# Project 2 Proposal: Hungry Fishies

## Idea:

Expanding on Project 1.

## What I had in Project 1:

Intro state:
The title "Hungry Fishy" is displayed with a firefish swimming around the tank. Once the user clicks the "Start" button, cue instructions state.

Instructions state:
The instructions are displayed as a static image. When the user clicks "Ready!" button, the animation state starts.

Animation state:
When the finger/user circle is close enough to the fish for it to notice it (within the fish's field of vision), the fish follows it. The user adds food to the tank by clicking the "More Food" button and tries to get the fish to eat the food by guiding it with the finger. The user can change the current direction by using the left and right arrow keys. When the fish is full, the simulation ends (cue ending state).

Ending state:
A poem is featured as the tank plunges into darkness and the fish releases a little surprise from its behind.

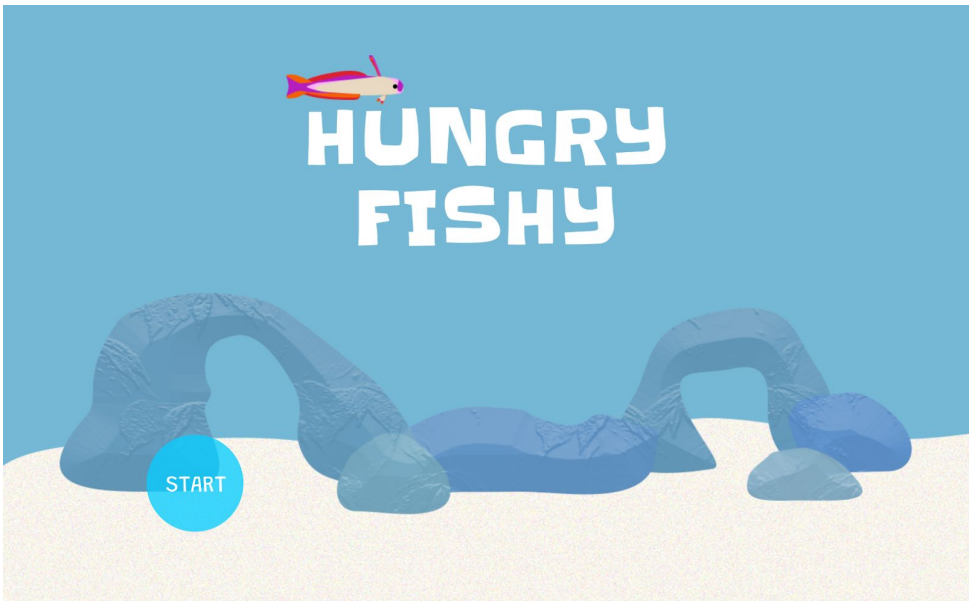


*Figure 1: intro state of project 1*

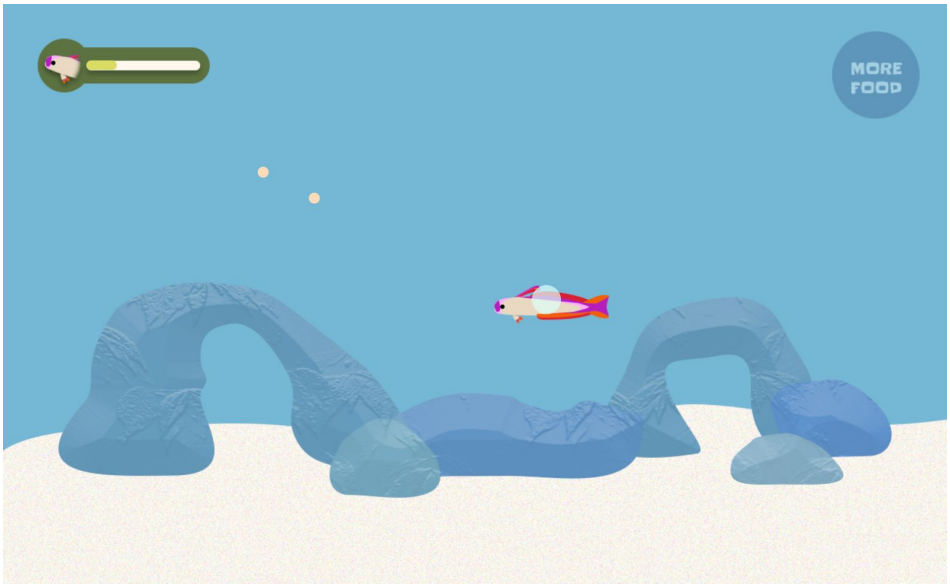


*Figure 2: animation state of project 1*

## What I plan on adding in Project 2:


*Figure 3: sketch of intro state for project 2*

Intro state:
Animate the title and have bubbles floating around and have more living beings inside the tank (4 fishes, corals, 2 snails)

