

空氣品質指標小工具(GUI project)

謝豐安 (A1055548) [,雷皓哲 (A1055528) [, 林煒堉 (A1055545)]]

Overview

此程式會去環保署的網頁抓取空氣品質指標並載入到程式中，每小時更新一次，然後程式會優先顯示你附近的空氣品質(如果附近有測站，否則就使用最近測站的資料)，每小時更新後，會告訴使用者目前的空氣品質。使用者也可以選擇自己查詢自己想看的測站資料。同時程式也會把環保署的公告顯示出來。

At a high-level, what do you propose to work on for your final project?

Background

想要寫此程式的原因是因為，不想一直開著網頁，希望可以寫個小工具提醒我目前的空氣品質，藉此安排戶外活動。

以前曾經寫過爬蟲的程式，不過每個網站的 **tag** 不盡相同，新的網站又式不同的格式，相當具有挑戰性。

希望出門前可以提醒我現在的空氣品質，讓使用者能夠有對自身更好的選擇。假設我本來要去上課，程式告訴我外面空氣品質太差，我就可以跟老師請假，或者今天選擇在家自習。

Give us some context for your project. We may not be as informed about the topic as you are. Why are you excited about this topic? Do you have any experience with projects like this? What effects could this project have on the outside world?

Implementation strategy

目前是打算用 **tkinter** 實作 **UI**，然後撰寫爬蟲程式去環保署網站抓取資料，抓下來後使用 **bs4** 套件清除 **tag** 以利後面的資料分類，資料爬完並整理完後傳給 **UI** 使用。使用者位置的部分，目前的想法有兩個，一個是使用套件(未查詢到)來抓取電腦 **GPS**，另一個則是用使用者的 **IP** 來抓取位置(較不準確)。為了避免 **UI** 執行跟固定時間爬蟲衝突到，需要用到 **threading** 套件讓爬蟲程式跟 **UI** 可以在同時間執行。

At a high-level, how do you plan to implement your project? How does it incorporate Python?

What are the main pieces that your projects breaks down into? How do these pieces connect to each other? If they share data in some way, how? Which Python packages do you plan to work with? How will these external modules connect to the code you write?

Tasks

目前的分法大概是，*UI.py, crwal.py, location.py*

目前覺得 *crawl* 是最簡單的部分

最難的部分應該是 *location* 跟統一的程式架構(可能溝通不良，得到的資料格式不是另一個設計者要的,etc...)

UI 應該是最複雜的，也最乏味的。

Break down your project into a sequence of small tasks that you can feasibly accomplish to incrementally build towards a complete working project.

Include at least three stretch goals. A stretch goal is an extension that you think would be really awesome, but would probably be outside the scope of the final project.

What tasks do you think will be easy? What tasks do you think will be hard? Tedious? Trivial? Give us a sense of your current outlook on these project tasks.

Annotate each of the tasks (including stretch goals) with an estimate for how long you believe the task will take you. If you're in a group, also annotate each task with the names of anyone responsible for the task.

If you've already accomplished some of the tasks, make a note of it! If you're incorporating a final project for another class into this final project, you'll be held to a higher standard of quality and quantity, so make a note of that too.

This task list isn't binding - you can change your mind, modify tasks, etc - but it's a good starting point to organize incremental development.

Resources

This section is smaller and less vital than the others. If you're not using any external resources, you can leave this blank.

What external resources will you be working with? If you are working with a dataset, how will you acquire the data set? If you're publishing some project (e.g. web app), how will you host your project? If your project requires hardware, how will you get it? Are there any other resources you need to acquire before starting?