Andrew Hurley - NMD Interactive IV

The ABC's of Symbiosis

Initial Development

Prompt and Solution

What is it?

A Card Game

This is a card game intended for students grade 4 to grade 8. It involves matching **symbiotic relationships** found in nature. The cards features illustrations specific to the **animal** or **organism** in question created by each member of the group. There are **three letters** given to each team member with one member creating the back cover of the cards.

How do you play?

Matching Pairs

Each student should get one card. Using the **half-circle patterns**, **card descriptions**, and **color palettes**, students will be able to go around the classroom **comparing** against other students cards to find their **symbiotic match**. Once the students have found their match, use the answer cards to confirm.

What is the goal?

Learning and Engagement

This game is intended to get students involved in their studies and be excited to learn by giving them **interesting** and **unusual imagery** as well as **facts** about various symbiotic relationships in nature.

What are my letters?

S, U, and H

Sea Cucumber

Pairs with Imperial Shrimp

Imperial Shrimp will hitch a ride on Sea Cucumbers to get around.

Sea Urchin

Pairs with Carrier Crab

Urchins act as shields for Carrier Crabs to protect against prey. While Urchins get access to more food by being moved around.

Human

Pairs with Bacteria

Human beings are great environments for Bacteria to thrive. While Bacteria can help in gut digestion and are in many forms of antibiotic medication.
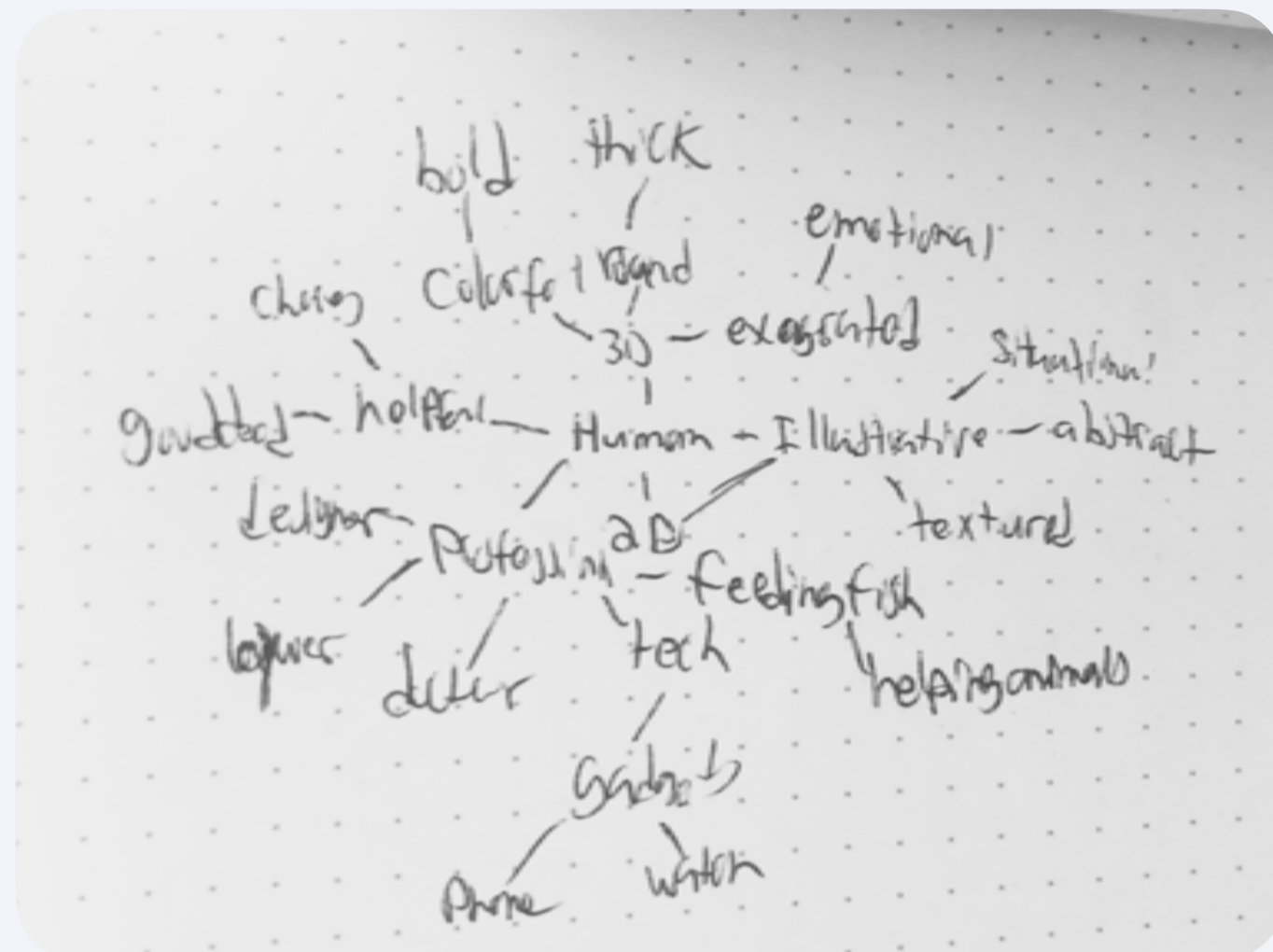
Sketches and Ideation
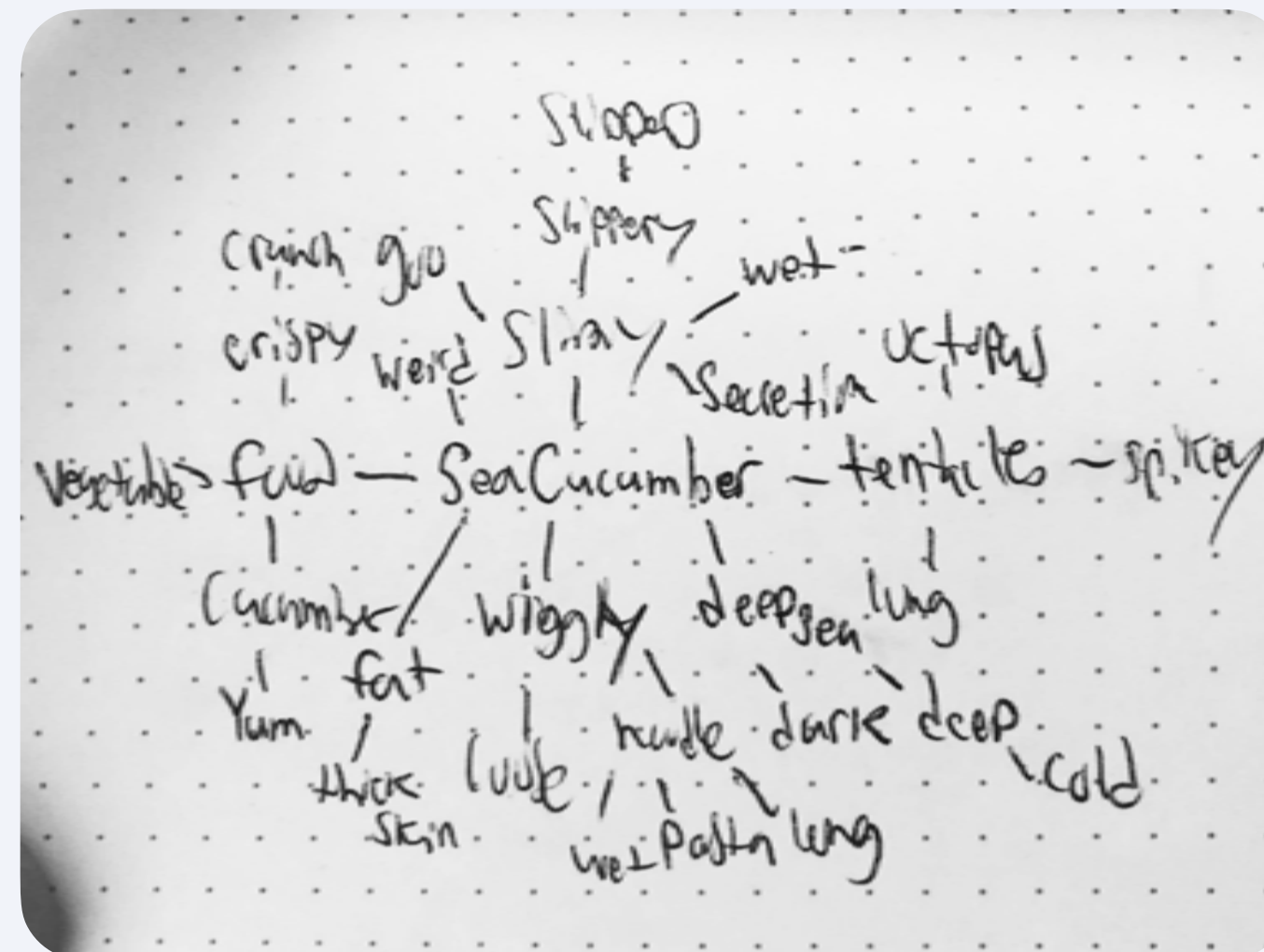
| 1 | 2 | 3 |
| 4 | 5 | 6 |

Mind Maps

I started off by mind mapping some potential ideas and keywords for each of my letters. The point was to open up various ideas and pathways as to not go down one linear path at the start and to give me a plethora of descriptors for the illustrations to be based on.
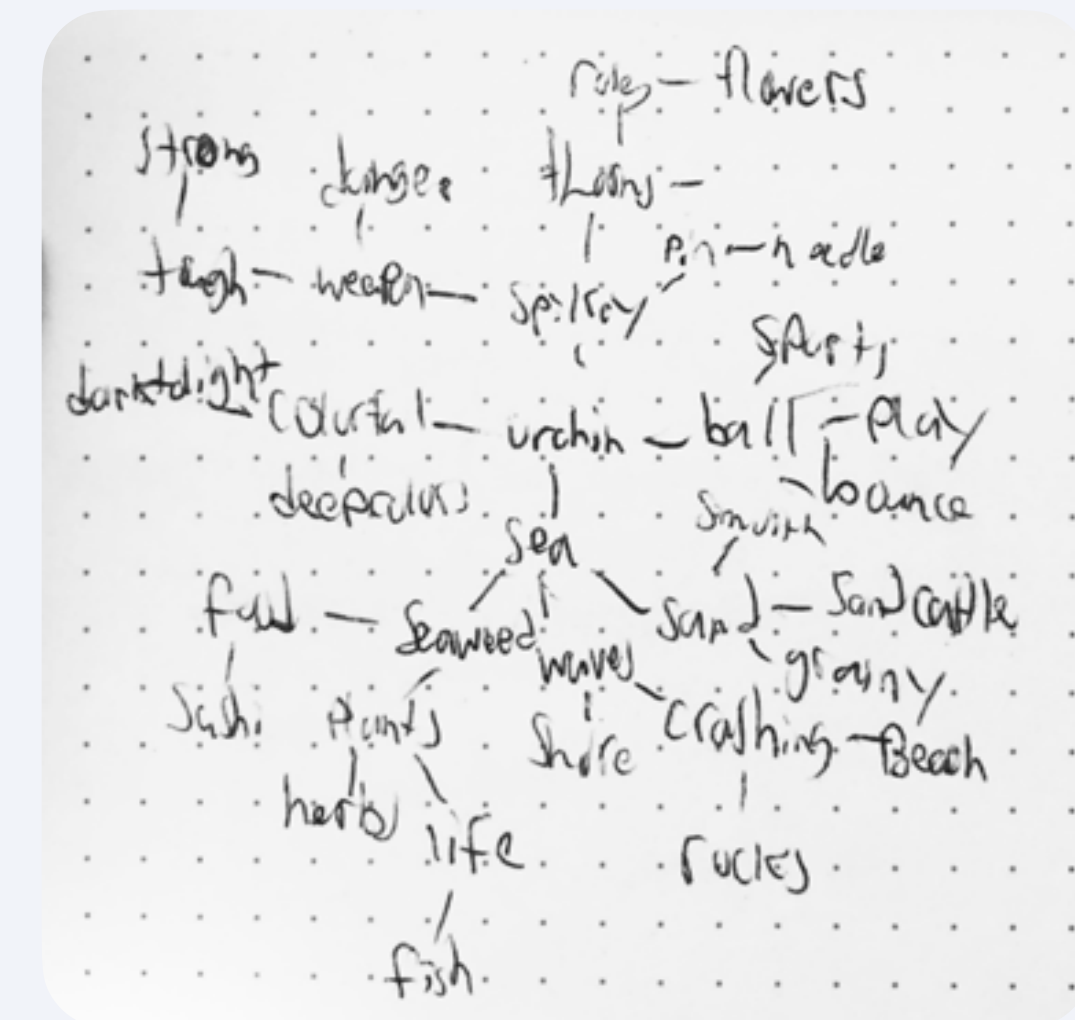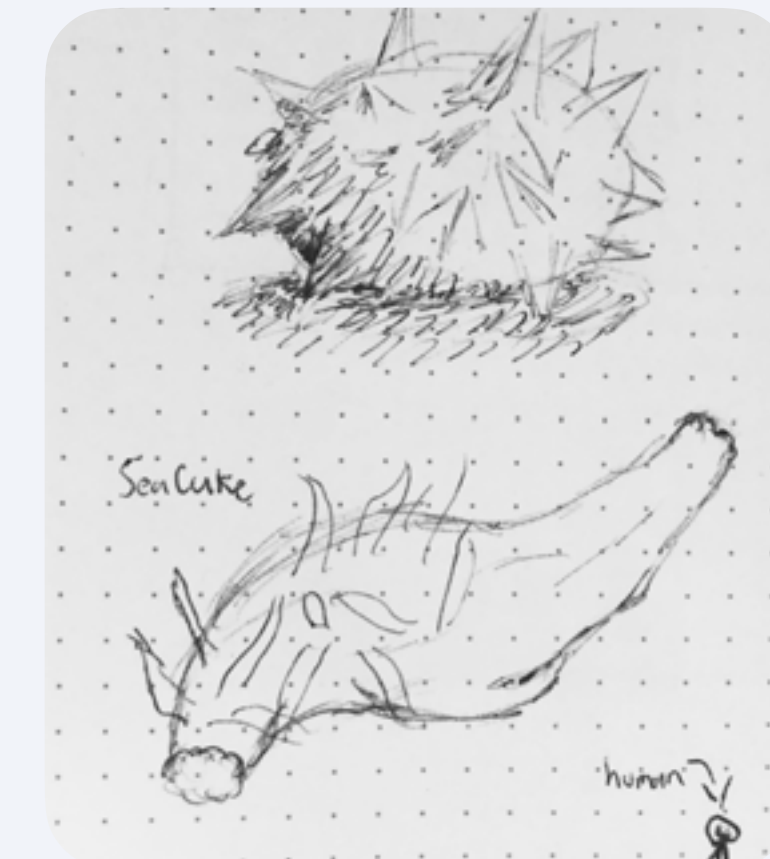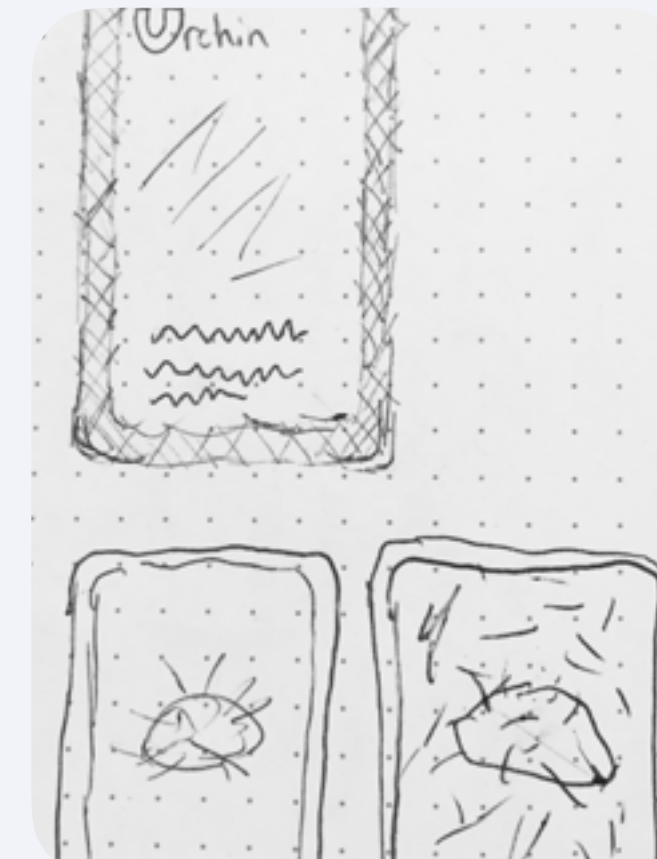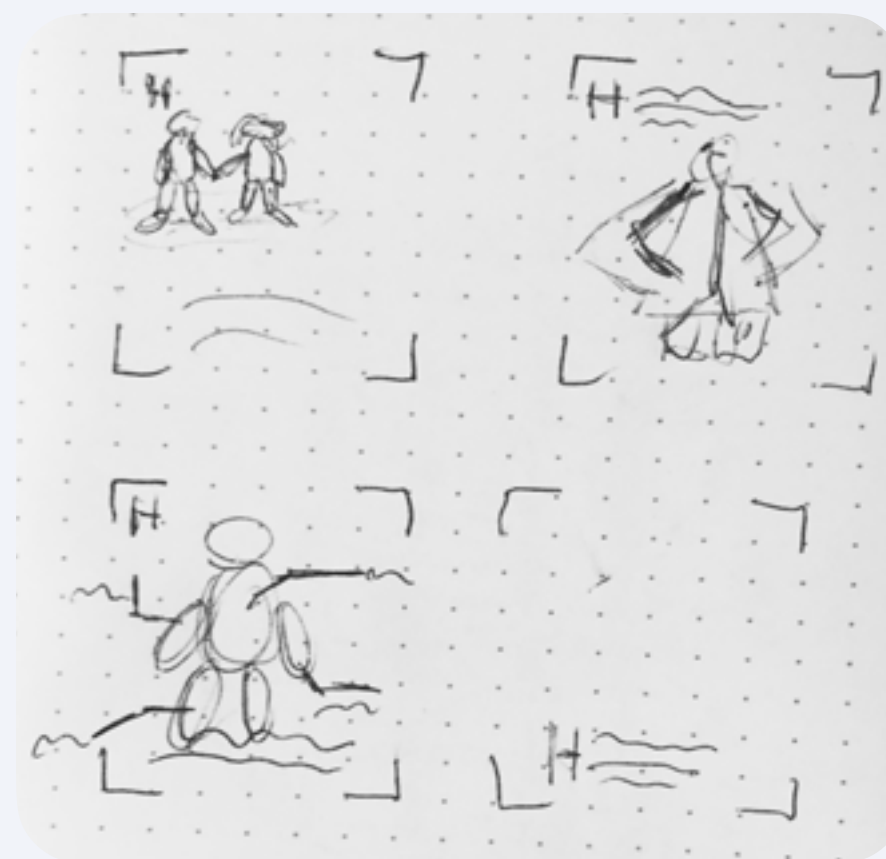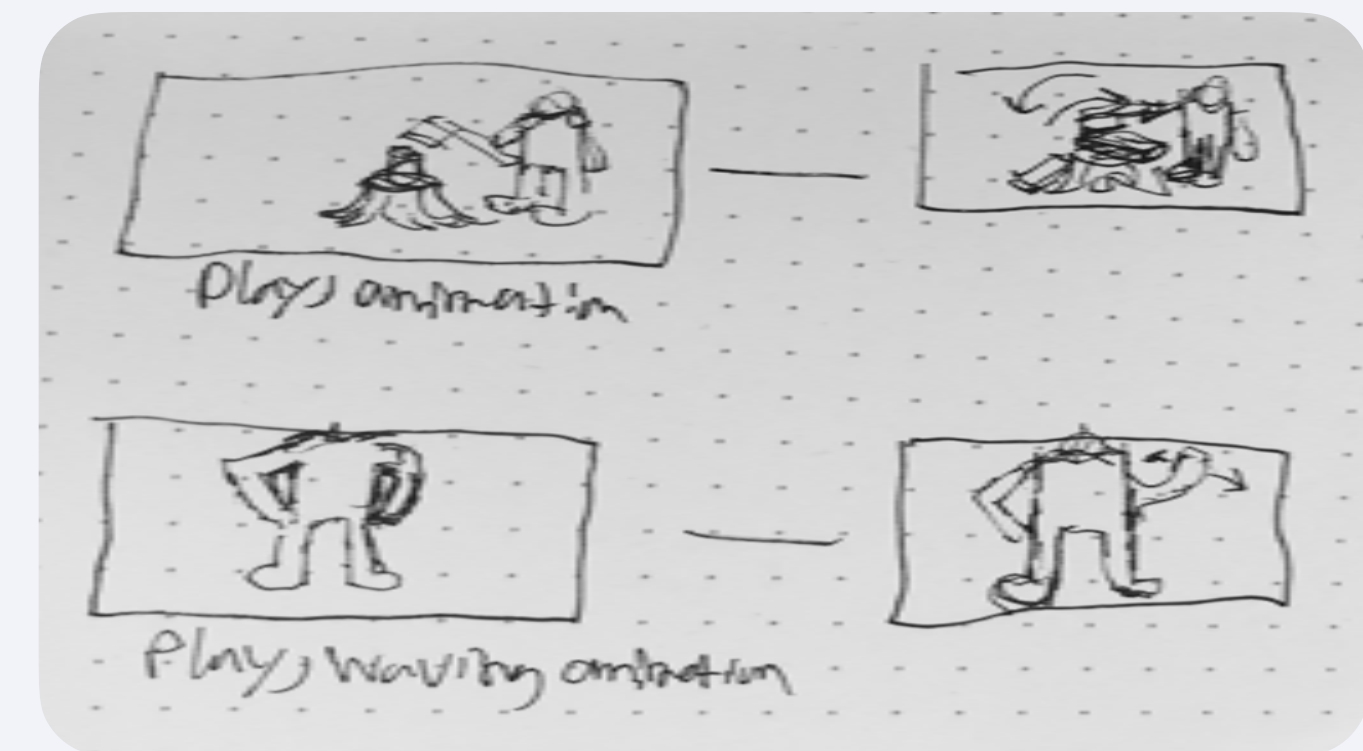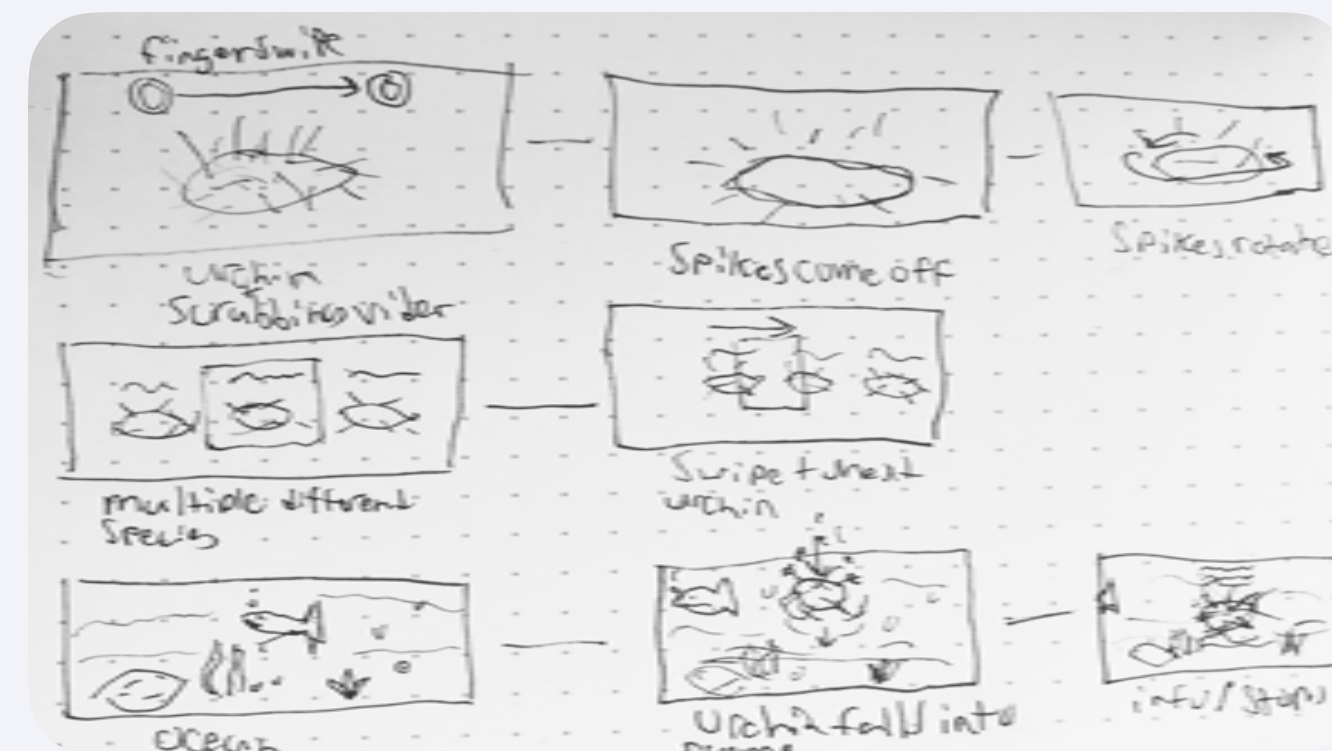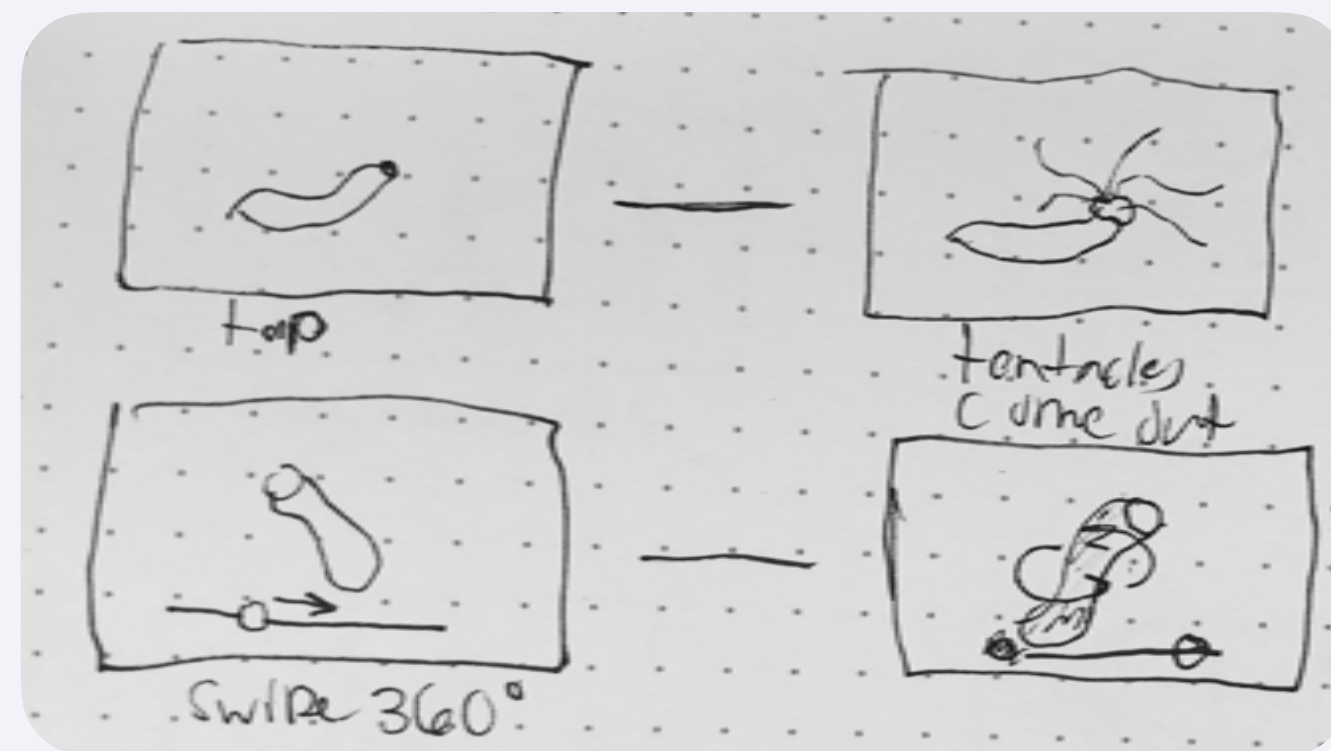
Human

