This second project for the Interactive Media class required creating agency within the computer, with no user or audience input to the piece. For this, I created an environment that is entirely contained in the computer. The environment includes a sun/moon, a flower and a bee, and wind. It is supposed to just represent a simple environment where not much happens, but shows agency.

In terms of this being useful for a user, it's possible for this to be combined with JSON objects that could monitor day times, sunsets, and sunrises, and wind speed. Then it could show weather in real time and benefit the user. But, for now, it is only a environment simulator. I took inspiration for this project from the example in class of the herbivore and omnivore. I looked at it from a nature aspect and took concepts of agency of living things moving within themselves and applied it to the bee and the flower. I also took inspiration from the example of a bouncing ball being affected by wind or vectors. I took that example and shortened it a lot and applied it to the flower to make it blow in the wind.

The build process started with the flower, just making the basic shape and adding the colors and the background to make it the most aesthetically pleasing. I then began making the change from day to night. That was very similar to my final project from the first semester, where there is an invisible ball that moves across the screen and an if statement that says if the ball reaches a certain place then the background changes.

```
noStroke()

 fill(r, g, b,0)

 ellipse(timeChange, 10, 10, 10)

   //MAKES TIMER BALL GO BACK AND FORTH

   if(timeChange > 1280 || timeChange < 0) {

     speed = speed * -1

     }

     timeChange = timeChange + speed;

     background(r, g, b);
```

This time was different from the final though, because it required the invisible ball to move back and forth to have it change between night and day.

```
if (timeChange >= 1280) {

 r = 1

 g = 4

 b = 118

   }
```

After that got working I added the bee. The bee moves in the same exact way the fly does in the last project with the random x and y movements.

```
 fx += random(-5, 5)

 fy +=random(-5, 5)
```

That bee then was made to follow the center of the flower, as if pollenating, this gives agency to the bee. It makes it seem as if the bee has a goal and that goal is to reach the flower. Every time "day" happens the bee is put into a new position, as if restarting its search for the flower.

The next addition was the wind. A lot of reference was taken from the class example, but a lot of the numbers were changed to make the wind slower and an if statement was added so that if the center of the flower reached a certain spot it would snap back into place so the wind could affect it again

```
 if(this.loc.x >= 530) {

   this.loc.x = 500

      this.acceleration = createVector(-.0005, 0);

 }
```

The wind is another agent. It affects the flower by pushing it. It also affects the bee, because now the bee has to re-find the center of the flower because it moved. I'll admit the wind doesn't look very realistic, but the idea of it is there to where a user could guess that is what it is.

There were some things that were left out of the project that were not included because of difficulties. The sun was supposed to change to a moon during "nighttime" and it did for a while, but as the background changes got more complicated it kind of got lost in the background so to speak. The flower was also supposed to droop when it became "nighttime". For a while it did but as soon as I added the wind class the variables became messed up and it could no longer droop because the x and y variables for the flower were different on both

flowers. The drooping was supposed to emulate a flower closing during the night time. Just to show that the sun is no longer there. This would give agency then because the day change affects the flower. But because that is no longer there, there is not agency to the day change, it only makes the scenario seem more realistic.

There are several things that could happen to take this to the next step. I considered adding JSON objects. There are APIs for wind speed in different cities, and I'm sure there are some that show where the sun is in the sky at any given moment. If you import that data in a URL you can call it as it's updating. That way then the environment is more realistic because it is calling upon an actual environment.

The wind, if not imported as a JSON could be made more realistic. Flowers sway back and for in nature and right now it sways one way and snaps right back to be affected again. If something was changed, or maybe if the wind blew two ways it would look better. Adding more flowers could make the look of the wind blowing more effective.

All in all this project required a difficult way of thinking. To have something include interaction without a user is different. That kind of way of thinking makes coming up with a project challenging and I had a hard time with it, which is why it may seem a little incomplete. But, despite the challenges and everything that got in the way this does show agency in a way that applies to an almost real situation. It's a unique take on the project that used new concepts that I had never tried before.