China Rail Travel Planner

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Questions

- Assume users have a ${number}-day vacation, where can the users go and visit?

- Assume users have a ${number}-dollar budget, where can the users go and visit?

- Assume users have a ${number}-day vacation and ${number}-dollar budget, where can the users go and visit?

Data Sources & References

Data sources:

12306.cn: Official website of China Railway. Schedule of a specific train station

IP138.com: Schedule of a specific train

GPSSPG: Retrieve coordinates of every train station

Visualization:

Echarts: Geo component example

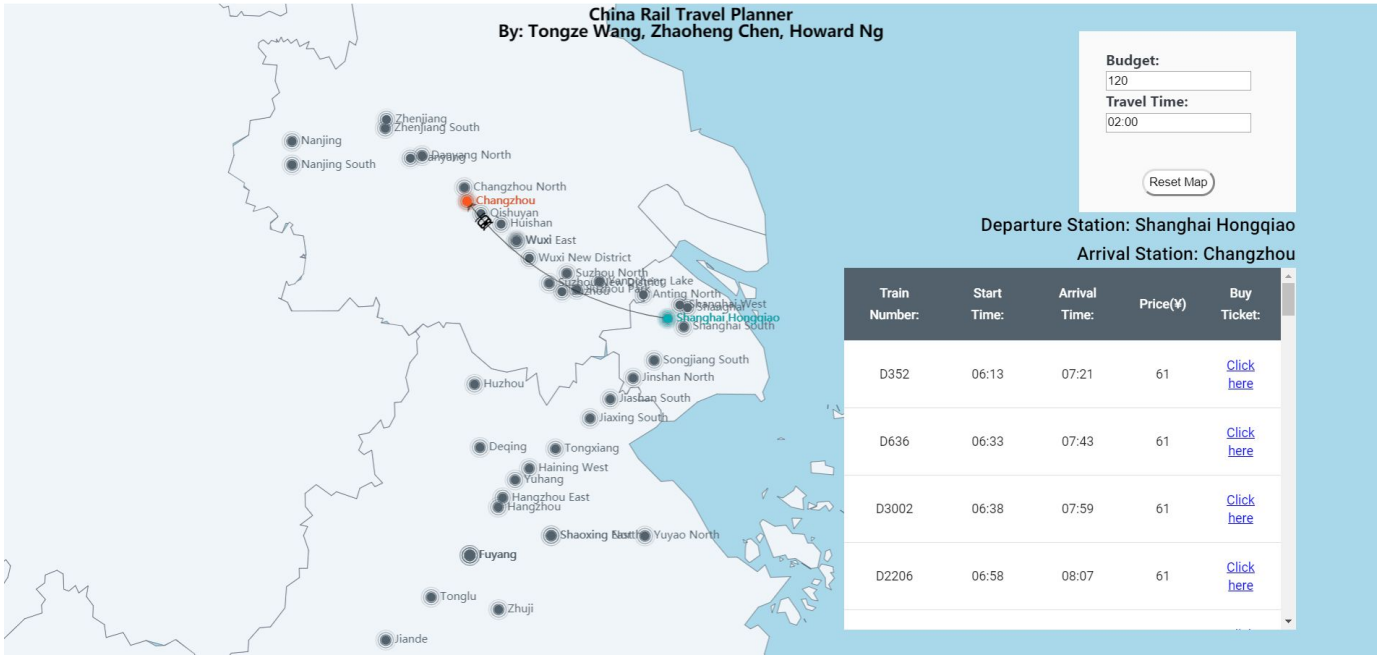
China Railway Map: Railway map

Question Answered & Visualization

All questions are answered and visualized with an interactive webpage:

https://howardng940990575.github.io/CSE184-Final-Project-Railroad-Travel-React/

Visualizations



Libraries Used

Web scripting:

