

Introduction to Programming II

Project Log

Project title:	Data Visualization app
Topic:	Extending the Apps, part 3
What progress have you made this topic?	
<ul style="list-style-type: none">- I completed the weeks tasks, creating the scissors tool for the drawing app, the fireworks beat extension for the music visualizer app and the dynamic presentation of data to the data visualizer app.- I implemented the dynamic presentation of data extension into the overall data visualization app- Researched a new planned extension for the data visualization app, where I show the change in data as an adaptable bar graph animation.	
What problems have you faced and were you able to solve them?	
<ul style="list-style-type: none">- Translating the separate app into the overall app was a challenge, as well as converting the code from constructor functions into a JavaScript Class. This took longer than expected, but I was able to solve it by looking at pervious extensions and how I'd implemented them.- Finding some appropriate data that shows change over time. I finally found an interesting and appropriate data source on Kaggle.	
What are you planning to do over the next few weeks?	
<ul style="list-style-type: none">- Plan out two more extension and then begin my implementation- Complete the videos for weeks 15 and 16, and use any lessons there in future code for the data visualization app	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<ul style="list-style-type: none">- I am currently on track to complete my app within the appropriate time as described in my Gantt chart that I completed for the midterms.- In my Gantt chart I had myself filling out these project logs every week, but after studying the course regulations and the timescale involved, I have realized that every two weeks should be appropriate, or after every topic, as recommended by tutors.	

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Project title:	Data Visualization app
Topic:	Callbacks
What progress have you made this topic?	
<ul style="list-style-type: none">- Completed the weeks task within the Coursera, namely the callbacks example using loading music in p5.js as asynchronous functions, and example of things you can do while these functions load- Finished planning out the final five extensions for my project. As well as the two extensions that were demonstrated in Coursera videos, the waffle chart, and the bubbles chart, I will also make an animated bar chart, a radar chart, and a streamgraph- Sourced Data for the above extensions	
What problems have you faced and were you able to solve them?	
<ul style="list-style-type: none">- Finding appropriate data sources that are laid out in a way that makes them useful has been somewhat challenging. In some cases I have chosen data sources that aren't laid out particularly well for the way that I want to use them, and in order to solve this problem I will have to write code that is a little more complicated than it would necessarily need to be.	
What are you planning to do over the next few weeks?	
<ul style="list-style-type: none">- I am now onto the implementation stage of my project, so I will be implementing my planned extensions over the next couple of weeks.- As I add and implement the extensions, I will also be adding to my app diagram as I go to show how each extension interacts with the app as a whole	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<ul style="list-style-type: none">- I am currently slightly ahead of schedule in the sense that on my Gantt chart I should have one of the 5 extensions that I plan to add during the second half of my project added to the app, but I actually have 2 already added. However, these two are the ones that we were shown in the course videos, so in this sense, they were much easier, as the only challenge was taking the code and adapting it for the overall app, not writing the whole extension from scratch.	

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Project title:	Data Visualization app
Topic:	Testing for Stability
What progress have you made this topic?	
<ul style="list-style-type: none">- Completed the weeks videos on testing. It's given me some interesting ideas about how to test my app that I hadn't previously considered or accounted for in my Gantt chart, but I think I will have time to do some testing before submission- Completed the animated bar chart extension, overall I'm satisfied with how it looks and I have everything working the way that I want- Completed the steamgraph extension for my project. This one took a little more time then I expected and I ran into a few issues that I will discuss in the next section	
What problems have you faced and were you able to solve them?	
<ul style="list-style-type: none">- The steamgraph in particular was a little difficult to code exactly how I wanted it. I ran into two main roadblocks. The first was getting popups to work properly. Each line in the graph is a very thin parallelogram of fixed width, so it was quite difficult to get the maths right to check if it is hovering over each line. Because I have thousands of these lines being drawn at once console logging this quickly led to the app getting stuck, so I ended up creating a test shape in a separate p5.js app, using variables named the same as I used in the main extension, and then testing behaviour there. Once I sorted it out in its own sandbox, I was able to transfer the logic back to the extension where it worked with no major issues.- The second major issue I had was getting the months to scale across the x axis, as the current function is based around numbers rather than words. I fixed this by passing through the i value in the for loop iteration, and then using this number to link to an array where the name of the month was stored.	
What are you planning to do over the next few weeks?	
<ul style="list-style-type: none">- I have one more extension to create, a radar graph, I plan on getting that finished as soon as I can, so that I can work on all the documentation, check my code and run some test, as well as update my app diagram from the midterms.	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<ul style="list-style-type: none">- I am currently on pace to successfully complete my project according to my predictions on my ganttchart, however this did not include doing any testing. I would like to get the rest of my planned work completed as soon as I can, so that I am also able to add some rudimentary testing before submission.	

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Project title:	Data Visualization app
Topic:	Testing with Users
What progress have you made this topic?	
<ul style="list-style-type: none">- Complete the videos on usability testing. While there are some interesting ideas around how people are able to navigate and use my app, and how to record this, stability testing is the priority at this stage of the project.- I have completed the final extension for my project, a radar chart that compares different car emissions information on one chart.- I have also written and ran some testing on my project, on each of the original extensions that I have created. This was something that I have never done before, but I found some errors in a couple of the extensions that I hadn't seen during the coding stage. As such it was a worthwhile endeavour.	
What problems have you faced and were you able to solve them?	
<ul style="list-style-type: none">- I had some issues with the original data for the car emissions extension. There was simply so much of it, and some of it didn't fit into my chart, and the data involved actually broke some functionality, especially duplicate data, and some cars that simply did not have any data for data point that I wanted to show. At first I tried to manually edit the data source to remove erroneous data points, but with such a large data source this would have taken a long time. In the end, I created a python script that helped me to do this, I have included this script in the zip file, in a file named "helper-script"	
What are you planning to do over the next few weeks?	
<ul style="list-style-type: none">- The deadline is approaching, I plan on getting all my reports and answers written up, and then my project submitted. I would like to fix the issues found in my testing, but I don't think that I will have time at this stage, so the priority is getting everything written up, getting my app diagrams and Gantt charts ready and up to date and making sure that I have enough time to submit the project.	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<ul style="list-style-type: none">- The additional testing that I performed essentially ate up the one week of overrun that I had written into my original schedule. As a result I have one more week to get everything written up and completed before submission. While I have overran on my original schedule, I'm glad that I wrote in that extra week into my planning as it still leaves me with enough time to complete the paperwork and get everything submitted on time.	

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Project title:	Data Visualization app
Topic:	Deadline Submission Extension
What progress have you made this topic?	
<ul style="list-style-type: none">- Written out initial drafts of all the paperwork and report questions.- With the extension, I was able to fix and complete the issues that I ran into during testing and get the app running a little better as a result. I am happy overall with the overall project and how it runs- I edited and changed some things in my report after this, as I was able to get some fixes in and also able to add a few extra things that I learnt during this process	
What problems have you faced and were you able to solve them?	
<ul style="list-style-type: none">- Initially I was going to be a little rushed with my final submission, but with the extension I was able to give everything a little extra polish to get it all completed satisfactorily and on time.	
What are you planning to do over the next few weeks?	
<ul style="list-style-type: none">- My project has been completed, and I plan on submitting it. Over the next week before the final deadline I will continue to think about any small things I can do to improve it, and also anything I can do to improve my documentation, but overall I think I am finished.	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<ul style="list-style-type: none">- The deadline extension allowed me to really add the finishing touches to my project. While I would have been able to submit a working and creative app, the fact that I was able to implement the fixes found during testing means that I am very satisfied with how everything has come together. In short the project is complete and on time.	