COMPUTING PROJECT

Final Project [80%]
Word Count Excluding Progress Log
1229 Words

MAY 3, 2022

DAVID SLUPKO & AMIN DAYRI
DS – 33727003 | AD - 3371050801

AD – Report

Features Implemented

Implemented a histogram, double bar chart and doughnut pie chart from chart.js.
I used Plotly.js that is a charting library that comes with over 40 chart types, 3D charts, statistical graphs, and SVG maps and also Chart.js comes with the following built-in chart types: Scatter Line Bar Radar Pie and Doughnut Polar Area Bubble.

Planning and Coordination on development

David and I met up a few times in our student accommodation and discussed all possible ideas for the three case studies. We came up with multiple ideas and started to get rid the useless ones and kept the more interesting ideas. We finalised our thoughts and came up with 6 points and split the work evenly among us with same level of difficultness. With time, we also modified some of our work with the realization of some points being too extreme.

05/04/2022

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5 April 2022 at 23:38

Computing Project

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Data Visualisation / Business Stats
Hard code in stats of each groups key = re

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https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html
https://www.statista.com/statistics/627848/worldwide-cisco-sales-and-marketing/
https://www.bls.gov/cps/cpsaat11.htm

I will forward you the file now but this is what we have came up with 11:42 pm

How I structured my code

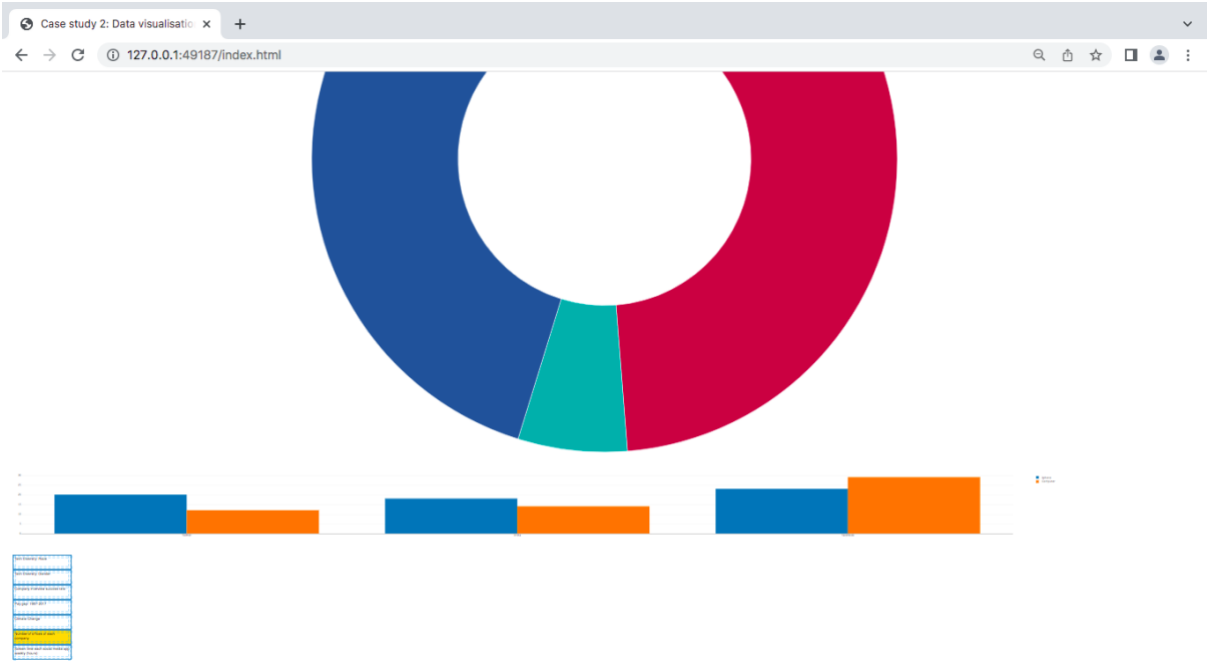
I started naming all my functions and making them compatible with gallery.addVisual(new “function name”) and then connecting them in index.html with the format <script src="file name"></script> and for them to appear on the menu. I gave each file a name and an id with the format ‘this.name’ = “Name of the visualisation”; and this.id = “file-name”. From that, they are visible on the menu and you can start coding your data.

