DIVR

An immersive underwater VR mobile app

MFA Final Thesis Proposal | November 30, 2018

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Academy of Art University | Graduate School of Web Design & New Media

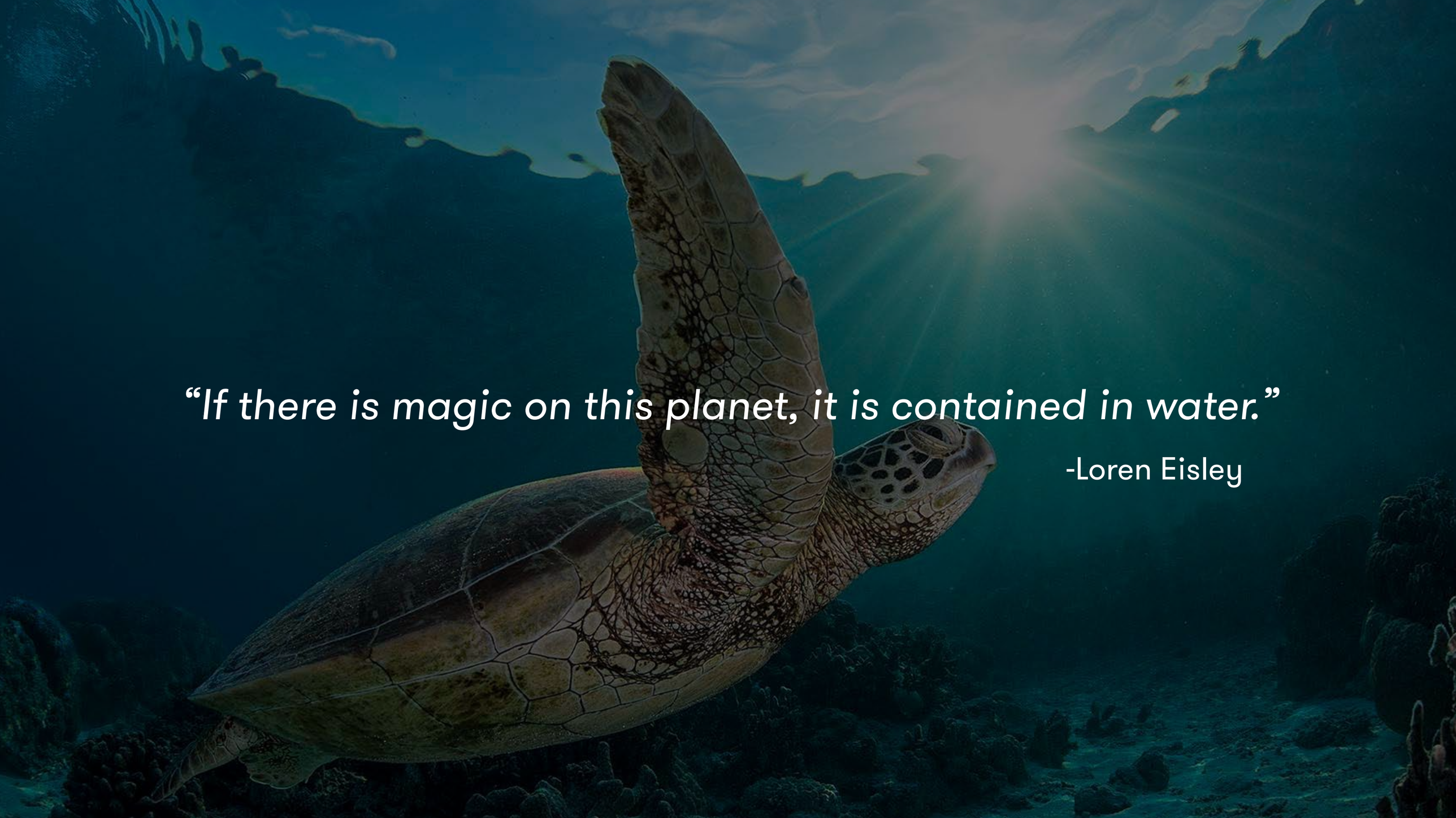

“If there is magic on this planet, it is contained in water.”
-Loren Eisley

TABLE OF CONTENTS

ABOUT ME

I was born and raised in the Philippines. I'm the eldest out of four children, I have one sister and two brothers.

Following my parents' footsteps, I wanted to become a doctor up until I failed one Math class and decided that I should get into something else aside from medicine. I shifted from a pre-med major and went into Interdisciplinary Studies, focusing on Communications and Computer Science. It was shifting out of the pre-med major that made me realize that I wanted to work with computers instead.

After graduating from college, I worked in an advertising agency in the Philippines that specialized in digital media. I started making wireframes and coding websites. It was also in this advertising agency that I realized I wanted to get into the tech and development side of advertising.

After working for 2.5 years in that agency, I realized that I had to step up my game if I wanted to climb the ladder in the tech world, and that's when I decided to pursue an MFA degree from Academy of Art University. I wanted to explore all the new tech that everyone is learning and not just stick to one thing.

RESUME

WORK EXPERIENCE

Creative Technologist & Project Manager

Tribal Worldwide, DDB Group - Manila, Philippines Jan 2013 - Jun 2015

As a Creative Technologist:

- Created low-fidelity and high-fidelity wireframes
- Responsible for the UX/UI, sitemap, userflow, and taskflow of a website
- Handled website edits through a CMS
- Attended brainstorming meetings for new campaigns or activations
- Created simple prototypes through rapid-prototyping
- Participated in the pitches

As a Project Manager:

- Responsible for starting a project, up until the turnover to the client
- Assembled teams to create websites for clients, created timelines, and budgets for projects of a website
- Assigned job orders to dev/tech teammates
- Conducted A/B testing
- Handled website maintence
- Lead and participated in the scrum process
- Attended briefings for projects

EDUCATION

Academy of Art University, San Francisco, CA Sept 2015 - Dec 2018

Master of Fine Arts, Web Design & New Media

Ateneo de Manila University, Philippines Jun 2008 - Mar 2012

Bachelor of Arts, Interdisciplinary Studies

Communications & Computer Science tracks

SKILLS

Design

- Wireframing
- Rapid-prototyping
- Interaction design
- Visual design
- UX/UI design

Software

- Adobe Creative Suite
- Unity, Unreal Engine
- Sketch, Omnigraffle, UXPin, InVision
- Sitefinity, Concrete5, Wordpress
- Microsoft Office

Development

- HTML, CSS
- JavaScript, jQuery
- PHP, JSON
- C#

Soft Skills

- Project Management
- Digital marketing, SEO
- Client management
- Social media

PORTFOLIO

Super Mario Odyssey Inspired Game

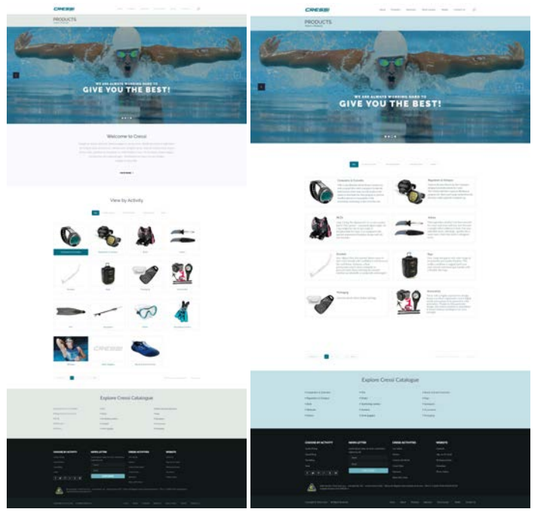
Created with Unity
Final group project for GAM655

The game mechanics is similar to Super Mario Odyssey. Group project, I created the first level.

Norman Rockwell VR Experience

Created with Unity
Group project for WNM498

Collaborative project with other majors. I created some of the scripts and handled the interaction design.

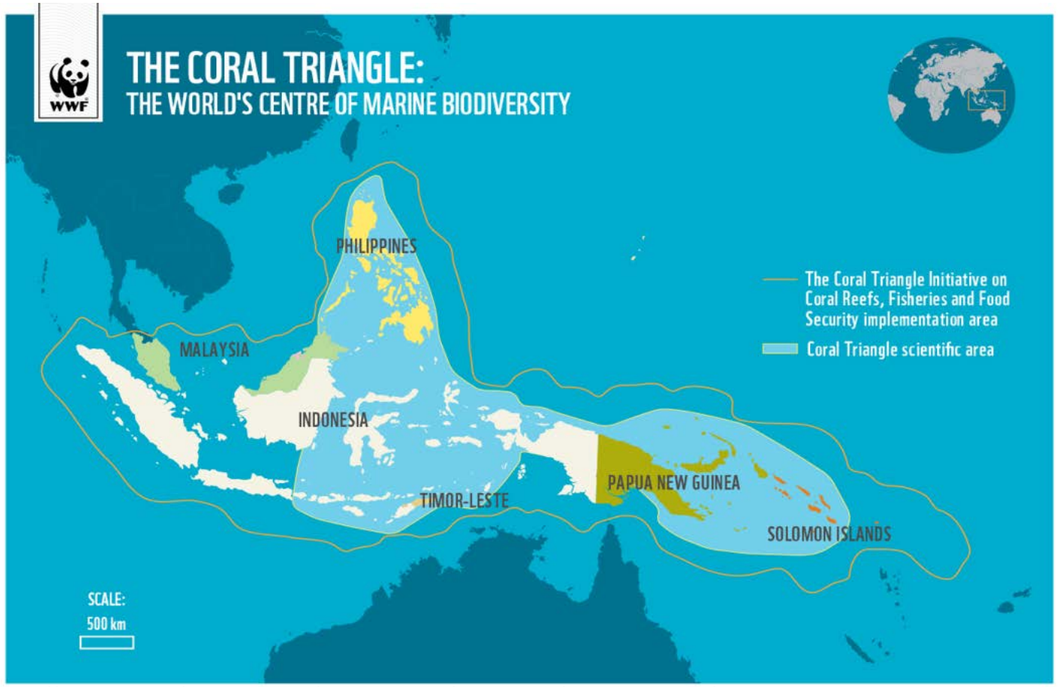


Cressi Website Redesign

Created with Photoshop
Assignment for WNM605

we had to redesign a website of our choice for Typography class.

STATEMENT OF INTEREST

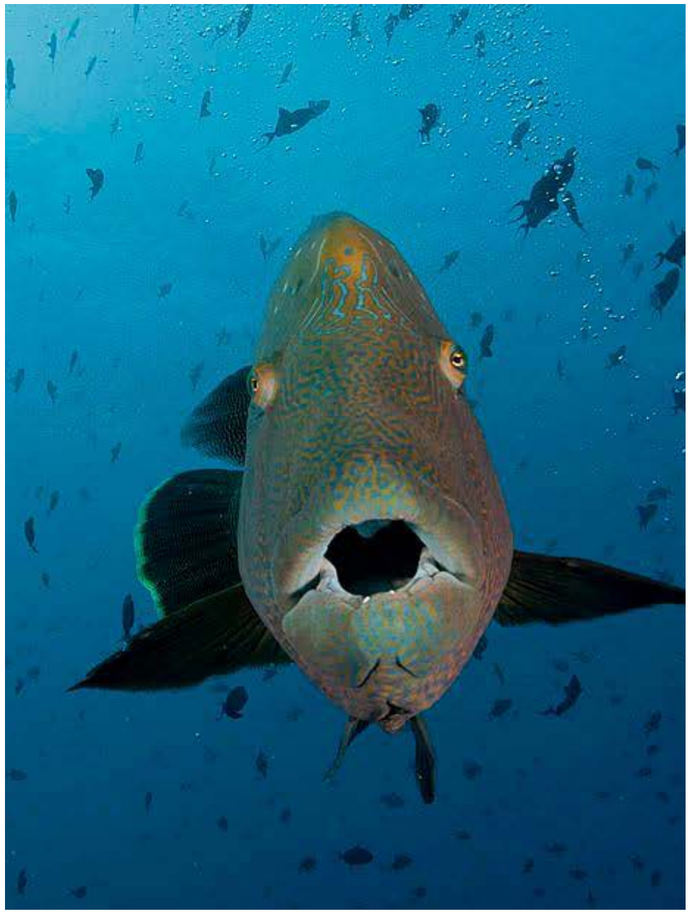


http://wwf.panda.org/knowledge_hub/where_we_work/coraltriangle/coraltrianglefacts/

The Earth is 70% water, and there are a lot of things we can see underwater. I've been scuba diving since 2010, and the underwater world has always fascinated me. The Philippines has over 7,000 islands and it has one of the richest biodiversities of flora and fauna. Its waters are considered to be part of the Coral Triangle. Being in a tropical place, the underwater world is very colorful with more than 1,600 species of fish, and 500 species of corals.

