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Due: 12/14/18  
Creative Coding

## **Final Project Deliverables**

### **Self-Assessment**

Critically analyze/evaluate how much time was spent learning syntax & structure, programming concepts vs. actually programming, and how does this reflect on the final quality of your end result.

During class, I spent more time looking at the example codes you would show in class rather than trying to code it as you were explaining the concepts. This is something I did earlier on in the semester but by just copying down what you had on the projector I wasn't learning anything. I tried to spend more time learning syntax & structure and concepts by watching the Shiffman videos. Coding and working on my sketches became easier once I had a good understanding of the concepts.

Comment on your successes and frustrations with Processing and P5.js.

I feel like I avoided p5 because I was never really comfortable using it. I think I also avoided it because it didn't have a coding environment like Processing does. I planned on using p5 for my final but decided not to in the end. I think I was successful in learning and using p5 for making classes of objects but I didn't like that if we had an error it wouldn't show up in the console like in Processing. I had more success in Processing with using a using it for the basics as well as implementing a library and manipulating images and arrays.

Compare and contrast OOP versus Procedural Programming.

With Procedural Programming we write a list of instructions for the computer to follow and the computer goes through line by line and carries out the specific lines of code in order. OOP is centered around manipulating objects while in Procedural Programming the code is designed around functions. Both are programming approaches that are used to solve problems.

Specifically considering your final project: What programming concepts solidified in your final project? What did you learn with reference to programming? Did you have a break through?

Array manipulation, creating classes and utilizing images are what were the basis for my code. I used arrays in my one of my other sketches before I think but I've never used them in the way I did for my final project. We didn't really talk about lights in class so I tried to learn more

about them then since I wanted to utilize this function in my code. I wanted to make my simulation more realistic by making it seem like the sun was radiating its light onto the planets and the part of the planet that wasn't facing the sun was darker. I feel like the array manipulation and the using lights was a breakthrough for me.

Specifically considering your final project: Were you able to resolve your own bugs? What tricks did you learn in the process to help? Did you do any debugging?

For the most part I was able to resolve my own bugs. I had an issue with putting images onto the spheres, they weren't loading in the correct orientation. For example, the top of Earth sphere had an image of the side rather than the north pole and the poles were on the side of the sphere. Some of my classmates said that should've had the planet facts put onto the screen rather than in the console, I tried doing this but the text would rotate with the planets and I wasn't sure how to fix it. I wasn't able to resolve that bug. I was also unsuccessful in trying to put light on the sun, but I was able to put light on the planets. I did debugging to try and figure out why the planet images weren't loading in the correct orientation, I think I had a few other issues that I can't think of but I was able to resolve them.

How do you think you'll move forward with programming? will you keep doing it? How does this relate to other classes you are either taking or wish to take?

I'm taking a required intro to programming class next semester where I'll be learning Python so I think the concepts I learned in this class will help me with my class next semester. I think even after next semester I'll continue to code. I want to take classes related to web development, UI/UX so coding may come in handy for those classes. I also plan to minor in computer science.