Coding techniques used

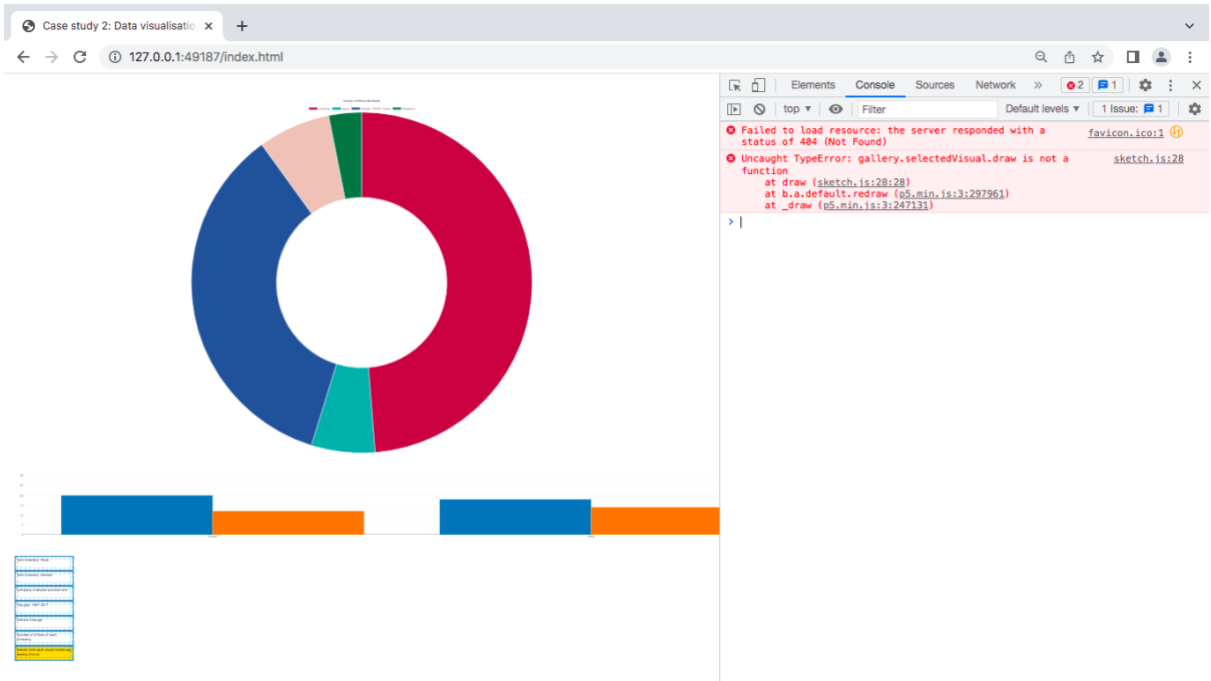
I tried my best to use some ES6 coding (const and let) and I created some arrays and objects, but I stuck with some simple coding most of the time.
I created my charts with the “new” instance and then went ahead with my arrays and objects, set the colours and data on how I wanted my graphs to look like.
For the selection of my colour I used both rgb and #’s from the p5.js colour library.

Challenges faced

When I began working on the first point that was assigned for me in the project, I came across multiple issues. I had some difficulties with some of the html code since with chart.js, we use both javascript and hmtl5, this led to a lot of bugs in the preview and the placement of the charts couldn’t be adjusted.
As seen in the following screenshot :



I also had some problems with the constructer functions, especially transforming objects and arrays with “this.”.
Furthermore, after clicking multiple times on the visualisation menu I got this error in the console log:



Self-evaluation – What will I do differently next time

I learned some new features from the ES6, in the future I will practise more on using it instead of ES5. I also learned to be more observative and patient with coding. Next time I will correctly use constructer function and use callbacks, arrow functions, for in loops to make my code better and more elegant. With time I'll perfect the usage of both java script and html usage which will help me a lot with building charts.

