Progress Report!

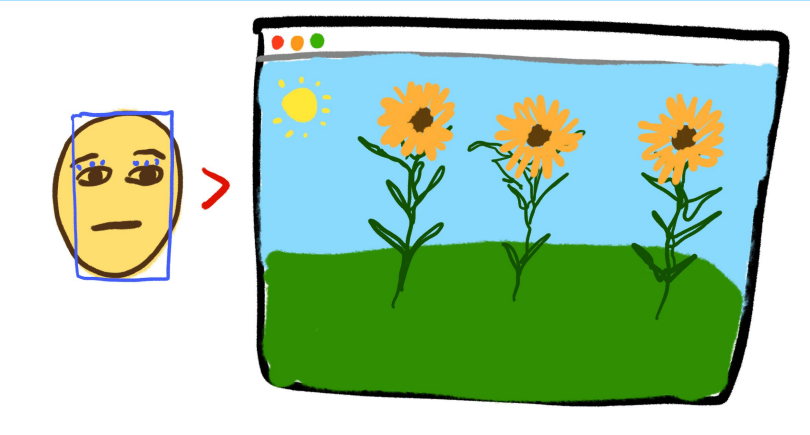
Visualising pathetic fallacy

Yasmin Harith Brewer s3719807

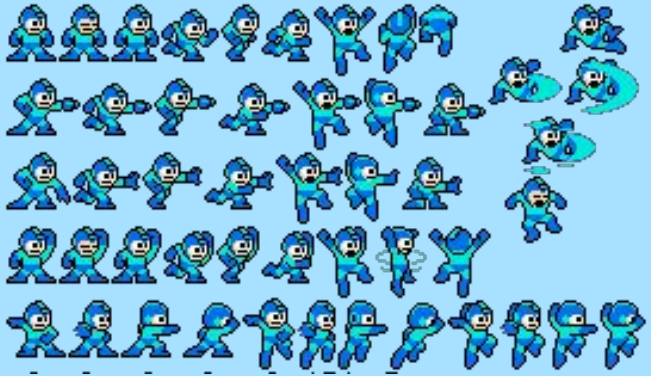
Prototype 1

This was my prototype from a few weeks ago. From this I was able to show the process and (hopefully) the outcome that may come from my project. Using face tracking and emotion detection, I would be able to animate the garden and it would react according to its corresponding emotion.

Karen mentioned using p5play in javascript and then using sprites, and I didn't know what sprites were so I did some research. I've yet to explore how I can use p5play further (as an organisation tool for my animation).



Exploring Sprites



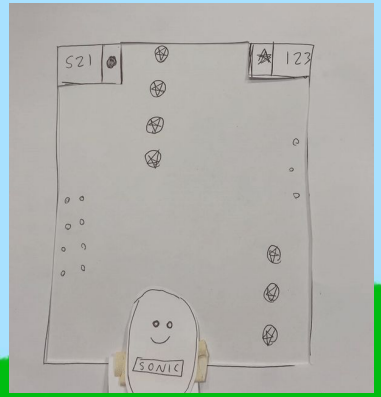
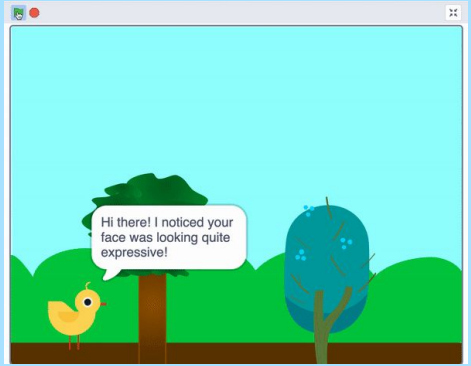


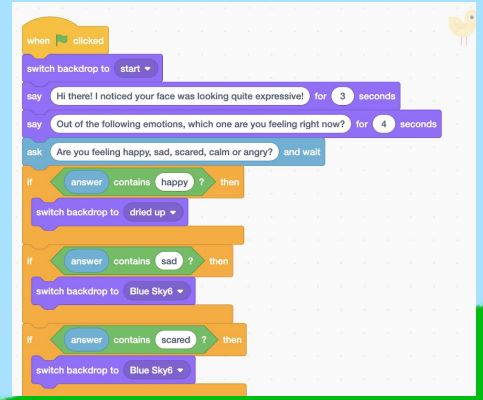
Image Source: Jonathan Tung (https://medium.com/@jonathan.k.tung/sprite-animations-on-the-web-48ec1bfe190e)

On the left, there is an example of sprites. It's very commonly used in gameplay, and I learnt I could create a bunch of possible frames and depending on what action the user takes, a different character frame will respond. I then thought about the possibility of using this method to animate my garden.

I remembered back to a few weeks ago when we were put into groups and made a paper prototype of a vintage game, and learnt from that prototype that the background of the game was fairly static and it was the sprites that did all the work in the foreground.

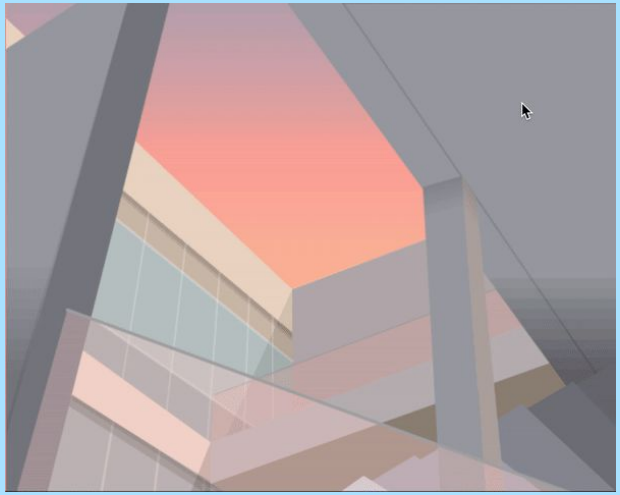
Exploring Sprites & Prototype 2





Jinni told me about a website called Scratch, where you can basically build your own sprite animations using block based code program. I wasn't able to use facial tracking on this website so I just used a duck sprite that would prompt you and ask what emotion you were feeling, you would type in your answer and the environment would react accordingly. I managed to make another prototype using this program.