I want to show everyone how the underwater world looks like without them having to suit up and go in the water. This VR application will expose people to the different depths of the ocean and see some fish they havent't seen before. It will also show how the underwater world looks like from the eyes of a scuba diver.

ELEVATOR PITCH



DiVR is an immersive underwater VR mobile application that allows its users to go around the three main levels of the ocean and interact with different sea creatures that belong to each level.

Problem

Not a lot of people have access to the ocean and can just scuba dive.
Many people are only familiar with the common sea creatures they see in an aquarium such as, sharks, turtles, and jellyfish. Yet there are still so many sea creatures that people can learn about.

Solution

To create an underwater VR mobile app to show people the different kinds of sea creatures that inhabit each level of the ocean.

THESIS OVERVIEW

DiVR is a VR mobile application compatible with an iOS device. In order for the users to get the full immersive experience, they must use it with Google Cardboard or any VR headset with a button.

The application will have three main sections, which are the levels of the ocean. Currently, there are three sea creatures that a user can interact with. Later on, I plan to add more sea creatures for each level. The three levels of the ocen are: sunlight zone, twilight zone, and midnight zone. For my thesis presentation, the sunlight zone is the most complete in terms of content.

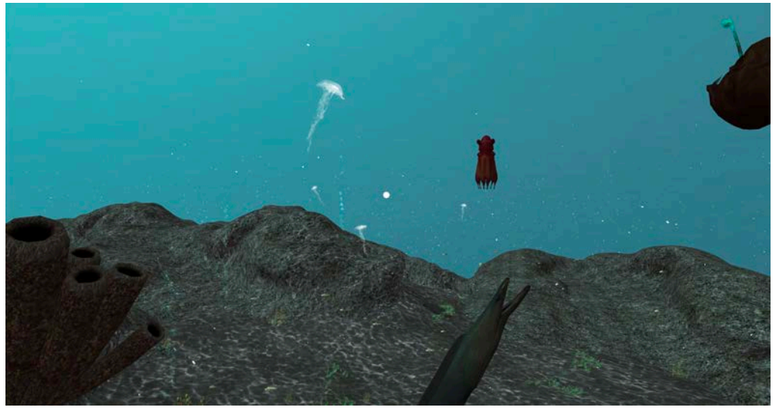
The purpose of this project is to immerse the users in an environment that isn't familiar to them and at the same time exposing them to the different parts of the ocean. It's also a way to show people the different kinds of sea creatures they may encounter should they decide to scuba dive in the future.

THESIS OVERVIEW

Feature List

Sunlight Zone

The Sunlight Zone is the uppermost part of the ocean that gets exposed to the sun during the daytime. It's also called the Euphotic Zone. This is where most of the sea creatures familiar to everyone belong.



Twilight Zone

The Twilight Zone is the middle part of the ocean that receives faint, filtered sunlight during the day. The seawater absorbs most the sunlight making this part of the ocean look barely-lit. It's also called the Dysphotic Zone.

Midnight Zone

The Midnight Zone is the deepest part of the ocean that does not get sunlight at all. The depth of this part of the ocean is dependent on the visibility of the water. It's also called the Aphotic Zone.

STRATEGIC AND RESEARCH PROCESS

COMPETITIVE ANALYSIS

The Must of the Sea

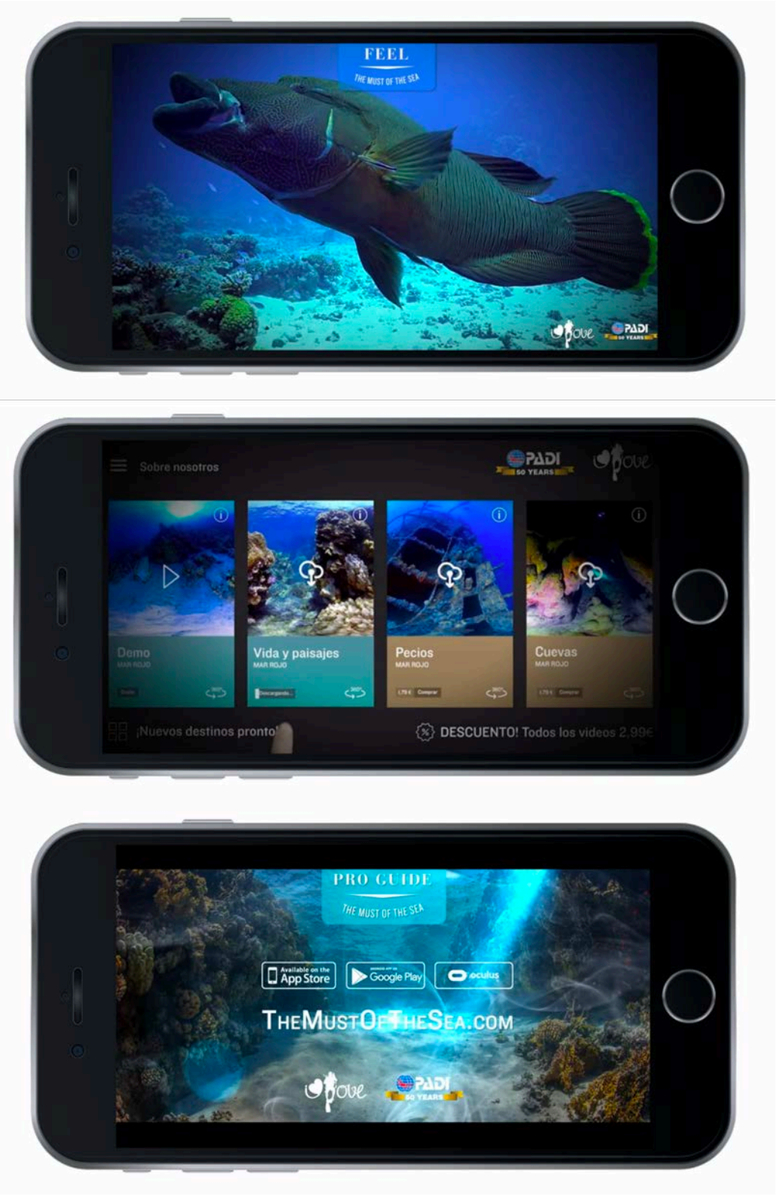
- VR mobile apps that allows its users to see experience the Red Sea and show its users the top dive sites located there.
- Has three apps available in the App Store and Google Play Store.
  - Feel
  - View & Plan
  - Pro Guide
- Best experienced when using Google Cardboard.
- https://ilovethesea.es/

Pros

- User can choose from three options.
- Features a specific ocean, the Red Sea.
- Available for both Android and iOS users.

Cons

- All three apps are paid.



COMPETITIVE ANALYSIS

theBlu: Encounter

- A 3D VR series that allows its users to experience what it's like to be underwater with different sea creatures.
- Debut episode allows its user to encounter an 80-foot whale.
- Available in Steam, experienced using an Oculus Rift or HTC Vive.
- https://store.steampowered.com/app/451520/theBlu/

Pros

- Truly immersive because of the hardware.
- A lot of content, an ongoing VR series avaibale in Steam.

Cons

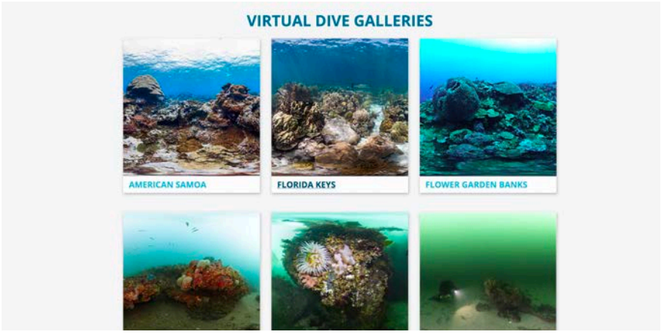
- Only available for the Oculus Rift or HTC Vive.

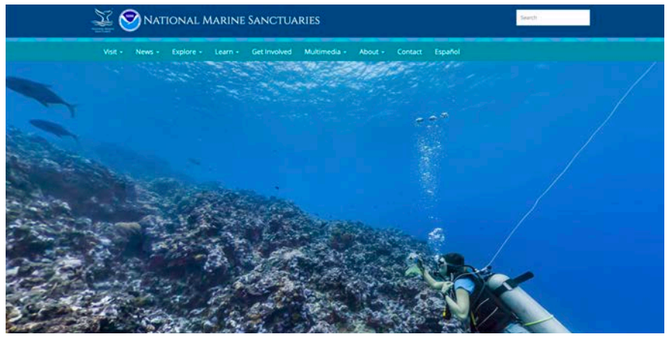
https://store.steampowered.com/app/451520/theBlu/

COMPETITIVE ANALYSIS

National Marine Sanctuary: Virtual Dives

- Immersive 360 view of divesites. Allows viewers to check out marine sanctuaries.
- Best be viewed using a computer or mobile device with Google Cardboard.
- https://sanctuaries.noaa.gov/vr/





https://sanctuaries.noaa.gov/vr/

Pros

- Easily available to everyone since it's on desktop and mobile.

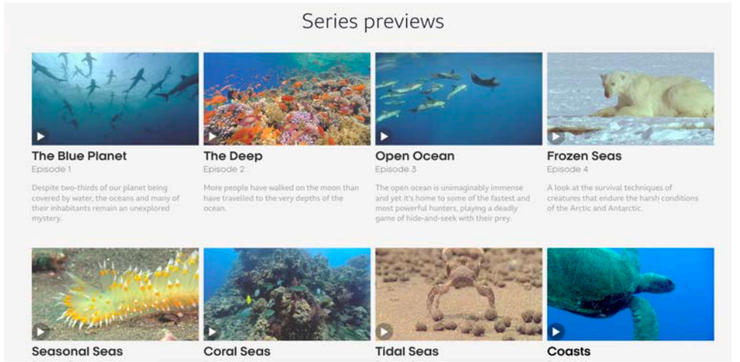
Cons

- Uses only 360-degree still images.

INSPIRATIONS

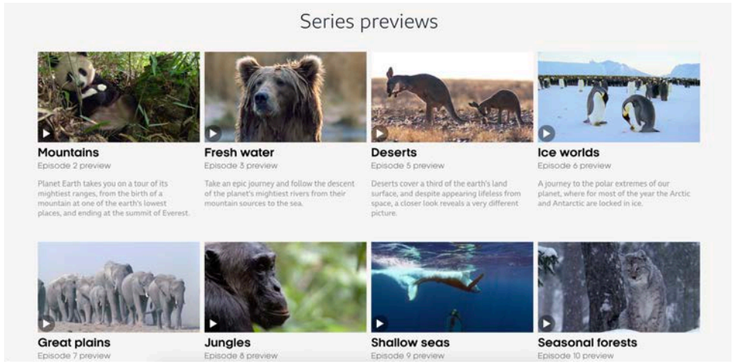
Blue Planet

- A British documentary about the ocean and sea creatures, narrated by David Attenborough. Produced by BBC One.
- Has two seasons, Blue Planet I and Blue Planet II.
- Described as, “the first ever comprehensive series on the natural history of the world’s ocean”.
- An eight-episode 50 minute series that shows how marine life cope in different living situations.



Planet Earth

- A British documentary about the Earth and the animals that inhabit it, narrated by David Attenborough. Produced by BBC One.
- Has two seasons, Planet Earth and Planet Earth II.
- Shows how animals live and thrive in certain living situations.
- Shows animals in their natural habitat and showcases their natural behavior.



https://www.bbcearth.com/shows

INSPIRATION

Notes on Blindness: Into Darkness

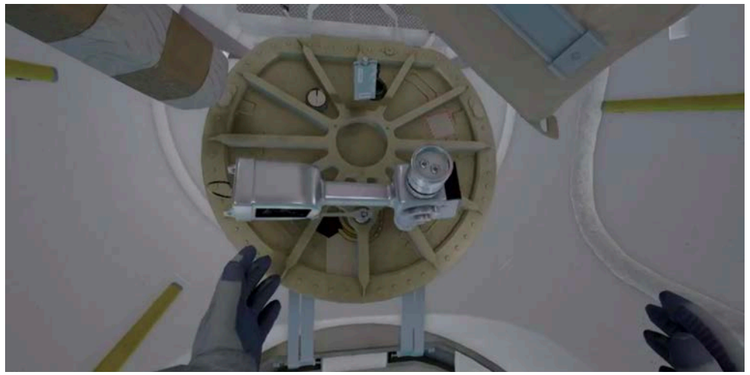
- A VR movie experience about how it's like losing one's eyesight gradually.
- About a guy named, John Hull, who eventually lost his eyesight and kept voice recordings about how it's like to be blind.
- Based on John's sensory and psychological experiences on blindness.
- Uses binaural audio when viewed in VR to immerse the users even more.
- VR video is free for Samsung users.
- Available for iOS and Android.