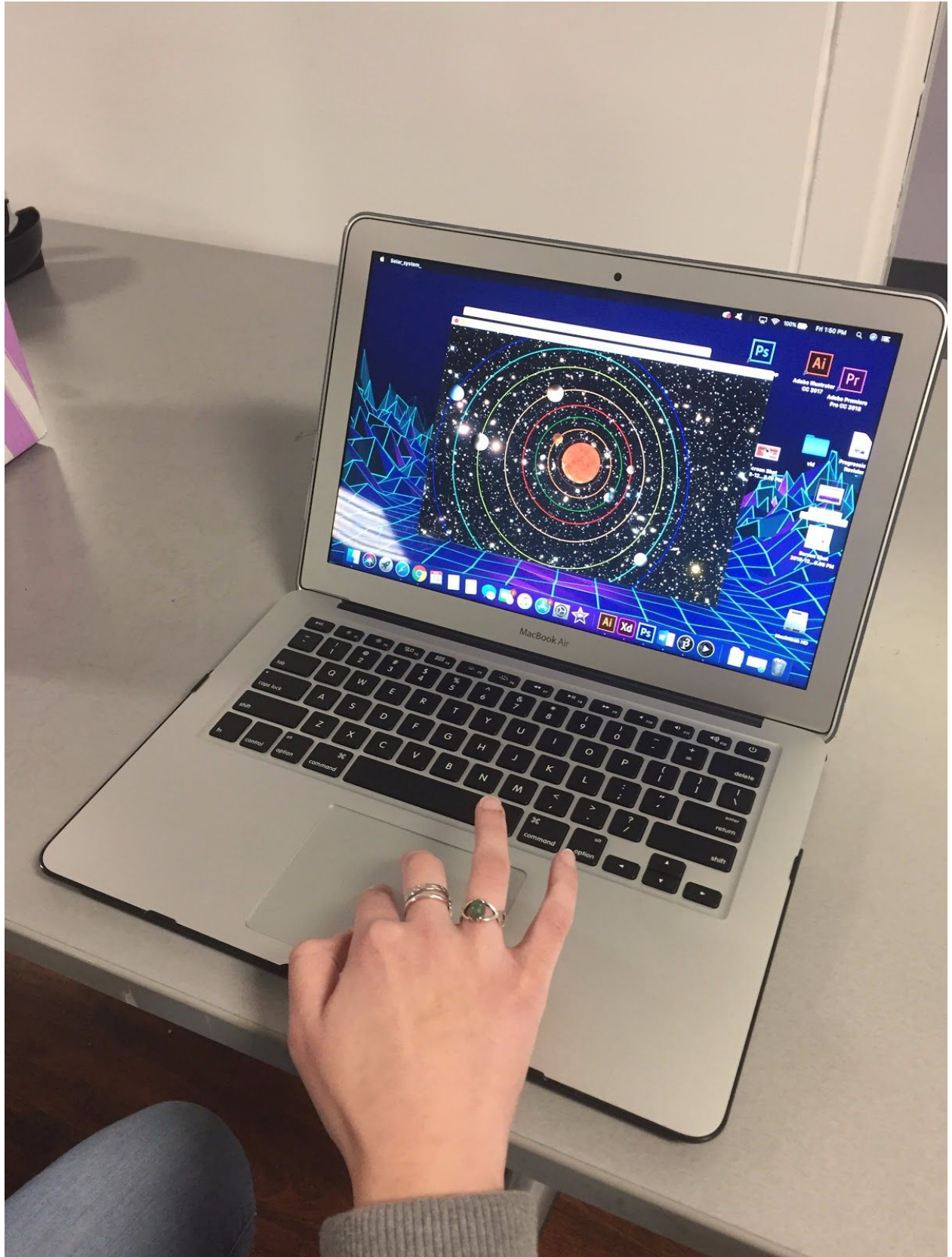
## **Documentation of final project**

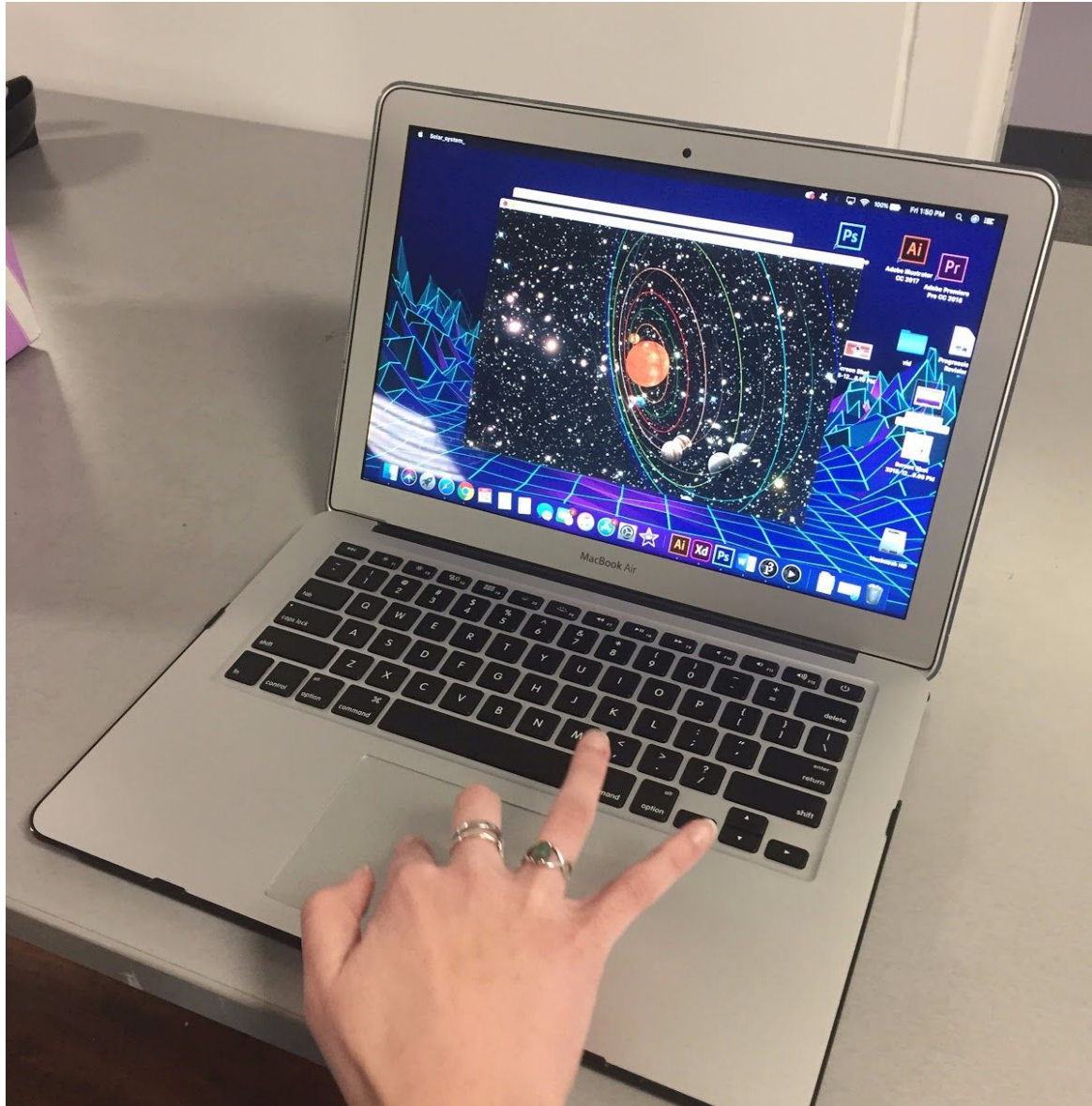
Concept paragraph:

The name of my piece is "Solar," it's an interactive 3D simulation of the the planets in our solar system as well as the sun. My piece can be used to learn more about the positions of the planets in the solar system as well as the number of days, how many moons they have, etc. I wanted to make something colorful that's interesting to look at, I feel that the 3D aspect of it definitely makes it more fun to interact with. It can be used as a learning tool for people who want to learn more about the solar system.









```
1 system.add(new Planet(0, 115, 0, sun, 255,0,0)); // Sun
2 system.add(new Planet(780, 39, 0.15, neptune,13,11,214)); // Neptune
3 system.add(new Planet(690, 39, 0.2, uranus,5,242,220)); // Uranus
4 system.add(new Planet(575, 42, 0.3, saturn, 184,214,19)); // Saturn
5 system.add(new Planet(435, 50, 0.4, jupiter,252,187,107)); // Jupiter
6 system.add(new Planet(340, 25, 0.8, mars,250,21,0)); // Mars
7 system.add(new Planet(270, 30, 0.9, earth,0,142,15 )); // Earth
8 system.add(new Planet(197, 30, 1.2, venus,247,141,10)); // Venus
9 system.add(new Planet(140, 15, 1.8, mercury,95,51,10)); // Mercury
10
11
12 spotLight(200, 200, 200, dir, 0, 0, -1, 0, 0, angle, con);
13 spotLight(200, 200, 200, -dir, 0, 0, 1, 0, 0, angle, con);
14 spotLight(200, 200, 200, 0, dir, 0, -1, 0, 0, angle, con);
15 spotLight(200, 200, 200, 0, -dir, 0, 0, 1, 0, angle, con);
16 spotLight(200, 200, 200, 0, 0, dir, 0, -1, 0, angle, con);
17 spotLight(200, 200, 200, 0, 0, -dir, 0, 0, 1, angle, con);
```