Building the background in Javascript?

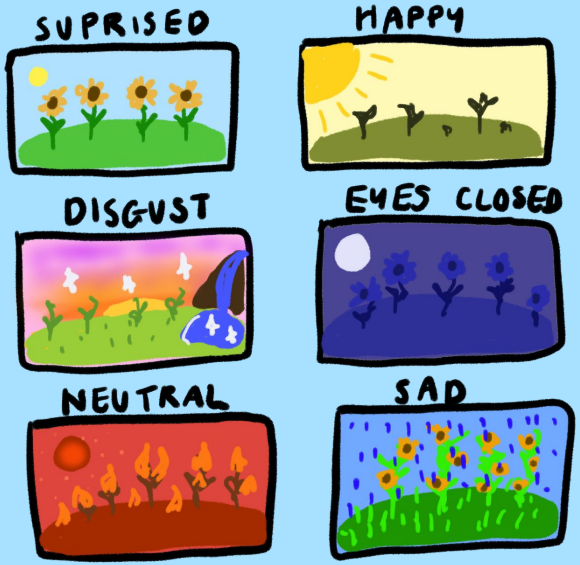


Night time at The Gate of Creation 2
by Lourdes Iglesias

https://www.openprocessing.org/sketch/945135

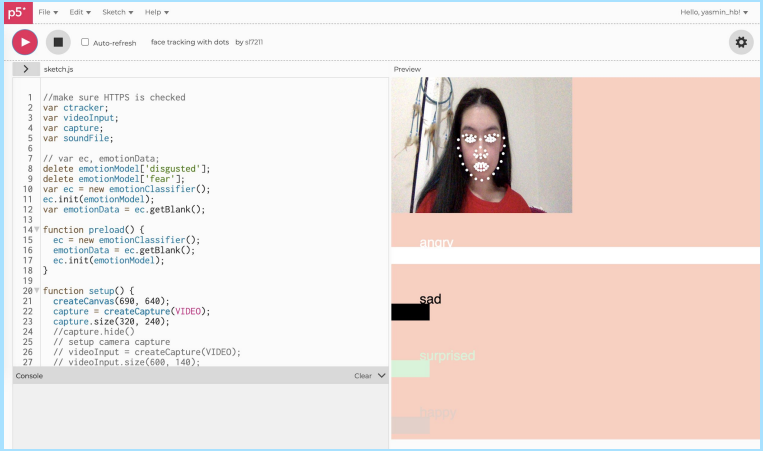
After making the second prototype, I noticed that it was mainly the sprites doing all the work and the background simply just changed colour. I was able to see that the transition between the different coloured skies was very blunt and kind of jarring to the eye and I really didn't like how it looked. I found this processing sketch (on the left) where the transition between the colours in the sky were very smooth, and thought that it would be a good idea to just build the background in javascript rather than importing static backgrounds.

Visuals for Landscapes



After I created a pseudocode and grasped what the basics of which functions and inputs I needed to include in my code were, I decided to start working on the visuals. On the left were a few sketches of possible visuals for the garden and their corresponding emotions. The visuals for the garden are particularly important as this is all the user will see on the screen.

Face Detection



Sketch source:
https://editor.p5js.org/sl7211/sketches/ry8Q4eqCX

The first big step was finding a code for face detection, because it's my first big function in my code. This definitely took the longest out of any of the things that I looked at. It was extremely hard to find sketches that actually worked, as a lot of the codes I found just didn't seem to run. I managed to find one that worked pretty well but it was using processing and I needed to use Javascript in order to work with certain functions for the garden. I found a face tracking/emotion detecting sketch that tracked my face but it didn't register the emotion accurately at all (accuracy is fairly important for the user). I did some research and came across a library called ML5, which is basically like training the machine to recognise different movements, but it was very complicated and I didn't quite understand how to get it to work. This was definitely the most stressful part of the research because I couldn't get it to work or find other sketches that were successful/accurate and I was starting to lose hope at this point. I started to become really stressed as my project relies heavily on this particular function working.

Successful Emotion Tracking

I called one of my friends who has a little bit of experience in coding and I was able to find a tutorial online that included a code for facial tracking. I had to download something called Visual Studio Code in order to get it to work along with a bunch of different plug ins. Eventually, with the help of my friend we actually managed to get one of the codes to work in Javascript. As you can see from the screenshots on the left, it didn't track my face correctly. The dots are not properly placed on the face (eg. it says my eyebrows are in the middle of my forehead) but it registered my facial emotions correctly which was the most important part. Considering the user won't be able to see their face anyway, I counted this as a major success. At this point, I was really happy as I had been stressing the whole week about this particular function.

Facial Detection Code by WebDevSimplified
Via: https://www.youtube.com/watch?v=CVClHLwv-4I

Next Steps...

- Building the garden and animating it
- Figure out how to incorporate sprites with shifting background
- Narrowing down the garden states (the facial tracking code only registers 6 emotions)

Last step...

- Connecting the face tracking/emotion detection with the animated garden *(which is probably the trickiest part)*