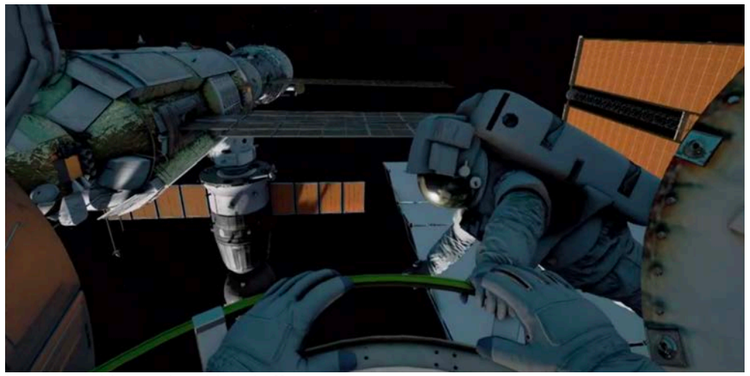
http://www.notesonblindness.co.uk/vr/

INSPIRATION

Home: A VR Spacewalk

- An immersive VR experience based on Tim Peake's real-life training experience with NASA.
- Lets aspiring astronauts experience how life looks like above the Earth and lets them do simple repairs outside of the ISS.
- May only be viewed using an Oculus Rift or HTC Vive.
- Won several awards, a Cannes Silver Lion and Future of Storytelling Jury award.

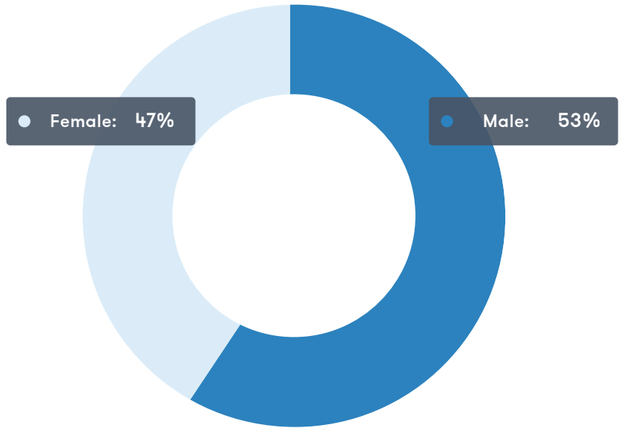




http://www.bbc.co.uk/guides/zknffcw

SURVEY QUESTIONS & RESULTS

30 Participants



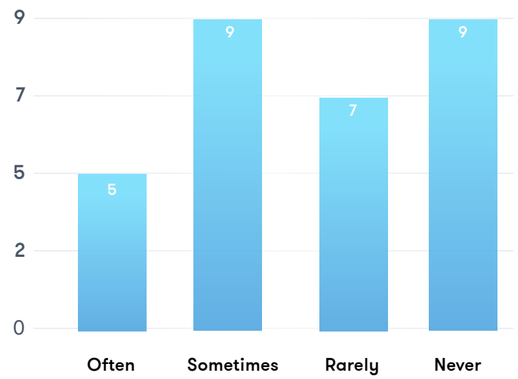
Do you scuba dive?

44% Yes
56% No

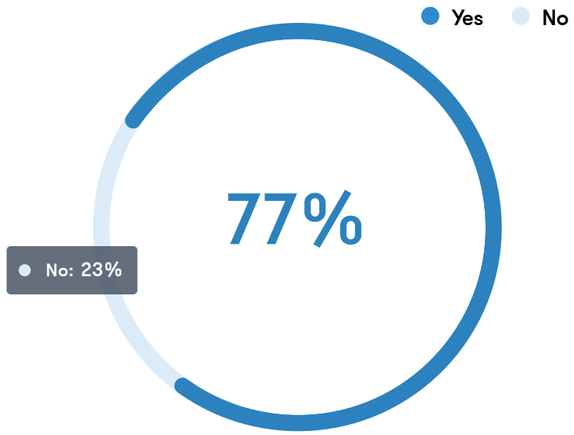
Are you curious with what's underwater?

100% Yes

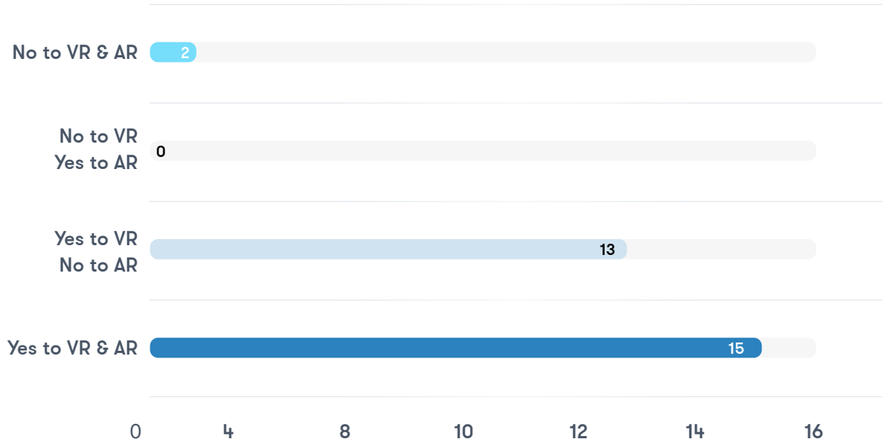
How often do you go to the beach?



Would you try scuba diving?



Do you know what VR (virtual reality) and AR (augmented reality) are?



AUDIENCE INTERVIEW

Name: Camille de Guzman
Age: 27
Occupation: Account manager
Location: San Francisco, CA

"I want to see things from the bottom of the ocean that only machines have seen"

Questions

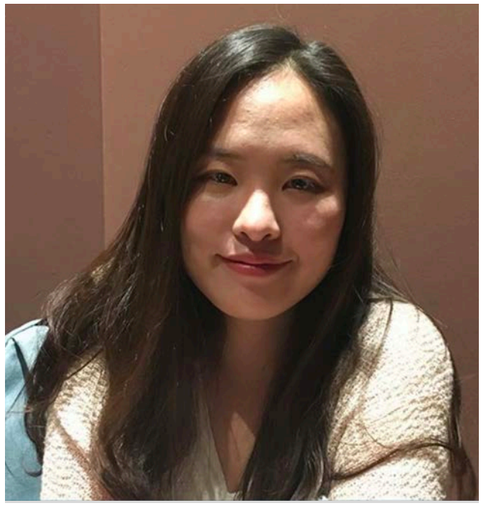
1. How often do you use VR apps? If yes, what headset do you use?
2. Would you use VR apps for entertainment or educational purposes?
3. If you were to use an underwater VR app, what would you want to see?
4. Do you think a story about the ocean would help you learn about the ocean?
5. Would you want to learn about the ocean in general, a specific part of the ocean such as the Twilight Zone, or just about the sea creatures inhabiting it?

Results

- Doesn't use VR apps at all.
- Would use VR apps for entertainment and educational purposes, but mostly for entertainment.
- Would want to see what machines have already seen since not a lot of people know what the machines have seen.
- Show people how different ecosystems look like.
- Wants to see what machines have already seen, but shown to users in an interesting way and to explain what they're looking at.
- A story would be easier and better for the user to learn about the ocean rather than just a game. If user doesn't know a lot about the ocean, the game would be pointless.
- Information is dependent on the target audience.

Link to audio interview:
https://www.dropbox.com/s/13w7kydu0w10wc9/Camille%20Interview%20Thesis.m4a?dl=0

AUDIENCE INTERVIEW



Name: Kyuri Kim
Age: 29
Occupation: Student
Location: San Francisco, CA

"I want to see sharks, but I don't want to be close to it."

Questions

1. How often do you use VR apps? If yes, what headset do you use?
2. Would you use VR apps for entertainment or educational purposes?
3. If you were to use an underwater VR app, what would you want to see?
4. Do you think a story about the ocean would help you learn about the ocean?
5. Would you want to learn about the ocean in general, a specific part of the ocean such as the Twilight Zone, or just about the sea creatures inhabiting it?

Results

- She just uses her phone to watch VR videos using Google Cardboard.
- Watches VR videos more for entertainment, not for education.
- For an underwater VR app people should be able to see sharks and pretending to touch a shark. Pretending to be inside a shark cage since some people are scared to be inside a real shark cage.
- Wants to see colorful corals and different kinds of plants underwater.
- Wants to see ancient animals that roamed the ocean, especially in the deeper parts of the ocean.
- Add ocean conservation to the story.
- Add several "levels" of learning depending on the age and target audience.
    - Add more details about the ocean and sea creatures.
    - Make the story interesting enough that people want to learn more.
- Since the Earth is 70% water, people should be more aware about the ocean.

Link to audio interview:
https://www.dropbox.com/s/fxgaqjabsp1lx8j/Kyuri%20Interview.m4a?dl=0

EXPERT INTERVIEW

Name: Rio Tanchuling
Occupation: Divemaster
Location: Manila, Philippines

"It's different seeing just a photo of a bleached reef as compared to when you put on a VR headset and watch how the reef is getting bleached. "

Questions

1. Do you think virtual reality will help educate people about the ocean?
2. What would you teach people about when it comes to learning about the ocean?
3. Do you think conservation can be taught through virtual reality? If so, how?
4. Have you tried any VR apps?
5. If you were to add another feature in my app, what would it be?
6. Are there any apps that you know of that helps people learn about the ocean through a game or story?
7. Do you think people can learn about the ocean through an interactive story?

Results

- Started scuba diving seven years ago.
- Works as a freelance divemaster during the weekends to guide people around dive sites.
- Thinks that virtual reality will definitely help people learn about the ocean, especially those who are interested in diving. If they wanted to have a sneak peek, it'll be really helpful especially if they don't want to be certified yet. It will help the kids experience the underwater world without having to scuba dive.
- Wants to teach people how to save/conserve the ocean and wants to let people know the consequences if they keep littering.
- Wants to bring awareness to people and how waste management affects the ocean. What will happen to the ocean if people don't recycle properly?
- Wants to people to know that some sea creatures such as sharks aren't really dangerous.
- Definitely thinks that VR has the capacity to properly visualize how the underwater world looks like because you can see the currents and temperature (thermocline) instead of still images. People will be able to see how the fish react to these situations.

Link to audio interview:
https://www.dropbox.com/s/i37so8gyvsvn7vi/Rio%20Thesis%20Interview.m4a?dl=0

BEST PRACTICES & TIPS FOR STORYTELLING IN VR

- Use space wisely.
- Using external cues such as arrows, keylines, or icons to show viewers where to look can be heavy-handed and distracting. Seamlessly integrating audio and visual cues into your story is a much more powerful way to guide your viewers.
- Invite viewers to experience a story through new eyes.
- Avoid rapid movement.
- Avoid using highly detailed UI elements.
- Text should roughly be 20px tall on most displays.
- Good font to use for VR: DIN or a good sans-serif font.
- Make sure scale and distance is just right. If the text is too close, the user has to cross his eyes. If the text is too far, the user might think that the text might be insignificant.
- Resize font size according to distance.
- Put the text in the middle 50% of the user's view so they can focus on it and avoid distortion.

