The data from AFDC already has an id field that has been used for the previous project, so I deleted the id field I created.

Try, except syntax helps me with the error handling, because sometimes Esri API couldn’t find a route between the two points and the program stops excuting.

I turned off the energy saving mode on my mac so it will not sleep every 15 minutes, which pause my program before it finishes.

Apache server (Mac build in) with php and Esri map service will replace the previous google map service.

Install and configuration of the php and apache server

~sudo nano /etc/apache2/httpd.conf

remove the “#” tag before the “LoadModule PHP7\_module” at line 186.

in the <IfModule dir\_module> section, in the “DirectoryIndex” line 288, add an index. Php, before the index. Html, so the apache server will choose php file before it chooses the html

ctrl+O+return to save the change, Ctrl+X to close the editor.

~sudo apachectl restart

The put the project files in the document folder

/Library/WebServer/Documents

Then the project can run on your local Mac.

Migrate from google api to Esri API for JavaScript, Esri blog:

<https://www.esri.com/arcgis-blog/products/js-api-arcgis/announcements/migrating-from-google-maps-javascript-api-to-arcgis-api-for-javascript/>

it shows different map canvas display when the project is open with localhost and chrome.

Final Introspection and Conclusion:

Bootstrap is a great tool, but responsive design is more that: such as learning to use Meta view port tag to detect different device, flexbox, and use @media query in CSS to adjust to different screen size.

Migrating an app from google service to Esri API is more complicated than I thought. It is relatively easy to finish small pieces of tasks but difficult to change all the elements.

Print() is an easy function but very useful. You can test the progress using this simple function: printing in your Python console, Javascript console, and php to htlm page all help.

Although it is a solo project, communication and support from other people are crucial and appreciated. The feedback from Dr. Kuby, Shea, and Ayan kept me in the right direction and encouraged me to solve many problems.