Sea Cucumber

Sea Urchin

Sketches

These sketches include ideation for the interaction portion of this project as well. I explored card layouts, interaction timelines and illustration ideas.

Card Layout Exploration

These are a few card layout milestones and does not include every iteration we had. In the beginning we wanted to have hints instead of colors and pattersn but felt that could be a road block for younger users
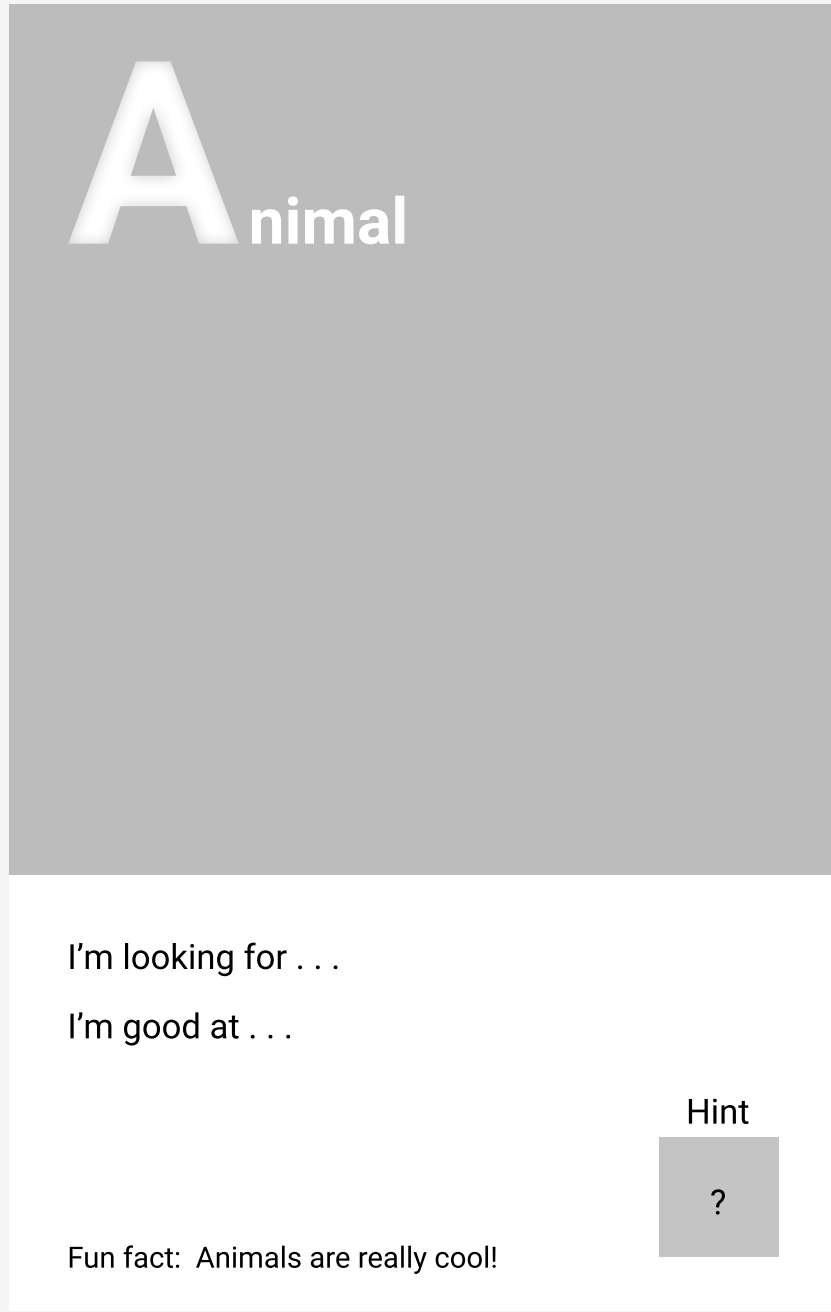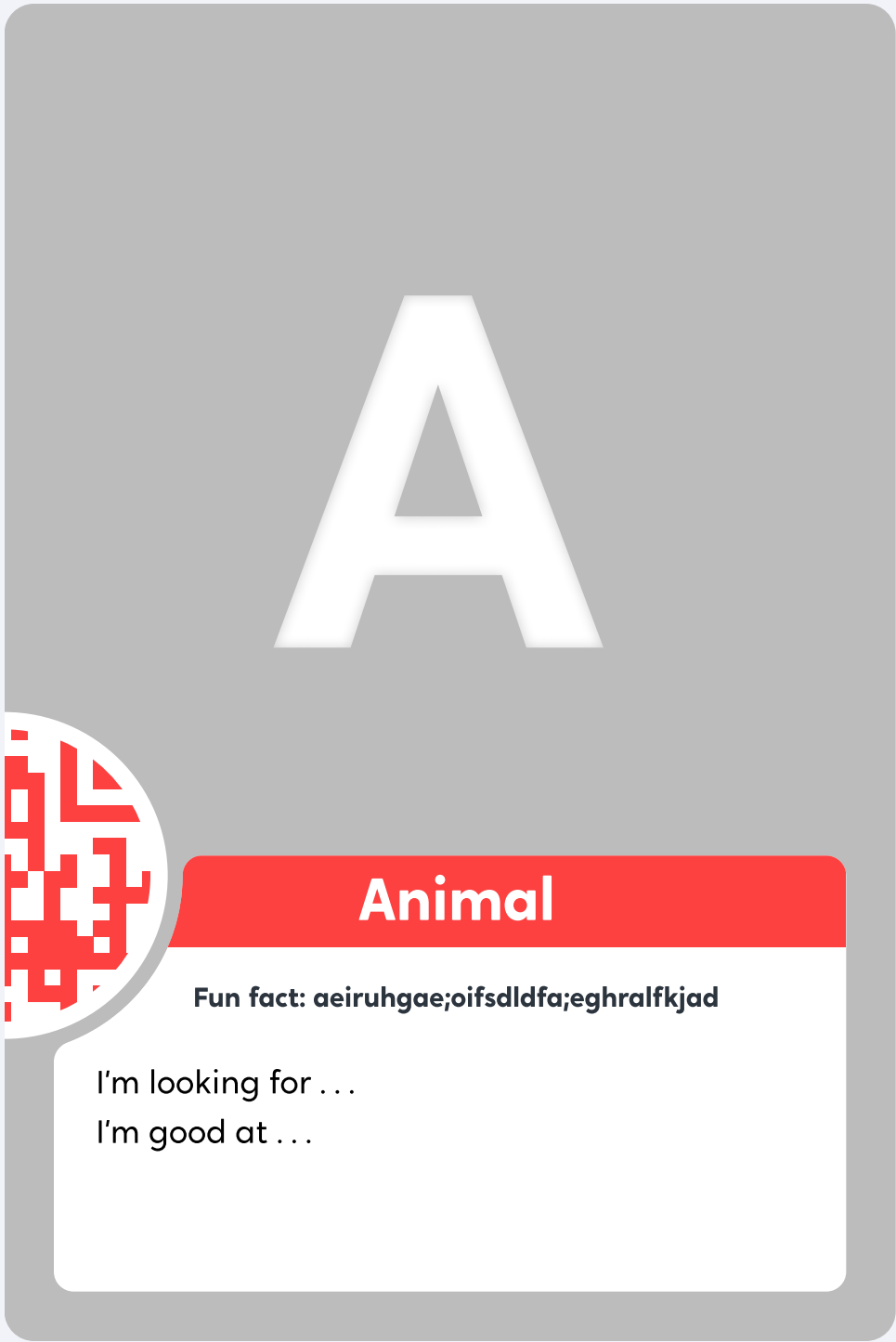

First Iteraton

Initial Layout

Initial design created during a group meeting where we pitched our ideas and requirements for the card.
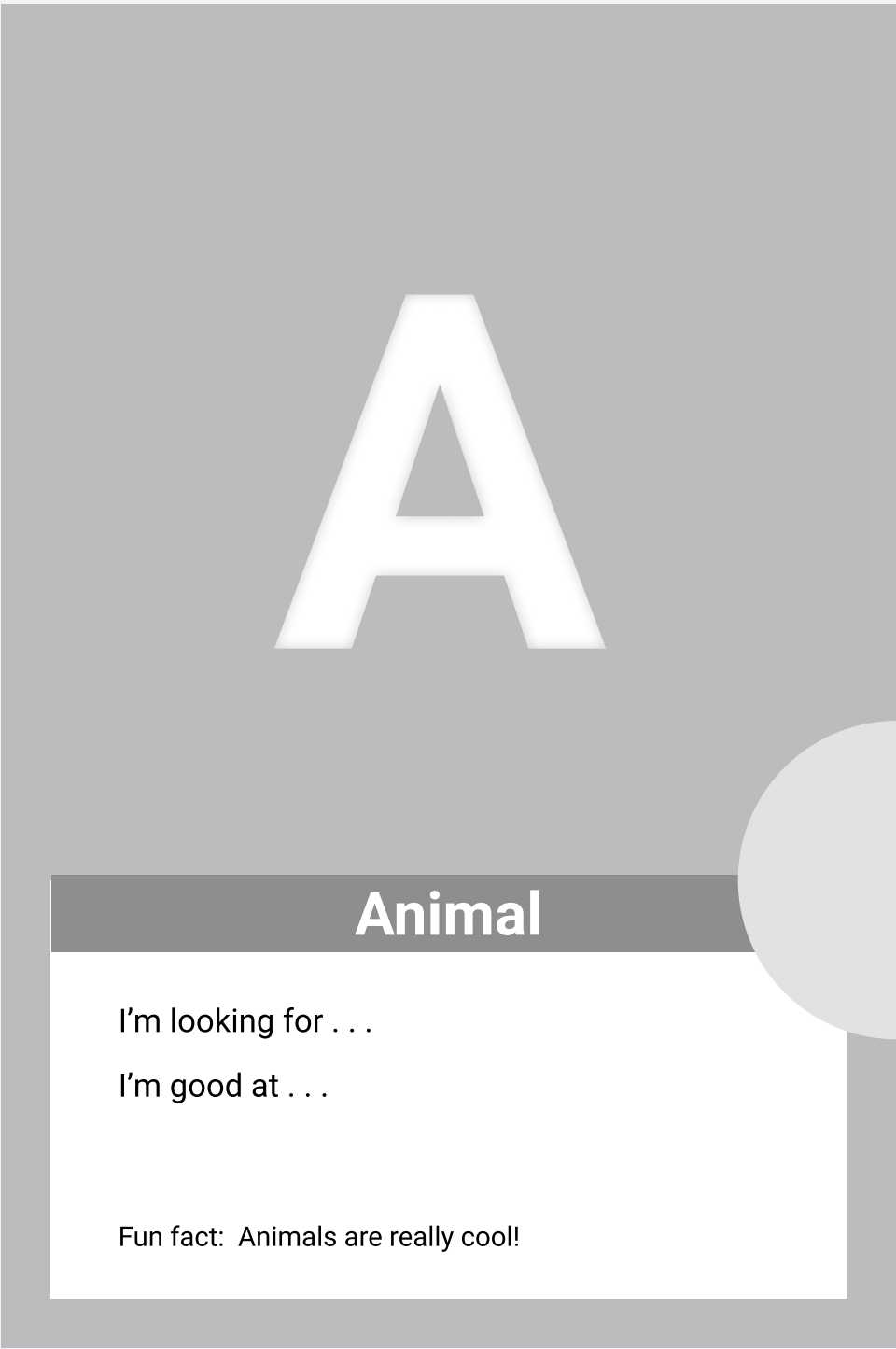
Second Iteration

Added Marker and Hierarchy

Removed the icon hint area and decided as a group to use a marker on the side instead that matches up with its pair to form a QR code.

