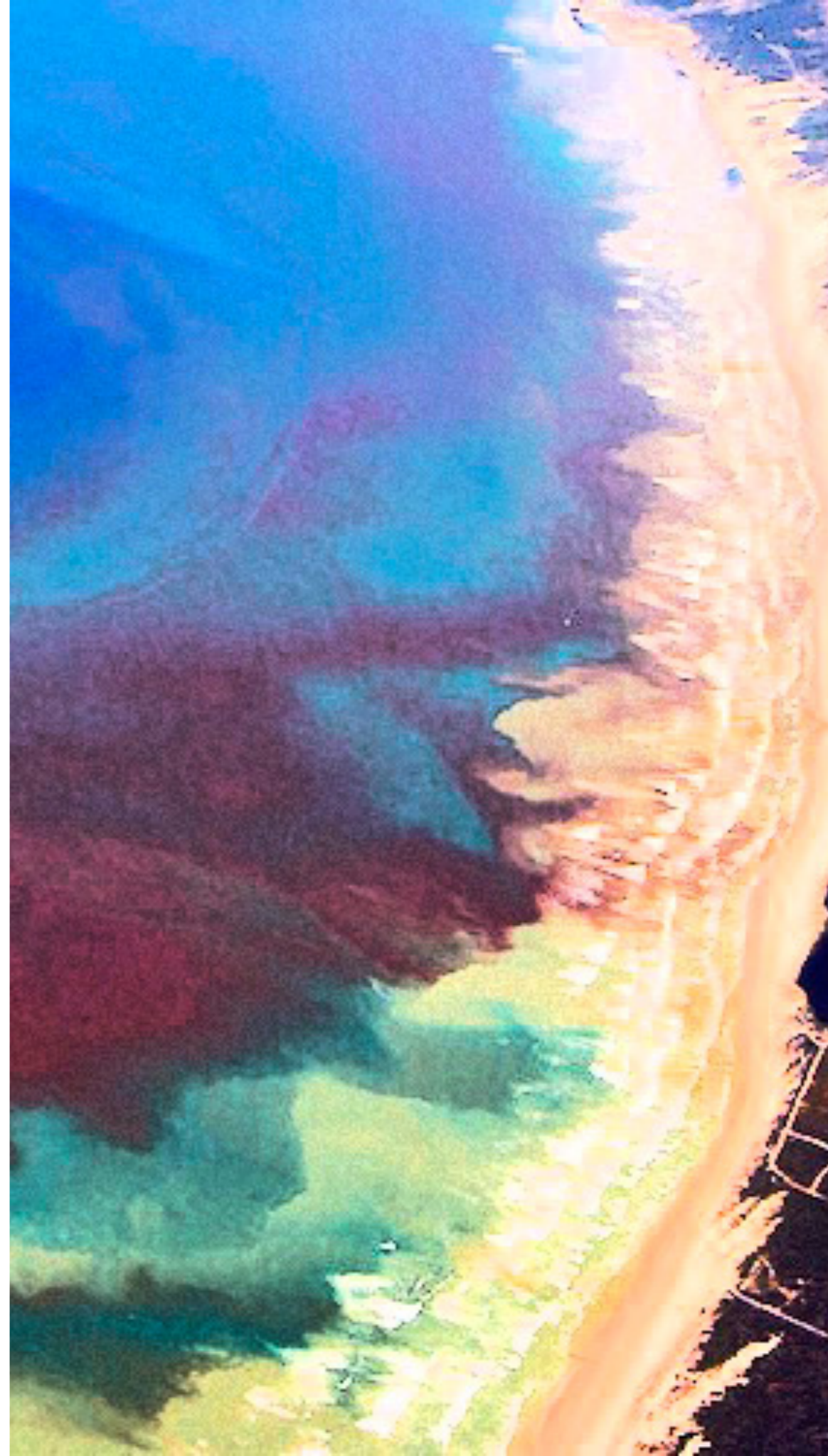


BIO TIDE

Carolina Melo

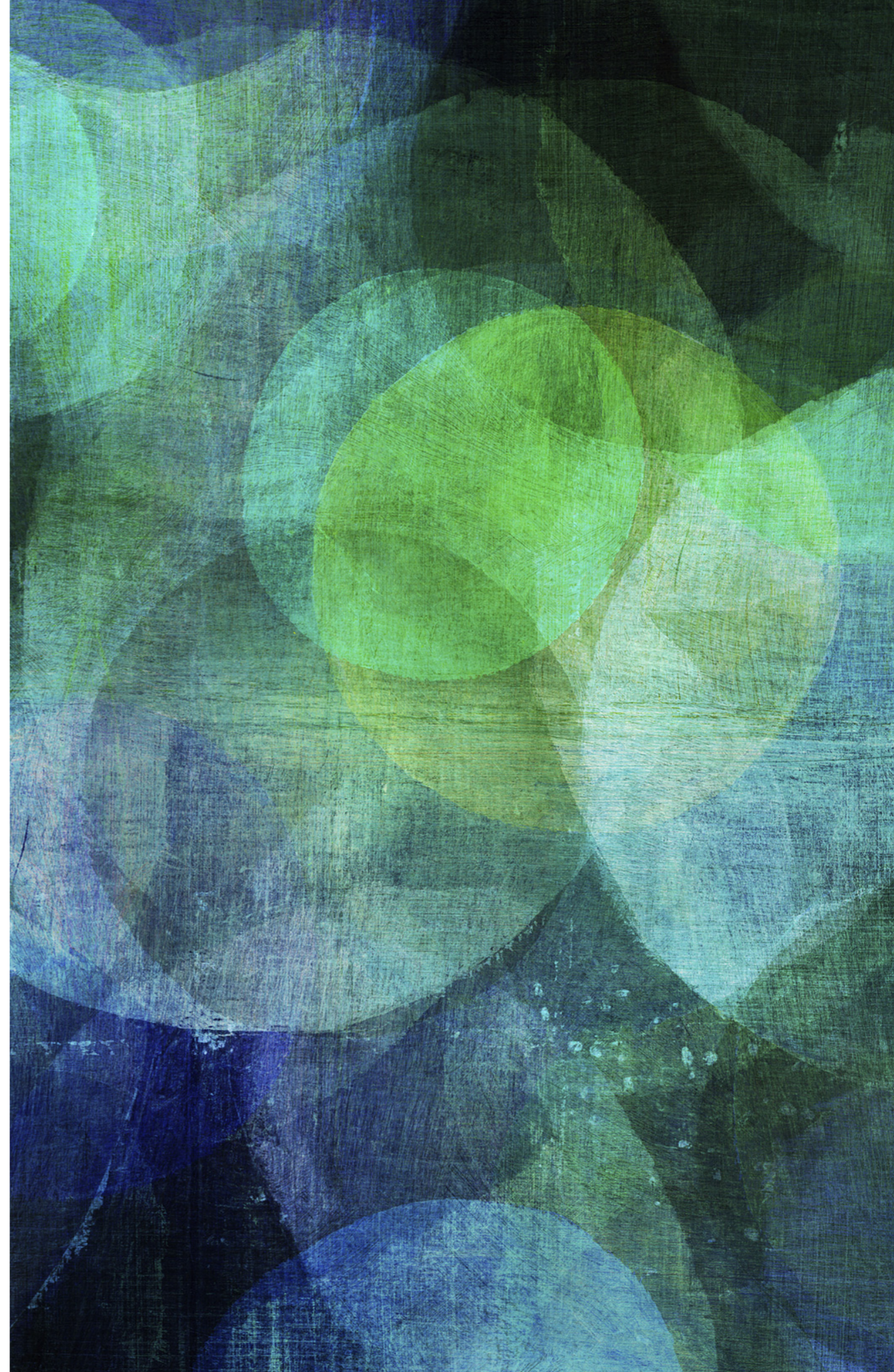


“ Concept Statement:

Marine Plankton is capable of both immense beauty and widespread destruction. Dinoflagellates can create their own organic light which is usually blue. They also play a huge role in the red tide. The purpose of this project is to highlight this contrast while placing emphasis on the role humans play in further augmenting the effects of the red tide.

