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**CART253**
**Project 2 progress report**

There is not much visual change between the proposal and the latest of the mossy rock's environment. However, there has been considerable improvement in the code structure as I have gotten a better understanding of object oriented programming and how to put objects inside classes.

In the original prototype, I had a sky changing colour according to the time of the day and circles representing clouds were generated according to cloudiness percentage data. There was 1 plant appearing which failed to respond to clicks to increase the rate of growth. The plant was in a class and everything else was coded in the main script.

In this version, I have separate classes for clouds, the ground, the sky, rain and information display. This allows me to be as concise as possible in the main script. I have worked on improving the realism of the simulation which proved to be the main challenge as there are so many conditions to take into account. The following improvements are summarised here:

| Improvement | Technical challenge |
|---|---|
| Clouds look different from each other | This could be achieved thanks to the help of the instructor as I had much difficulties to coordinate what information would go in my main script and the cloud class and how to manage my images inside arrays and how to display a specific number of random images |
| The sky colour now also responds to the level of cloudiness so that at >85%, the sky is seen as grey | I already had the basic conditional statement to make the sky colour change in the original prototype but I had to further experiment with nested conditionals in order to take into consideration cloudiness first |
| Mossy rock is now an image instead of an ellipse | none |
| The ground colour responds to actual seasonal changes : bright green in spring, yellow green in summer, orange in fall and white in winter and will change colour on the 21st of Mar, Jun, Sep, Dec | Finding the proper conditionals so that all the dates are covered and work properly without mistake was the main challenge but I could get inspiration from an older more boring piece of code I worked on in my java class which was about making calendar notifications |
| Temperature information from the weather API is currently displayed on the screen. The API displays temperature with 2 decimals but I rounded it off since it is superfluous | <ul><li>had to find out how to round off numbers</li><li>Positioning one line of text relative to other lines of text</li><li>I got inspired by how in web design</li></ul> |

| | we use font sizes in em to be able to easily change the font size of all the text at once to make my text size responsive |
|---|---|
| Time and date information from the computer is also displayed on the screen. Since the .getMonth() displays the month as a numerical value, i made a switch to change it into words | Had some unforeseen challenges after my initial code as while looking at the time I realised that they displayed 11:1 instead of 11:01 so I added a condition to add "0" if the minutes < 10 |
| Rain falling and the intensity corresponds to the weather.ID on the API | Making the rain fall continuously and smoothly |
| Added states to display welcome screen and simulation | None |
| Added background music: a random music is chosen when starting simulation | It works but it seems that there's 2 musics playing at the same time when you click a second time, needs further testing |
| Move the canvas to the center of the screen using CSS | None |

**Future challenges**

As from now, most of the environmental aspects of the game have been completed. I will also add snow which will behave similarly to the rain.

The plants remain a challenge to overcome as I have not found a way to make them grow well yet. I have figured out that using different image files of the different growth processes of the plant would be more efficient than drawing the plant with code. Since the coding aspect is more important than the aesthetic aspect of the game, and I have decided against drawing the plants using code, I will focus more on producing at least 2-3 plants only to practice inheritance. It would not be worth it to make 10 different plants as originally planned as all would use the same technique.

And also, there's still the making of the inventory to store mossy stone accessories. I will probably need 2 arrays, one for the inventory and one corresponding to an area of the stone to position the accessory. I would also need to make a screen to display the inventory on and it will appear after clicking an icon on the screen. This would be the main source of interaction with the user.

Overall, I should be able to finish on time.