Third Iteration

Color and Initial Match Marker Ideas

Style is added such as rounded corners, color and QR code ideas.
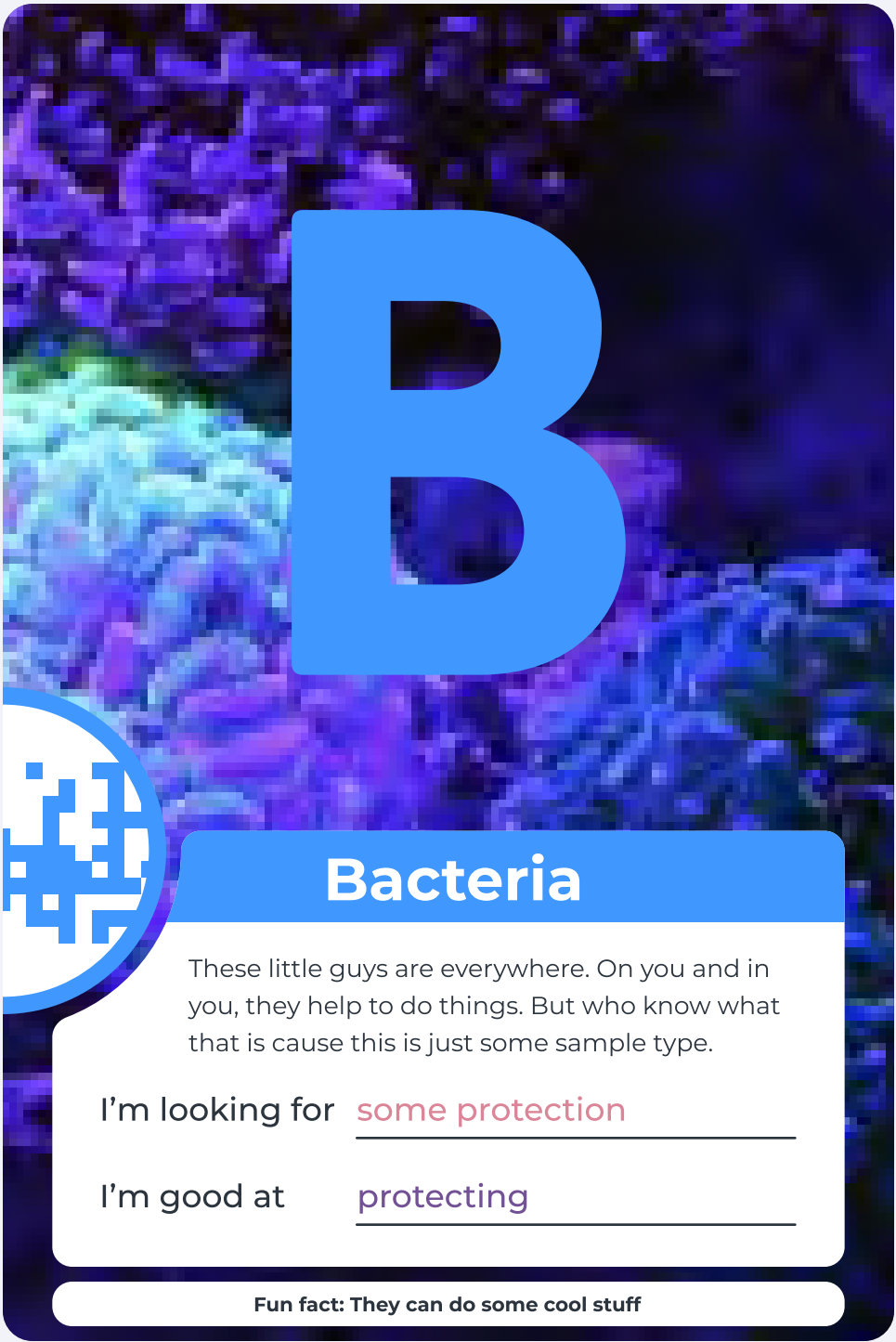
Fourth Iteration

Refined the Typography

An image from unsplash.com was added as a visual to see how the card could look once the illustrations are done. As well places for all the text was added.

Moodboard
Sea Urchin

Credits for images within the image.

Pointy and **brittle** the urchin is another simple sea creature like the sea cucumber. It has a lot of dimension to it and I feel 3D is the best fit for this creature. I want to focus on its **spikes** to possibly add attitude and flair to a rather scary looking creature. The board describes **dimensionality** and **abstract** flair on rather **uncommon** shapes.

Iterations
Sea Urchin
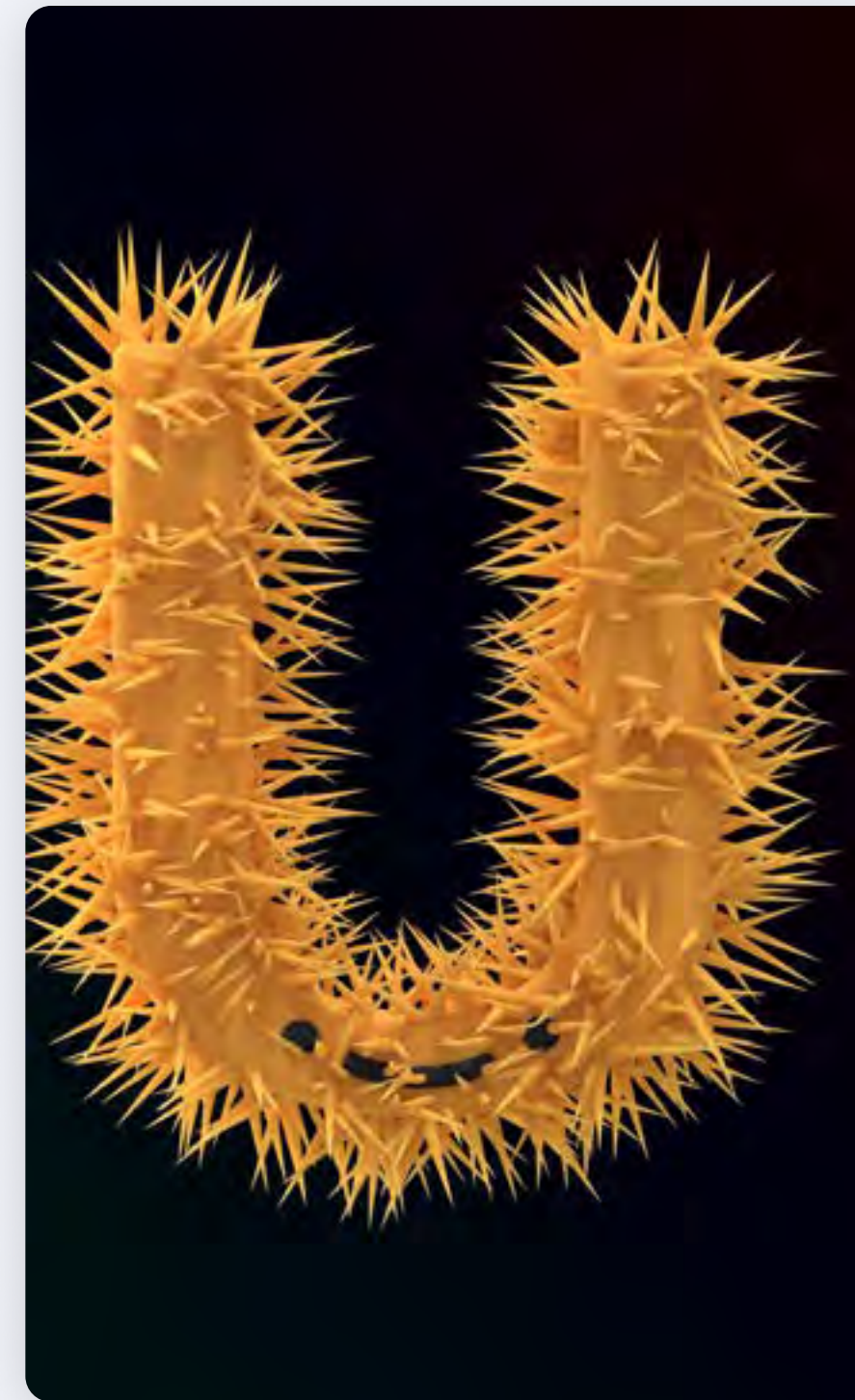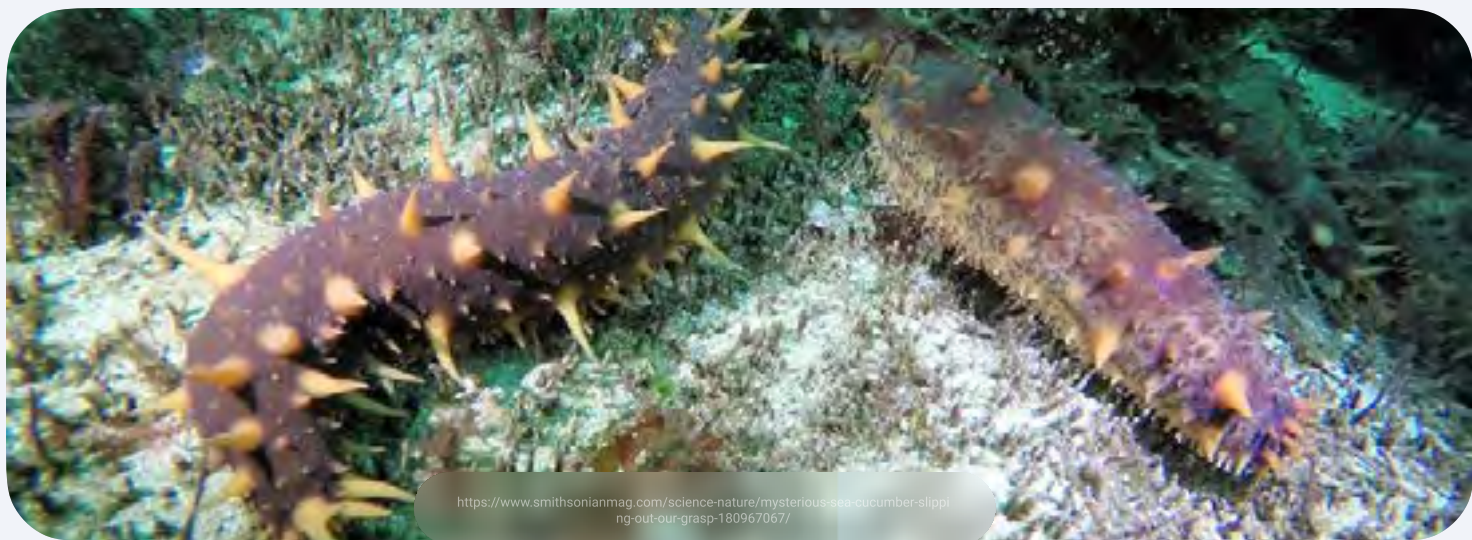
Moodboard
Sea Cucumber

Credits for images within the image.

These are hard to come up with ideas for since they are basically **giant worms** in the ocean. I wanted to focus on using the **simpleness** of the sea cucumber and use 2D illustration to describe it and its surroundings. The mood/style board describes **simplified figures** in **expansive** and **busy environments**.
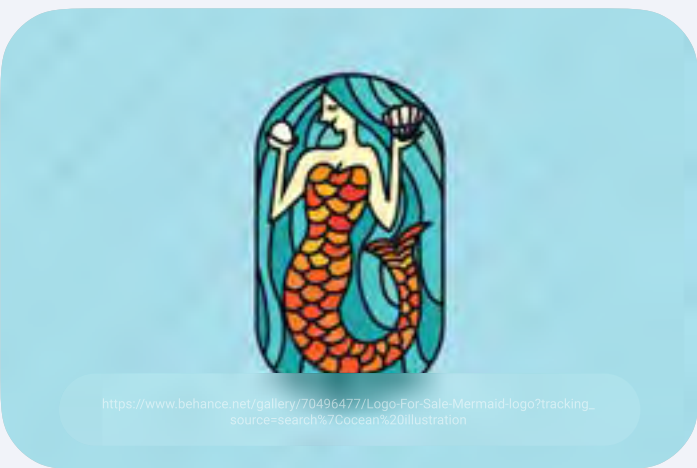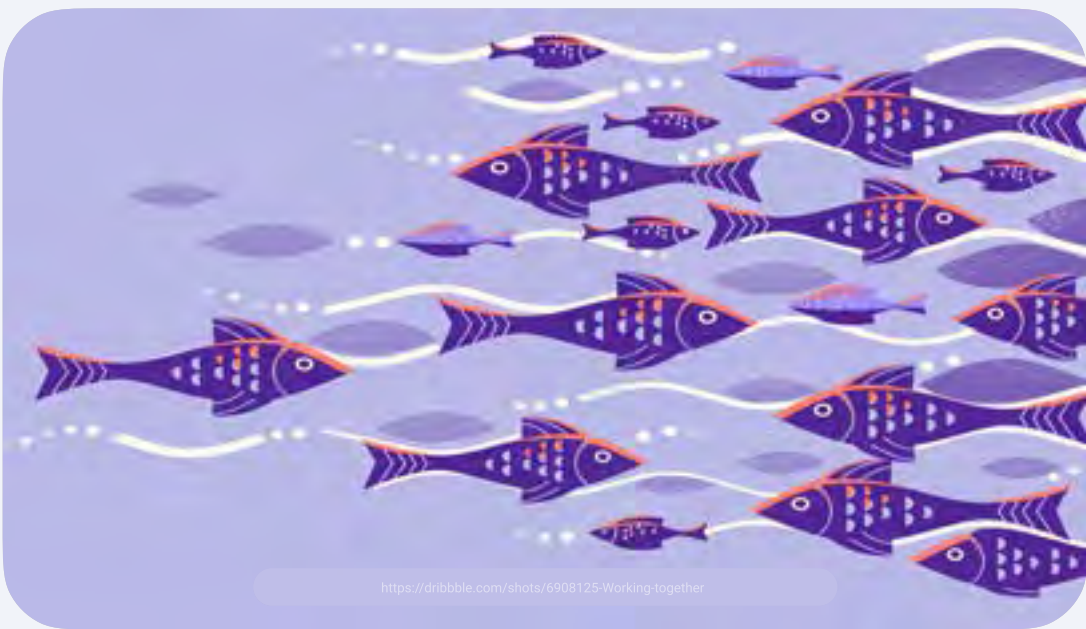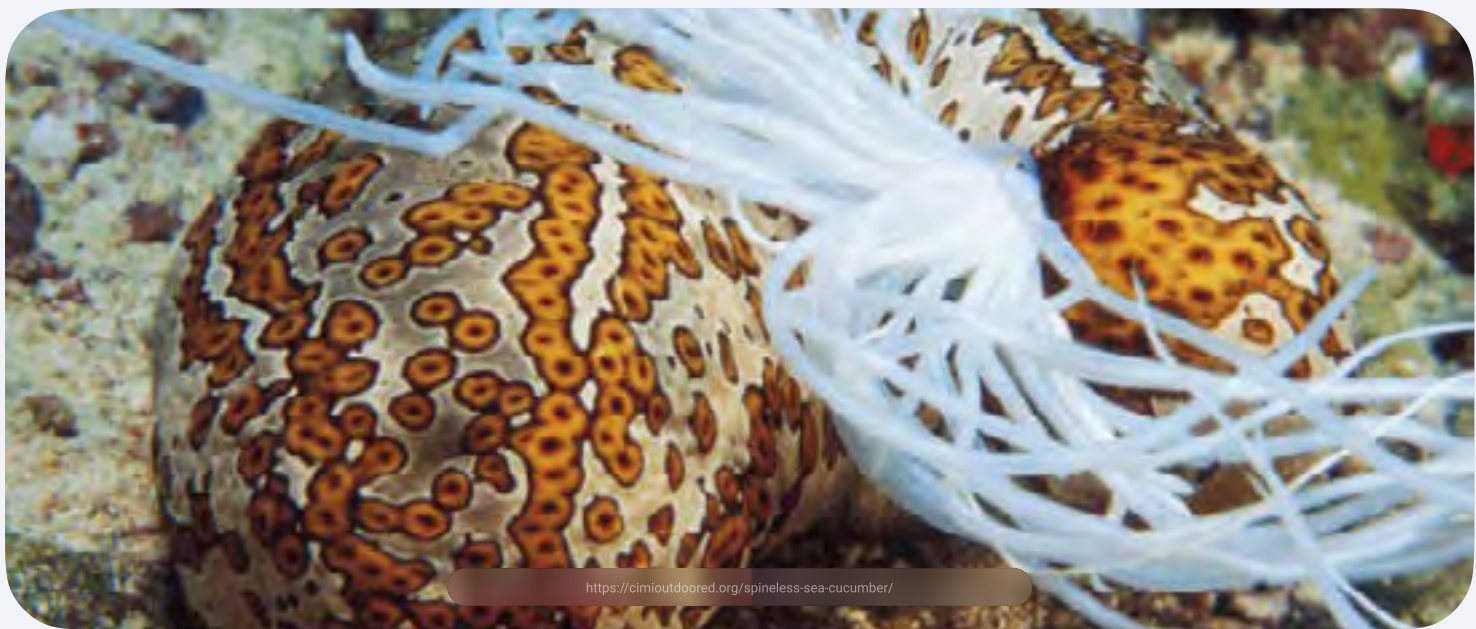
Iterations
Sea Cucumber

Moodboard Human

Credits for images within the image.