BIOLUMINESCENCE

- The production of an emission of light by a living organism
- Marine bioluminescence is mainly blue
- Dinoflagellates (most marine plankton) are responsible for most of the bioluminescence observed in the surface ocean





Bioluminescence at Gili Lankanfsuhi



RED TIDE

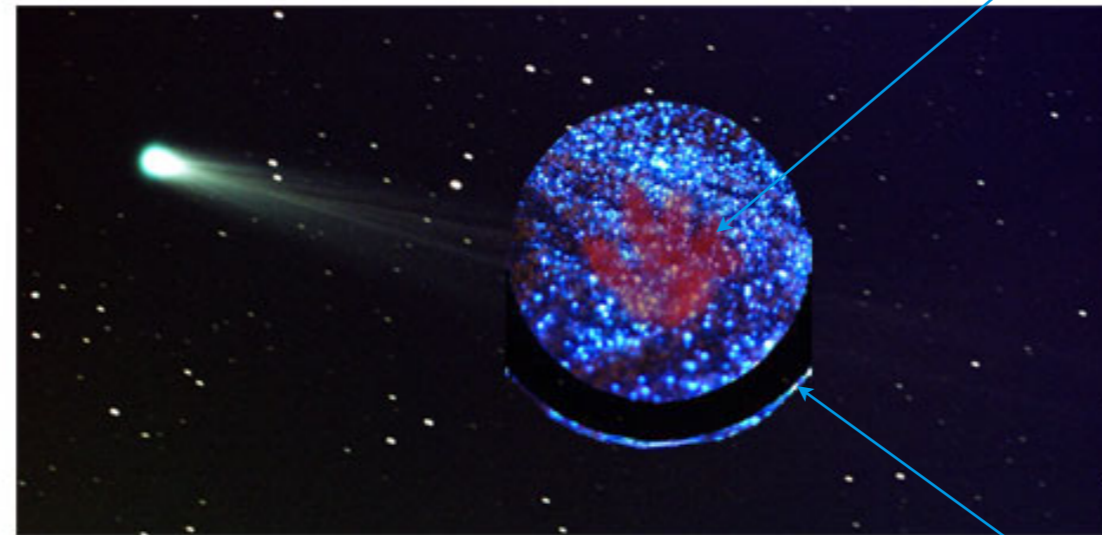
- Common name for worldwide phenomenon known as toxic algal bloom
- Caused by explosive growth and accumulation of certain microscopic algae that discolor coastal water making it look red
- It is deadly to most marine life and can be harmful to humans
- Although not a new phenomenon, humans have augmented its effects