TOP VR MOBILE HEADSETS

Samsung Gear VR

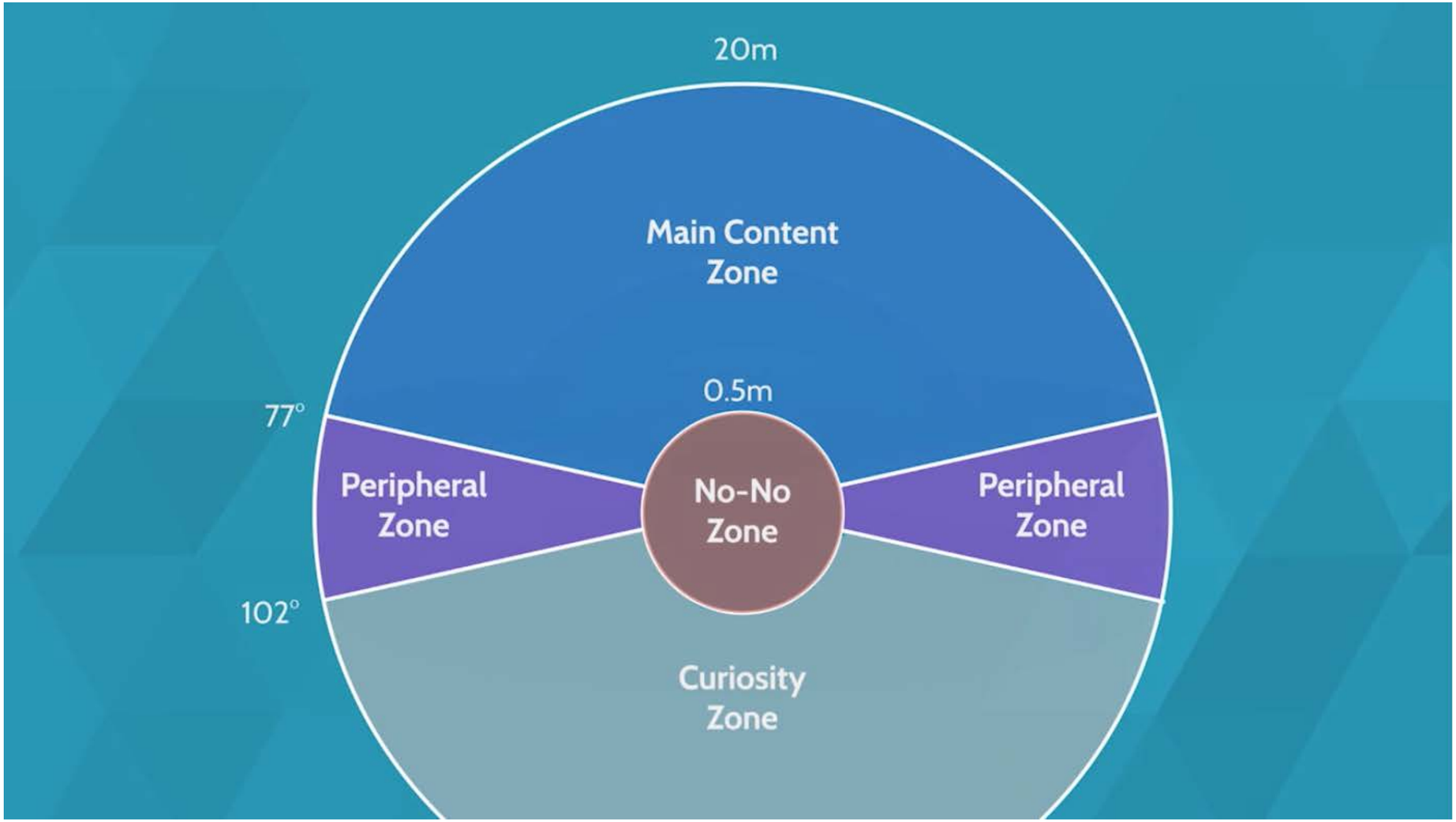
Google Daydream View

Google Cardboard

Merge VR Goggles

https://www.wareable.com/vr/best-vr-headsets-2017

USER'S FIELD OF VIEW IN VIRTUAL REALITY

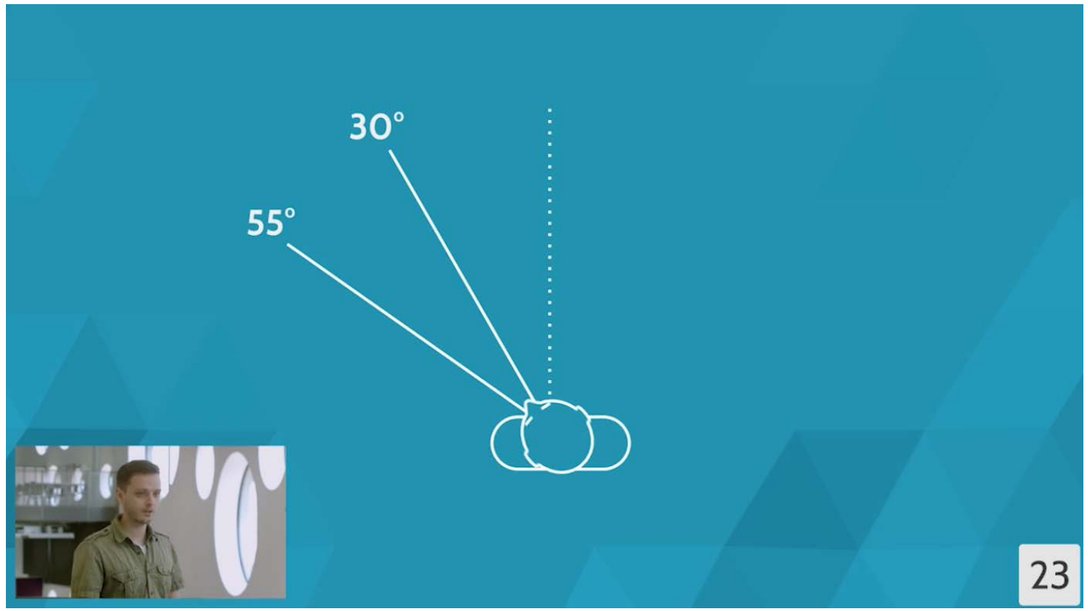


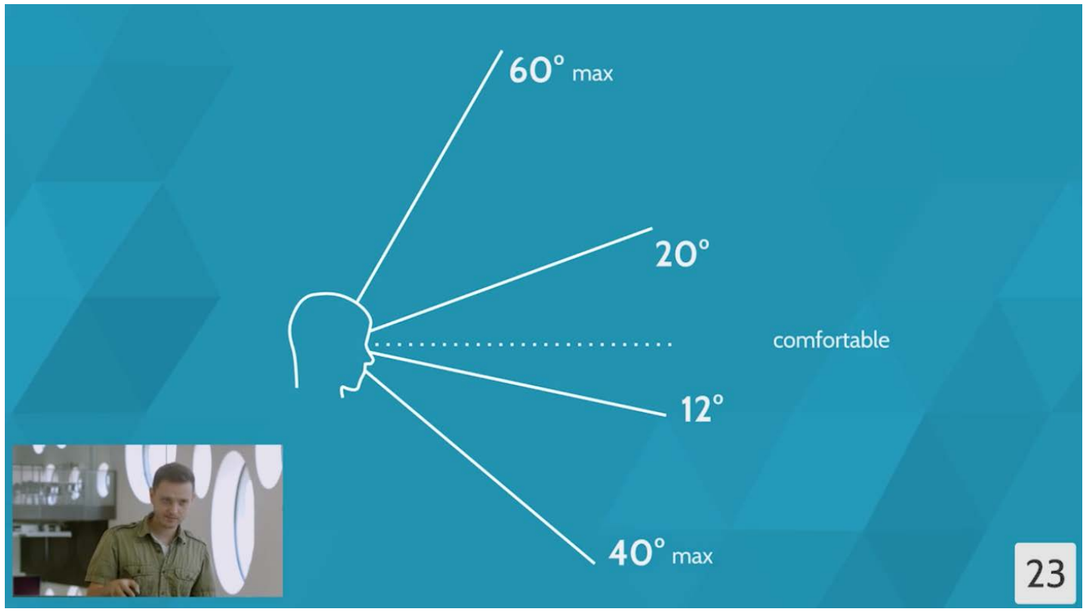
https://virtualrealitypop.com/practical-vr-ce80427e8e9d

USER'S FIELD OF VIEW IN VIRTUAL REALITY

Listed below are the recommended range of motion for optimal comfort:

- Left/right: up to 30° for comfort, 55° maximum.
- Up: up to 20° for comfort, 60° maximum.
- Down: up to 12° for comfort, °40 maximum.





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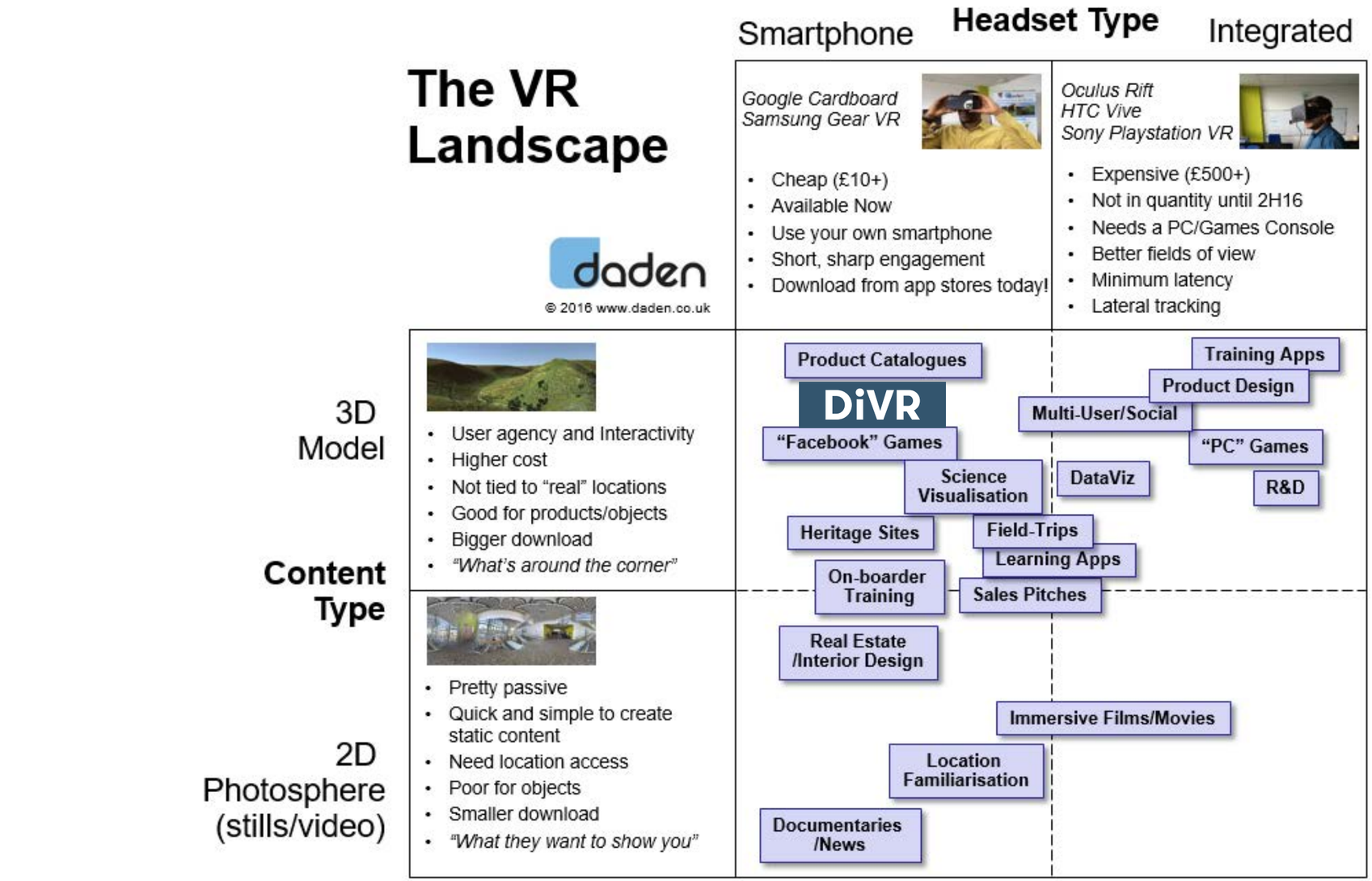
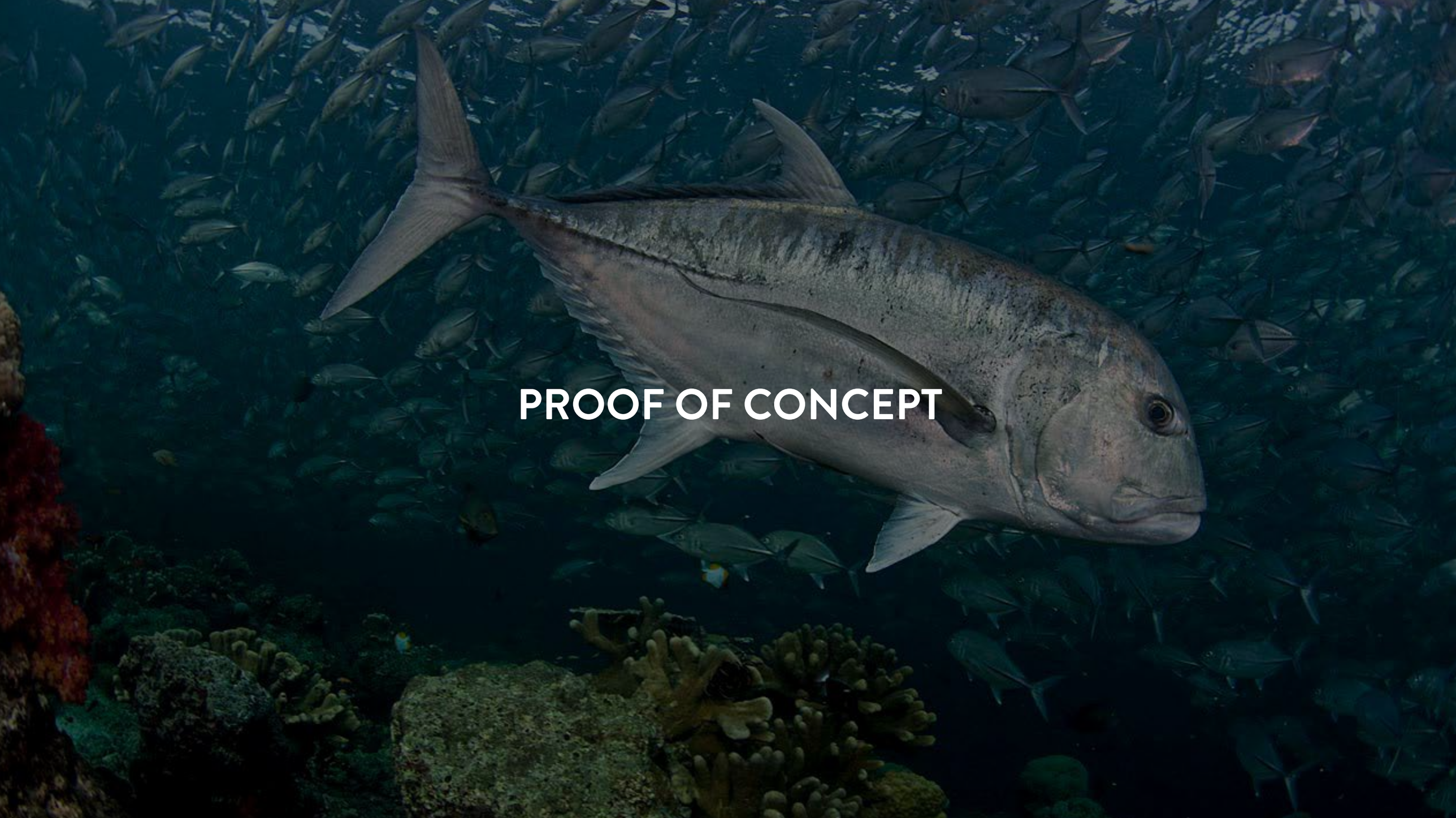
VR LANDSCAPE



