

CSU33D03-202122: COMPUTER NETWORKS

Project 2

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Preferred focus and Use case –

I wanted to create a decentralized network to identify the best times for a friend group to meet and rejoice when free. The specific data collected, is namely, times when the respective group members are free to have fun or pursue their common hobby and thereby relieve the stresses and pains of everyday. Other data is what respective holidays are available for all the persons involved, for the sake of simplicity, I assume that the specific group members live in the same country and live near to each other. Other data that is included is, weather and favourite places to visit, also upcoming or new places that might interest the said group also is updated and added to the list, all the places shall be referred to as, hangout place. And for ease of the system and to keep the most efficient data, the distance of all the places to visit is calculated from an already decided vantage point which is decided, by the group members, and should be located at the nearest meeting place that they decide, which shall be referred to as starting_place.

High Level Messaging / Functionality / Functional description / Purpose

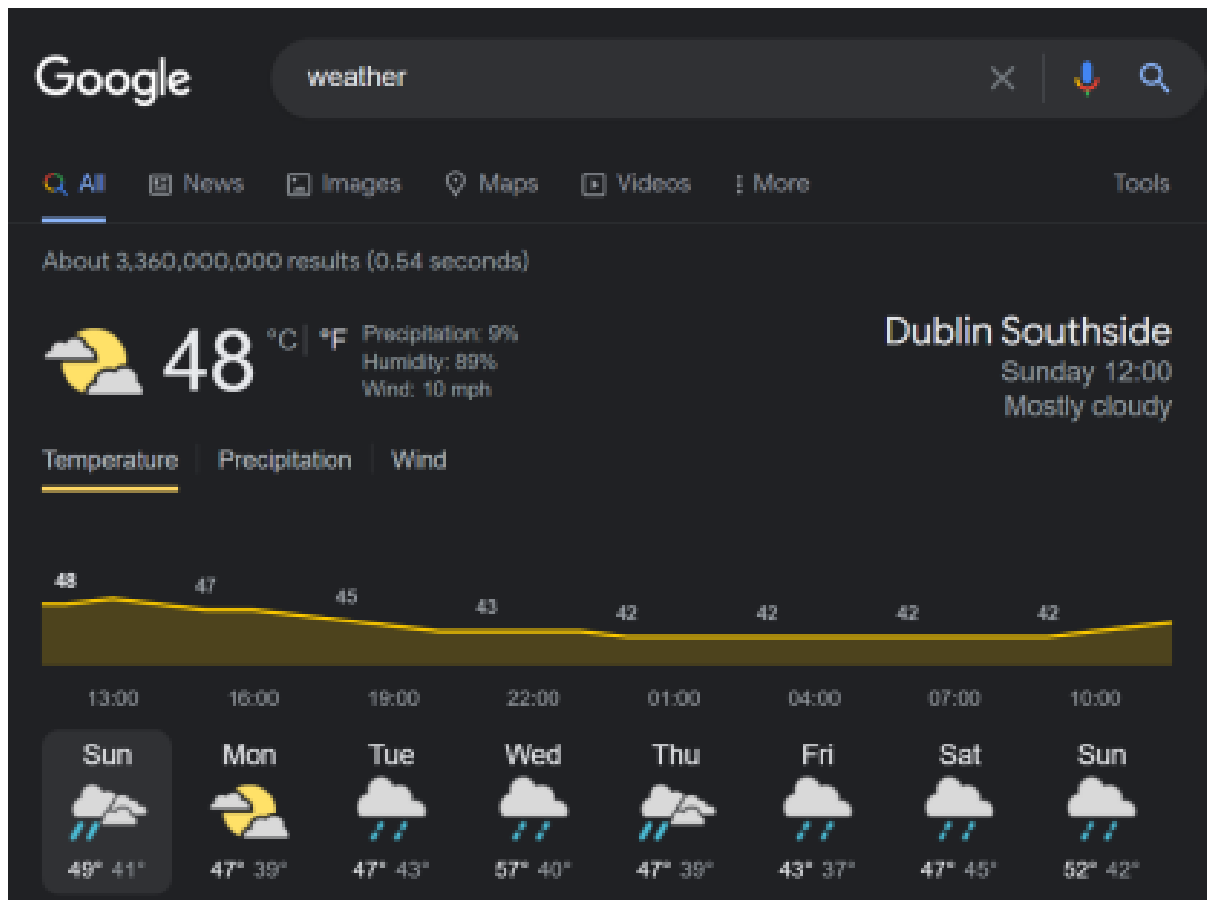
The weather shell should be taken from google as it provides a good result and accessible everywhere all over the world, its become easy to get the weather details of any particular location with the help of google. although we are gathering the data in the form of google form, it has quite a fast and responsive system, and it would be safe to assume, most systems would interact with google maps.

