-12/24	12/25-12/30	12/31-1/4
Plan	Proposal Adjusted								
Design		Class Design GUI Design							
Write			GUI Input and Output		Back-End Classes				
Test					Calculate Front and Back				
Presentation							Prepare PPT Project Demo		Deadline

V. Challenges

Before project demo:

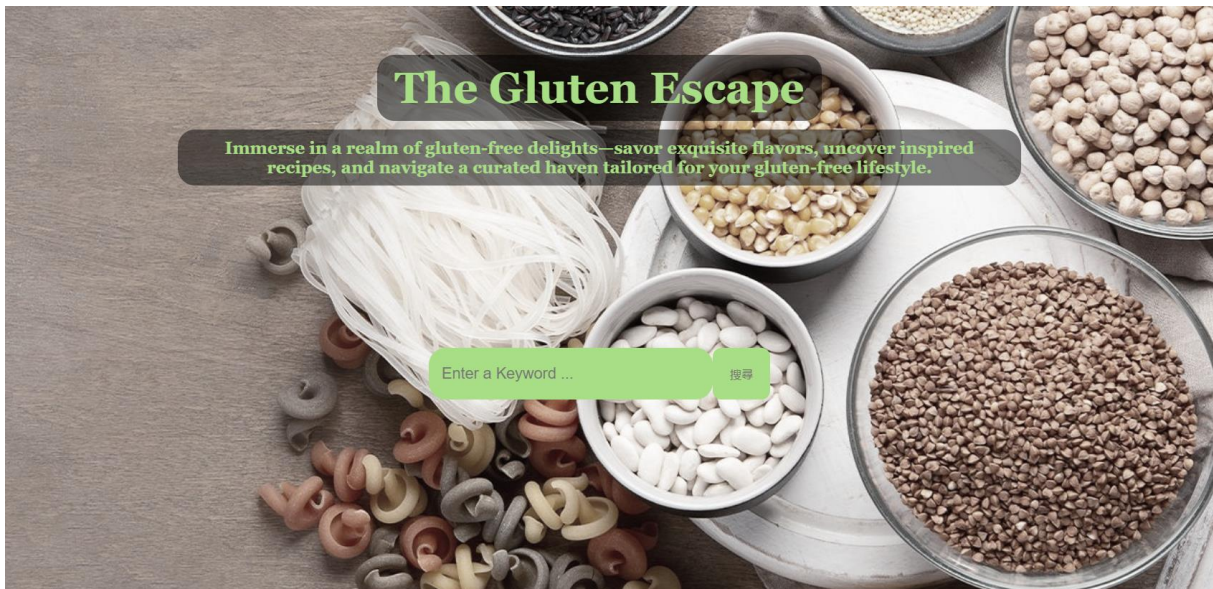
1. Difficulties in selecting websites that we are going to rank.
2. It's hard to find some related websites written the keywords 「台灣製造/本土的、在地的」 (In English: "Taiwan / local").
3. We cannot ensure that the ranking results will be the same as our imagination since we haven't completed the search engine. Maybe we will modify websites and keywords later.
4. Maybe we can't sort those websites' ranking results into three different categories.

After project demo:

1. We've found that there are few webs related to our topic on Google, our chosen topic is too niche.
2. If users input a keyword which is not even related to our topic, the search results will also have no relation with "gluten-free".

VI. System demo

1. User interface



2. Introduction

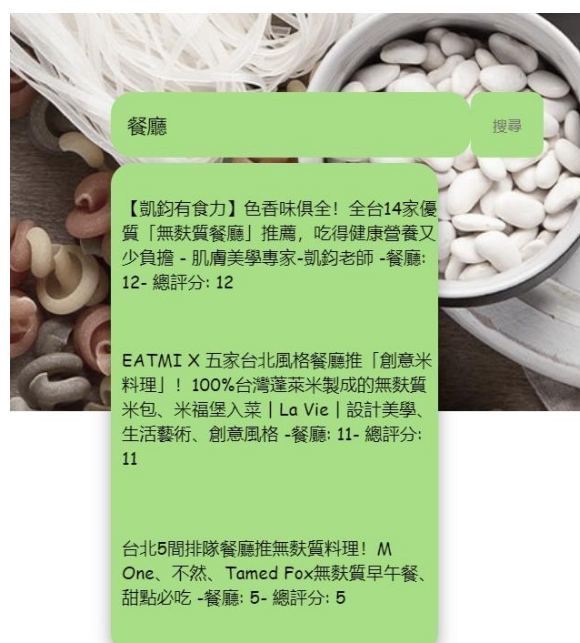
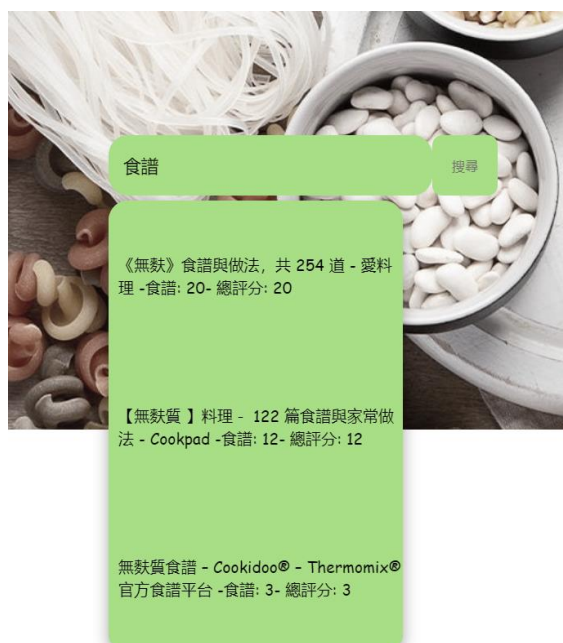
This website offers a curated collection of gluten-free recipes, restaurant recommendations, and culinary inspiration. Whether you're following a gluten-free lifestyle or simply exploring gluten-free options, our platform is designed to help you discover delicious and safe choices.

