

Group 9



Snack Hunter:

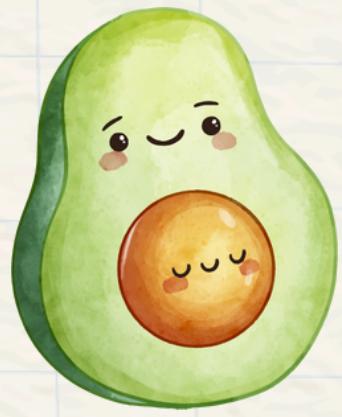
The Ultimate Taiwanese Night Market Food Finder

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Motivation

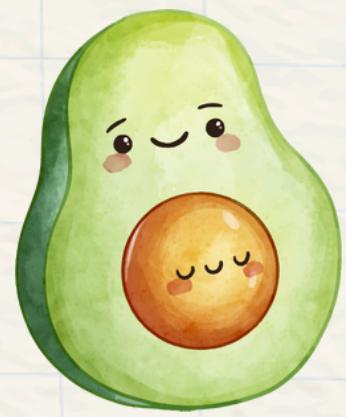
- For both local and international visitors, language barriers and unclear Google search results often make it hard to find the best and latest night market food information in Taiwan.



Motivation

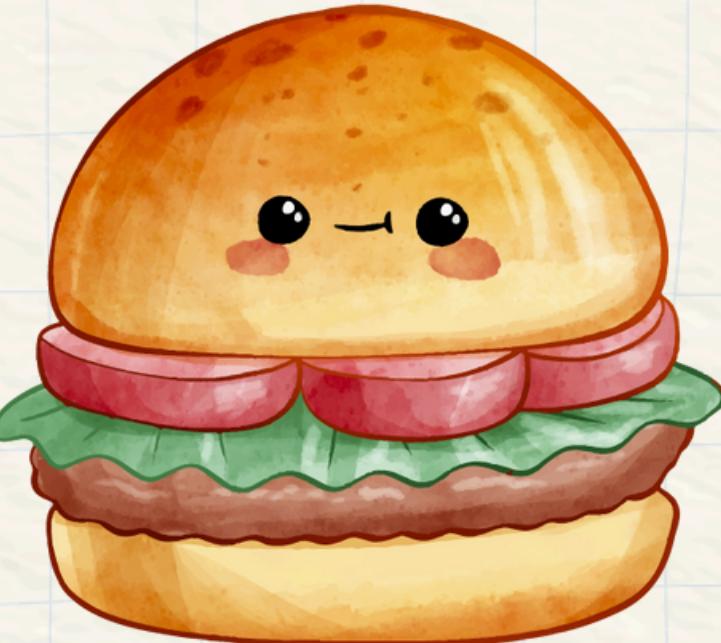


- **Developed a unique search technology**
 - Integrates language translation with Google Translation API
 - Intelligently recognizes user input keywords
 - Converts them into optimized keywords suitable for Google searches
- **Utilizes Google Search Results**
 - Use keywords and their corresponding weights to re-score and reorder the Google Search Results to enhance accuracy.



Why can we beat Google?

Our Advantage



1. Reordering with weighted result

- Assign Weights according to the classification of the three main keywords.
- Applying a weighted scoring system to re-rank Google search results.

```
switch (category) {  
    case "County/City":  
        return 3.0;  
    case "Night Market Name":  
        return 5.0;  
    case "Food Name":  
        return 15.0;  
    default:  
        return 15.0;  
}
```



Score Formulation

Weighted Calculation

Total Score =

City Matches × 3 + Night Market Matches × 5 +

Food Name Matches × 15



2. Keyword Extraction Engine

- "query preprocessing" framework
 - integrates a translation API and a classification model
- **Classification Model:** We precompile a comprehensive list of all "cities" and "night market names" in Taiwan. Using the Voyage ReRanker, the user's input keywords are compared with all entries in the list based on text similarity.
- **If the highest similarity score above 0.5,** the input is classified according to the corresponding category of the matched value, and the user's input is replaced with the matched entry in the list.
- **If the highest similarity score is below 0.5,** it indicates that the input does not relate to any city, or night market name. In this case, the input is directly classified under the "food name" category.