Pretty well known there are many different "types" of people and for this project I want to go with person set up in a scene. I think **environmental** illustration with texture will work the best for this and I plan to illustrate a **singular person** in a specific environment. The board describes the possible environments and **textures** present.
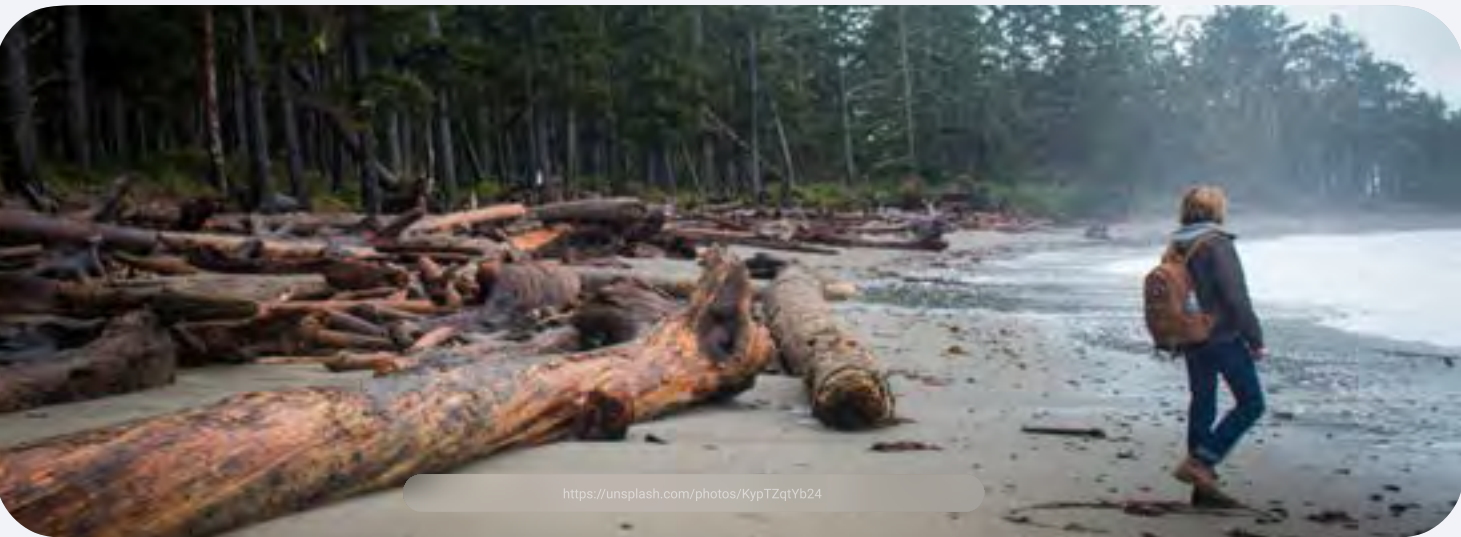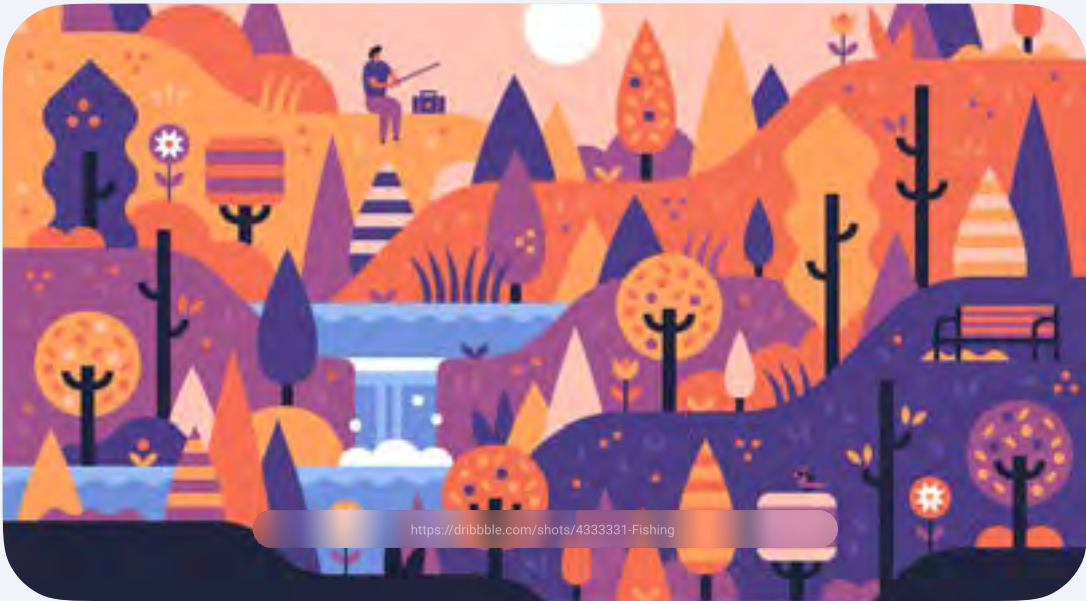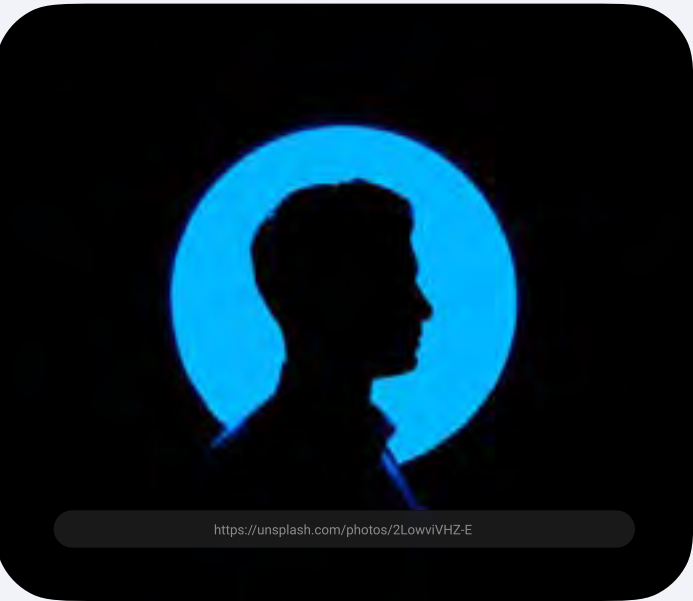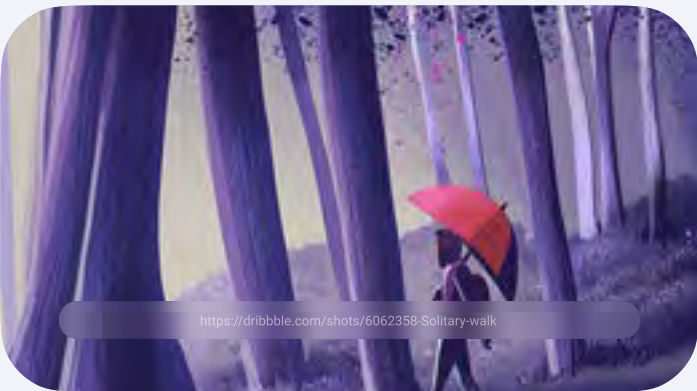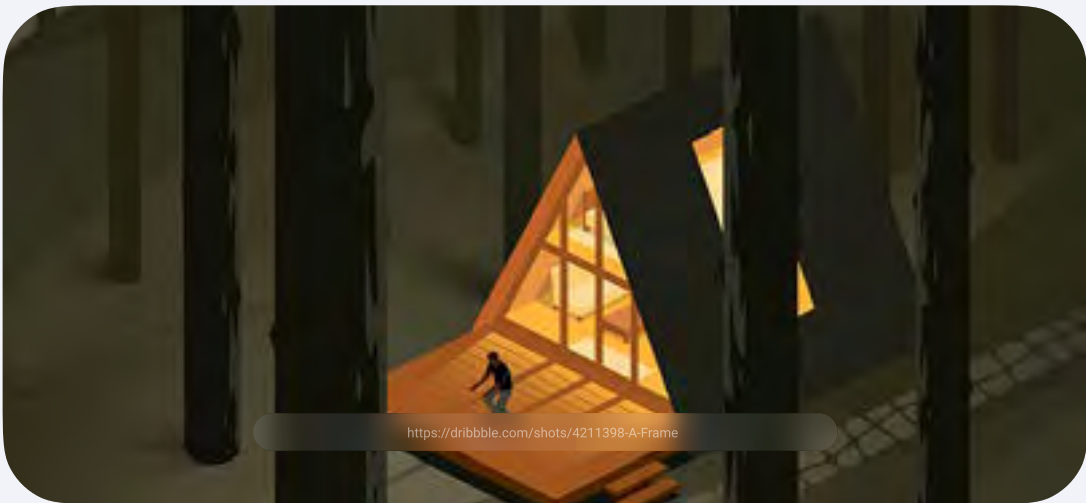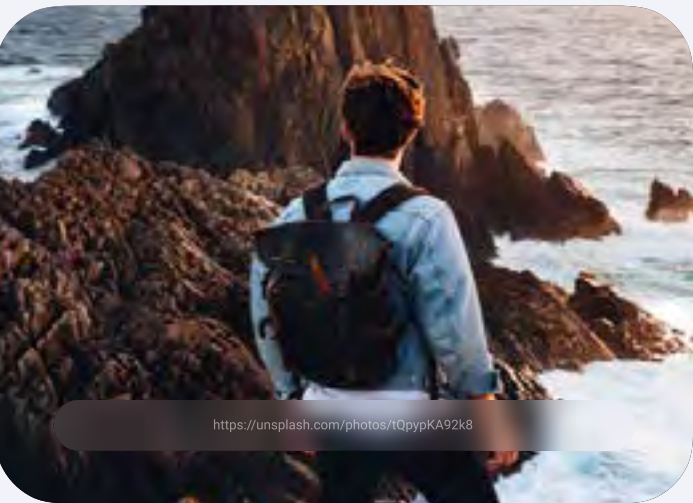
Iterations
Human
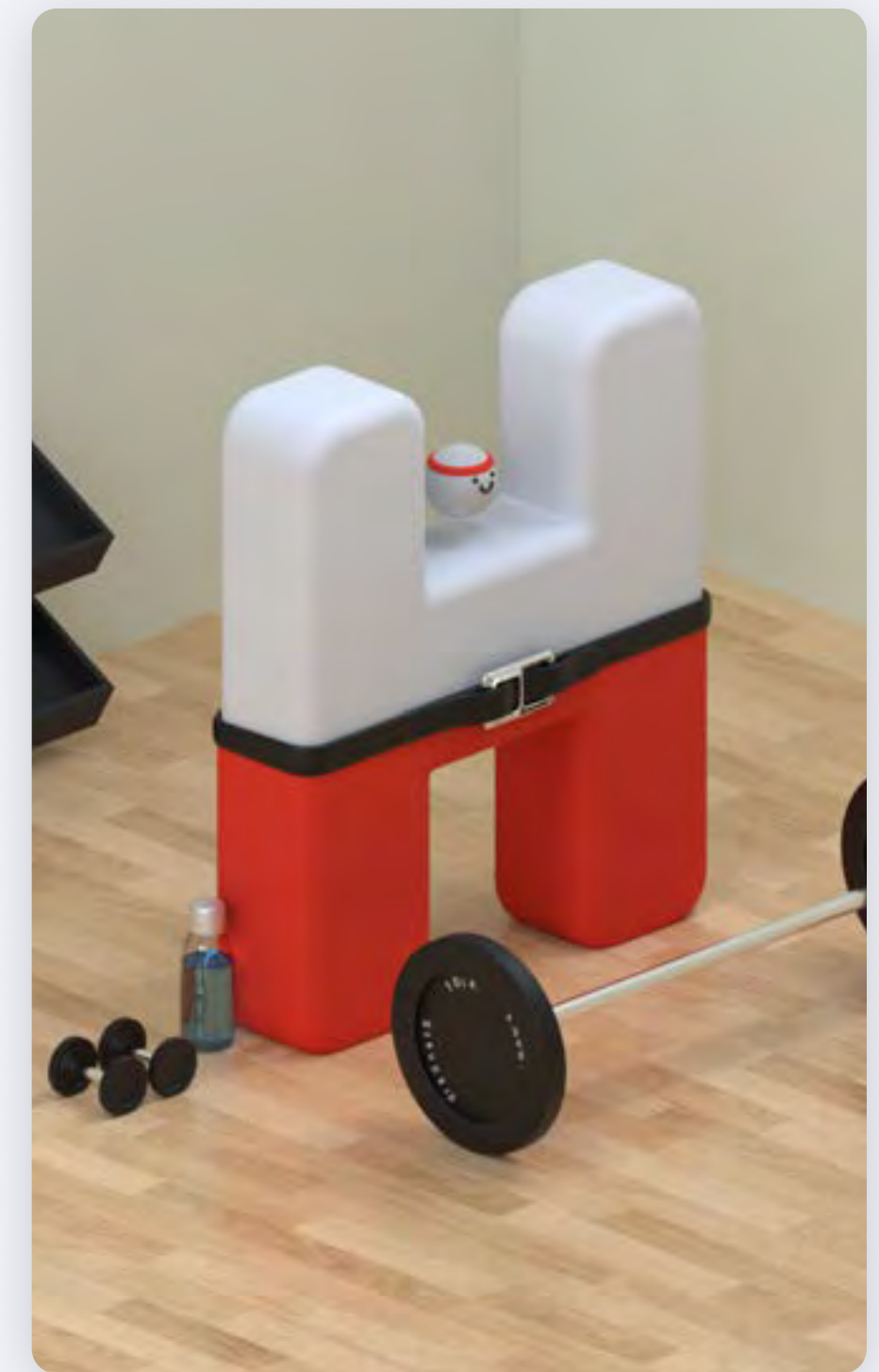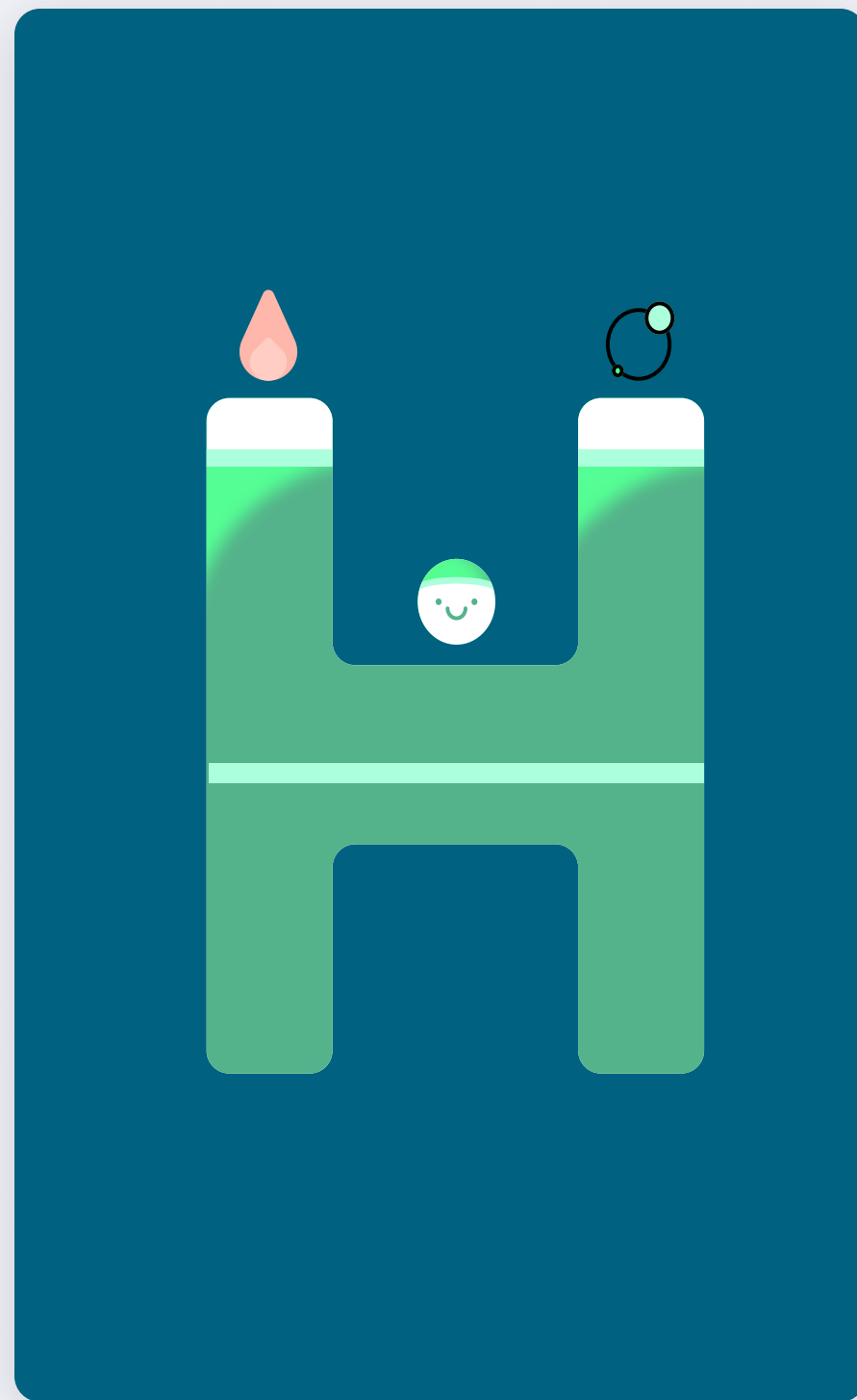
Interactions
First Draft

These are the initial renderings of what the iPad interactive pieces will be like visually. All of the interactions in the group will be combined in the end to create the entire alphabet in one application.
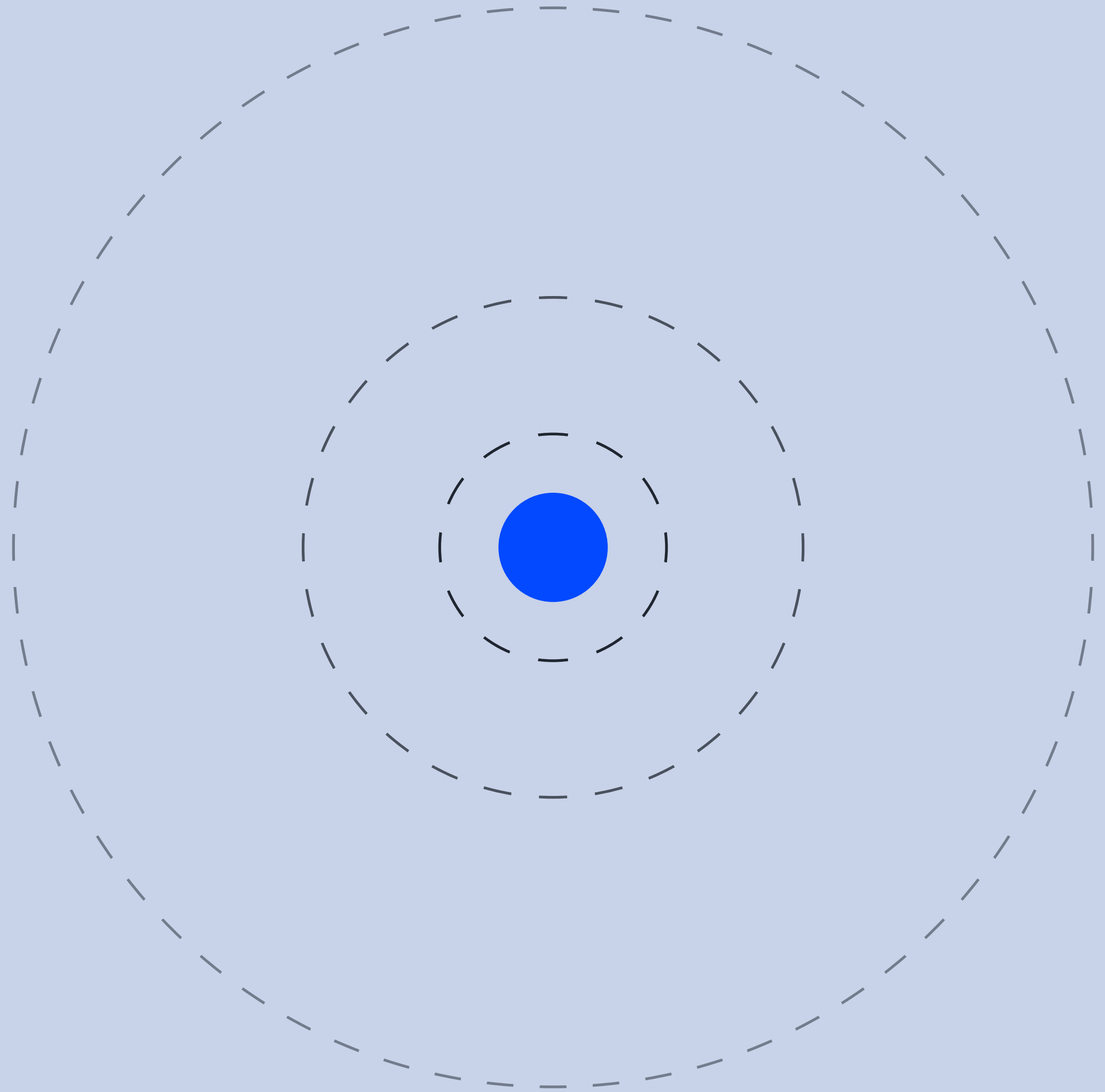
iPad Navigation
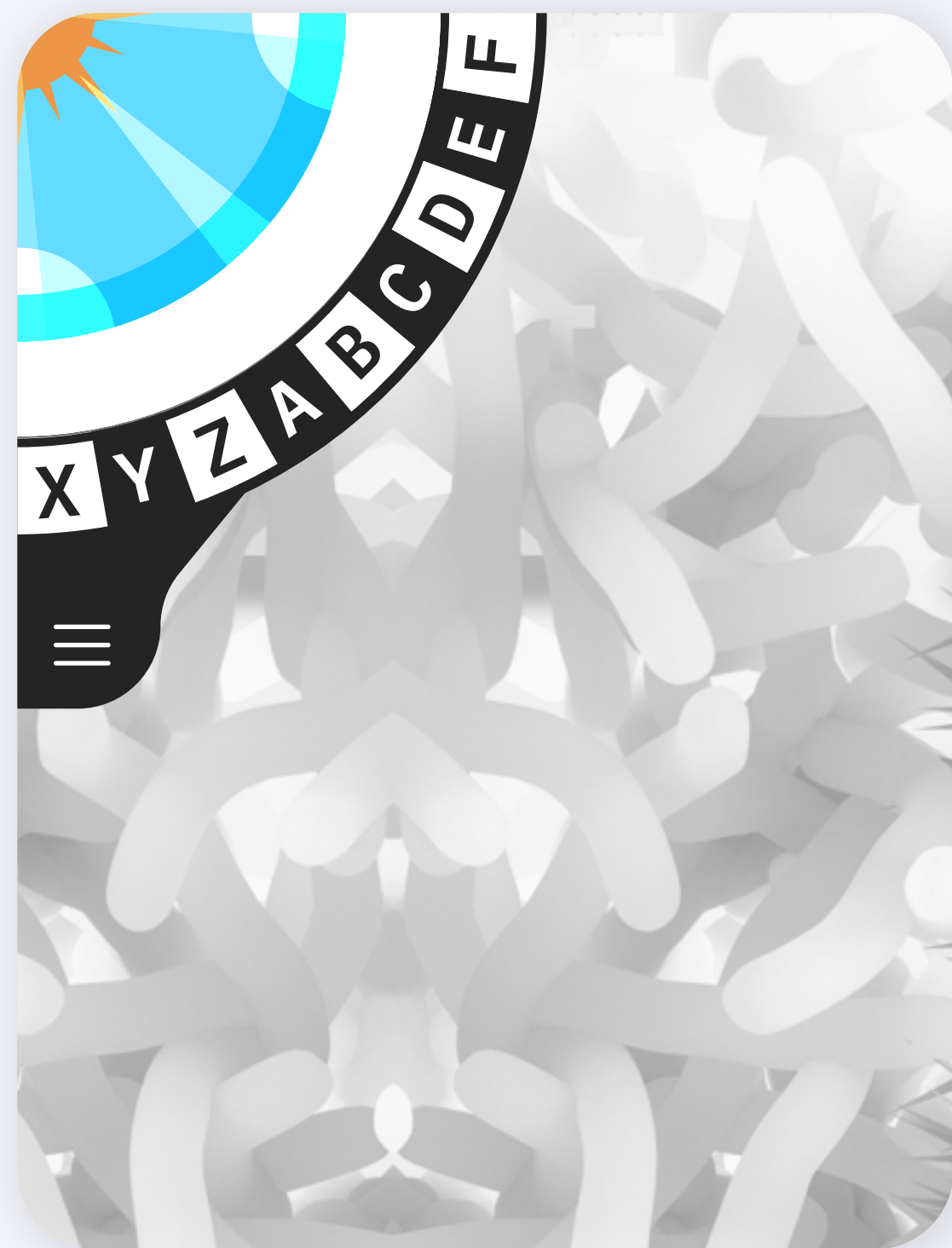
Untoggled