Progress Log

Week 1 – (05/04/22)

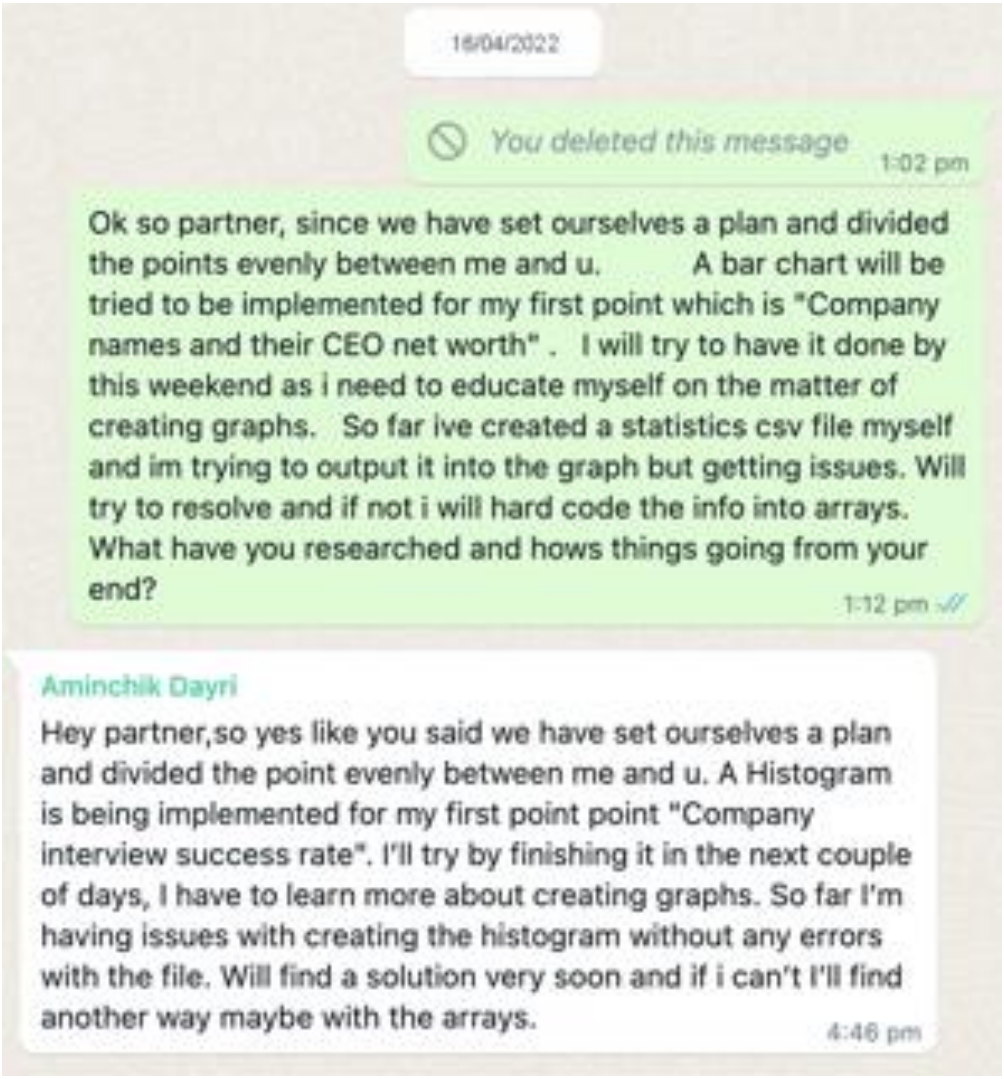
For the first week, I still didn't start coding I was mostly researching on what data visualisation I choose. It was pretty challenging since it's been since the last gaming project since we needed to code something this big, with more new advanced style of coding, you get very overwhelmed and think that is impossible but you get the hang of it when you start getting into it. The first data visualisation that I was about create was the company interview success rate of each company with and started to learn more about charts with the help of chart.js and youtuber "Dan Shiffman" and I also rewatched some of the lectures and advanced Java to refresh my coding skills.

The First week was all about getting back into that coding atmosphere and refreshing your memory.

