

MP4 Project Review

From a process point of view, what went well? What could you improve? Other possible reflection topics: Was your project appropriately scoped? Did you have a good plan for unit testing? How will you use what you learned going forward? What do you wish you knew before you started that would have helped you succeed?

Also discuss your team process in your reflection. How did you plan to divide the work (e.g. split by class, always pair program together, etc.) and how did it actually happen? Were there any issues that arose while working together, and how did you address them? What would you do differently next time?

Well, we made a thing. It works. Which is good. Definitely would love to do more with it, but I think we have made plans to incorporate (at least a little) what we have done into the next project.

Mikhaela says she wishes she had had more time to play with object oriented programming before this mini-project. Sometimes she felt like she wasn't able to contribute as much, especially in debugging logic.

We almost always pair programmed, with some prep/cleanup done individually. Some of the core code for determining motion Duncan wrote on his own near the beginning of the project, which meant that some understanding of the minutia wasn't shared. This also complicated things when it was time to debug, but we made efforts to keep on the same page on what each code block was doing and the broad strokes of how.

When we first ideated for this mini-project we knew we were being ambitious. We set our expectations higher than what was realistic for the time period, but still made a thing that we are both pretty happy with.

There are still a lot of aesthetic details that could be tweaked and ironed out, features that could be easily implemented with just one more week of work and very little new code, but we have the core mechanics that we set out to include. We are both interested in making some of these adjustments in the coming days, and with a little polishing could be a good portfolio piece.

We did include doctesting in our workflow, as our piece was light on definite computation, but instead were constantly rerunning (sometimes with py-test watch, sometimes manually) to check what we had created visually. In debugging, we made heavy use of print statements, eventually moving to explore the pdb module in later stages of the project.

Things we learned, that we will use going forward:

- + careful use of object definitions is worth the time
- + we should probably start with the math instead of trying to incorporate it after the main logic has formed
- + it's sometimes better to use global variables instead of passing specific objects through multiple layers of function calls
- + maybe don't write everything in one huge parent file. Compartmentalizing would be nice in the future
- + incorporating integrals into code can smooth motion!
- + delegating changes to an object to the object update function is a very good idea...
- + el capitan messes up png.s, it sucks, we fixed it, #OSXelite.
- + workarounds can be found for buggy libraries!
- + also RGBA antialiasing was weird, and we fixed that too
- + `import pdb; pdb.set_trace()`

Mikhaela wishes we had know a little bit more about debugging, honestly. And had some solid tricks up our sleeves for trying to debug object relationships, that was really our main (and only major) hiccup.

Mikhaela's favorite thing(s) about Duncan: Super awesome team-mate, took the time to make sure I understood before moving on. Good conversations. Excited. Similar approach to problem solving.
Duncan's favorite thing about Mikhaela: I think we have a similar sense of pace and desire to understand as much as we can about what we're using/creating.

Mikhaela's least favorite thing about (working with) Duncan: Did work on the side, which made it hard to catch up sometimes.

Duncan's least favorite thing about (working with) Mikhaela: She got tired sometimes and didn't push to git. I was also knew this going into the project, and I think she would agree—I have a better understanding and have had more practice with objects and programming in general. This did slow us down at times, though it was something that I wanted in the project; I felt like I would learn a lot by teaching, and felt comfortable moving at whatever pace she wanted, rather than rushing through on my own. So it was the experience I was looking for, but also hard.

Class Diagram

