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Professor Kazerouni
CSC 313
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The Programming Process

Start: 1/13/25

Time: 8:00pm

Github: <https://github.com/jhueyy/CSC313>

Starting/Understanding the Problem and API ~ 45mins - 1 hour

- Thought about how to approach the problem (~5 mins)
- Strategy: Recognized that we need to use some sort of API from OpenLayers dealing with points
- Strategy: Recognized that we need to hold an array of objects for these points
- Tried to add a single marker for Cal Poly for testing purposes (failed) (~15 mins)
- Looked up examples on OpenLayers for displaying coordinates (~40 mins)
- The above process took so long because I needed to find the correct example and also look through each one and see what was doing what

Attempting to Draw a Singular Point ~30 mins

- Tried to paste in code to make points (failed)
- Looked up Javascript documentation for syntax purposes (~5 mins)
- Went back to every example and tried to locate patterns/similarities between making coordinates (~10 mins)
- Observed lots of examples using vector layers and vector sources
- Viewed open layers vector layers doc (~5 mins)
- Observed point styles in examples code
- Implemented point styles by copying and pasting into my program (~5 mins)
- Set icon features and point styles (worked!)
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Designing a Method for Multiple Points ~15 mins

- Plan: for each of the locations, create a new point
- Re-read Javascript documentation how to use a for each loop and arrow functions (~5 mins)
- Created an array of objects for cities, coordinates, and counts
- Got the coordinates of all group members and transformed them using <https://epsg.io/>
- Tried to use a for each loop and arrow function to apply this to every location object (worked!)

Improving Visualizations ~1 hour and 30 mins

- Need a way of changing the colors and sizes of the coordinates
- For simplicity, I chose to set the radius equal to the (count * 5) (worked)(~2 mins)
- Need a way to center on certain coordinates when we start

- Inputted Cal Poly's coordinates in Map's view center attribute. (worked)(~2 mins)
- Recognized that we don't just want to center on Cal Poly since not everyone is from SLO and some people may be from out of state
- Tried to find the center of all coordinates by taking the average of each coordinate. Sort of worked. Note this method works on areas general to California but not to different states or countries. Would need to fix zoom for this (~20 mins)
- Tried to do the previous note: changing the zoom and center based on the difference of the smallest coordinate and largest coordinate (fail) (~1 hour)
- Reread assignment instructions
- I knew my implementation attempt was optional from the beginning but I didn't know we specifically had to center it on Cal Poly
- Centered map on Cal Poly
- Need to implement a way of changing the color of each point
- Based it on count. If the count was 3 or more, make the point purple, else if it were 2, make it orange, else make it yellow (~10 mins)

Conclusion:

Total time elapsed: ~3 hours

Reflection:

I wish I had read the assignment specification more clearly and not had spent so much time on trying to get my zoom and centering perfect.

List of examples referenced:

<https://openlayers.org/en/latest/examples/icon-scale.html>

<https://docs.maptiler.com/openlayers/examples/default-marker/>

<https://openlayers.org/en/latest/examples/populated-places.html?x=0&y=0&z=2.51767&r=0&l=1>

[1](#)

<https://openlayers.org/en/latest/examples/synthetic-points.html>

<https://openlayers.org/en/latest/examples/webgl-points-layer.html>