Week 2 – (012/04/22)

Second week has started and it's time to code, I began creating a graph for the company success rate data visualisation. I choose 6 famous companies and not more because I felt that if I had put to many companies the chart wouldn't of been very comprehensive and easy to read so, searched on the internet how hard it was to get accepted after the interview, the 6 companies that I chose were:Twitter,Uber,Amazon,Google,FaceBook and

finally Apple. With my research it turned out that Uber of course had the highest rate of success after an interview and then we have the likes of Apple and Google who are the hardest to get accepted.



Week 3 – (19/04/22)

It's time to start working on my second data visualisation that is the number of offices of each companies around the world. I wanted to create a map of the world, a web Mercator and represent every offices in the world with each company having a different colour but failed to do so because of an error on my csv file. So instead I created a variant of a pie chart since we already had a pie chart for tech-diversity-race, a doughnut pie chart.
The information was not that very hard to find out on the internet.

Week 4 – (26/04/22)

For my final data visualisation I coded the screen time of the three big social media platforms and have decided to split this in two bars: the computer screen time and the

iPhone screen time. IPhone got the most screen time for Twitter and Instagram and Facebook had the most screen time on computer. This information was all obtained from statista.

Week 5 – (03/05/22)

For the final week I tried my best to fix all the errors and the difficulties I encountered, was stuck on a lot of coding, it's sometimes extremely challenging to know where are your coding errors and for me personally I can stay hours trying to solve the error and it gets extremely frustrating at some point. Finally it's time to merge both of me and my partners code for the final result which is a big hassle because the menu placement is very similar so you have to re-add all the gallery and link them with each other in index.html with the "scr" command.

DS – Report

Features Implemented

An updated (new information for the Year 2021) version of the Tech diversity chart for each company.
A bar chart of 20 companies and their CEO names with their current net worth for the year 2022.
A circular graph of the 20 companies' advertisements expenditure stats.
A world map which displays its continents and the average percentage of fully vaccinated people from all the countries within that continent is displayed at the bottom of the screen with circle sizes aligning with the percentage.

Planning and Coordination on development

The first initial step that had to be done was to choose what case study my partner and I will expand on. We met up in person and discussed all possibilities that can be added to each of the case studies that we covered throughout the module. e. It seemed to us that choosing to expand on the data visualisation case study was the better choice since we came up with the most ideas. We then agreed to start working individually and to keep one another updated via the WhatsApp group
chat.

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https://www.bls.gov/cps/cpsaat11.htm

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How I structured my code

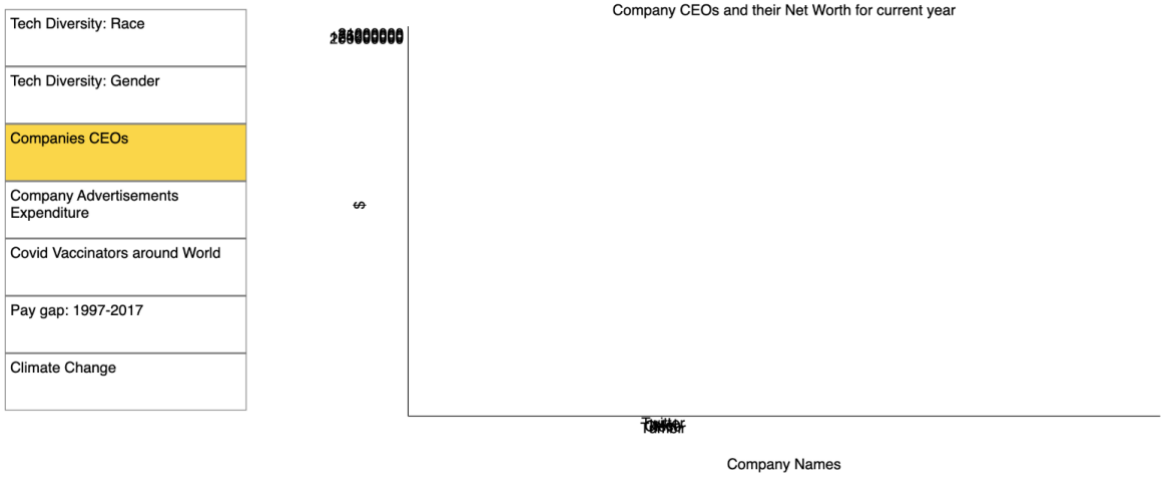
In the data visualisation case study, I first examined how all the files read one another and how they are all structured. Then I added another 3 objects to the gallery and began working on my first point of the project.