http://www.hypergridbusiness.com/wp-content/uploads/2016/02/DadenVRLandscape.png



PROOF OF CONCEPT

PERSONA

Primary user

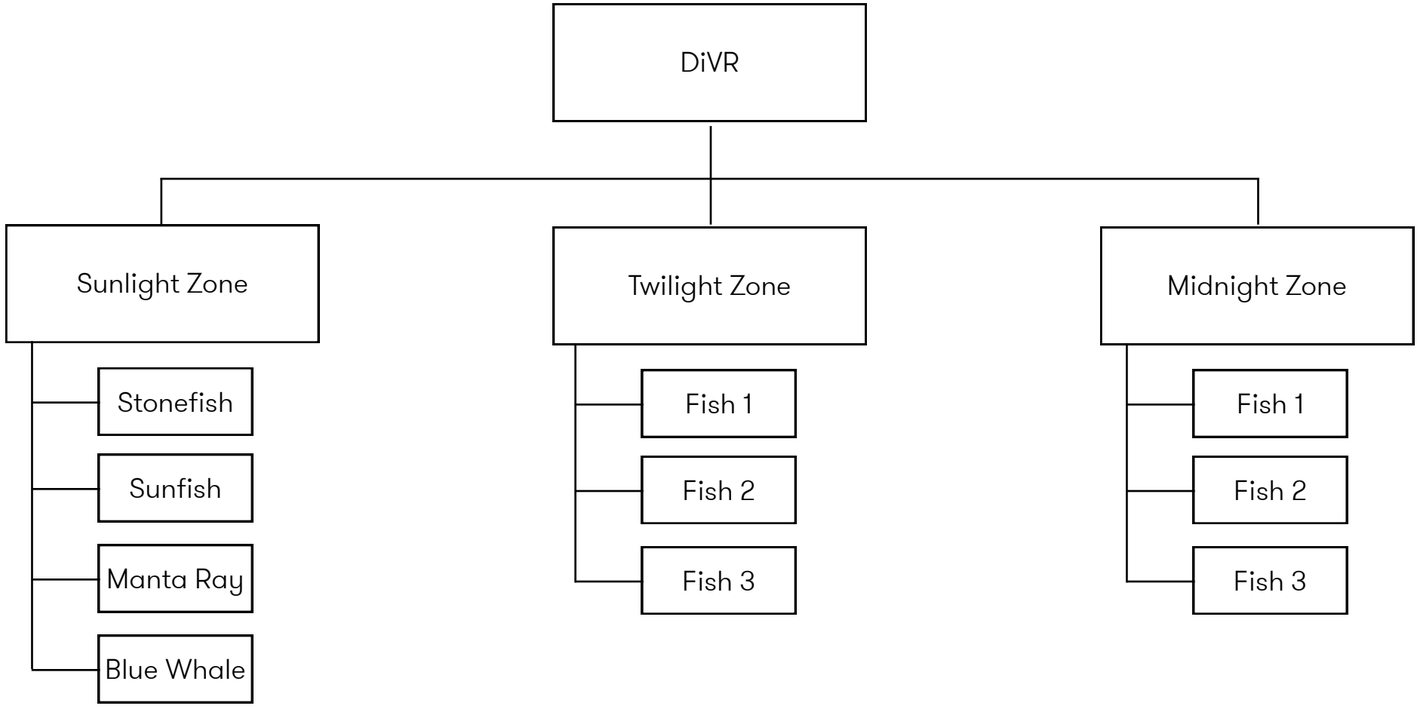
Name: Jake
Age: 26
Occupation: Grad student

Scenario

Jake is a graduate student who's always been fascinated with the ocean ever since he was a kid. All his life, he's always lived near the beach up until he moved to continue his education. If he isn't working or doing school work, he frequently visits the aquarium to check out the different animals or when he's at home he watches shows about the ocean. In the aquarium, he can only observe the common animals such as jellyfish, sharks, and stingrays. For many years, he's also been considering to get certified in scuba diving after graduating.

While browsing through the app store, he discovers a VR applicartion called, DiVR. He noticed that it's an application which is about the ocean and the different kinds of sea creatures. After downloading the app, he discovers that it shows not only the first level of the ocean, but also the other two levels which aren't as known or talked about compared to the first level of the ocean. He decides to download the application to see what else he can discover about the ocean and its sea creatures that inhabit it.

APP MAP


DiVR
Sunlight Zone
Stonefish
Sunfish
Manta Ray
Blue Whale
Twilight Zone
Fish 1
Fish 2
Fish 3
Midnight Zone
Fish 1
Fish 2
Fish 3

USER FLOWS

Flow 1 : Setup VR

Jake downloads the app, opens the app, puts on the Google cardboard, Open the main menu, and is brought to the first level of the ocean.

Outcome:
Gets to the first level of the ocean.

Flow 2 : Enter Sunlight Zone

Jake hears the narrator as soon as he reaches the Sunlight Zone and is prompted to move around the ocean and interact with some sea creatures.

Outcome:
Jake knows what to do with the app.

Flow 3 : Encountering the sea creatures

The narrator prompts Jake to look for all the sea creatures in the ocean.

Outcome:
Jake learns about the sea creatures he encounter.

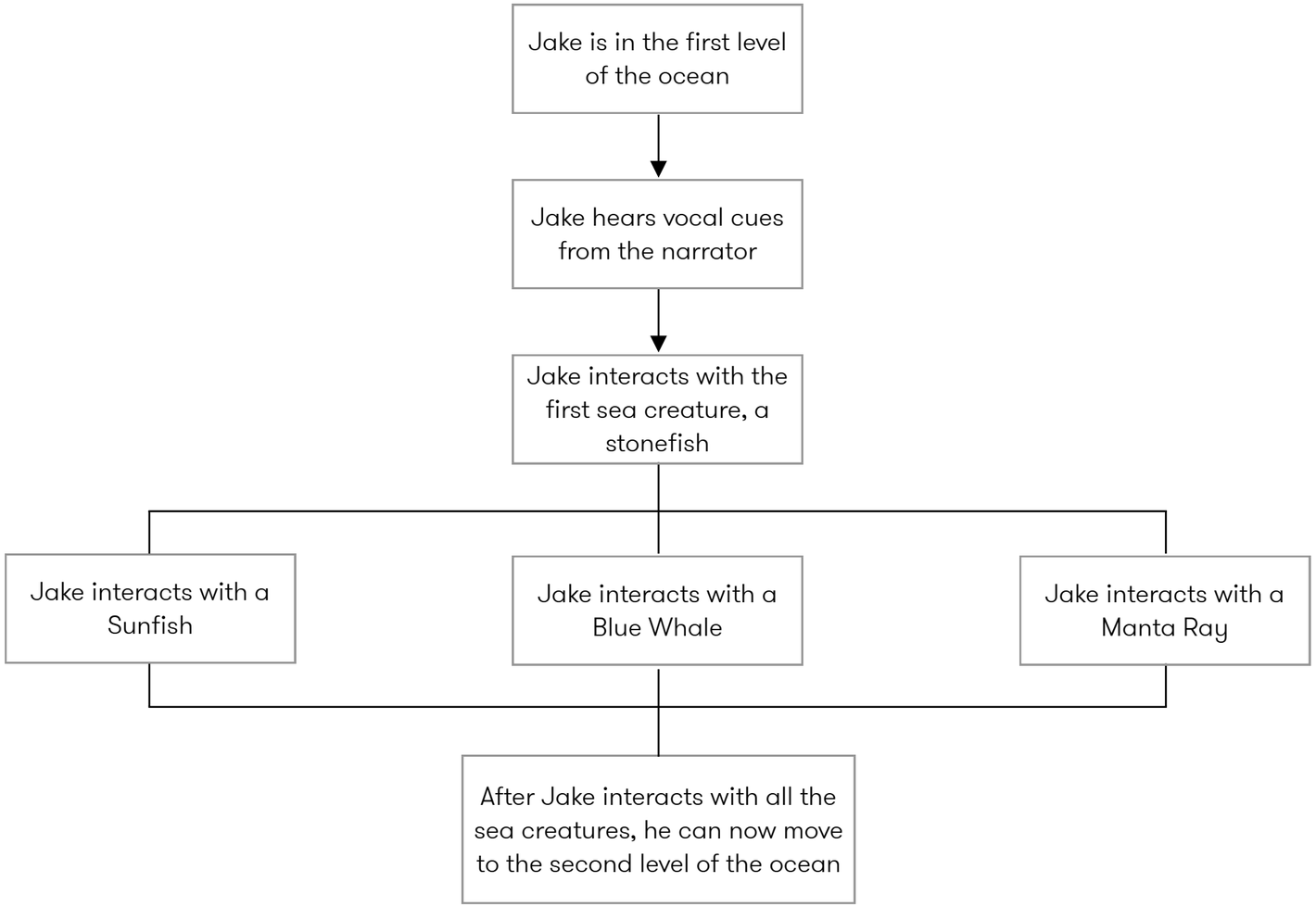
Flow 4: Moving to the next level of the ocean

After Jake interacts with three sea creatures, he can now move on to the next ocean level.

Outcome:
Can now move on to the next sea level.