2. Keyword Extraction Engine



```
1 {  
2   "query": "石林夜市",  
3   "documents": ["士林夜市", "六合夜市", "臺北市", "新北市", "桃園市", "桃園觀光夜市"]  
4 }
```

Body Cookies Headers (5) Test Results | ⏪

Pretty Raw Preview Visualize JSON ↻

```
1 {  
2   "ranked_documents": [  
3     {  
4       "document": "士林夜市",  
5       "score": 0.5703125  
6     },  
7     {  
8       "document": "桃園觀光夜市",  
9       "score": 0.314453125  
10    },  
11  ]
```

3. Natural Language to Keywords Conversion

- Using CKIP-Transformers to preprocess user input to convert both natural language queries and keyword-based questions into a structured keyword format

ckiplab/ckip-transformers

CKIP Transformers

使用者原問題：我想要買一杯台北的士林夜市的奶茶
CKIP 斷詞後：買 台北 士林夜市 奶茶



Stage 4: Derive relative keywords by top-ranked web sites

We directly scrape all the content from the 'People also search for' section at the bottom of the 'Google Search Results Page' to serve as the information for this block.

Input: “台北 士林夜市“

The screenshot shows a Google search result page for the query "台北 士林夜市". The page includes a snippet from ezTravel易遊網 about the Shilin Night Market, its opening hours, and transportation information. Below this, a section titled "其他人也搜尋了以下項目：" (People also searched for the following items) is highlighted with a red box. This section lists several related search terms: "士林夜市必吃", "士林夜市介紹", "士林夜市 おすすめ", "士林夜市 グルメ", "士林夜市 捷運", "士林夜市營業時間", "士林夜市2024", and "士林夜市美食". At the bottom of the page, there is a navigation bar with the text "Gooooooooogle" and page numbers 1 through 10, along with a "下一页" (Next Page) button.



台北10大夜市街頭美食懶人包

2019年4月17日 ... P.S.店名後有*的是今年上榜2019必比登推介的店家！交通：捷運板南線-龍山寺站. 士林夜市.