Python 3: beautifulsoup4, JSON, requests, re, numpy, pandas

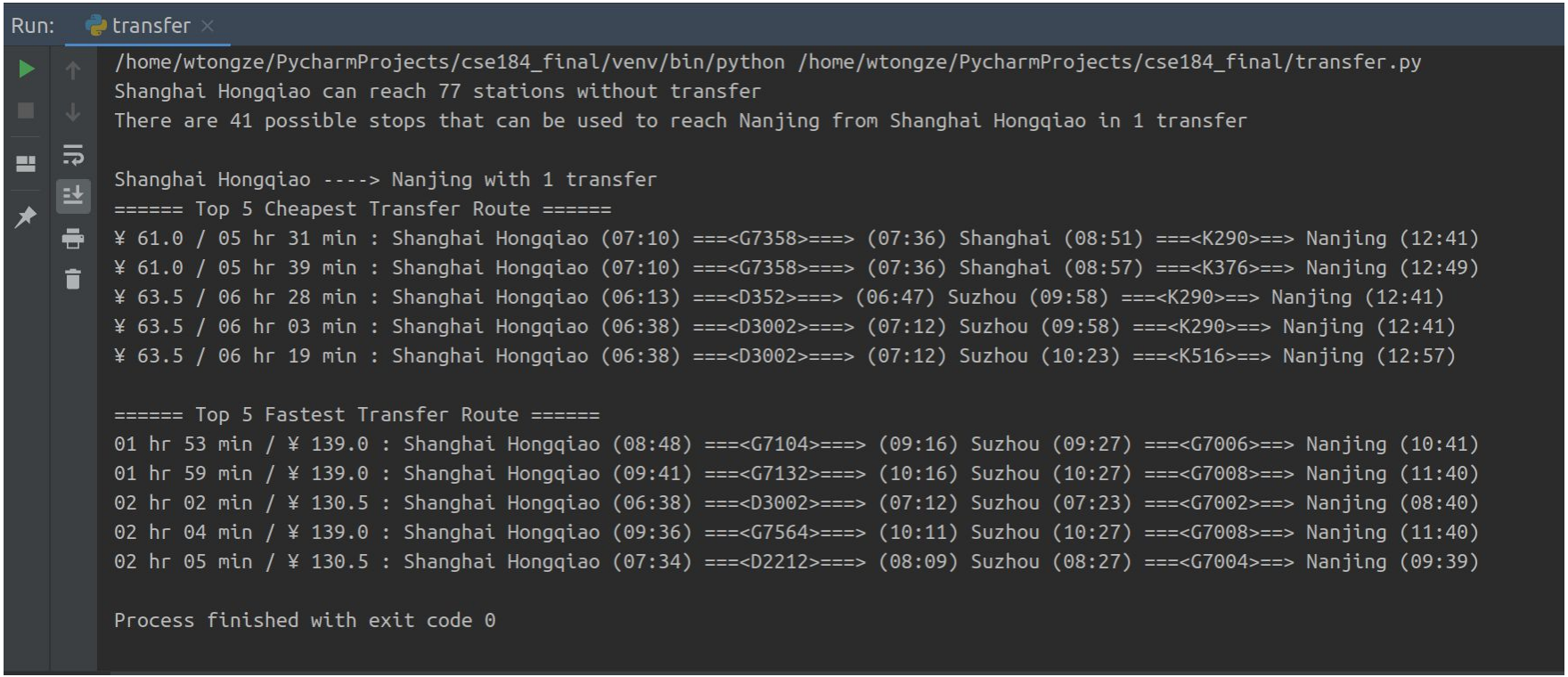
Visualization:

React:Create the interactive webpage

Echarts-for-react:The map component of the webpage

React-gh-pages:Publish the react app to the github page

Transfer Search Algorithm - (Extra Part)



Contributions

Tongze Wang: back-end

- Scrapped, cleaned and wrangled all train data from the official website of China Railway and Stored into a single JSON file.
- Build the beta version of the train transfer searching algorithm.

Zhaoheng Chen & Howard Ng: Front-end

- Visualized the data with an interactive webpage via React and echarts
- Implement the reachable train stations algorithm and update the map
- Implement the available trains algorithm and update the table
- UI design for the interactive map