OVERALL FLOW OF LEVEL 1

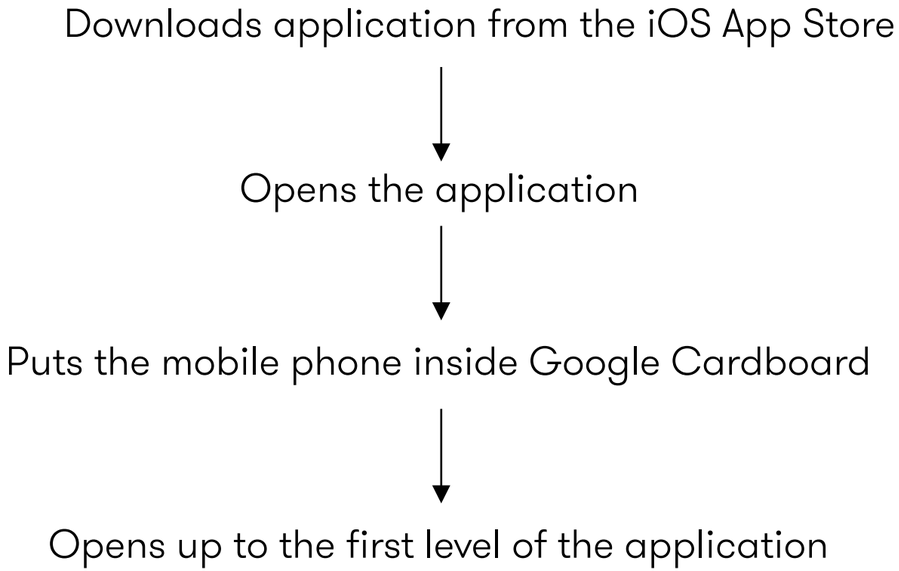
*This flow repeats for all levels



USER FLOW 1: SET UP VR

Jake downloads the app, opens the app, puts on the Google cardboard, launches DiVR, and is brought to the first level of the ocean.

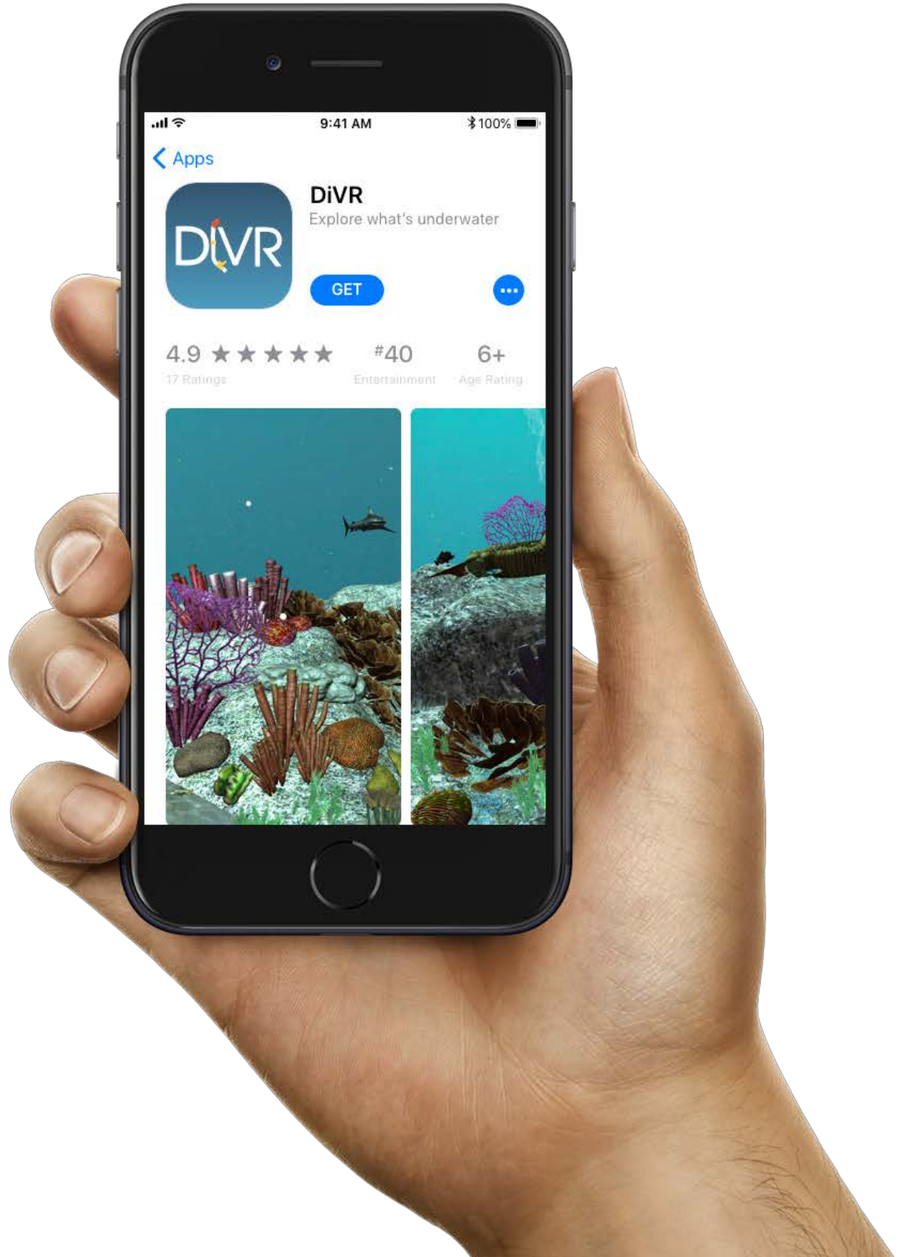
Result:
Arrives at the first level.



PROOF OF CONCEPT

User Flow 1 : Set up VR

1/4 - Download the application from the App Store



PROOF OF CONCEPT

User Flow 1 : Set up VR

2/4 - Open the app

PROOF OF CONCEPT

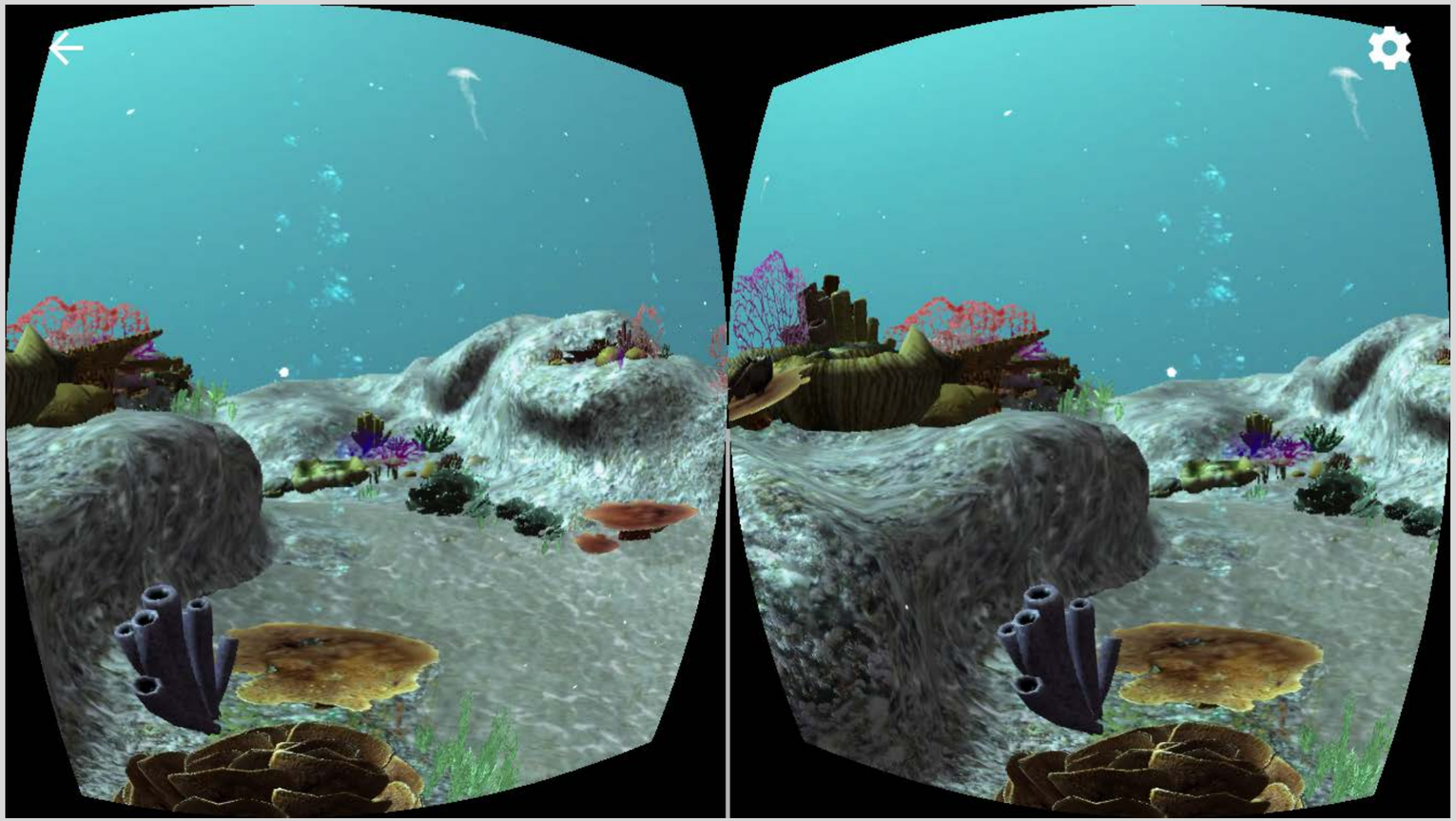
User Flow 1 : Set up VR

3/4 - Put the phone into Google Cardboard

PROOF OF CONCEPT

User Flow 1 : Set up VR

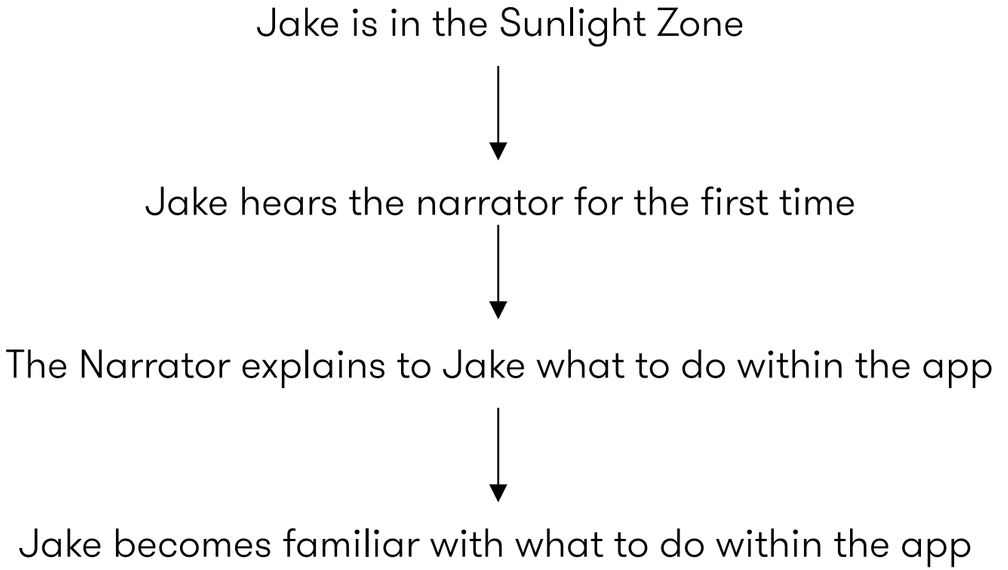
4/4 - Opens up to the first level of the ocean



USER FLOW 2: ENTERING THE SUNLIGHT ZONE

Jake hears the narrator as soon as he reaches the Sunlight Zone and is prompted to move around the ocean and interact with some creatures.