The menu is hidden initially but can be dragged down to open it up. This will live in the top left corner of the screen.
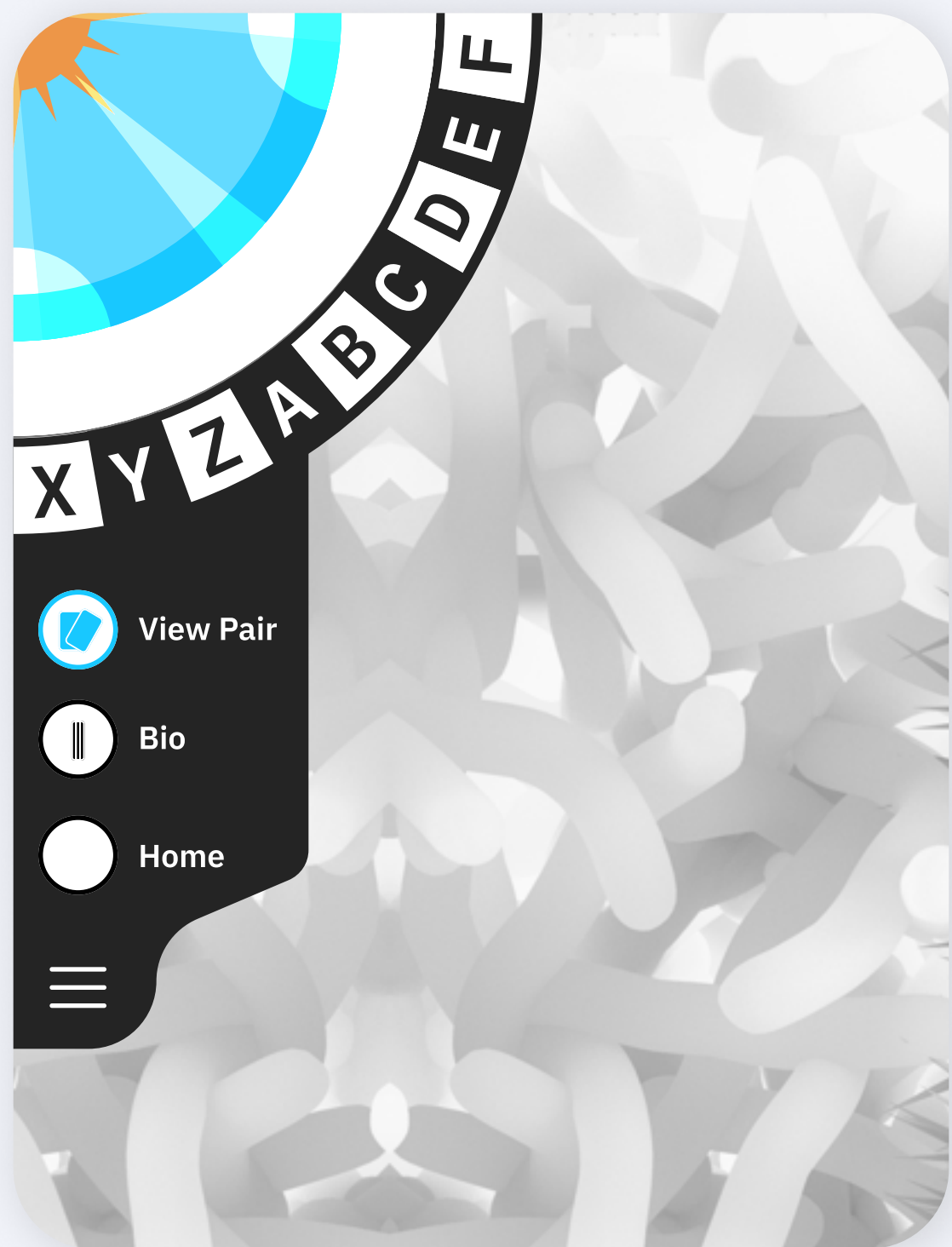
Toggled

The toggled menu displays the different navigation items.
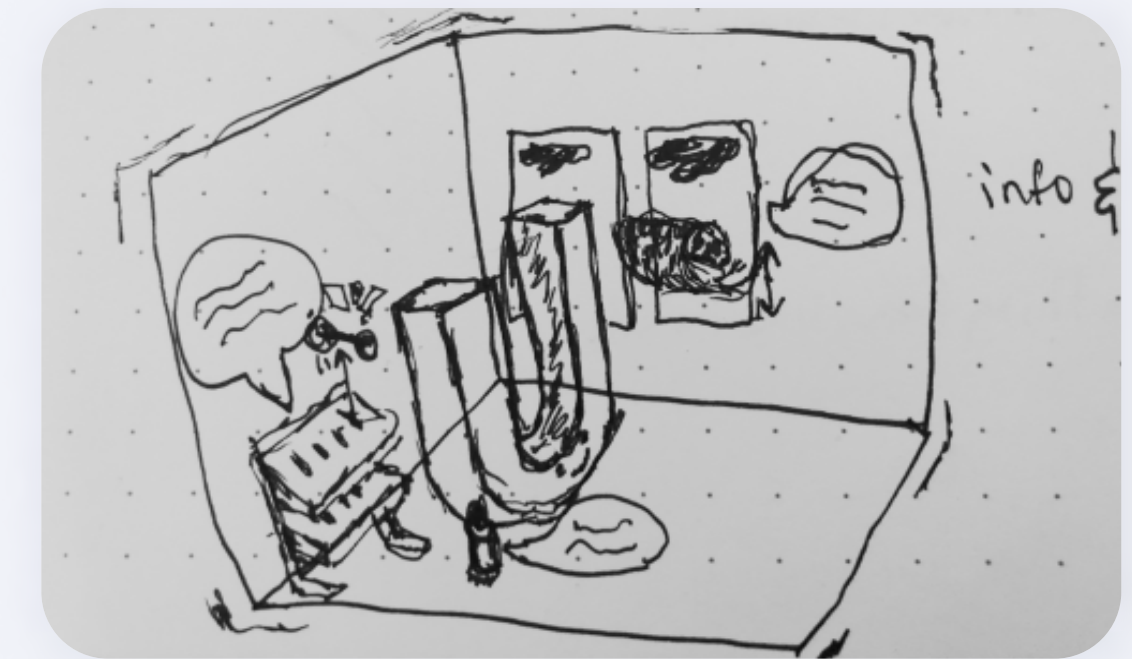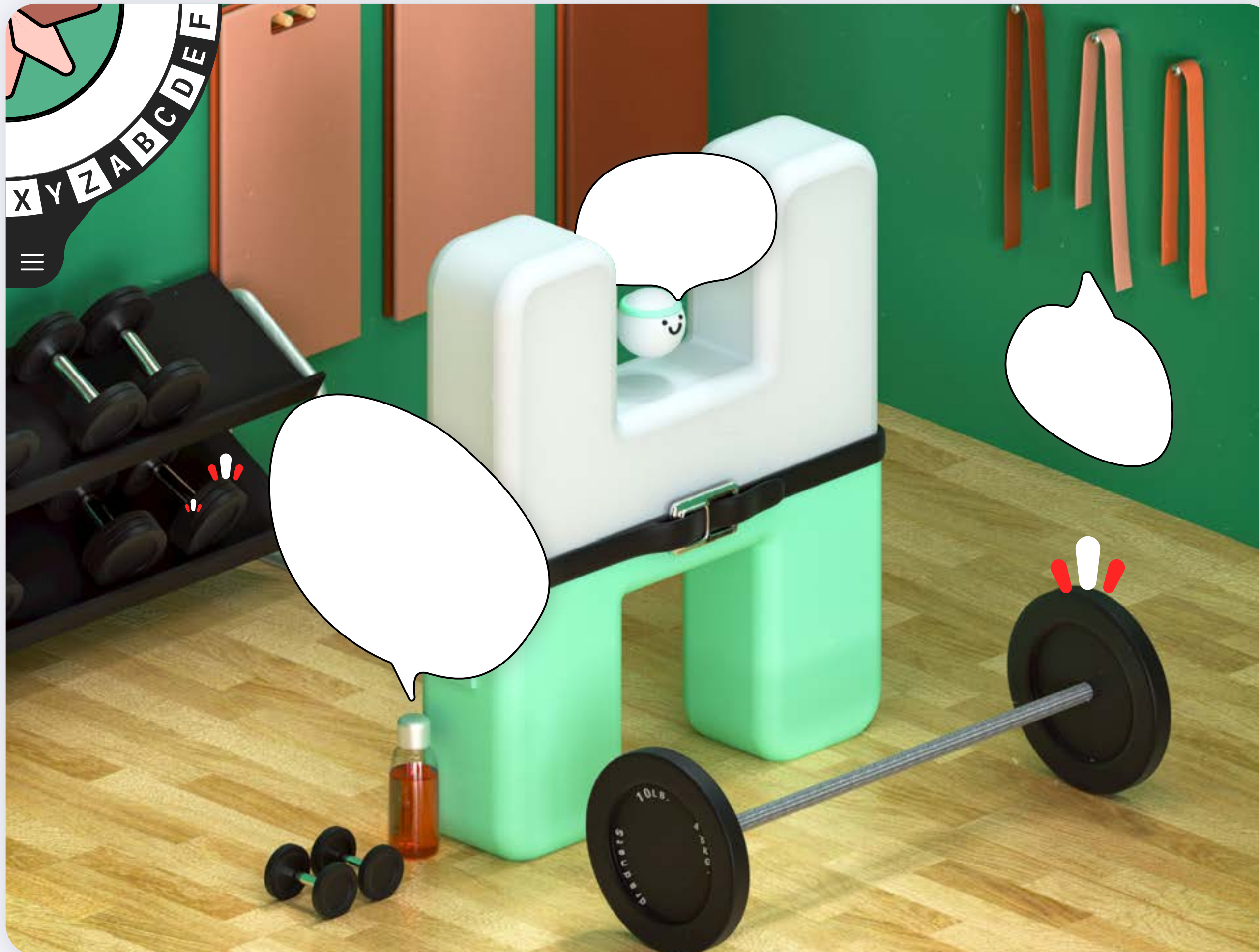
Comic book-esque scene explorer

Little attention markers are placed around the scene and users can tap them to learn a bit about it. Each point of interest will do a little animation and pop up an information bubble.

Port hole view port

This interaction users can only see through the circle that they can move around the image discovering the entire creature. There may also be facts hidden within it.
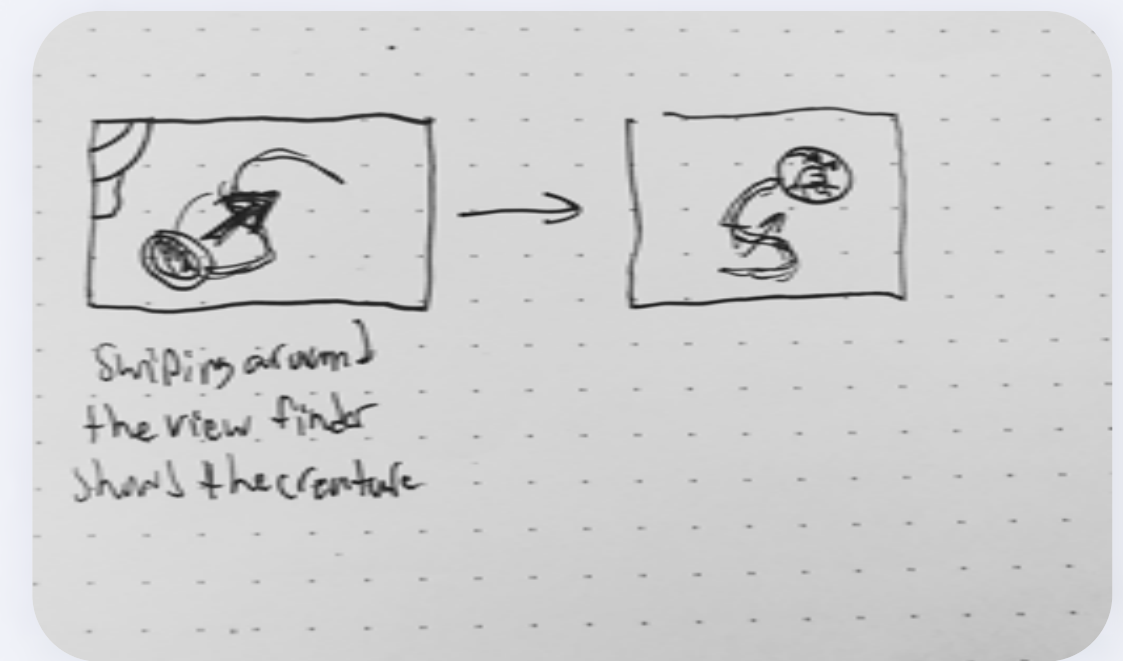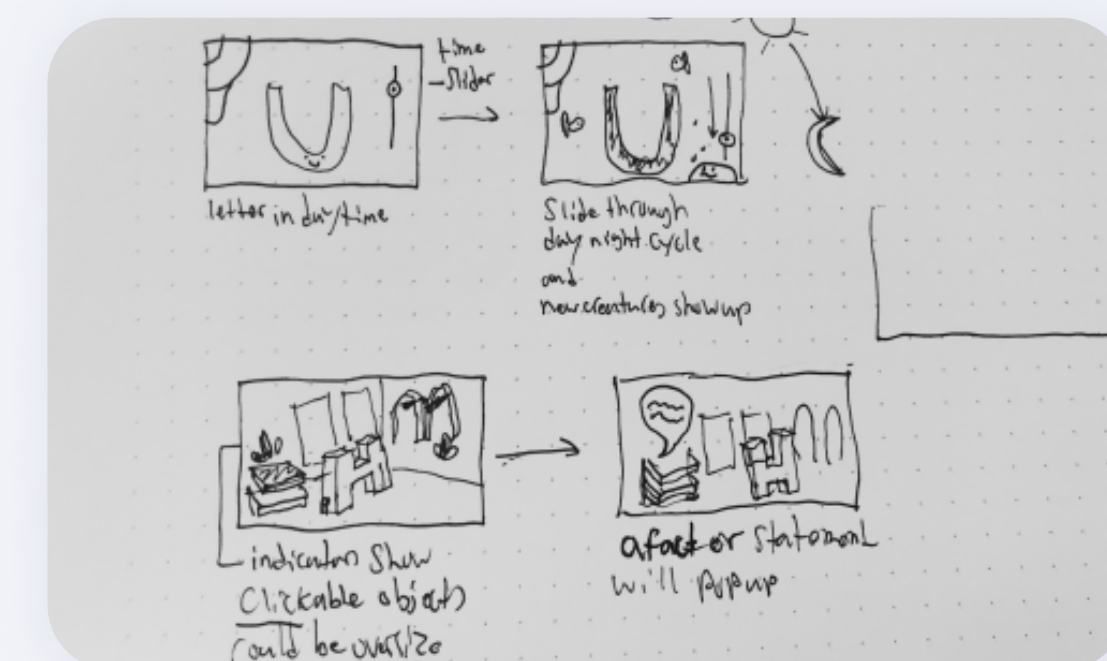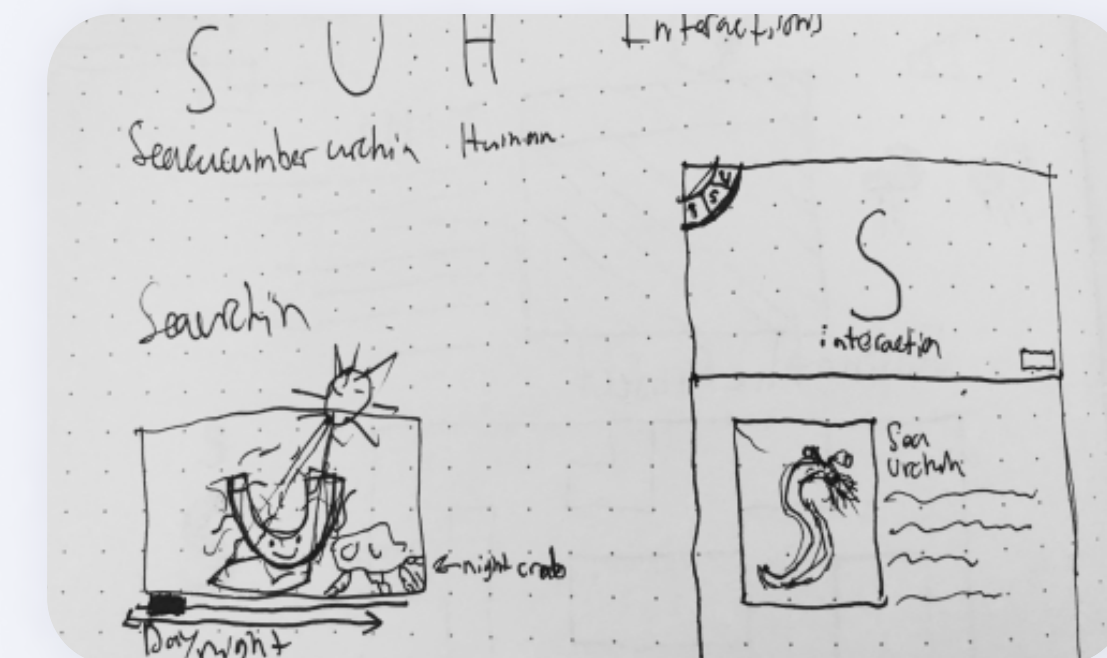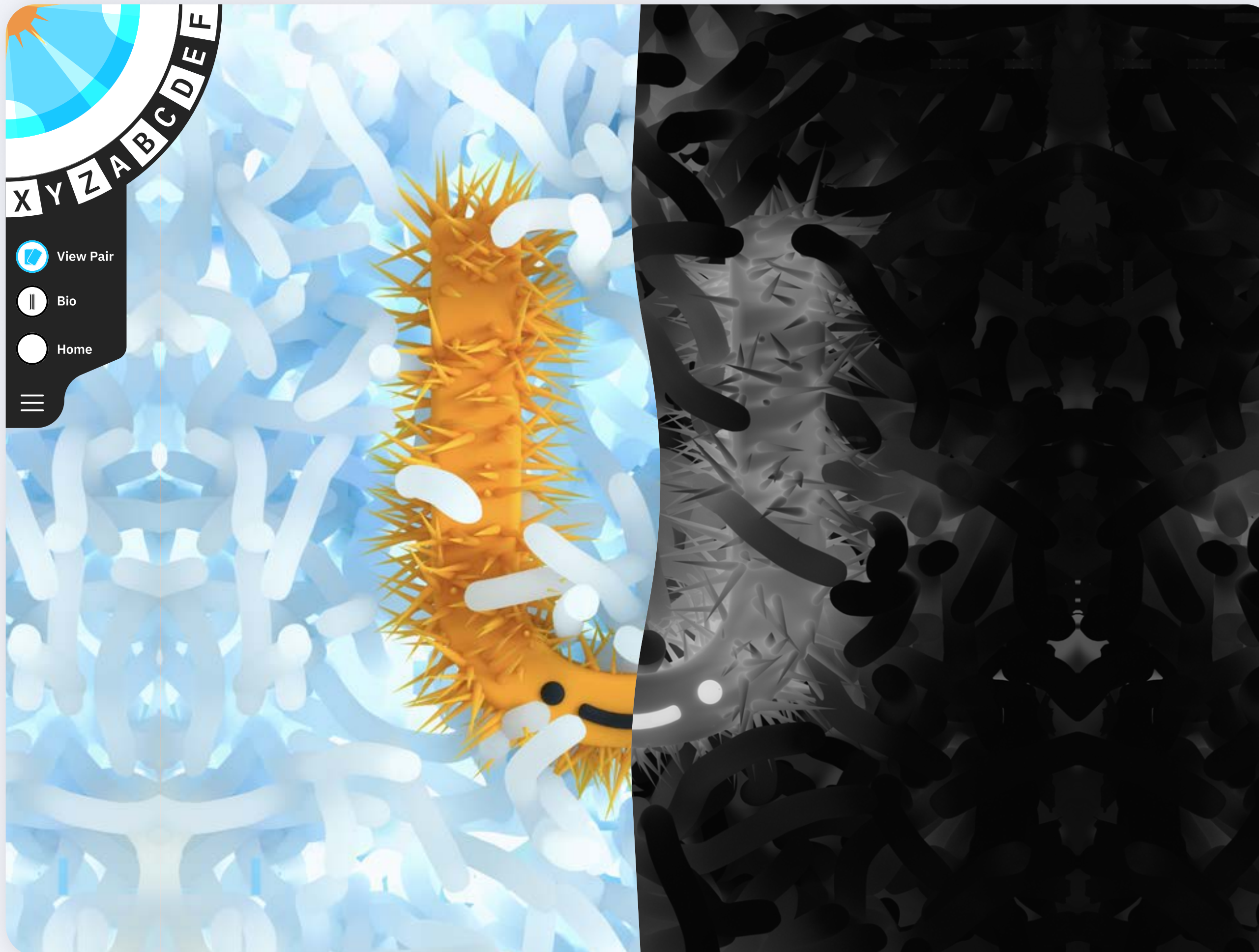
Day and night animation on swipe

