WHERE TO LIVE

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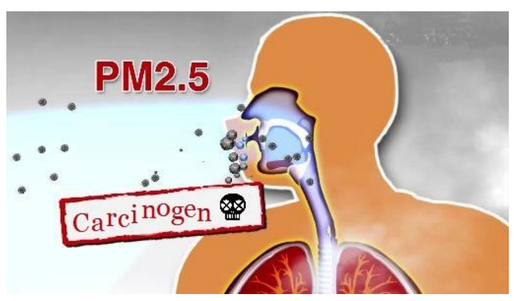
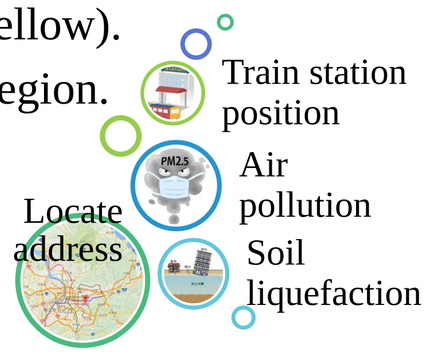
Background and Motivations

In recent years, there are some natural disasters in Taiwan frequently. Earthquake caused buildings collapsed, PM2.5 exceeding make people unhealthy. Soil liquefaction is the one of reason that let buildings to collapse easier when earthquake happened. Air pollution data can tell us the number of PM2.5. If we can decide where to live, must to chose the place far away from damage and close to public transportation which is more convenience. To sum up, we want to use Taipei open data to analysis where to live is more beneficial.



Targets

- Locate and search the input address.
- Display high , medium and low risk soil liquefaction in different colors (gray/orange/yellow).
- Display excessive harmful air region.
- Display train station position.

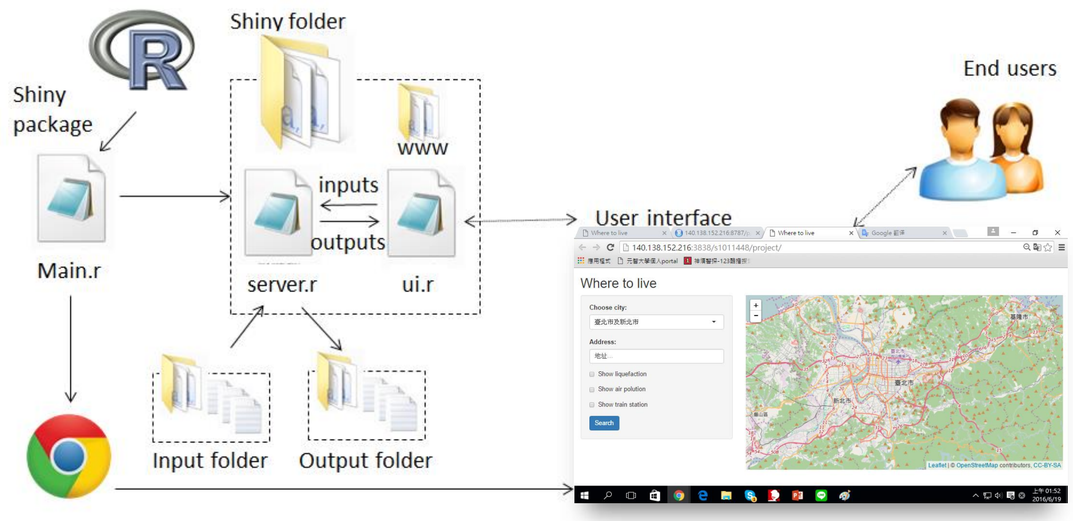


Methods and Tools

Data collection: Gather air pollution data, train station position data and soil liquefaction data in there different risk (low, medium and high) from “Taiwan Government Open Data” .

Data processing and analysis: R language is used as main data processing tools.

Data visualization: Use Shiny to display our result.



And we also use Open Street Map and leaflet to make the interactive map.

Steps and Results

1. Locate address

Input the address and search, the website can locate where you live. You can click “show train station”, and then search again. There will pop an icon on the map.

2. Soil liquefaction

We use different color to distinguish the level of soil liquefaction . Yellow means low risk, orange means medium risk and gray means high risk.

3. Air pollution

There are circles on the map. Green circle means the degree of PM2.5 is between 0μg/m^3 to 11μg/m^3. Blue circle means the degree of PM2.5 is between 12μg/m^3 to 23μg/m^3. Red circle means the degree of PM2.5 is between 24μg/m^3 to 35μg/m^3. Brown circle means the degree of PM2.5 is over 35μg/m^3.

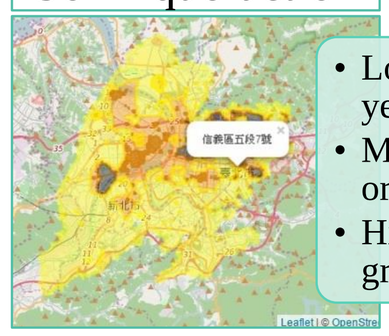
4. Overlay

Add four data together to show on the map. It can let people to realize the environment of input address.

Locate address

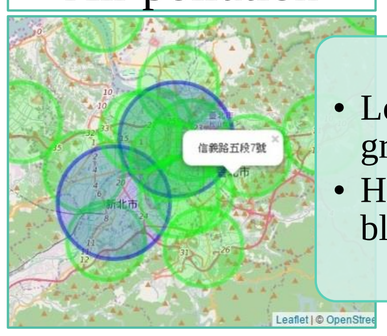
- with Train station position

Soil liquefaction



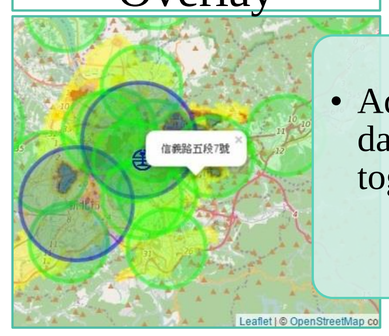
- Low: yellow
- Medium: orange
- High: gray

Air pollution



- Low: green
- High: blue

Overlay



- Add four data together

Conclusions

In this project, analyze data to help people live more safe. It is a meaningful thing. Big data can provides us a lot of information and improve the quality of live environment .