Coding techniques used

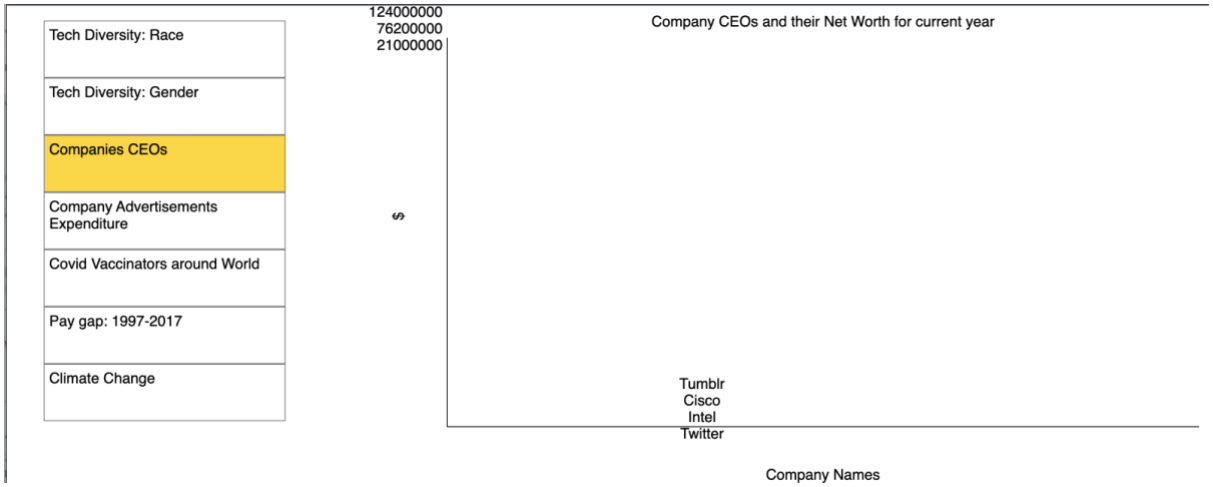
For loop to traverse through data (CSV file).
Created a grid and then drew information on it.
Constructor(s).
P5.vector on creating circles.
Boolean data type to know if the user has done a certain argument or not.
MouseHover for when the user hovers around a certain area, information will pop up.
ES6 “===”, “let” and “const”.
Reference to an object by using “this” word.
Global & local variables.
Push & pop with functions 'translate' and 'rotate'.
Array(s)
Nested iterations with “push” and “length”.
Map() function.
An array with multiple objects stored within it and for loop to iterate through the array.
Object orientation methodology with object properties and some scoping considered.
Modularity was done to some extent as different coding techniques were used and when merged, issues arose.

Challenges faced

When I began working on the first point that was assigned to me in the project, I came across an iteration issue to paste titles on the
graph.