The user can swipe on the screen to play through a day and night cycle on the sea urchin. The day version will look like the card and at night different creatures will ap pear
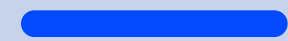
How Its Made

Process and Software
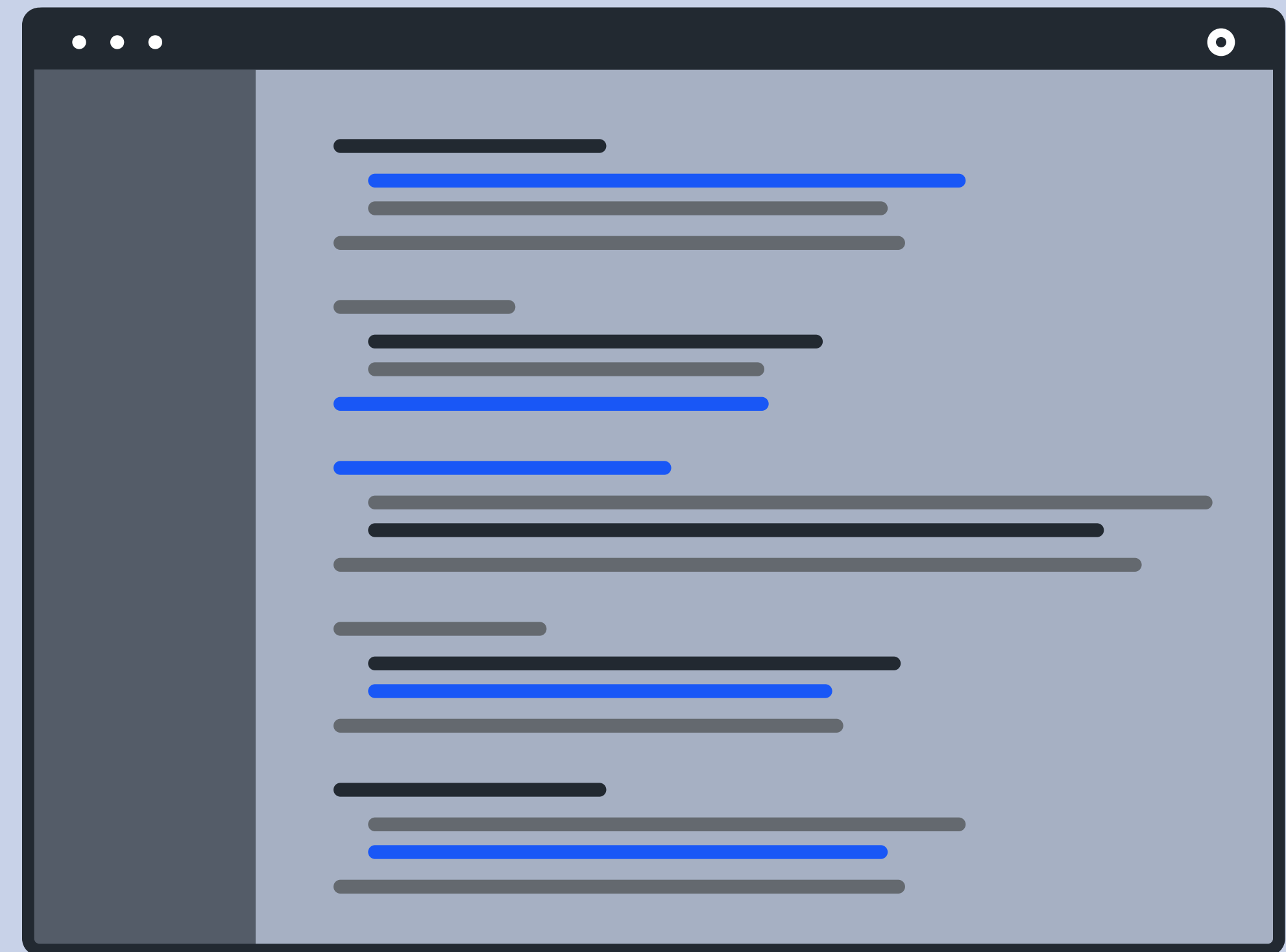
Cinema 4D
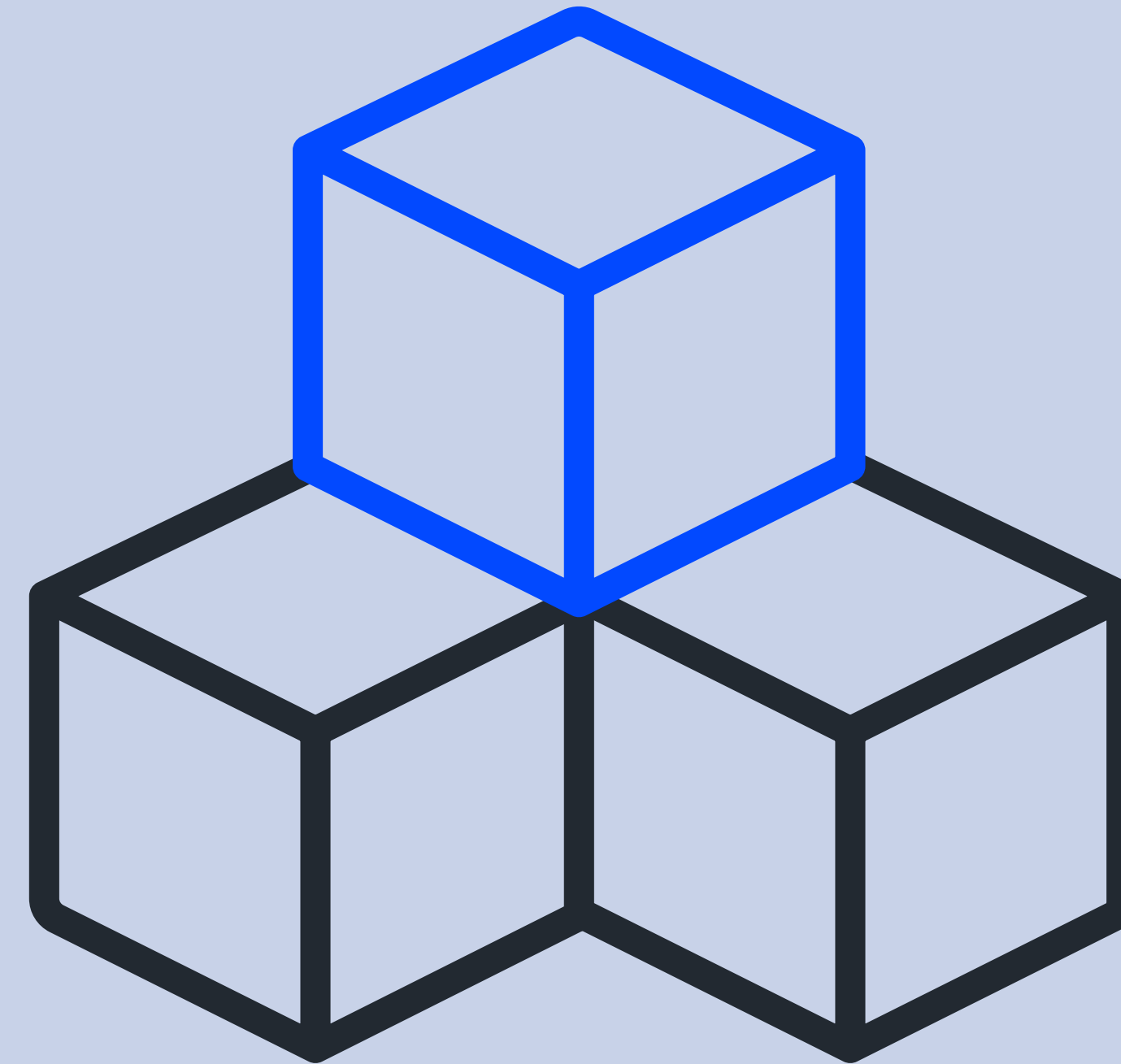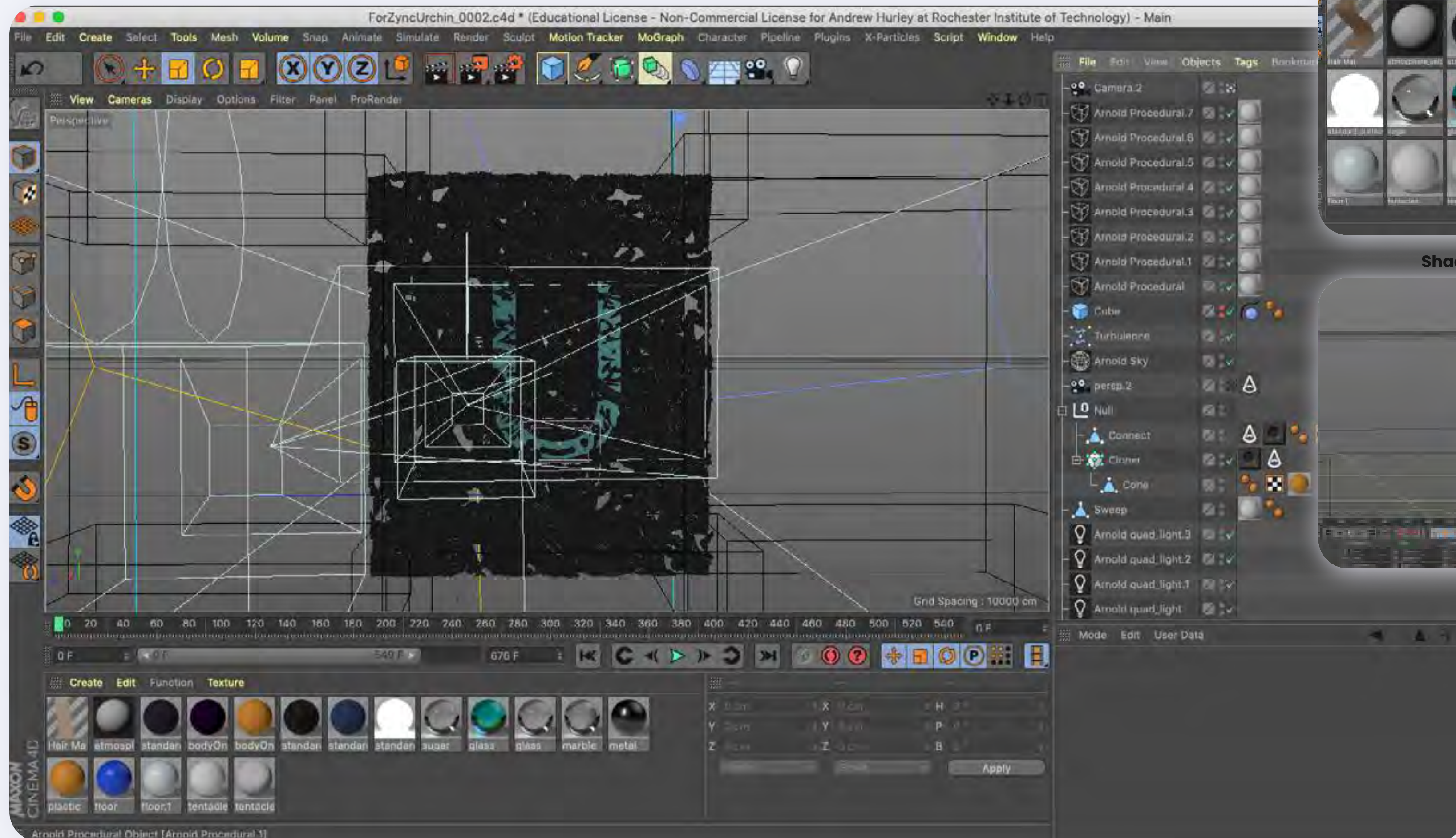
Materials I created for this and other versions of the urchin

Shader network and render view

Cinema 4D

This program was used the most. Since every character was 3D I got to spend a lot of time here. As freeing as this program is its main drawback was the render times for the images. It was tough to make animations in Cinema 4D so I used After Effects instead to face some of the movement in the scenes.

Lightroom and Photoshop

Creating the background

Masking out different parts of the urchin
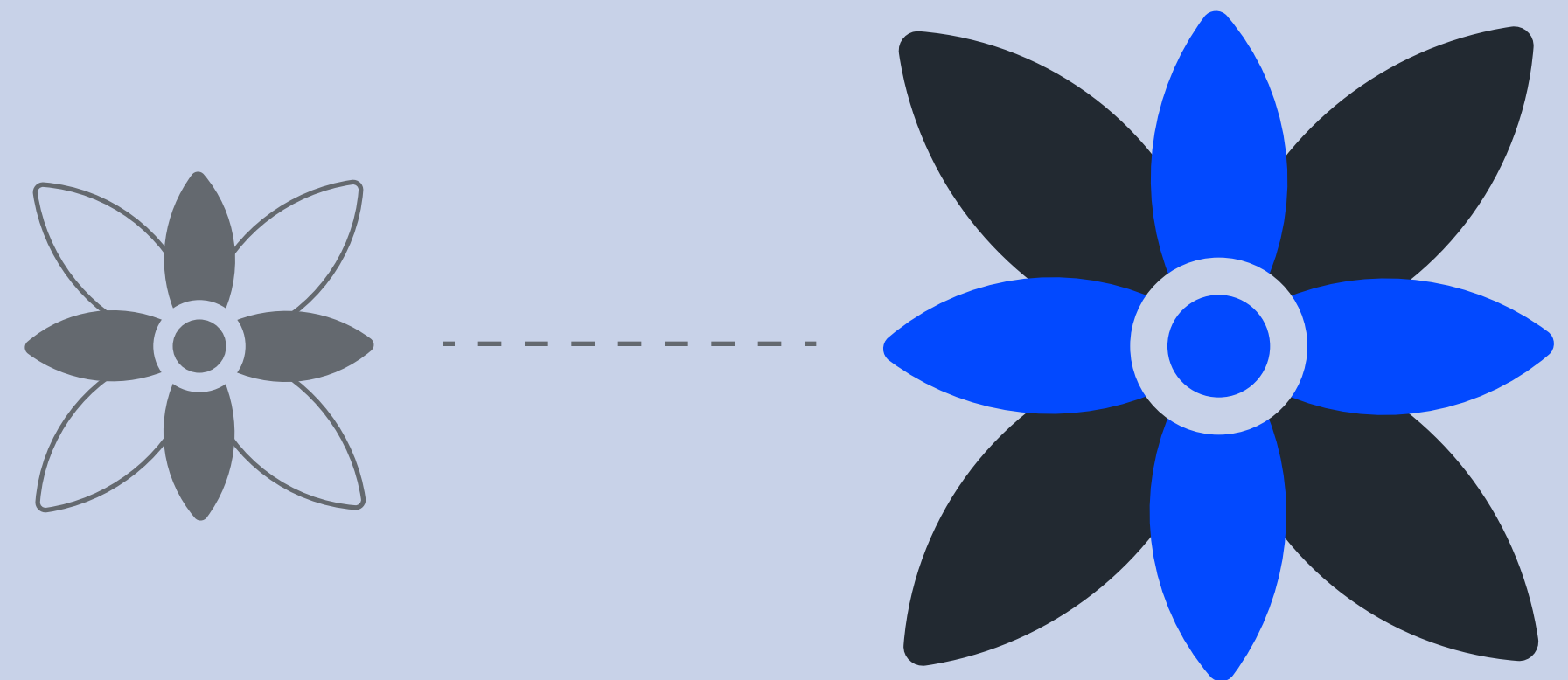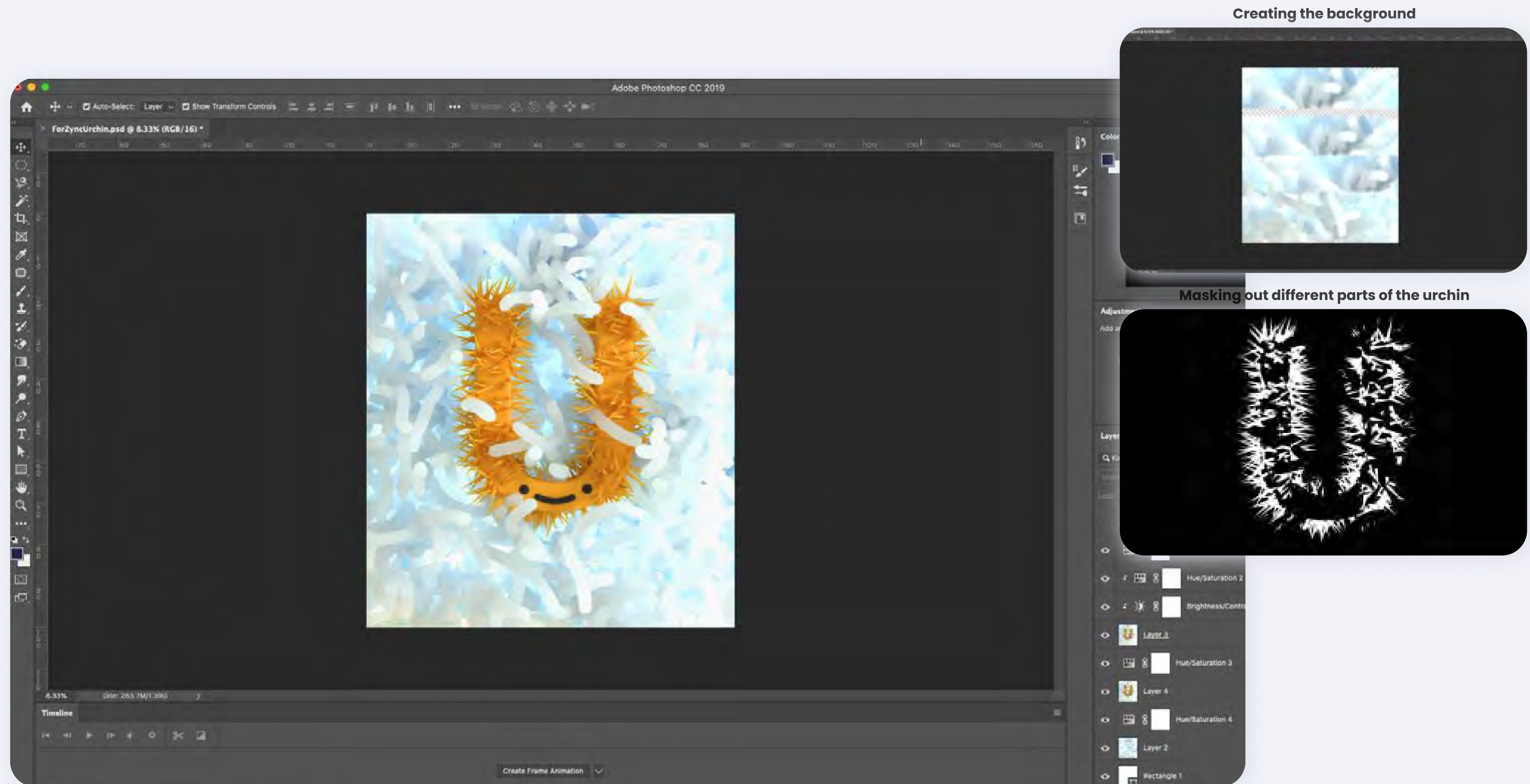
Photoshop

