Assignment 3 - CS551P: Advance Programming

Peiheng Su

Application Code: In Peiheng Su's codio.

Cloud Deployment URL: https://cs551p-assignment-3.onrender.com

GitHub Repository: https://github.com/Thorki-Su/CS551P_Assignment_3.git

The application is built using the Flask Framework, structured into modular layout with templates, models and static assets. The application is deployed on Render.

This application is about the visual presentation of CO2 emissions of different countries in 1990 to 2020. The emission data I used comes from another course CS551A: Fundamentals Of Software Project Management. I redacted the original data, deleting the data of non-countries. There are 193 countries and each country has 31 years of data. In total there are 6176 data in my database.

When using this application, users don't need to log in. They can go through all pages.

In the left part of each page, there is a list to show all countries. User can go to the detail page by clicking one country. I initially wanted to make the list a separate page, but that would lead to a lack of content on the other pages. So I made the list a sidebar and put it in the main template. Now users can use the list in every pages.

In the detail page, users will see the detail information of this country including country name, country code, region and income group. Also, there is a image of the CO2 emissions. Because the requirement of this assignment says it's a python assessment and there should be no JavaScript in my submission, I gave up on using canvas for drawing the line charts. Instead, I use the Matplotlib module to draw the charts and save them as image files. When user visit the detail page, the page will use <img> to show the chart.

I use the error control for this application, for it does not crash the server in case of errors. The error control includes the 404 and 500 pages and the 'try-except' for each main functions.

I did the test for the functions of this application.

In the git log it doesn't show the merging history but I did the merge step in the process. You can find it in the github commit history.