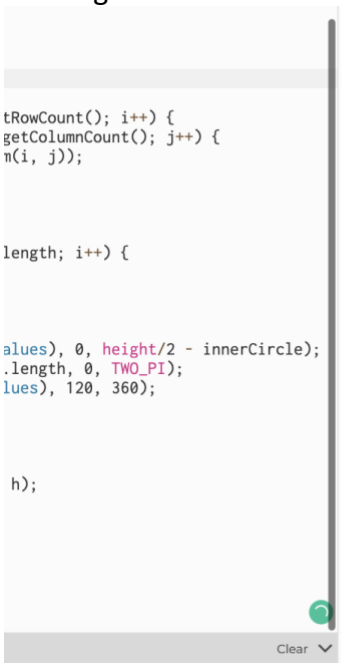


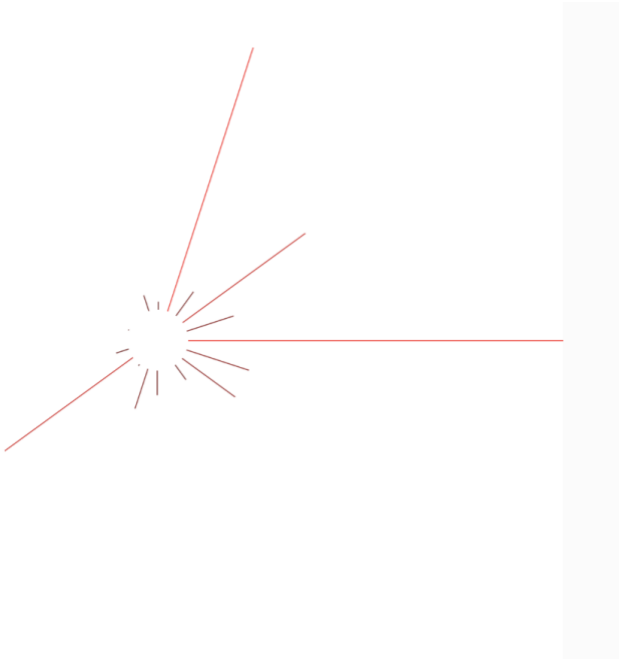
I understood that I wasn't defining a gap between each word but then once I achieved that,



not all information was being shown. I have 4 titles shown when in the CSV file there are 20 rows of information.
I then moved on to trying to create a simple graph showing the expenditure of those 20 companies. My thought was to create a circular graph with lines shooting out from it.

I noticed that I was getting some errors but then when I fixed them by inspecting the console, still nothing was shown. I then moved on to the p5 editor and the code was working there.





Lastly, I then proceeded to move on to creating a world map using Mappa and leaflet tutorials. I watched multiple videos on how to set it up and watched a Youtuber named Daniel Shiffman doing step by step however, I kept getting an issue stating “Mappa is not defined”. Being heavily frustrated, I came up with an idea to input an image of the world as the background. I tried to implement a click and drag feature which worked on the p5

editor however yet again did not work inside the folder so I created static circles on the page.

Self-evaluation – What will I do differently next time

Firstly, I will for sure level down my optimism coming into future coding projects. Having finished this project, I noticed that whenever something has been implemented, new bugs appeared and it took a significant amount of time to resolve them and I moved on to the next task. In the future, I will drive myself to begin projects from the early days as time is always of the essence.

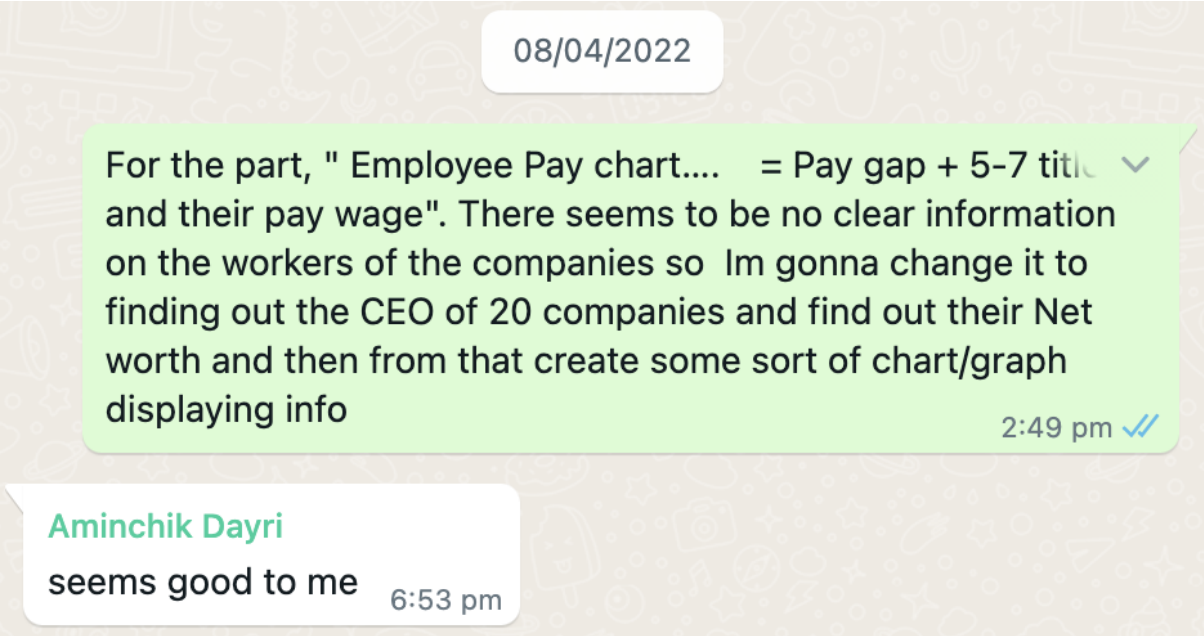
Lastly, since we are involved in a group project, there must be some time put aside to meet up with team members and to discuss and exchange ideas on how things are going during the project. There was a period of quietness among myself and Amin and I now know that there should be an update every 4th day from both ends of how things are going.