I rendered out different passes of the characters including **beauty passes** and **alpha layers** to make working in Photoshop easier. I could use the alphas to select and edit only specific objects in the scene. I also had to find a way to fill in the background as I could only render so much of it. I ended up using pieces of the anemone and blurring it to make it look like it belongs.
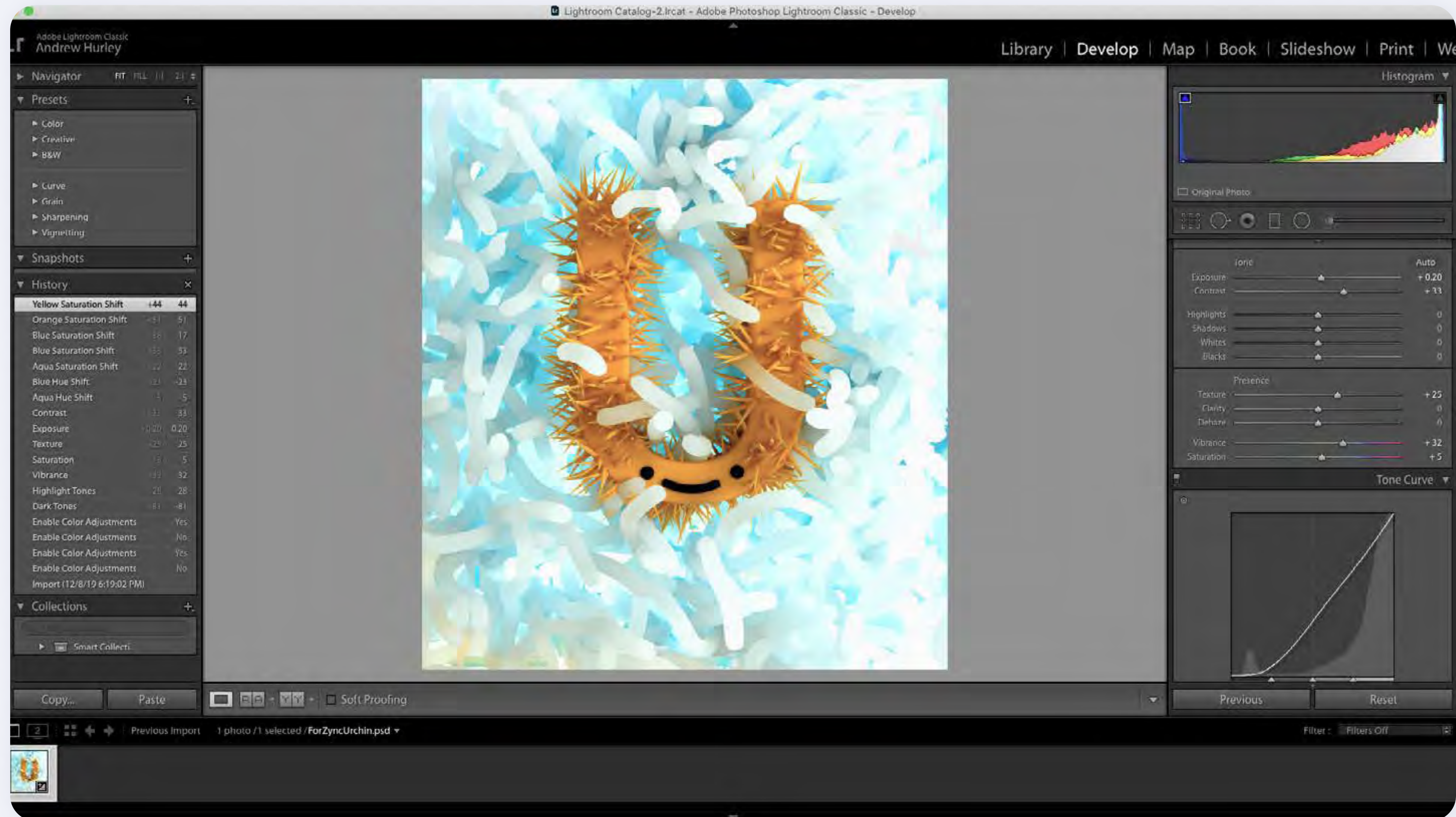
Lightroom

Light room was the last step in the process, other then inDesign where I used the template I created to generate the final asset for printing. In Lightroom I put the finishing **color corrections** onto the illustration.

Principle

On Tap

Example of all the interactions in the prototype
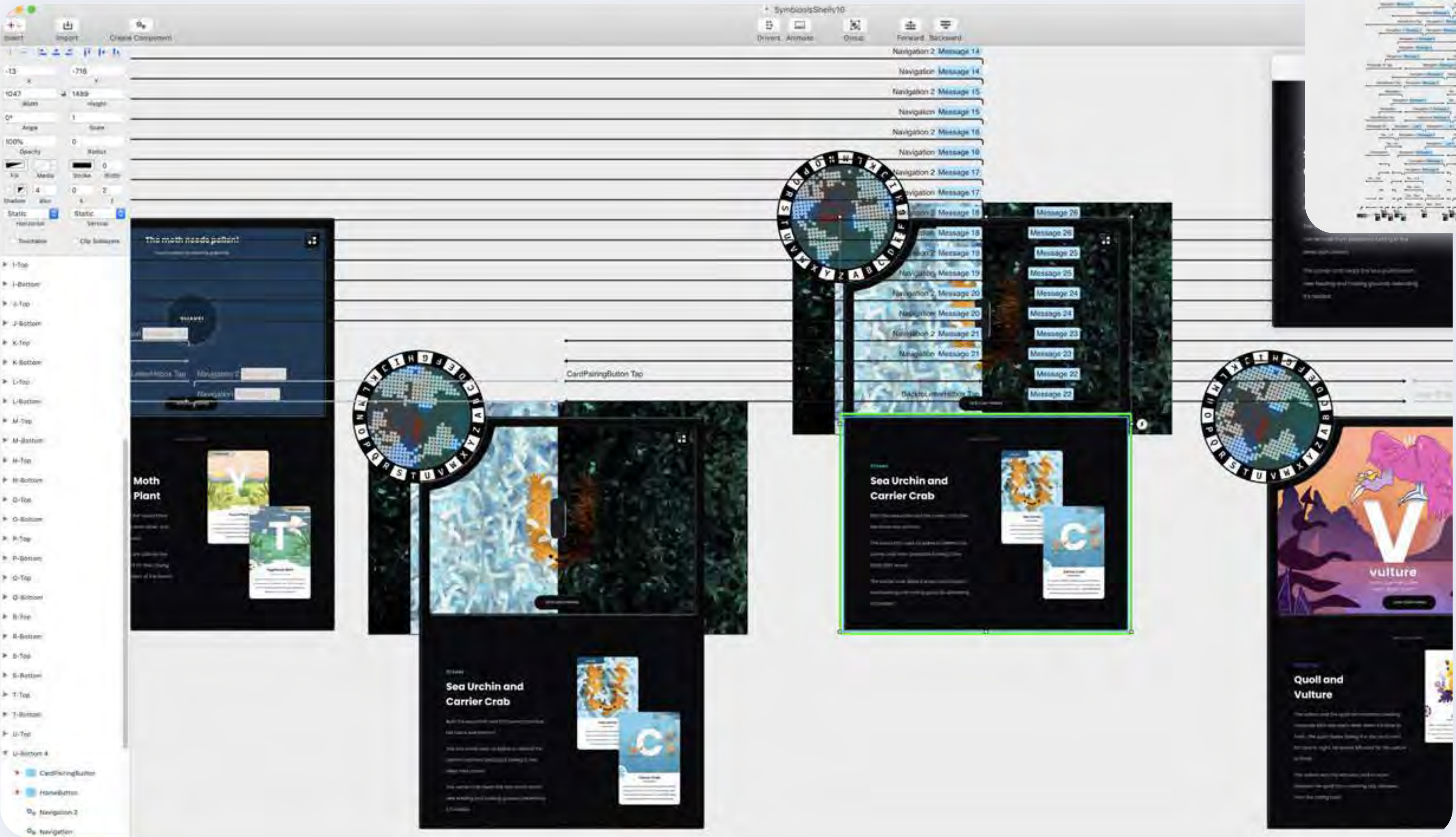
Principle App

We used Principle to create each of our interactions and used it to combine them all into one final app that users can play with and interact with each letter in the alphabet.

Workshop
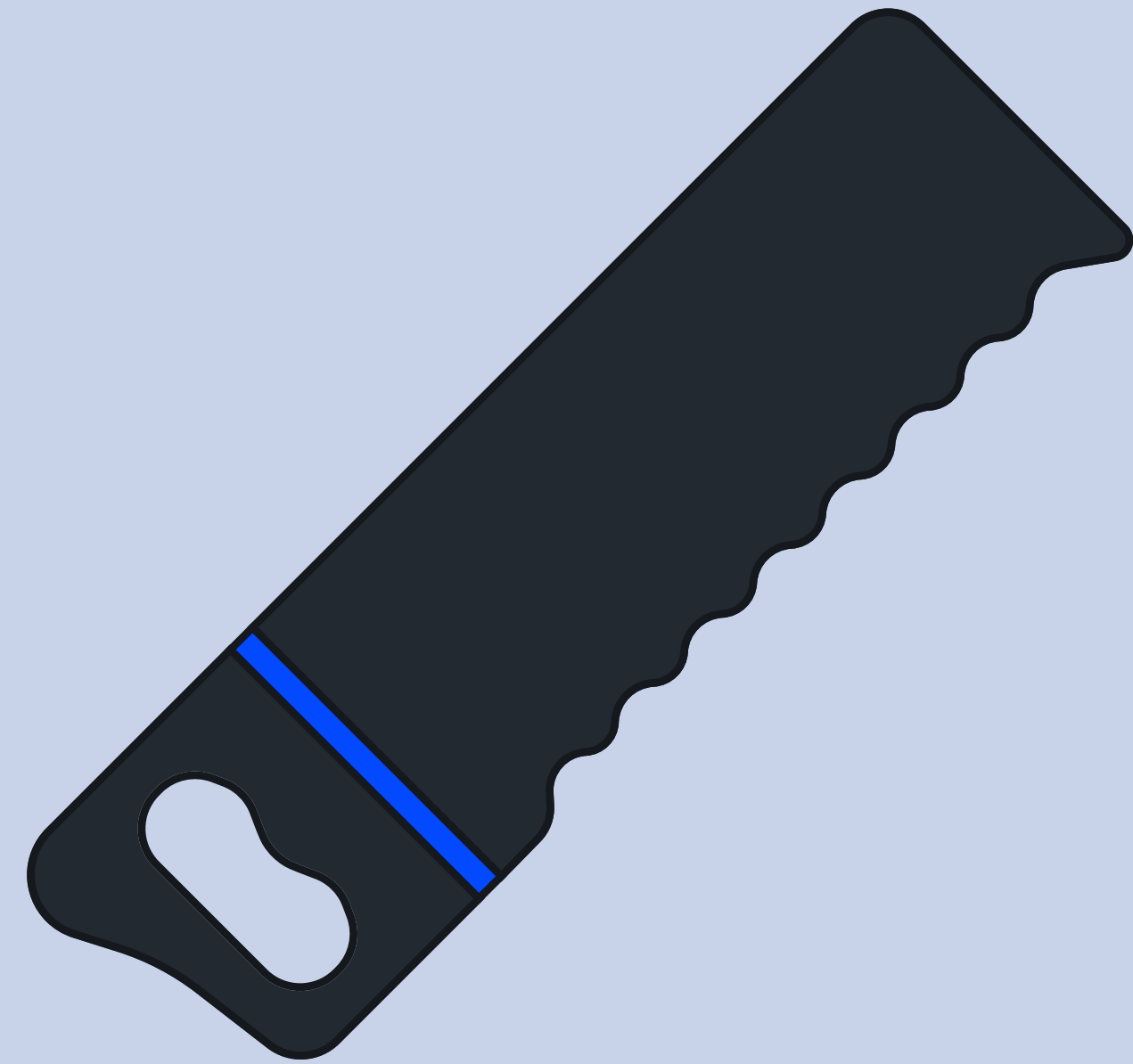
A cleaned workshop

Example of some of my work

Some of the tools I use such as the lathe

Workshop

This is just some imagery of the shop and some work I have created in it. I usually work on things when I go home for break . I thought I would use my skills to take this project to the next level by creating a **carrying box** for the deck.

Deck Box

I built this box to help **house** and **showcase** the final and full symbiosis card deck. It is meant to tie together the entire project and make it feel like a real product that is more then just an assignment. It was built in my workshop back home over one of our school breaks using **bamboo** for the sides and **leopardwood** for the lid with **hard maple** for the lid bracing.

Interaction Shell

252px

296px

iPad and Principle
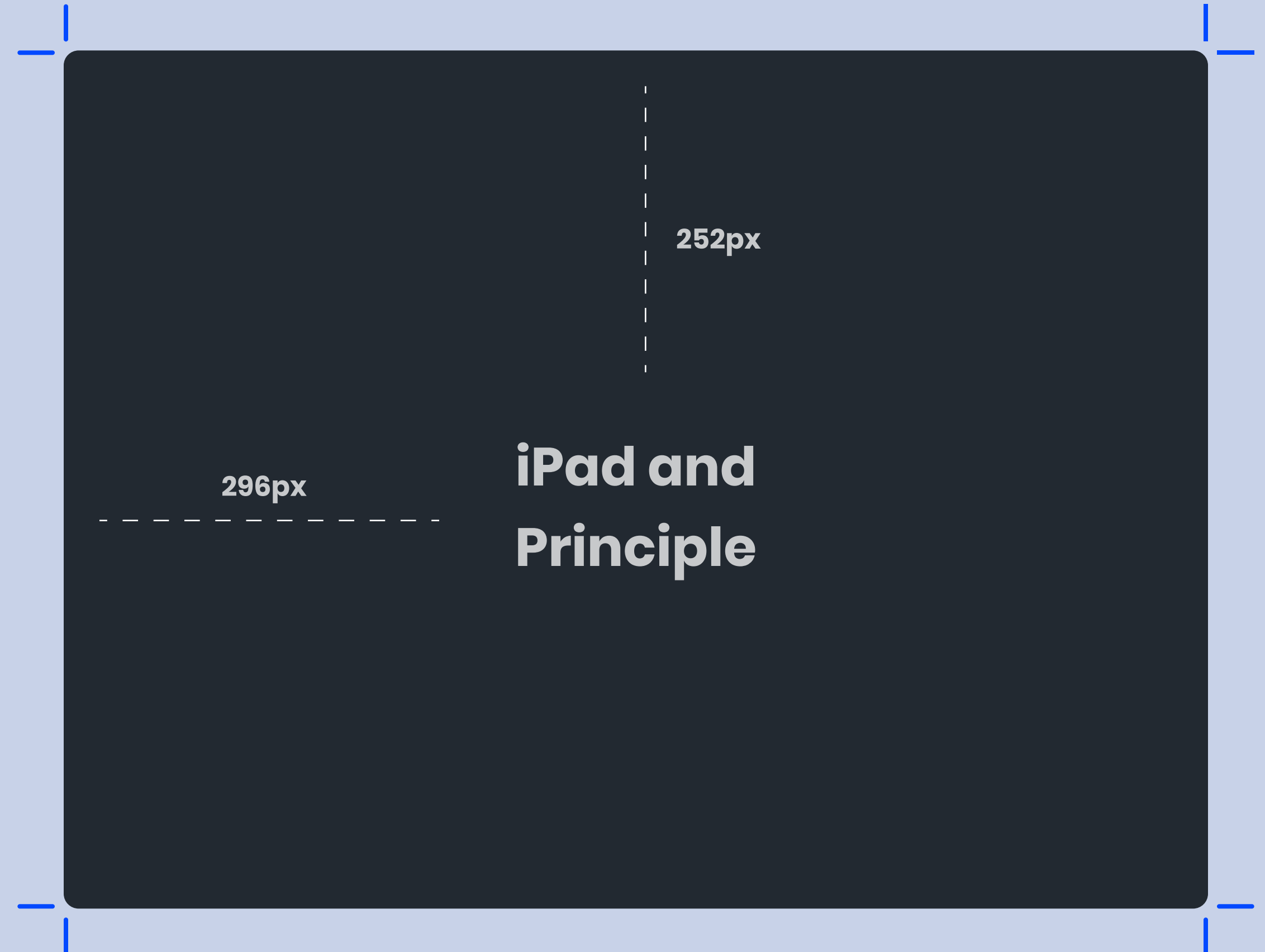
The Shell

What is the Shell?