Score: 0

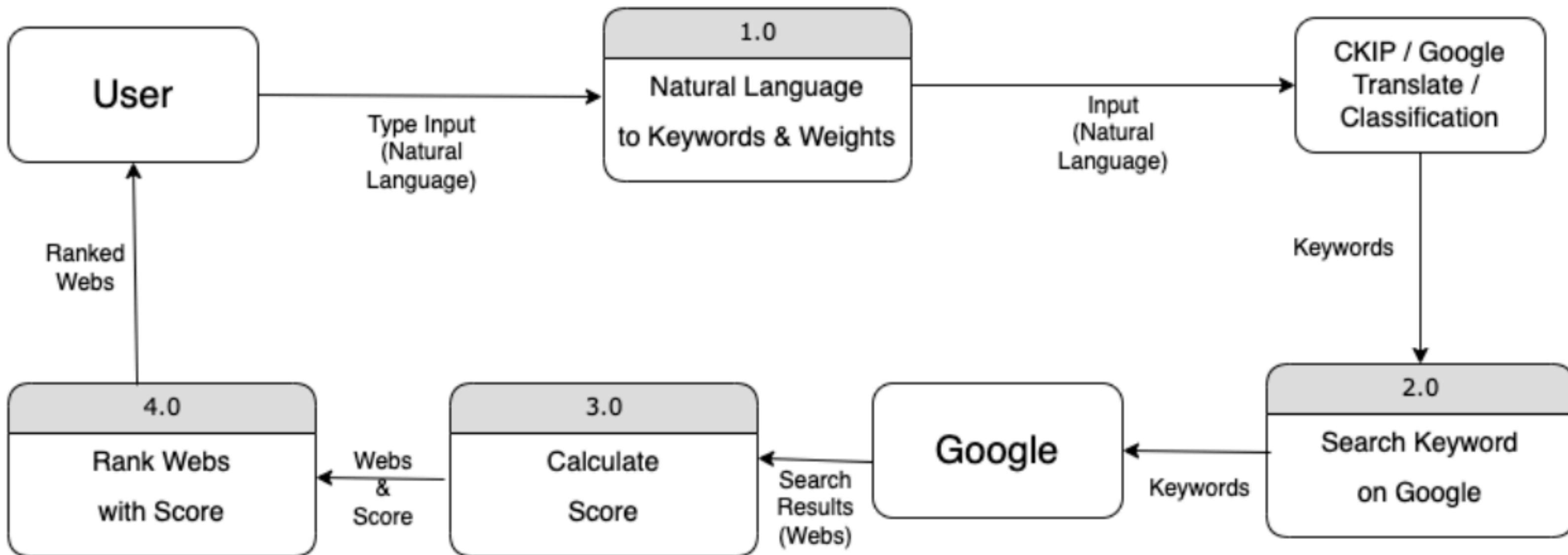
Related Keywords

- 士林夜市必吃dcard
- 士林夜市必吃ptt
- 士林夜市美食2024
- 士林夜市必比登
- 士林夜市美食街
- 士林夜市餐廳推薦
- 士林夜市美食地圖
- 士林夜市 グルメ

Input: “台北 士林夜市“



System design



Data flow diagram



Example (Korean language)

“我想去六合夜市買木瓜牛奶“ -> “저는 류허 야시장에서 파파야 밀크를 사고 싶어요.“



NMSL

Night Market Search List

저는 류허 야시장에서 파파야 밀크를 사고 싶어요.

[Search](#)

Query: 六合觀光夜市 繁華夜市 木瓜 牛奶

[高雄六合觀光夜市攻略：Top12六合夜市美食、必逛景點、伴手禮推薦 ...](#)

2024年8月16日 ... 食尚小編為你整理「六合夜市美食推薦Top12」全攻略
挑選店家大多都是網評4星以上不易踩雷！想知道在地人最推薦的木瓜牛奶是哪攤？還有飄香整條街的「超強鐵 ...

Score: 645

[【2024高雄六合觀光夜市10間美食推薦】美食雲集高雄必逛六合夜市 ...](#)

2024年7月9日 ... 另一間叫“正”老牌木瓜牛奶，兩間店名超像。但這間比較新
也比較便宜，以新鮮現作為主。滿分點了木瓜牛乳，味道也是不錯滴唷。六合夜市美食 | Q伯地瓜球。

Score: 475



IOS APP System Demo

NightMarketSearch

iPhone 16 Pro Running NightMarketSearch on iPhone 16 Pro

```

3 struct ContentView: View {
4
5     var body: some View {
6         NavigationView {
7             VStack(spacing: 16) {
8                 // Title + Subtitle
9                 Text("NMSL")
10                .font(.system(size: 48, weight: .bold, design: .serif))
11                .foregroundColor(.black)
12                .padding(.top, 32)
13
14                 Text("Night Market Search List")
15                .font(.headline)
16                .foregroundColor(.gray)
17
18                 // 搜尋欄位
19                 TextField("Enter your query", text: $viewModel.query)
20                .textFieldStyle(RoundedBorderTextFieldStyle())
21                .padding(.horizontal, 16)
22
23                 // 搜尋按鈕
24                 Button(action: {
25                     currentPage = 1 // 每次搜尋重置為第 1 頁
26                     viewModel.search()
27                 }) {
28                     Text("Search")
29                 }
30
31             }
32         }
33     }
34 }

```

Error creating the CFMessagePort needed to communicate with PPT.
<0x105b12700> Gesture: System gesture gate timed out.

Raw JSON data from server:

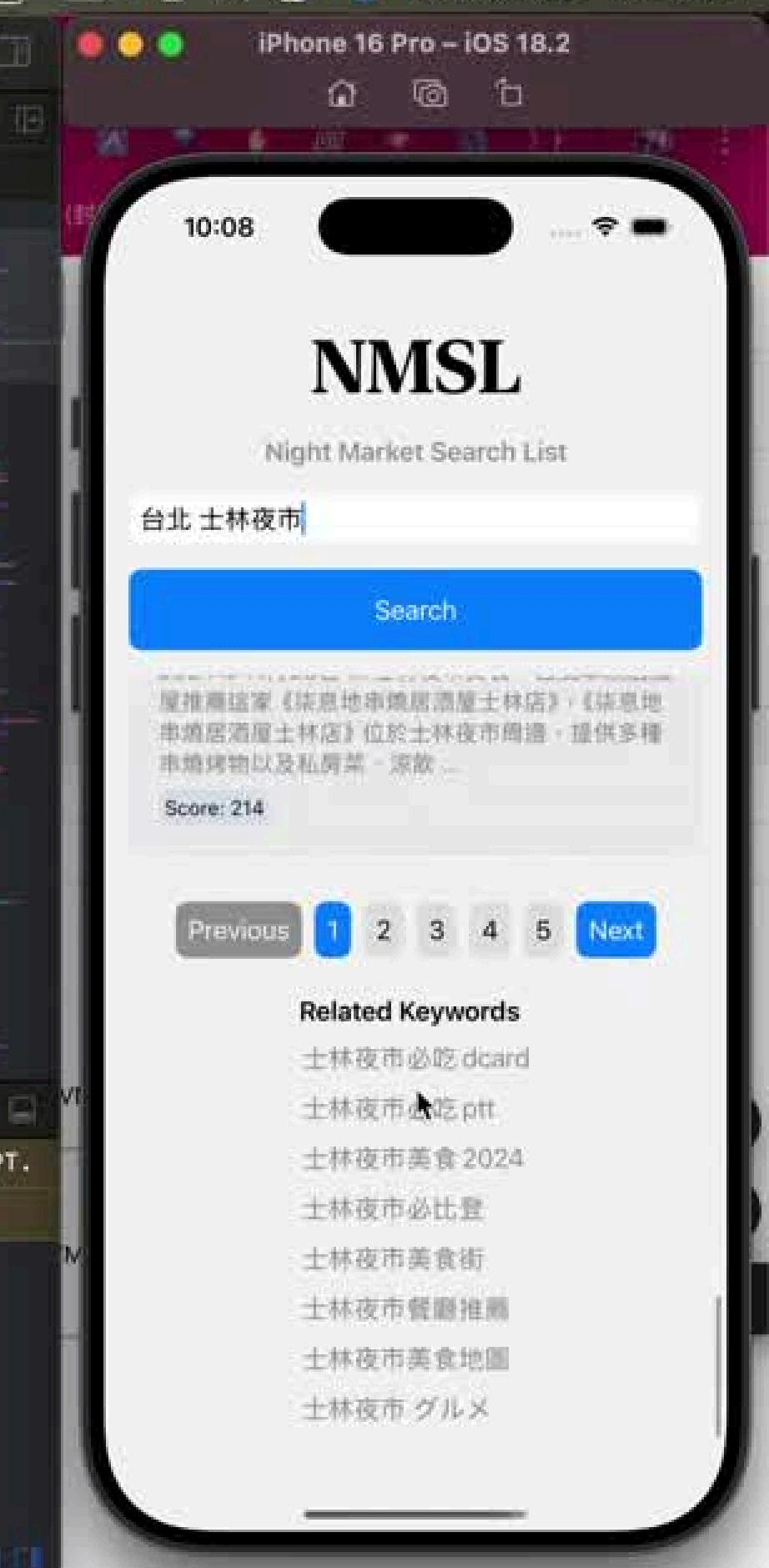
```

{
    "resultTexts": [],
    "query": "台北士林夜市",
    "results": [
        {
            "title": "[士林夜市美食推薦] 2022 30家士林夜市必吃(持續更新)",
            "url": "https://nashgogogo.tw/shilin-night-market-food/",
            "aggregatedScore": 538,
            "snippet": "2022年10月19日 ..."
        }
    ]
}

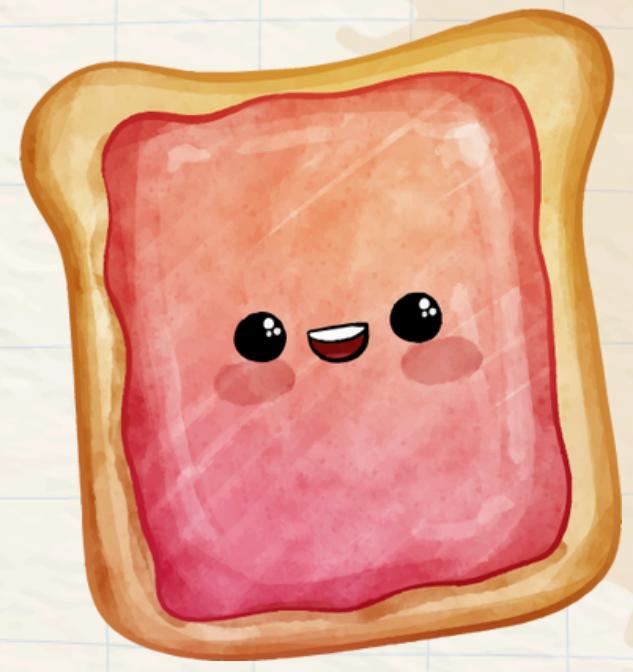
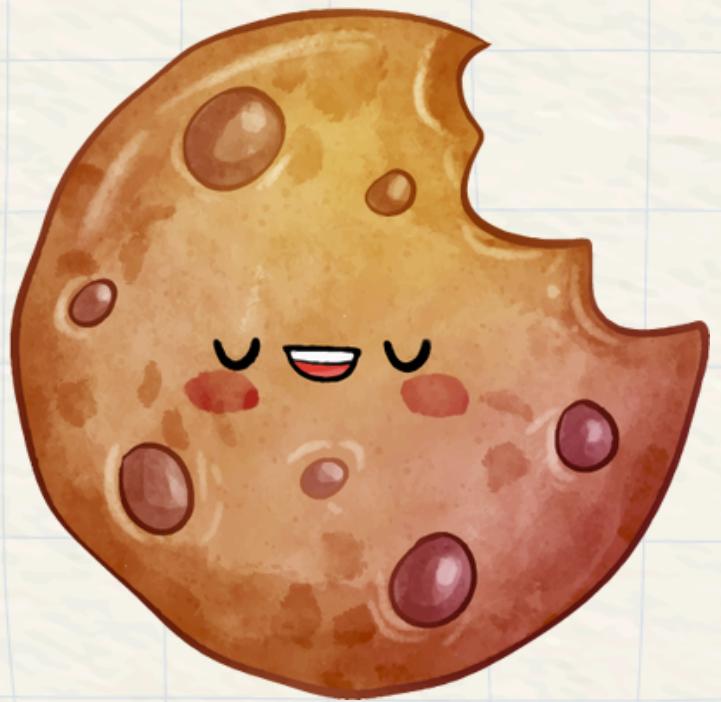
```

Related Keywords

- 士林夜市必吃 dc当地
- 士林夜市必吃 ppt
- 士林夜市美食 2024
- 士林夜市必比登
- 士林夜市美食街
- 士林夜市餐廳推薦
- 士林夜市美食地圖
- 士林夜市 グルメ



System Demo



Thanks!

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