Progress Log

Week 1 – (05/04/22)

1. Research salary statistics for each company = 5-7 titles and their pay wage
2. How much money goes into advertising
3. Covid vaccinators now + Death tally by country

Research salary statistics for the 20 companies which I outlined myself to work on. Having surfed the internet, there was very little amount of information of how much everyone makes in each firm and so I decided to change bullet point 1 to “Company CEOs names and their Current worth for the year 2022”. I notified my partner about it.



Once that point was done, I then created a csv file of the 20 companies, each company CEO, their estimate net worth and their current age.

For bullet point 2: For majority of the companies, there was statistics on the expenditure towards advertising from each company. For those which I couldn't find anything, I simply put down a 0.
For bullet point 3: I analysed a site which holds all covid 19 information to this day. The link to it is https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html.
I was very optimistic that I would be able to replicate this chart onto my project.
Week 1 was working on creating a bar chart for bullet point 1.
Result: fail so transferred workload to Week 2.

Week 2 – (12/04/22)

1. Continue on the Bar chart for Comp Ceos and their net worth.
2. Look into what graph to use for the "Advertising for each company"

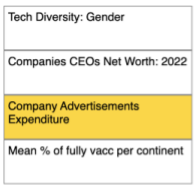
I tried multiple times on trying to traverse through the data(csv file) with 'for loops' however issues after issues started arising.
Took 5 days to complete a simple bar chart however added some features to make up for the simplicity.
Result: Completed on the 16th of April

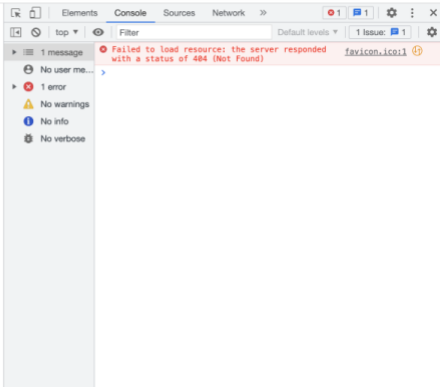
I then proceeded to finding out what graph to choose to show the information for "Advertising for each company". I decided to work on creating a graph using a map() function. This workload got transferred to week 3.

Week 3 – (19/04/22)

1. Graph chart for "Advertising for each company"

For this week I worked on trying to create the graph, however like always there were minor issues popping up but once they got resolved, no graph was still to be seen at all.





I'm an oversee student and had to go back home for orthodox easter and that meant no working on project for 4 days, hence, transfer workload to week 4.

Result: Fail

Week 4 – (26/04/22)

1. Finish working on making the graph visible for “Advertising for each company”
2. Start on “Covid vaccinators now + Death tally by country

Having spent a vast amount of time on bullet point 2, I decided to leave it and move onto point 3.
I tried loading in a world map following the breakdown that is seen on the mappa.js website but no result. I then followed how a youtuber does it and yet again, no result...
Created a simpler version of a world map depicting an average of all those who are vaccinated within the continent.
The reason why I chose to depict the average is because the data file is too large(54mb) and was causing the application a very long time to load.

Finished creating a simple version to give the user an understandment of which continents have highest percentage of vaccinated.

I have then moved onto finishing to create the graph for the expenditure of the 20 companies and somehow managed to complete it.

Result: Passed on completing the world map with the graph