Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Extending the application

What progress have you made this topic?

- The current topic introduces a new extension for the application, the scissor tool which adds cut-copy-paste functionality to the tool.
- I have implemented the extension and refining the extension, however I haven't decided whether to include this extension in the final submission.

What problems have you faced and were you able to solve them?

- I have tried to extend the functionality of the tool, as well as making it more usable, however I'm struggling to implement the extension more seamlessly, given the current reliance of the extension on buttons which the user interacts with to toggle between different modes.

What are you planning to do over the next few weeks?

- As per the current plan, the time period allocated for the mid-term was used to refine the extensions and features of the app as they are in their current state, to make the application more user friendly.
- Over the next few weeks I intend to remake the wrapper for the overall application, giving the whole application a more unified design language that looks inviting and delineates a more game-like experience.
- This overhaul will include changes to the layout of the application, the interface colours, positioning of some of the elements as well as the size of certain elements that make up the wrapper.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

- Given the current state of the project, I should have plenty of time to implement all the changes to the CSS and layout of the application to create a visually appealing application.
- After the completion of the changes, I intend to test the applications and perhaps add or subtract functionality based on how well the extension works with the overall application.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Extending the application (week 14)

What progress have you made this topic?

- Alteration to the grid template format, giving the content (canvas) a dedicated row within the grid.
- Alterations to the colour, font, orientation of the wrapper for the application.
- Replaced the icons for the tools in the application with ones more suited for dark mode.

What problems have you faced and were you able to solve them?

- Since I haven't worked too extensively with CSS in the past, there are some issues with the visual presentation of the application such as the alignment of items on the screen, as well as some overlap between different elements of the application, such as clear and save button.

What are you planning to do over the next few weeks?

- Over the next week I intend to finalise a visual theme for the application, as well as iron out some of the existing kinks within the CSS for the same.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Call backs (week 15)

What progress have you made this topic?

- The topic introduces asynchronous functions, making a comparison with synchronous functions, and the difference in the order of code execution between the two types of functions, as well as what issues and errors could arise with the use of asynchronous functions.

What problems have you faced and were you able to solve them?

- Given that my project is the drawing application, I haven't yet encountered a compelling reason to make use of asynchronous function calls yet, if a need for such a function arises, I shall implement the same.

What are you planning to do over the next few weeks?

- I now have a more concrete idea of the visual design I want my final project to have and should be able to finish the implementation of the same by the end of this week, which leaves adequate time to test the stability of the application as well as resolve any errors that could have been overlooked.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Call backs [continued], breakpoints and stepping (week 16)

What progress have you made this topic?

- This topic introduces breakpoints and stepping, which is an essential skill to have, relying on the developer tools of the browser.

What problems have you faced and were you able to solve them?

- I haven't directly faced an issue regarding the skill of using breakpoints within the browser, however I'm happy to build on my existing skill set.

What are you planning to do over the next few weeks?

- Wrap up all of the CSS changes that are to be made for the final project and shortly begin testing the application's stability and recording feedback from different users who test out the application.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Testing for stability (week 17)

What progress have you made this topic?

- Introduction to some of the fundamental principles of software testing and the creating a framework for thinking and outlining different aspects of an issue and how well the code/ program in question can address these issues.
- Distinguishing testing from debugging, and how each skill is important in its own right.
- This should aid in making an application that is stable and useable, which is a key criteria in the marking scheme for the final project.

What problems have you faced and were you able to solve them?

- I have not faced any problems in testing the code, I have faced issues previously in debugging code, and understanding the mistakes that led to some bugs.

What are you planning to do over the next few weeks?

- The CSS for the wrapper is done, save for a few final touch ups.
- Given the current state of the project, I'll meet my deadline a earlier than projected.
- The extra time can be used for brainstorming additional extensions, for example an undo-redo manager which can push the state of the canvas onto an array, which can be iterated over to "undo" or "redo" a change to the canvas.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Testing for stability (week 18)

What progress have you made this topic?

- Introduction to some advanced techniques to debug our code, including use of the profiler and console.
- The profiler allows for the identification of code bottlenecks.
- These tools allow us to gain insight about the CPU load, memory usage and other aspects of the program.

What problems have you faced and were you able to solve them?

- I haven't yet faced any issues when it comes to using these skills.
- Regarding the actual project, I had aimed to create a final extension that would allow the user to undo or redo a change to the canvas.
- My idea was to capture the current state of the canvas via iterating over the pixels array and storing the data as an element in an array that could shift forward or back by 1 index position for "undo" or "redo" respectively in the array and load and redraw the canvas using the data from the array at that index.
- I have not yet been able to solve the implementation of this extension.

What are you planning to do over the next few weeks?

- Finish the undo-redo extension, if possible.
- Final touch ups before the submission.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target.

Introduction to Programming II Project Log

Project title:	Drawing App
Topic:	Testing with users (week 19&20)

What progress have you made this topic?

- Highlights the importance of usability testing for software.
- Questions that are relevant to usability testing:
- Are all the controls optimally visible, can users traverse the app and all its tools/inputs seamlessly.
- Introduces some techniques for data collection such as quantitative measures such as time, frequency of errors etc; as well as qualitative measures such as using the the "think-aloud" protocol to walk through one's own mental process and spot discrepancies.

What problems have you faced and were you able to solve them?

- I have not faced any issues with usability testing, most frequently I conduct tests on the usability of the application myself, which allows me to gauge whether the functionality is upto the standard that I like.
- During the process of testing and developing the application, I conducted tests with users (friends/family) to see how well the extension/feature works and does it bring some meaningful experience to the user.
- With regards to the final project submission, I have still not made any decent progress on the undo-redo extension, I'm struggling to get the data from the array ton render onto the canvas, seeing that the submission is close, I'm considering dropping the extnesion.

What are you planning to do over the next few weeks?

- Finish the undo-redo extension, if possible.
- Final touch ups before the submission.
- Finish final report.
- Make custom icons for the tools in the application.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am on target, everything I have completed all the tasks laid out in the timeline on schedule, save for the additional extensions that I conceptualised afterwards.