The shell is what houses the **combination** of everyones interaction for each letter. It also includes the **UI** that bring it all together. Such as the main menu and **universal navigation** that gets the user from one place to another. I worked on the shell and decided to render out a **plastic frame** as if it was a physical children's toy and use a spinner for the main navigation of each letter in the alphabet.
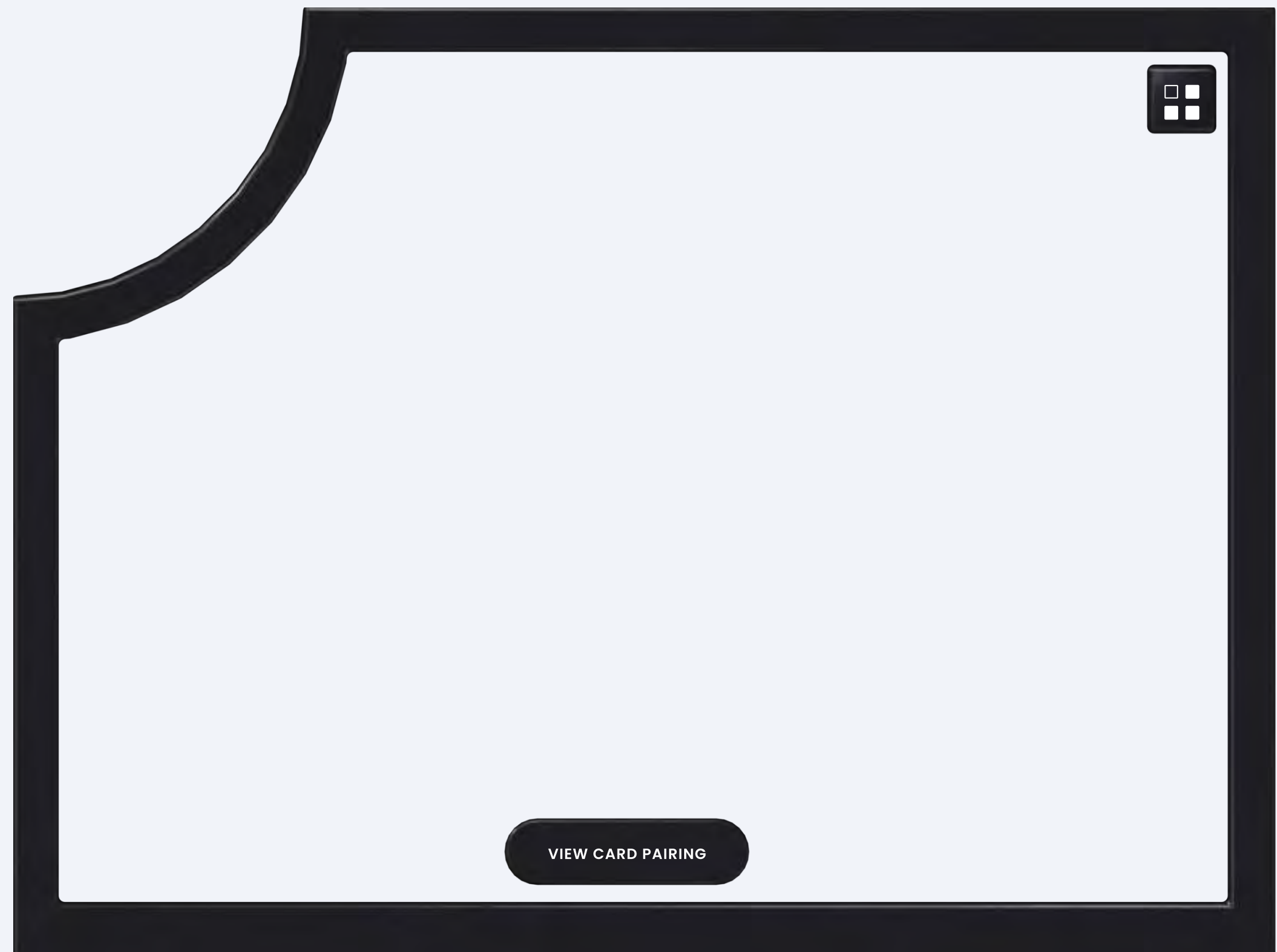
Final Navigation Pieces

This UI is meant to live ontop of each persons interaction, acting as a universal shell and navigation. I rendered the black frame as plastic in Cinema 4D to give the device interface a physical feel to it. The navigation is a wheel instead of a linear style nav and adds some fun interaction to the piece.
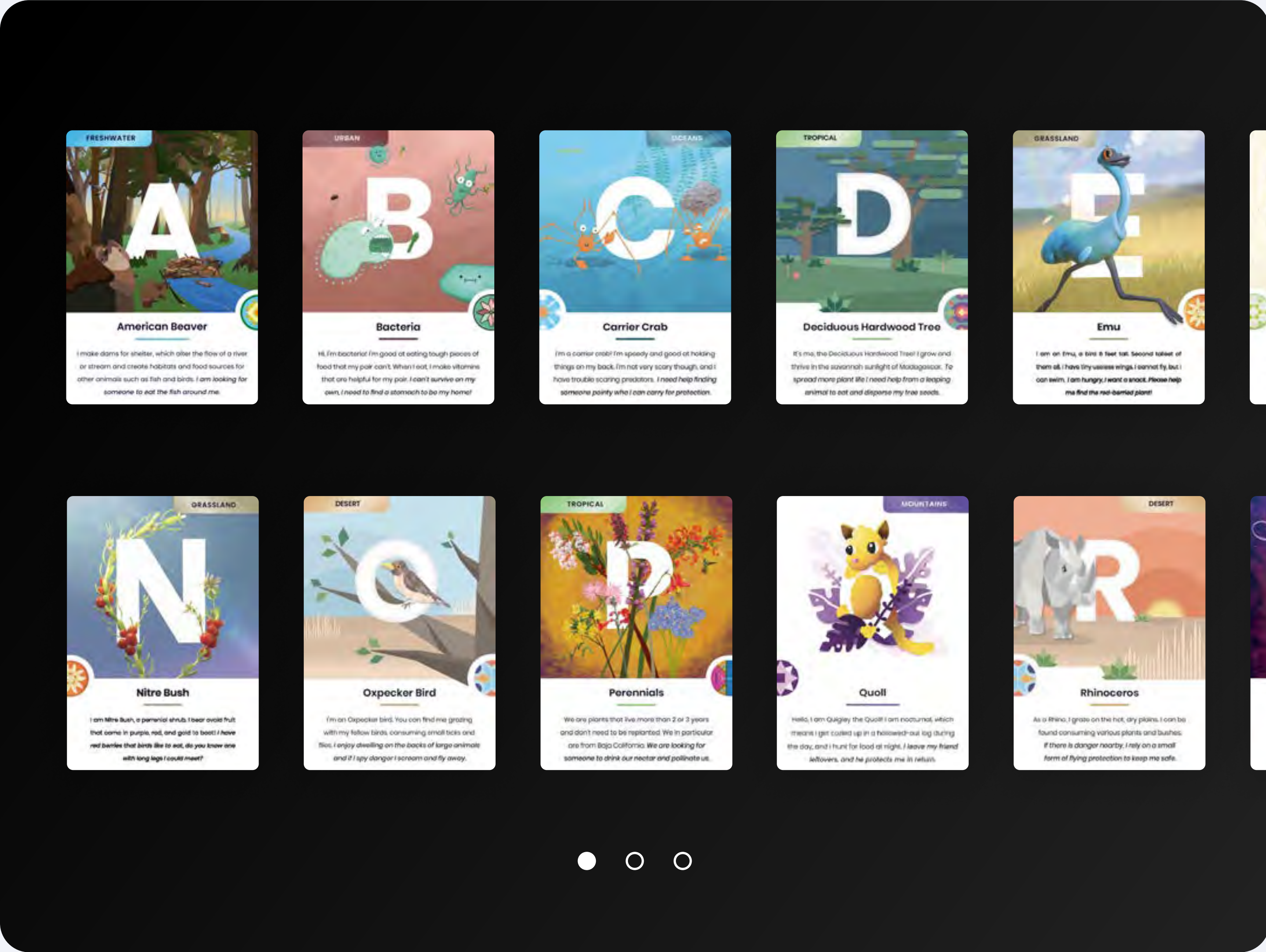
Main Menu

The main menu contains every card in the alphabet and consequently each members artwork and interaction. I had the opportunity to create this in Principle App and plugged in everyones interaction to each card so users can tap between them.
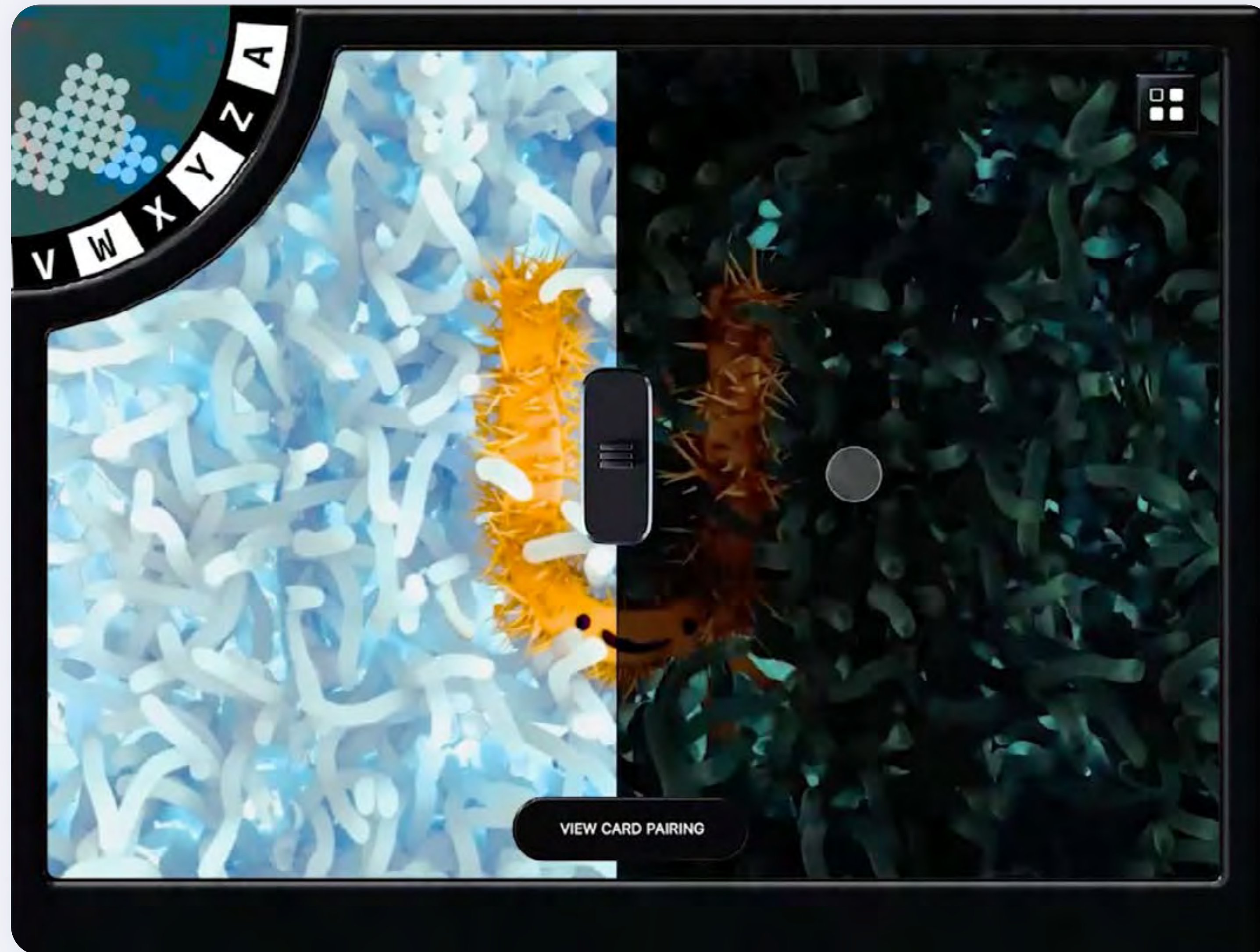
Sea Urchin Interaction

This interaction is kind of like a day night cycle, expect rendering out a day night cycle proved a tough task. Instead I used displacement maps in After Effects to create water ripples and seperate light and dark renderings for day and night. Using the interaction to drive the day night cycle.

TROPICAL

Microhylid Frog and Giant Tarantula

The giant tarantula makes its home in tropical habitats, and is a fierce predator that is very protective of their babies.

The microhylid works well with the spider. The spider provides protection, and the frog eats pests that may eat the spiders babies!

VIEW MICROHYLID

OCEANS

Sea Urchin

Sea Urchin here! I drift around th... with my spikes looking for food. ... survive I need help from a cree... of the deep blue to transpo...

URBAN

Human

Hi! I am a human just like you. I like working out to keep myself in tip top shape. But I would like something teeny tiny to help keep my insides healthy!

Pairing Information

On each card you have the option to view card pairings and info which is a page that come up from the bottom of the iPad. On this page you will find extended information on the cards and their symbiotic pair.
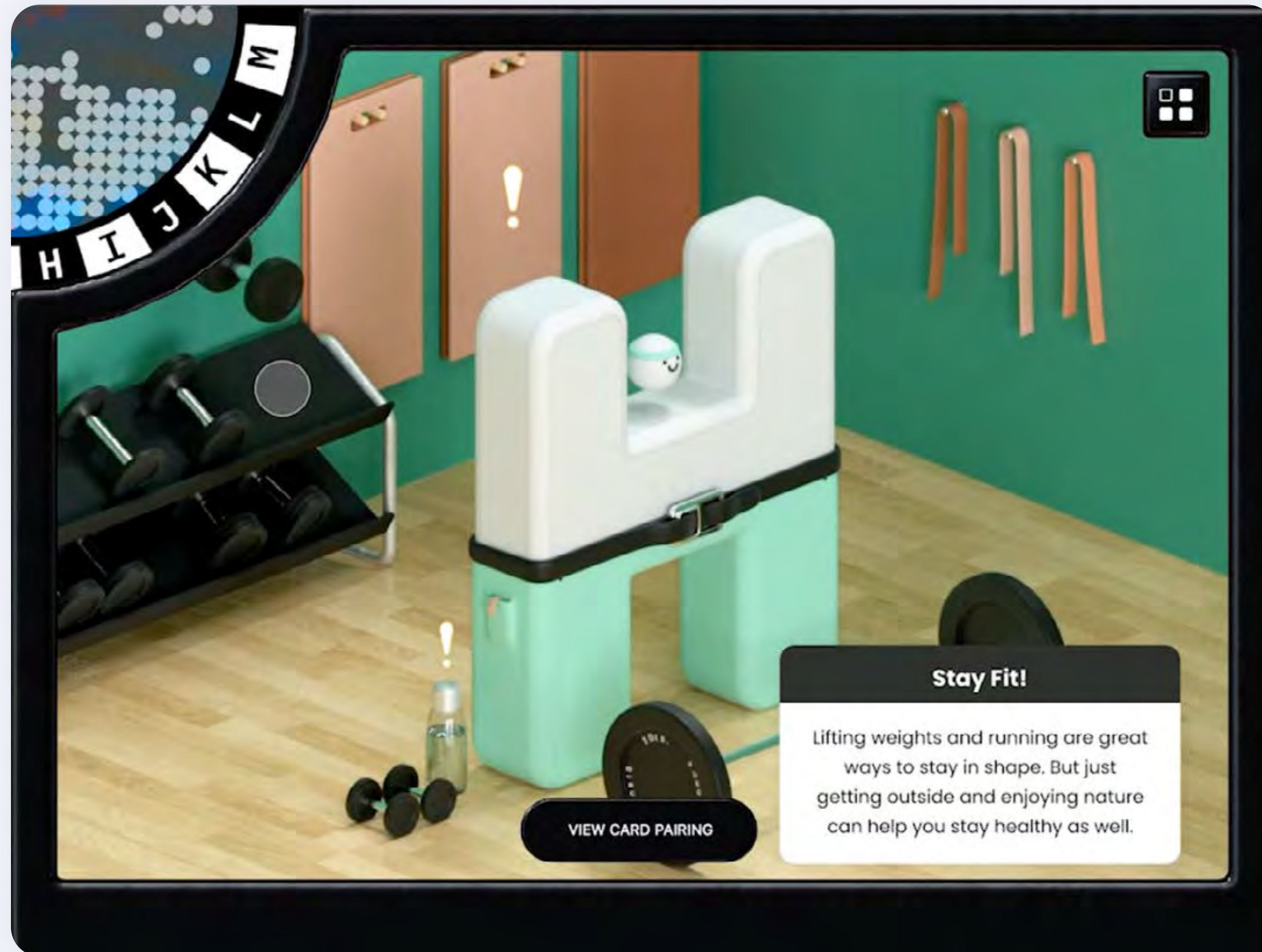
Human Interaction

The human interaction is set in a gym where users can tap on exclamation marks to view little animations of that object. A card for each animation will pop up and display a healthy tip.
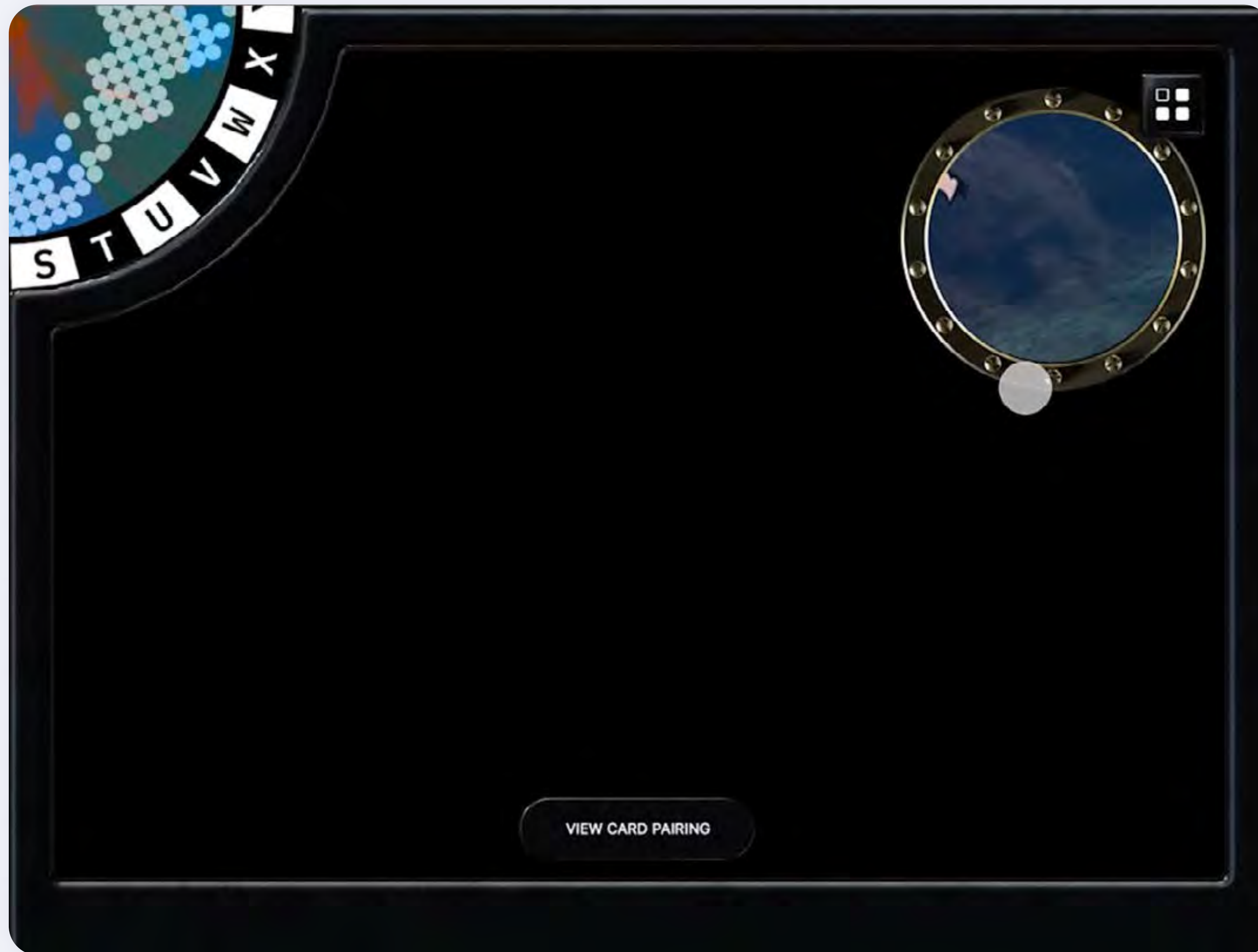
Sea Cucumber Interaction

In this interaction users can swipe around a port-hole looking UI element that lets you see different parts of the underwater cave that the sea cucumber is living in.

Finishing Touches

Final Cards

The next few slides show case the final digital and print versions of the cards. Along with an example of a card pairing.

URBAN

Human

Hi! I am a human just like you. I like working out to keep me in tip top shape. I like working out to keep me in tip top shape. *But I would like something tiny to help keep my insides healthy!*

OCEANS

Sea Urchin

Sea Urchin here! I drift around the sea floor with my spikes looking for food. *To help me survive I need help from a creepy crawler of the deep blue to transport me!*

OCEANS

Sea Cucumber

Sssss, it's me. The Sea Cucumber! Slippery, slipy deepsea creature. But don't worry I eat mainly plankton and decaying organic matter. *I act as a taxi for some royal seafood.*

Example Card Pairing

URBAN

Bacteria

Hi, I'm bacteria! I'm good at eating tough pieces of food that my pair can't. When I eat, I make vitamins that are helpful for my pair. *I can't survive on my own, I need to find a stomach to be my home!*

URBAN

Human

Hi! I am a human just like you. I like working out to keep me in tip top shape. I like working out to keep me in tip top shape. *But I would like something tiny to help keep my insides healthy!*

Human

Hi! I am a human just like you. I like working out to keep me in tip top shape. I like working out to keep me in tip top shape. *But I would like something tiny to help keep my insides healthy!*

Sea Urchin

Sea Urchin here! I drift around the sea floor with my spikes looking for food. *To help me survive I need help from a creepy crawler of the deep blue to transport me!*

Sea Cucumber

Sssss, it's me. The Sea Cucumber! Slippery, slipy deepsea creature. But don't worry I eat mainly plankton and decaying organic matter. *I act as a taxi for some royal seafood.*

Thanks!