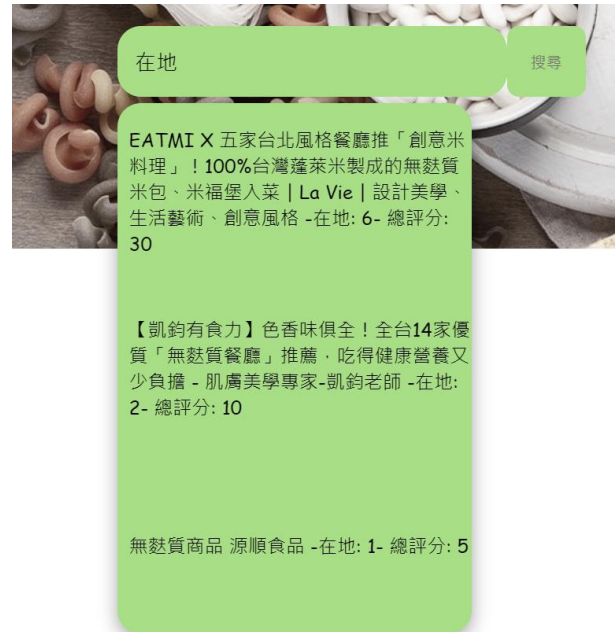
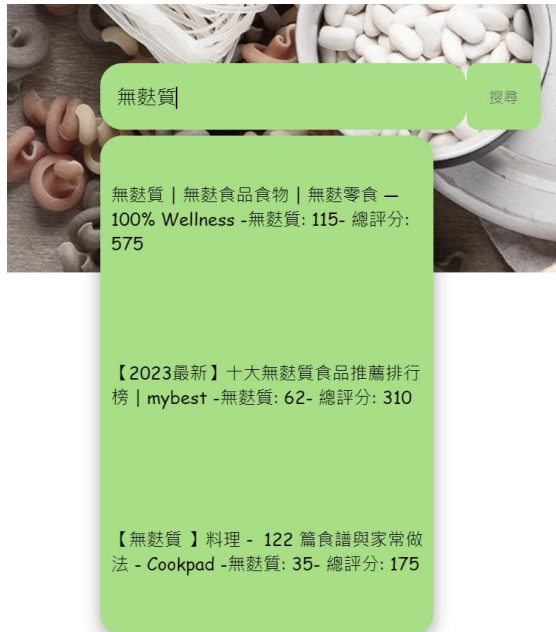
3. Features

- **Search Bar:** Use the search bar to find gluten-free recipes, restaurants, and more. Simply enter your keywords, and let our platform guide you to a world of gluten-free delights.
- **Recipe Inspiration:** Explore a variety of gluten-free recipes to suit different tastes and dietary preferences. From breakfast to dinner, our collection has you covered.
- **Restaurant Recommendations:** Discover gluten-free-friendly restaurants in your area or explore new places to enjoy a safe and delicious dining experience.

4. Search results

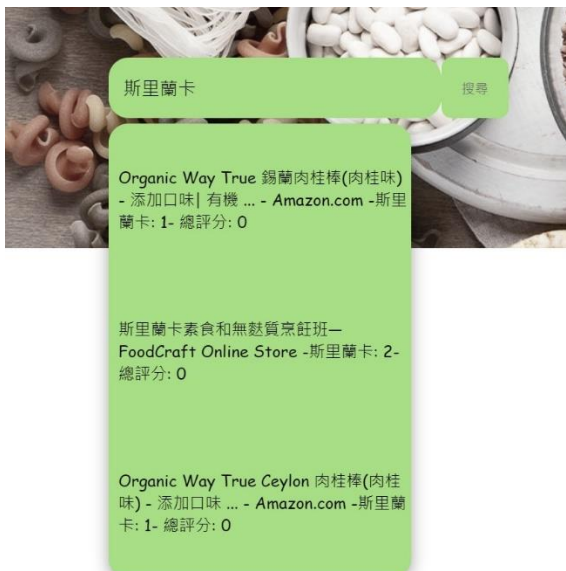
➤ If users type in some keywords related to our topic:





As a result, the system would output links which contains information including gluten, gluten free, local, restaurant..., those are highly connected to our topic.

- If users type in some keywords NOT related to our topic:





In summation, the system may still output information according to what our system is dedicated to by connecting to Google once receiving words that are unrelated to our topic.

For reference:

System link: [The Gluten Escape](#)

GitHub link (Source code):

https://github.com/AmeliaHung1027/1121_DS_FinalProject

Final presentation slides:

https://www.canva.com/design/DAF4zp2_uV0/KvdEFF16QTMBfy4OFXYs5Q/edit?utm_content=DAF4zp2_uV0&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton