

- Project Name: Good weather trip planner
- Project Description: - at least 150 words

1. Overview: what is the project is about?

As long as you enter the number of days of travel, the program will automatically search for places with better recent weather, and easily find many tourist attractions, and arrange the nearby tourist attractions on the Map and print travel destination information on the Google Maps.

Finally, print a navigation website.

2. Motivation: Why do you want to build this application?

If encounter bad weather when traveling, usually you may think that it is better to stay at home.

With easily accessing to the Internet, backpacking has become a popular travel way.

However, backpacking needs to find a lot of information before traveling, and the data is distributed on various websites. Therefore, it is planned to write a program that can recommend travel locations by the weather forecast and integrate the information of travel locations into one program.

After the program is completed, the user only needs to enter the location of the trip to solve above problems.

- Project Planning: at least 300 words

1. What are the services/data sources you will use for this project?

This project will mainly use two APIs:

Central weather bureau API and Google maps API.

This project will crawl **Tourism Bureau, Republic of China (Taiwan)** website to get tourist attractions.

Central weather bureau API : Get weather forecast information

Google maps API : find position, calculate distance

2. How will you use them?

Initially, the program asks the user to enter a date when they can travel, and use **Central weather bureau API** to get weather information.

The program will evaluate the weather conditions of various places, and use those places to crawl **Tourism Bureau, Republic of China (Taiwan)** website to get tourist attractions.

After getting a lot of tourist destinations with better weather among all the locations, the program will connect with **Google maps API** to find the distance between tourist destinations.

And then, use the **google maps API** to get travel destination information such as address, phone number and business hour.

Use **google maps API** to create a unique travel map that highlights the planned travel destination.

3. How do you break this project into several tasks?

Understand Central weather bureau API

Understand Google Maps API

Understand how to crawl Tourism Bureau, Republic of China (Taiwan) website

Programming part I :

After understanding the usage and functions of all APIs, check whether the goals of the program require minor adjustments and establish the user input interface in the program.

Write an intermediate report

Programming part II :

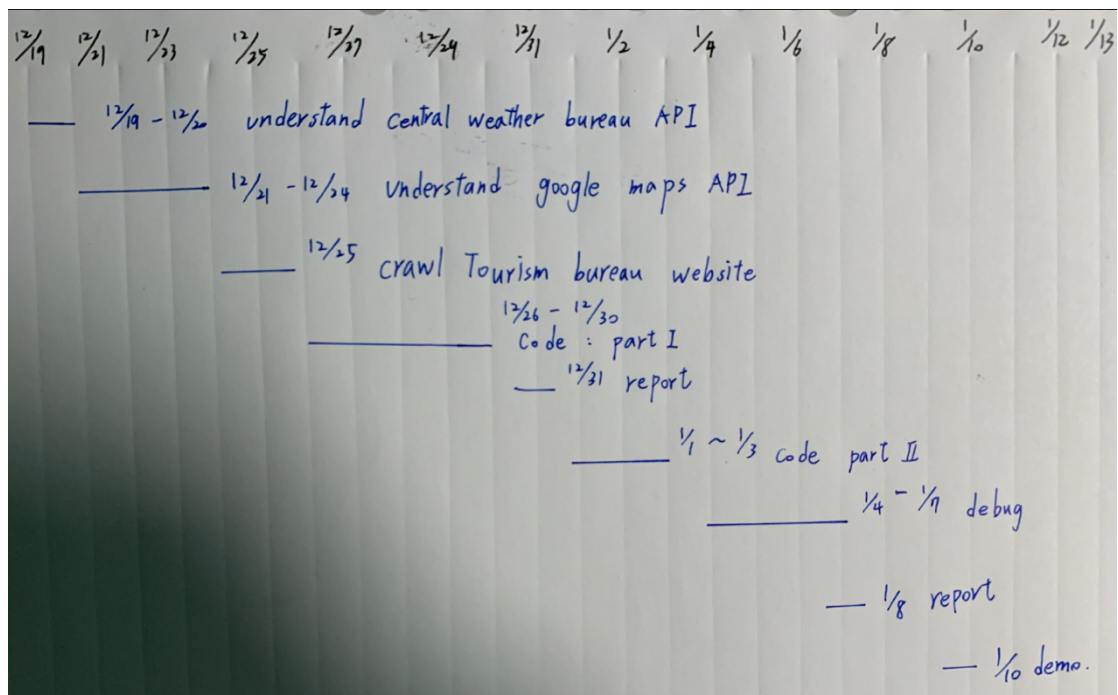
Test the program's feasibility, optimize the user interface and add some small features to make the program more completable.

Debug

Write a final project report

Demo my final project

Timeline:



Update 1

- What you have done.

Weather forecast api

crawl Tourism Bureau, Republic of China (Taiwan) website

- Any changes on the final project plan, and why

The day of weather forecast change to 3 days because I found that

CWB does not have enough data.

- Timeline for the rest.

1/3 ~ 1/6 Google Map API

1/6 ~ 1/10 test

1/11 Complete

Final Update2

1. Tool:

Google Maps API

Central weather bureau API

Tourism Bureau Website

2. Input: Choose travel location

```
Choose location(MIN:1)1 2 5
Number of tourist destinations(1~8)3 3 3
```

3. Output:

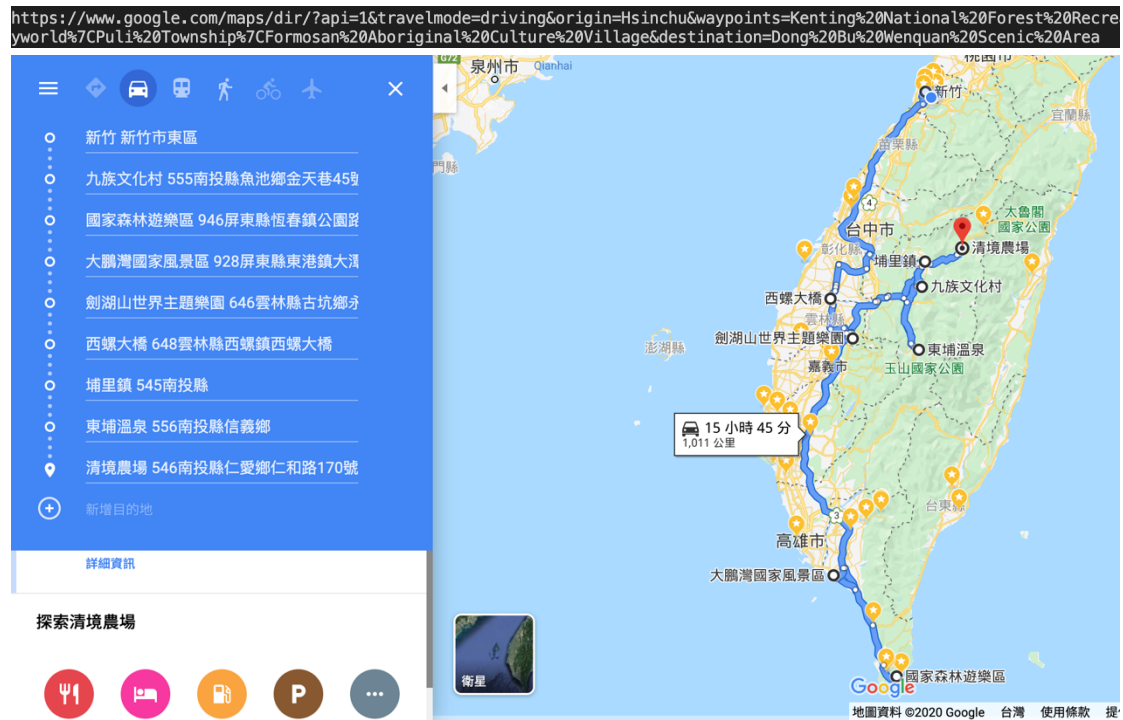
Show Weather Forecast in Taiwan:

No.	Location	No rain	MAXT	MINT
1	雲林縣	100%	24°C	14°C
2	南投縣	100%	25°C	14°C
3	連江縣	100%	16°C	11°C
4	金門縣	100%	20°C	13°C
5	屏東縣	100%	28°C	15°C
6	澎湖縣	100%	21°C	17°C
7	高雄市	100%	26°C	17°C
8	臺南市	100%	25°C	16°C
9	嘉義縣	100%	25°C	14°C
10	嘉義市	100%	26°C	15°C
11	彰化縣	90%	24°C	14°C
12	臺中市	90%	24°C	15°C
13	新竹市	80%	22°C	14°C
14	新竹縣	72%	22°C	15°C
15	苗栗縣	50%	22°C	14°C
16	桃園市	31%	21°C	15°C
17	新北市	22%	22°C	16°C
18	花蓮縣	21%	25°C	17°C
19	臺東縣	16%	25°C	18°C
20	臺北市	15%	22°C	15°C
21	基隆市	2%	22°C	15°C
22	宜蘭縣	1%	26°C	15°C

Travel destination info.

```
墾丁國家森林遊樂區
4.4
08 886 1211
No. 201, Gongyuan Road, Hengchun Township, Pingtung County, Taiwan 946
['Monday: 8:00 AM - 5:00 PM', 'Tuesday: 8:00 AM - 5:00 PM', 'Wednesday: 8:00 AM - 5:00 PM',
```

Return a Google Maps Website URL:



4. function:

cwb(13~54):get weather info.

Tb(56~69): Tourism Bureau Website

Map(71~94):Get destination information

Getid(96~126):Check map information

Plan(127~135):Return a Google Maps URL

5. Package:

```
6. import urllib.request
7. import requests
8. from bs4 import BeautifulSoup
9. import re
10. import socket
11. import urllib
12. import json
```

```
13. from urllib import request
14. import datetime
15. import random
16. from googletrans import Translator
```

urllib.request: connect to website

Beautifulsoup: crawling website

Json: deal with json file from APIs

Datetime: Get current time

Random: shuffle data

Translator: use Google Translate

6. Experience:

Python have many useful packages on Internet, in this project, I use Google Translate package to deal with Google Maps API, Google Maps API doesn' t support search place using Chinese, so I need to translate the name of travel destination into English and use urllib.request and Google Maps API to get json file, I never thought this solution before. This final project let me know that there is no limit to programming knowledge.