Red Tide plagues Florida Gulf Coast - August 2018

SETUP

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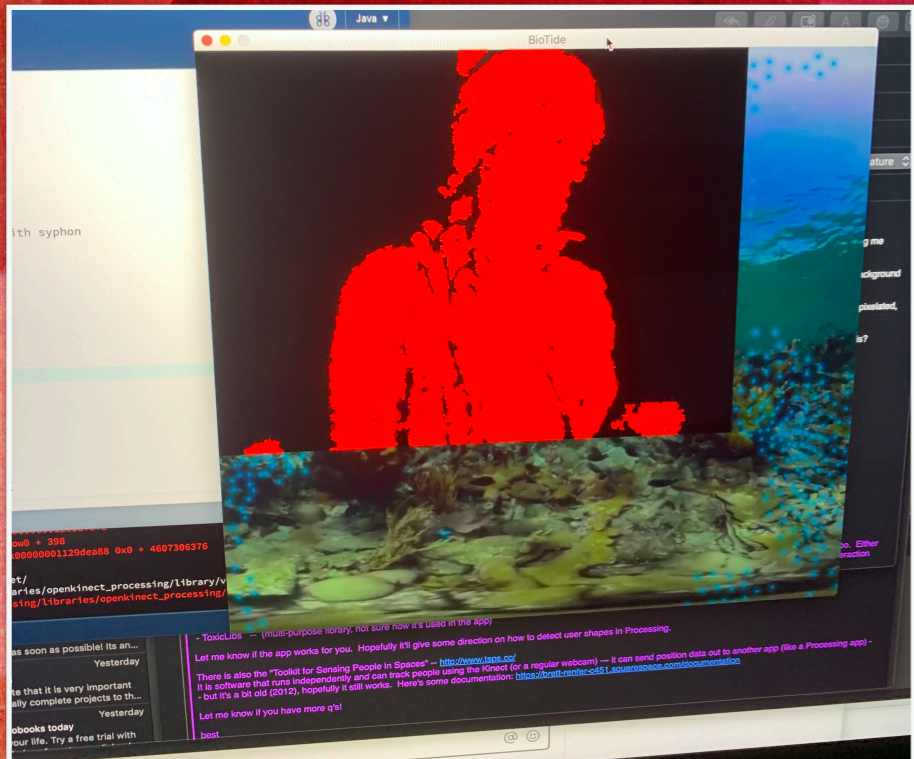
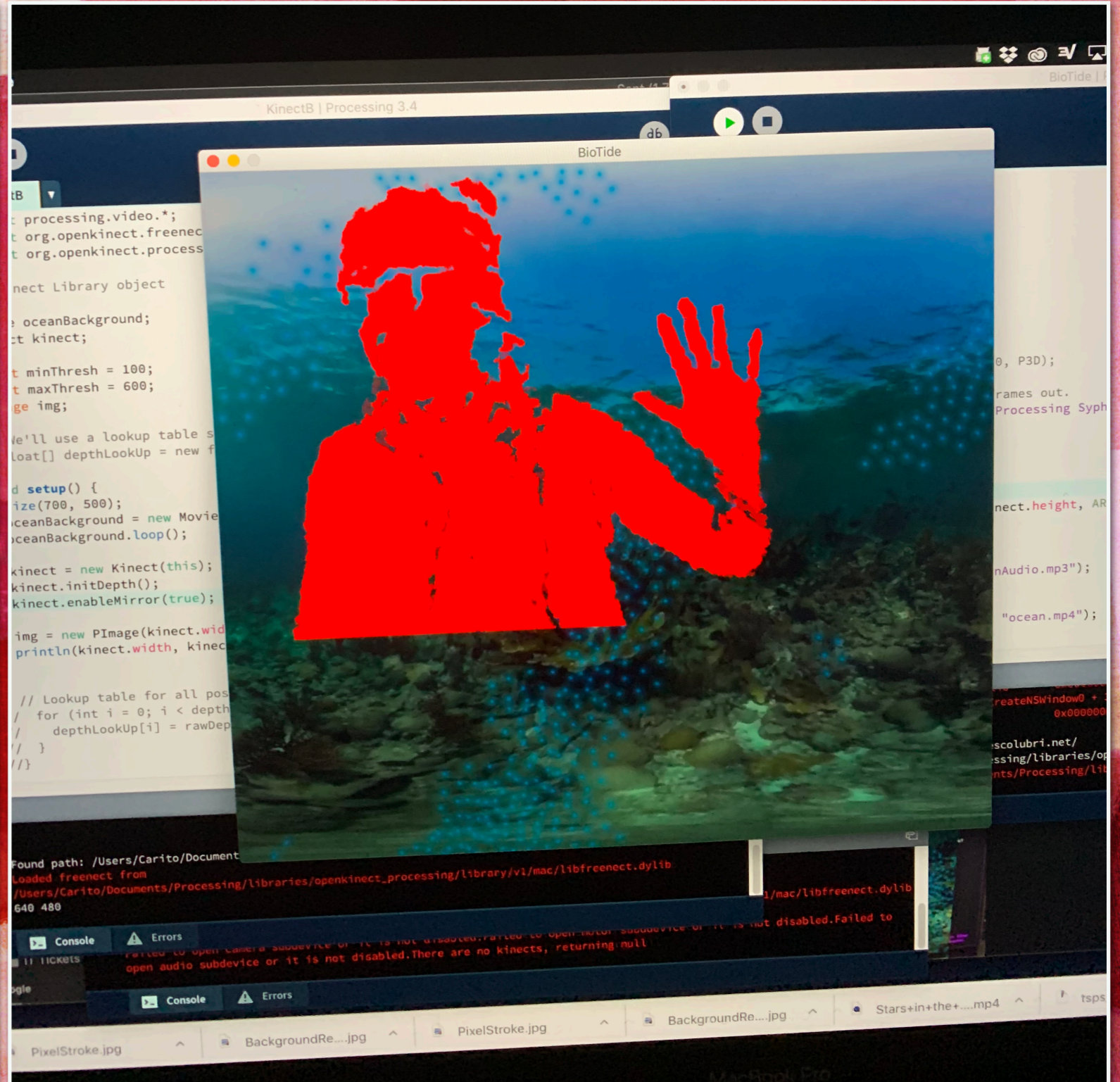
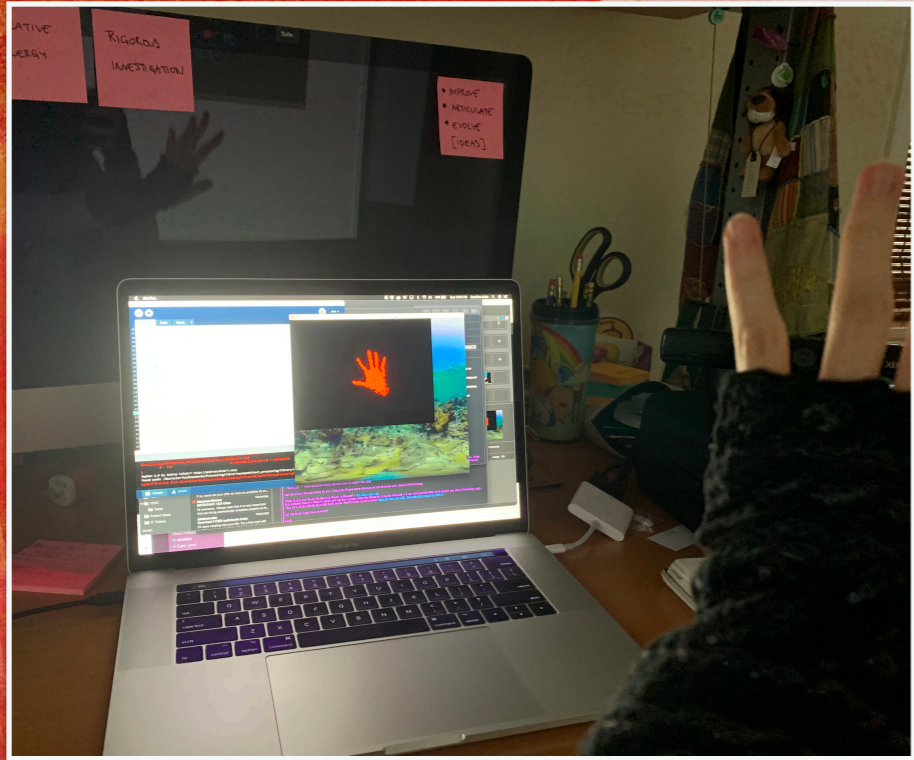