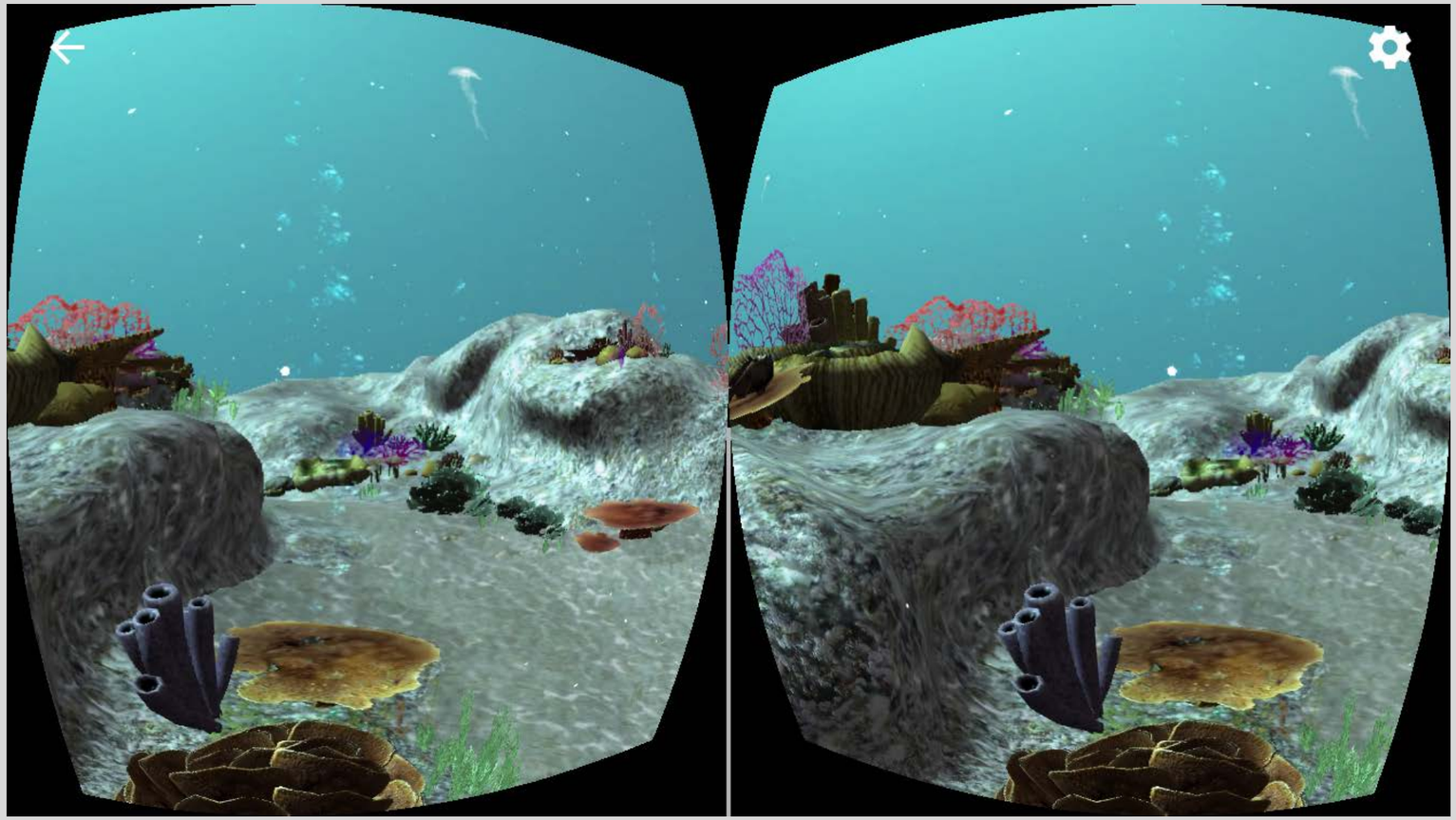
Result:
He knows how to work the app.



PROOF OF CONCEPT

User Flow 1 : Entering the Sunlight Zone

1/4 - Jake is in the Sunlight Zone



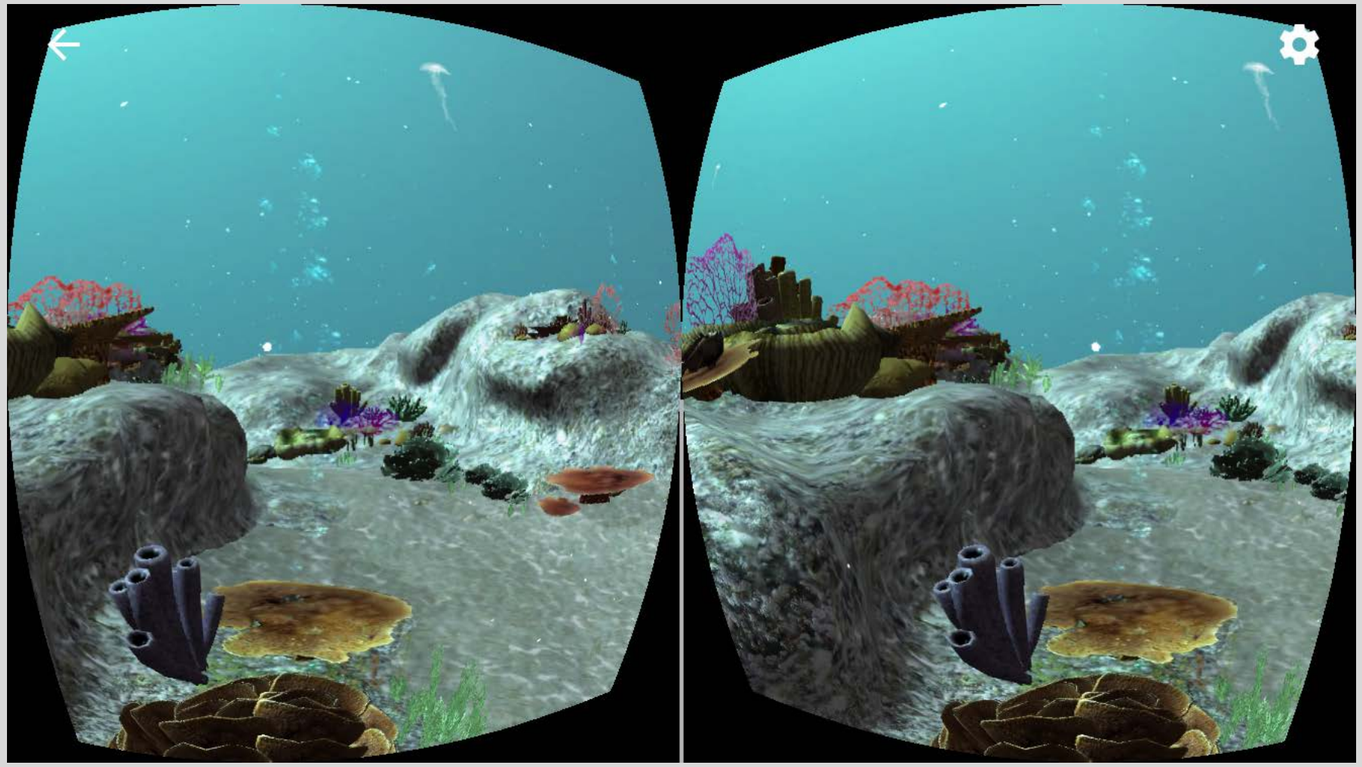
PROOF OF CONCEPT

User Flow 2 : Entering the Sunlight Zone

2/4 - Jake hears the narrator for the first time

voice over

“You’ve reached the most shallow part of the ocean, which is called the Sunlight Zone or Euphotic Zone”



action: Sea creatures moving around
User is static

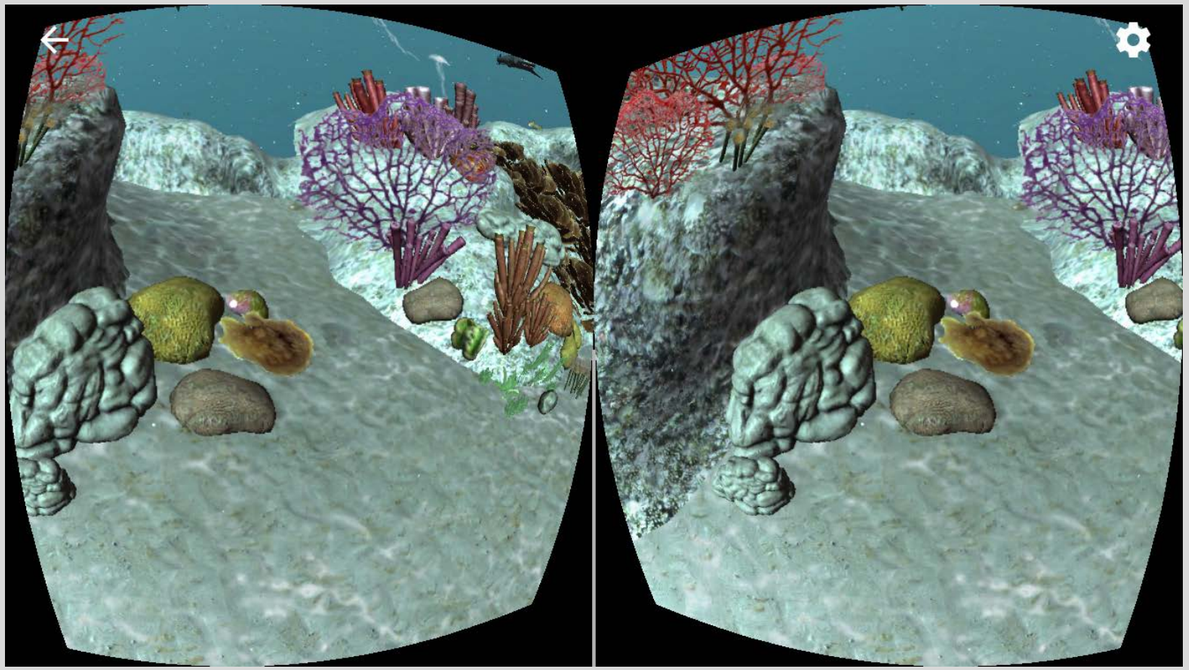
PROOF OF CONCEPT

User Flow 2 : Entering the Sunlight Zone

3/4 - Narrator explains what Jake should do within the app

voice over

“Explore the area by tilting your head down to move around the ocean”
“To interact or learn more about a sea creature, while looking at the sea creature, press the button on the cardboard”

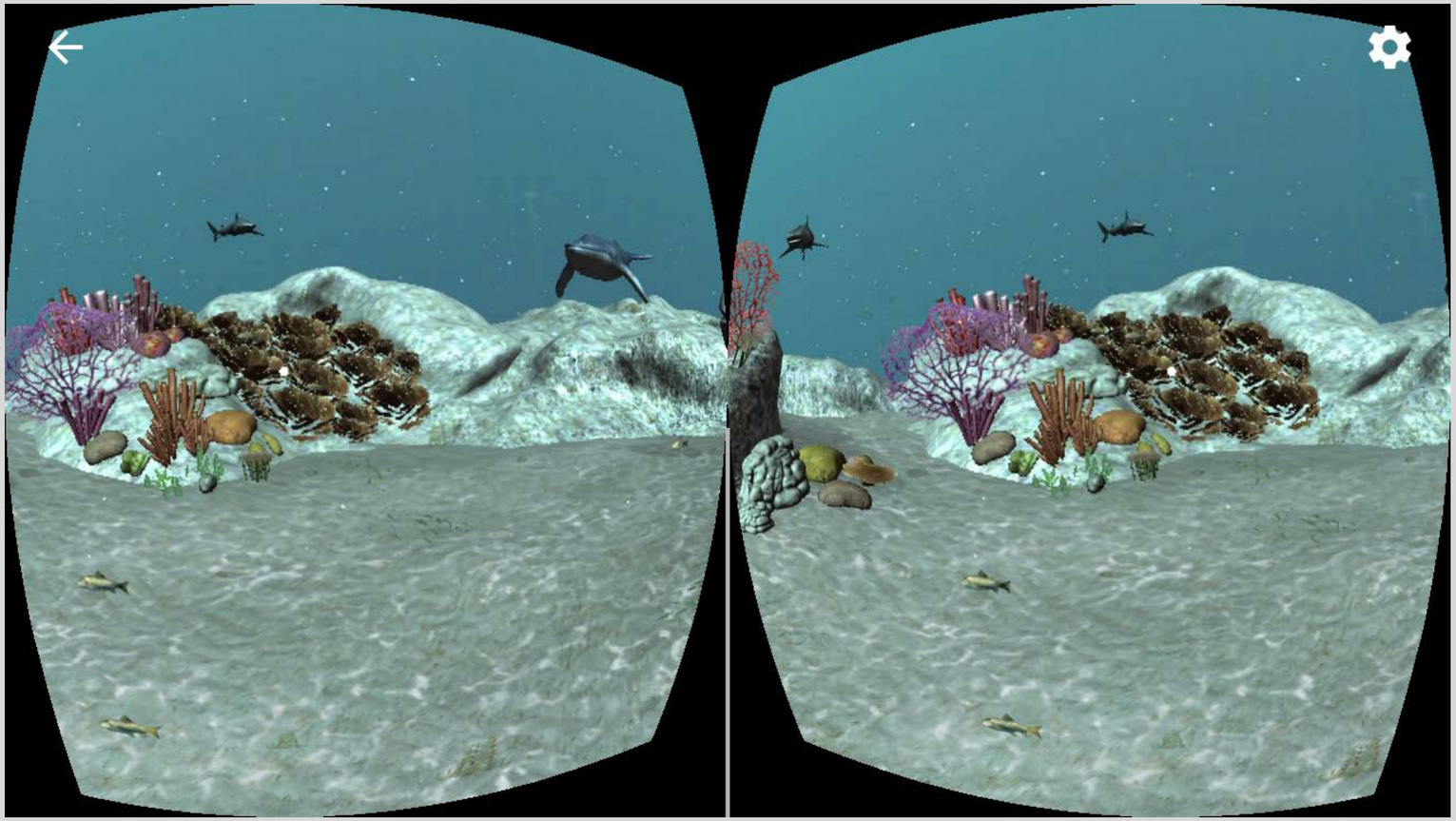


action: User tilts head up and down to move around the level

PROOF OF CONCEPT

User Flow 2 : Entering the Sunlight Zone

4/4 - Jake becomes familiar with the Sunlight Zone



action: User explores the first level by tilting his head

USER FLOW 3: ENCOUNTERING THE SEA CREATURES

After Jake learns how to use the app and hears the narrator for the first time, he must learn about the sea creatures he encounters in the Sunlight Zone.