Google forms: we are using google form to accepting the data, we are taking details from the person, like the email address, and the time they are free. Below is our google form link.

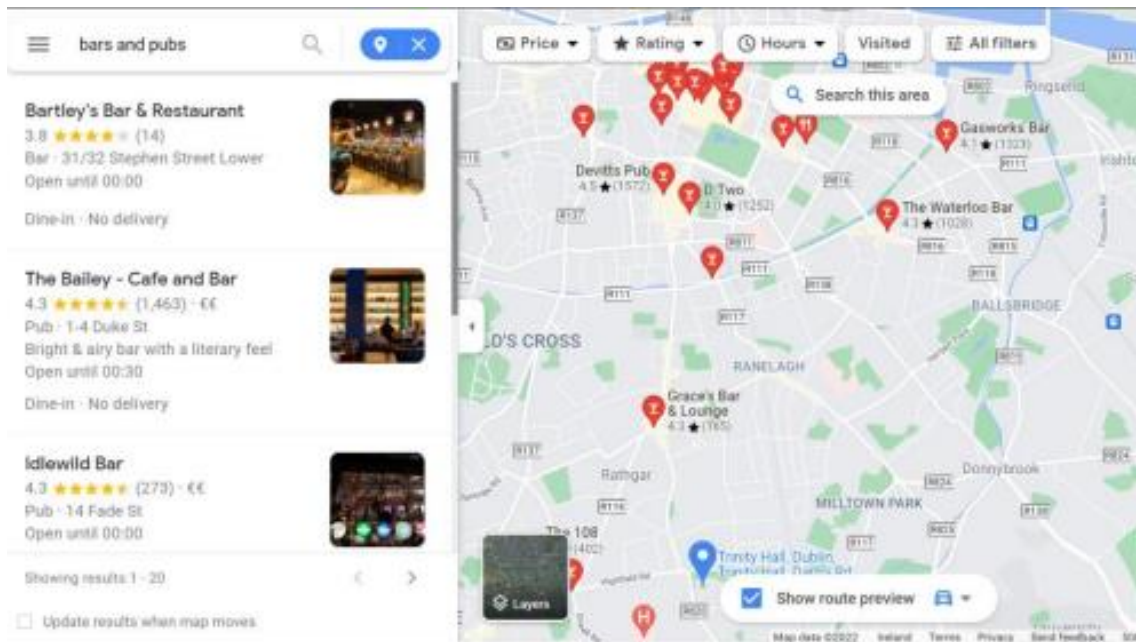
<https://forms.gle/P1w24mo9wPpYVuBK6>

Weather information : we are gathering all the weather information from the website <https://openweathermap.org/> this is a one of the popular website for accessing weather data it includes access to current weather data, forecasts and weather maps. We are

validating all these values with the help of python



Nearby hangout places: we are gathering this information from google developer (<https://developers.google.com/>) tools , we are using google api access to get access the maps for gather the information, we are finding place in a particular region in an particular radius using python.



We are collecting all data together and optimising it, we are going to sent this optimised information via email with the help of python.

Algorithm / Pseudo Code / Structure / Logical thinking

The algorithm of this application is on the basic part of python language,

1. We are gathering data from user with the help of google forms
2. Gathering information like users free time, users email address
3. Using place search API of developer cloud for accessing map to finding the nearby hangout places
4. Using a particular radius (approx.-4000) from the user location to find the places.
5. Gathering weather information from a open source website
6. Optimising all these information together.
7. Sending this information via email

We are writing all these codes in python



Networking / Comms model: e.g. Client Server or Peer-to-Peer - > Any lower layers (Application and/or Network)

We are using google AIP, modules , and servers in python for communications and optimisation of our project.

Below are some servers we are using in our code

- 1 SMTP – SMTP is a free server used for send emails, this server used to sand the ,information like contact form, newsletter blasts, notification and collection forms etc
1. BeautifulSoup- this server is used for the web scrapping to read the data from the html and xml files
2. Requests- this module allows to send http in python

Security

This project is based on the google severs, we are gathering data on google form, which is Highly secured, only the owner can see the responses. Collecting map data from google developer tools which is also highly secured. We are not using any personal information of user .

Highlights/Unique Selling Points of your system/implementation.

This might apply to how the data from google forms is going to be extracted then modified to give the desired output. this is going to be between internet, lives of people, the weather of a city, its holidays, its places to visit, interaction between google and python and excel. As for testing the data used would be easy to obtain so lots of test cases would be used, and corner cases shall be for now not tested exhaustively as it would endless. But as for the python program, Ita pretty good at Python, we learn how to use API's and modify various systems using this language, but apart from that it should be easy. Also, to make the data output better, the output shall be posted on a website, most probably hosted on GitHub, and changed every week or as the data changes.