Interaction with user displays red tide

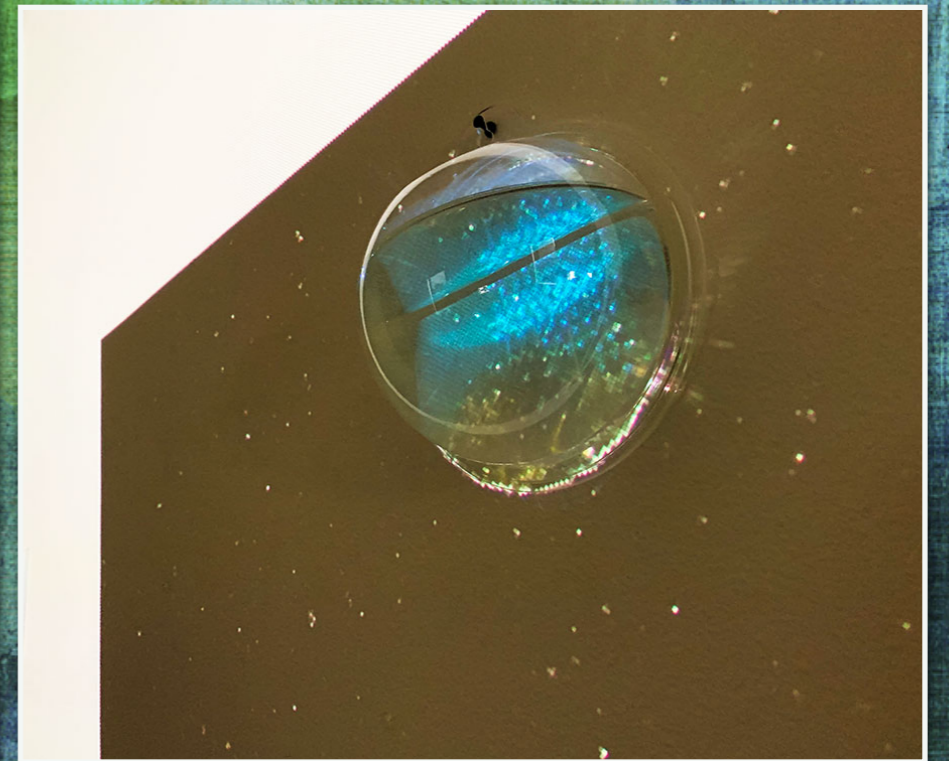
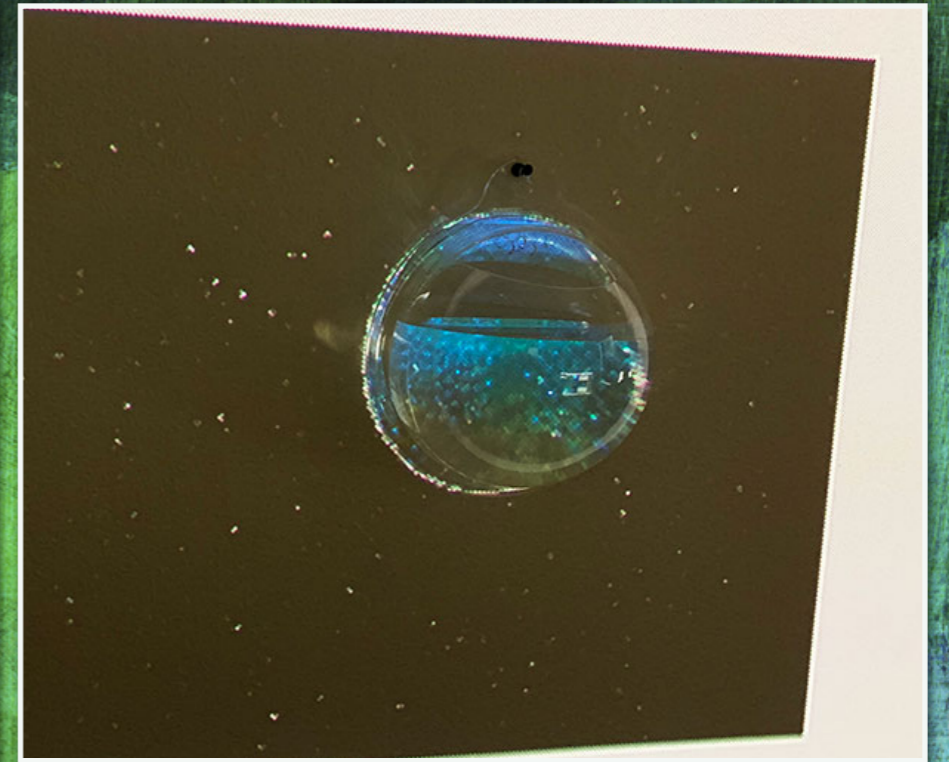