Instructions state:
Use interactivity to explain the rules of the game rather than just displaying a static image of the rules

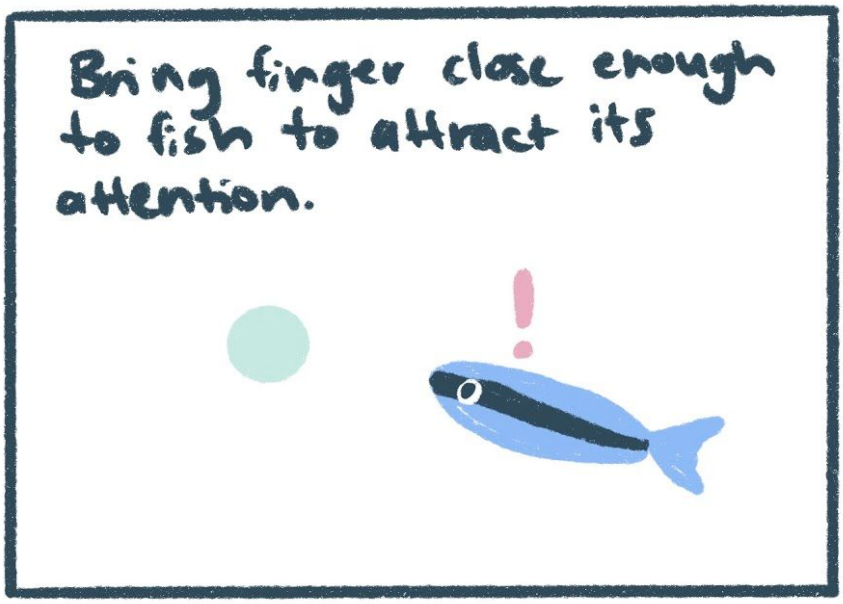


*Figure 4: sketch of instructions state for project 2*

Animation state:
I will have four fishes (two clown fishes, one firefish, and one neon goby) instead of one firefish, and add moving corals and two snails. The fishes interact with each other and have different behaviors. For instance, the neon goby is most attracted to the food so it gets to the food the fastest, the clown fishes feed some of the food to the anemones in the tank instead of ingesting it, and the firefish easily gets scared and hides behind the rocks. The fishes make a crunch noise when eating the food. Bubbles will flow everywhere. The snails move on their own accord on the rocks and on the sand.

Instead of changing the current with left and right arrow keys, the user will use the up and down arrow keys to increase and decrease the flow of water inside the tank. When there is a lot of flow, the current pushes the food from right to left, i.e. apply negative x acceleration to food. When there is no flow, the food flows downwards in a “natural” way.

I will vary the sizes and color of the food as well. If the food is too big for the fish, it will spit it back out and won’t consume it.

Ending state:
Same as before, but now four fishes are pooping.

# Technical challenges:

1. Integrating multiple classes that interact with each other and using inheritance:

- Fish.js (parent)
    - Firefish.js
    - Clownfish (2 children)
        - Nene.js
        - Momo.js
    - Goby.js

- Snail.js
    - Snail1.js
    - Snail2.js

- Anemome.js

- Coral.js
    - Coral1.js
    - Coral2.js
    - Coral3.js
    - Coral4.js
    - Coral5.js

2. Coding the behavior of different fishes and creatures (more conditionals involved)
    - They interact with the user's finger and with each other
    - Clownfishes interact with the sea anemone by feeding it
    - Neon goby interacts with the sea anemone by getting too close to it and getting stung
    - Snails interact with the tank's background (climb on rocks) and with each other (sometimes they travel on top of each other).

3. Using p5.play library to animate background elements in tank (corals and snails)