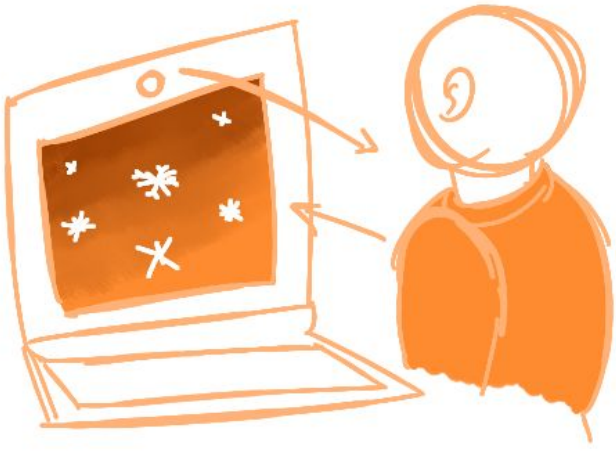
Macey McCormick

PROCESSING PROJECT PROPOSAL

"Snowfall"

This project would be generative snowflakes (possibly in 3D so they can rotate) drifting down the screen. The screen would display the sky, and the snowflakes falling down, and the wind blowing the snowflakes would be based off of the actual wind weather readings for the day and time the project is loaded using the Yahoo Weather library. I would possibly like to include user interaction via webcam, possibly detecting the color of the sky based on what color is predominantly in the camera. It would mostly be a passive, calming experience, somewhat like an installation placed in a public space- something I've always been interested in creating on a larger scale someday. My favorite sorts of interactive installations are those that just allow you to experience them your own way, walking through them or watching them on your own time, and I like to put a little bit of that everyday magic into my bigger projects.

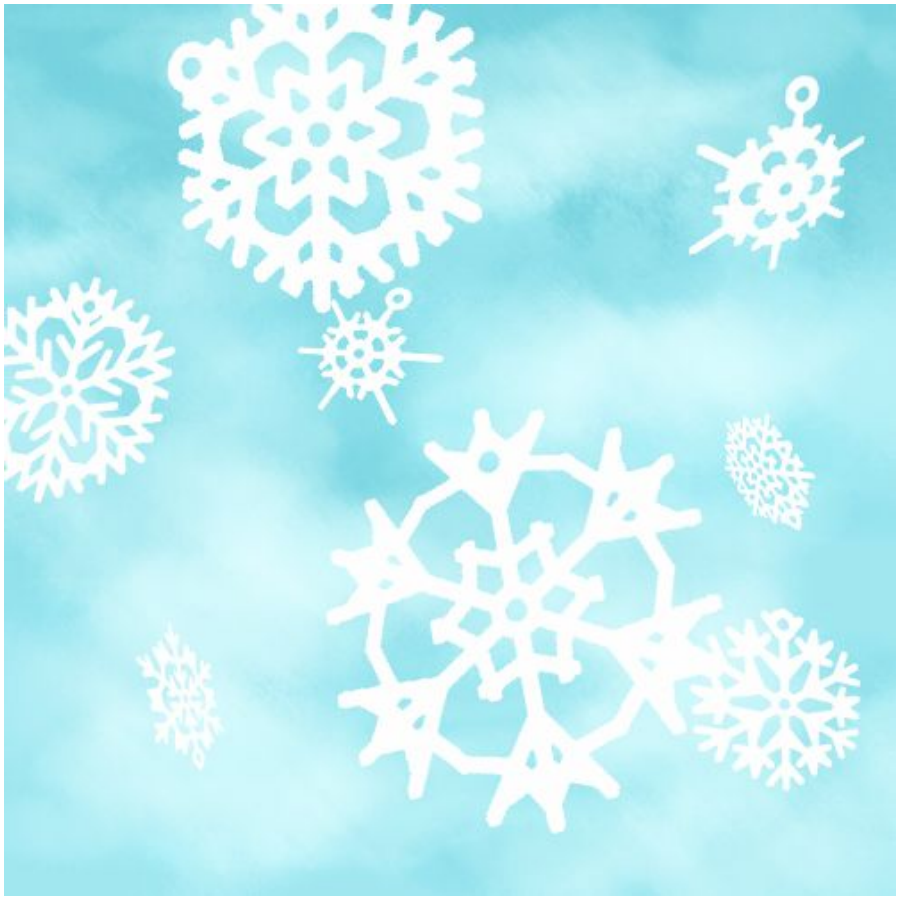


When the webcam detects a predominant color, it will mimic that color on the screen.

The inspiration for the project came around when I was looking up images of snowflakes to draw something original for Inktober (an event where you draw one original ink piece every day of October), and marveled over how unique each one is in shape. I then wondered if there would be a way to generate different snowflakes in Processing based on their angles/shapes, and thus the idea was born. In terms of interactivity, I was immediately excited to see the Yahoo weather library in Processing when we looked over the libraries in class, and wanted to try and use it sometime. The two ideas meshed together rather well, being about a weather phenomenon and all, so I decided to work with that.

Examples of the unique snowflake macros found online.
https://digital-photography-school.com/amazing-snowflake-images-shot-diy-camera-set/

I think I will definitely need a snowflake class that randomly generates, possibly in the constructor? I also think I will have to use either sin, cos or tan for varying the way the snowflakes fall, and add a wind velocity which will change those values. I would like the background to look organic and not just be a single color, possibly changing the pixels of the image within a certain range of color (perhaps using noise()?) depending on the color detection from the webcam to create a more organic, staticy, multi-toned image. If I have extra time, I'd like to include extra weather conditions, perhaps including sunny and cloudy states, just to make it as organic as possible. I also would like to possibly make the snowflakes rotate on a 3D plane.



A mock-up of how the screen might look with the random snowflakes rotating and falling in 3D.

I will definitely be using the Yahoo Weather and Video libraries. I also found a link to a sketch that randomly generates a snowflake each time the sketch is started, which could be very useful for reverse engineering and understanding how to randomly generate the snowflakes.

https://github.com/infiniteperplexity/laserflakes/blob/master/algorithmic_snowflakes/algorithmic_snowflakes.pde

I will be poring over the Learning Processing book by Daniel Shiffman, as well as the Processing Reference on the official website, to reacquaint myself with angles and trigonometry. I don't want to go too far beyond what we've learned for anything besides the procedural generation of the snowflakes and how they fall, unless I have extra time on my hands.