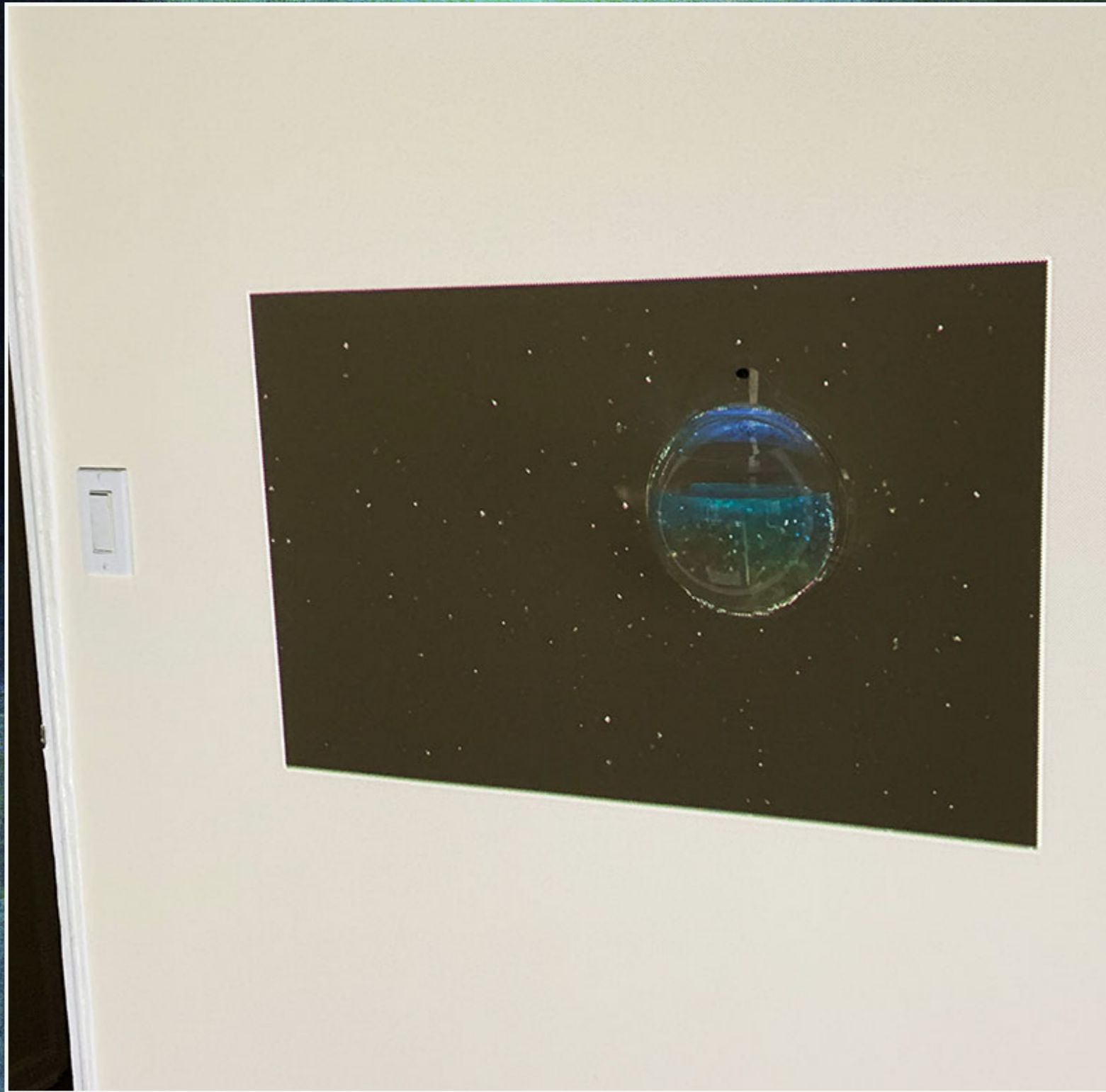
Water Container with projections of bioluminescence

Projection





IMPLEMENTATION & EXECUTION



FINAL PRODUCT SETUP

A video demonstration showing a clear glass sphere resting on a dark, reflective surface. The sphere is positioned in the center of the frame. The surface it sits on is dark and appears to be a liquid or a highly reflective material, as it shows a clear reflection of the sphere. The background is a light-colored, textured surface, possibly a wall or a backdrop. The overall scene is lit from above, creating a soft shadow of the sphere on the dark surface. The text "VIDEO DEMO" is overlaid in the bottom left corner of the image.

VIDEO DEMO

MOVING FORWARD: FUTURE ITERATIONS

- Aesthetic Fine-Tuning
- Resolve projection pixelation
- Larger water container to increase interactive surface area
- Texturize person silhouette
- Resolve Kinect positioning

RED BIOLUMINESCENT TIDE

By Carolina Melo

Fins in motion, curling ripples
A flicker. A glimmer.
A droplet slides across bright scales
Reflection of the sky's depths
Refracted by the water, the sun traverses the ocean layer by layer

Down,

Down,

Down...

Into unforgivable depths, where light no longer reflects.
A minute, an hour, the sun goes down
A pinprick of light floats upward, and then thousands join in dance
Brushing the surface, driven by the waves
Amidst the foam, back and forth they sway
Circadian rhythms lead the waltz,
A nighttime spell.
Marine organic light comes in shades of blue,
[Tuned to the wavelengths that travel furthest through the water \[1\]](#)
Ethereal blue, esoteric in nature
Blue that calms, and swirls, and charms.
Night turns into day, blue turns into red
Paralyzing red of uncertainty.
Noxious blooms,
Flowers of destruction
Old anomaly of toxicity.
Midas touch of civilization
Only helps to deepen the red.
Red that chills, and spreads, and kills.
It washes life away as it expands.
Marine organic impact comes in shades of red.

1] Valiadi, Martha, and Debora Iglesias-Rodriguez. "Understanding Bioluminescence in Dinoflagellates-How Far Have We Come?" *Microorganisms* 1.1 (2013): 3-25. PMC. Web. 13 Sept. 2018.