Result:
He learns a few facts about all the sea creature he encounters.

Jake listens to the narrator's cue to look for the Stonefish and approach it

↓

Jake looks for the Stonefish around the ocean

↓

Jake approaches the Stonefish and hears the narrator speak

↓

Jake interacts with the Stonefish by pressing the button on the viewer while pointing at the Stonefish

↓

Jake looks for the next two sea creatures after he learns three facts about the Stonefish

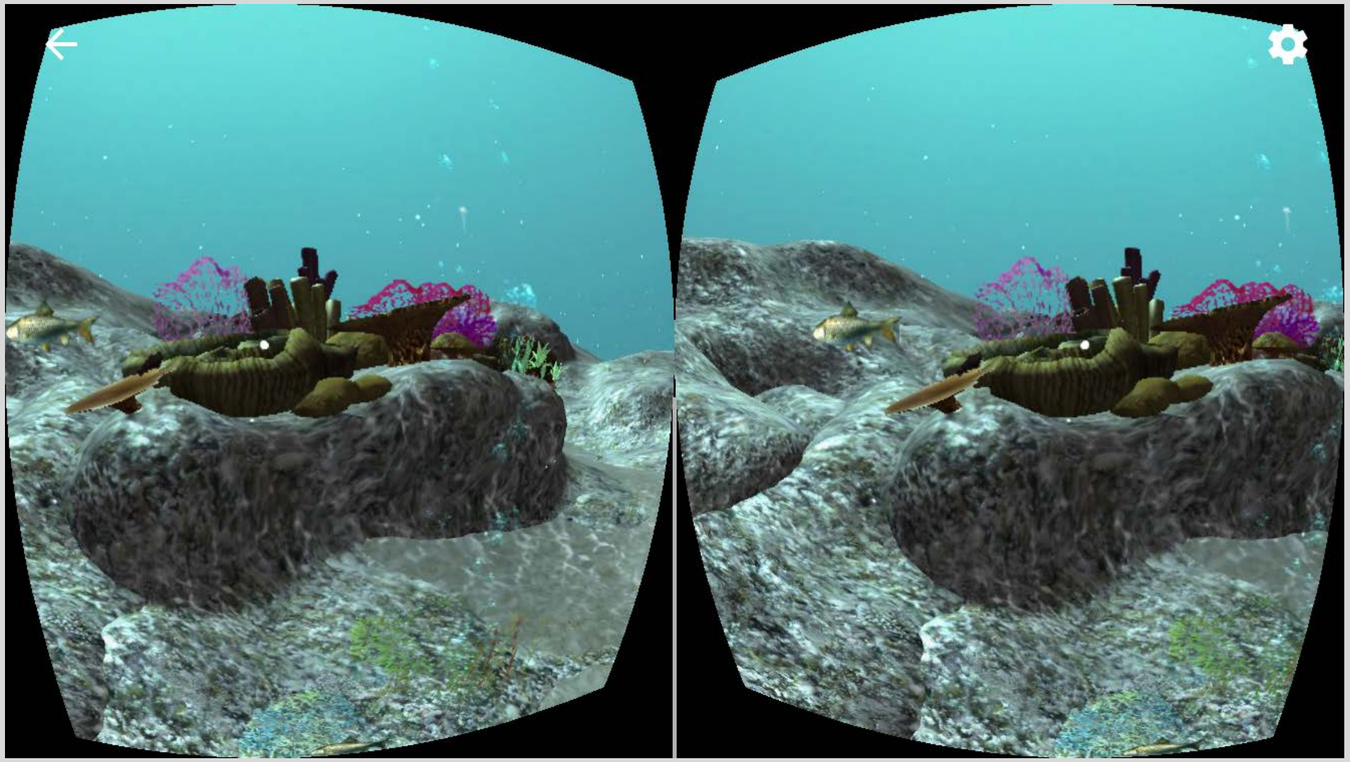
PROOF OF CONCEPT

User Flow 3: Encountering the sea creatures

1/5 - Jake listens to the narrator's cue to look for the Stonefish and approach it

voice over

"Move towards the Stonefish resting on top of a coral to learn more about it"

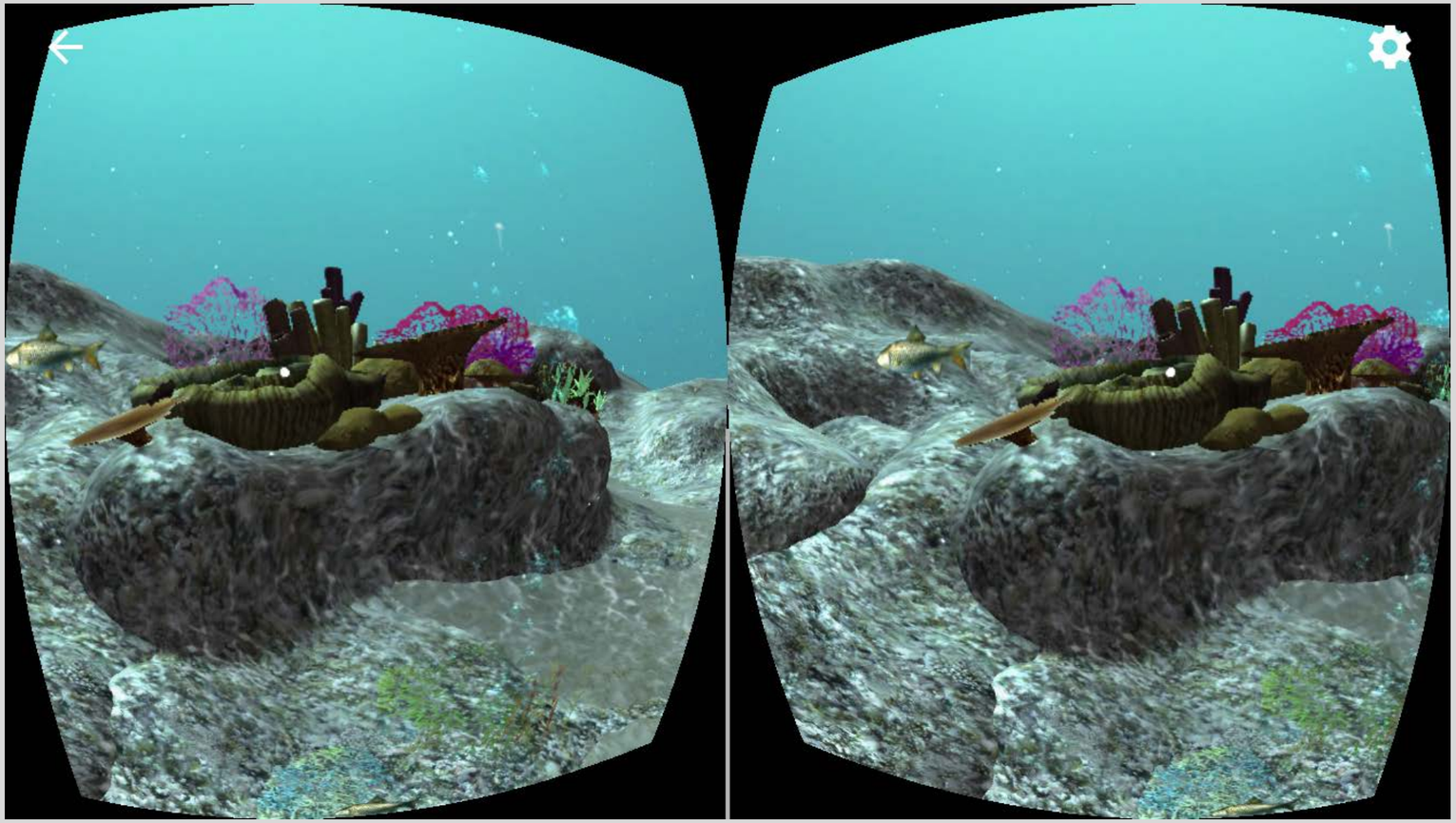


action: User approaches the Stonefish by tiliting head down

PROOF OF CONCEPT

User Flow 3: Encountering the sea creatures

2/5 - Jake looks for the Stonefish around the ocean



action: User tilts head down and looks for the Stonefish

PROOF OF CONCEPT

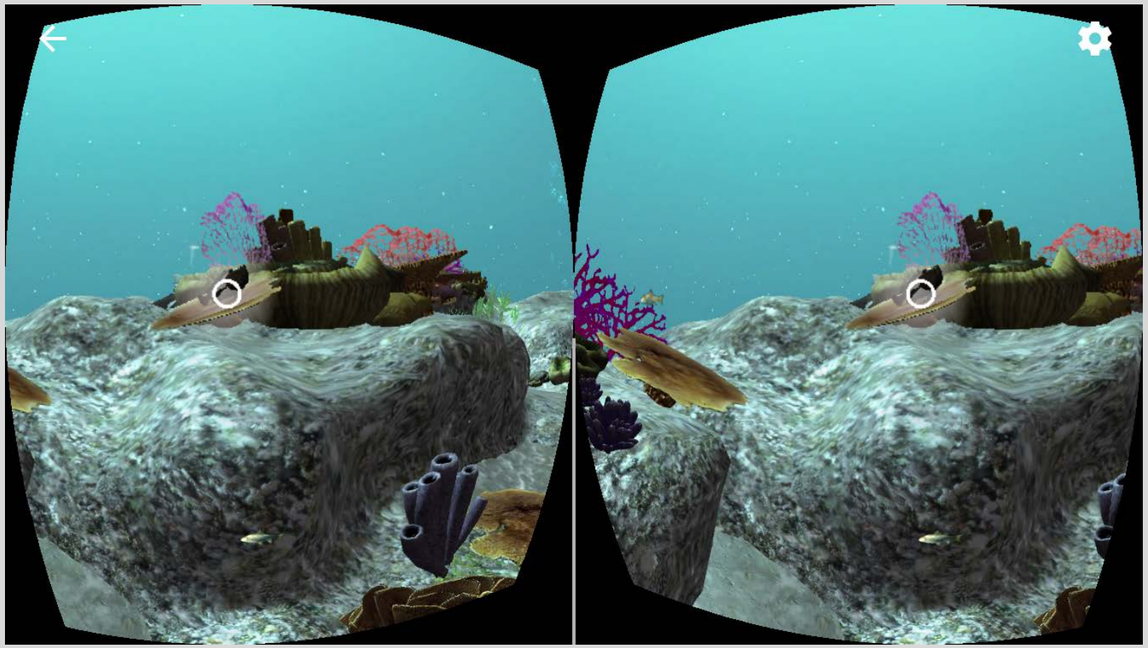
User Flow 3: Encountering the sea creatures

3/5 - Jake approaches the Stonefish and hears the narrator speak

voice over

“The Stonefish on top of the coral is one of the most poisonous fish in the world. It can kill you in less than five minutes”

“Press the button on the cardboard to know about the Stonefish”



action: User listens to the narrator

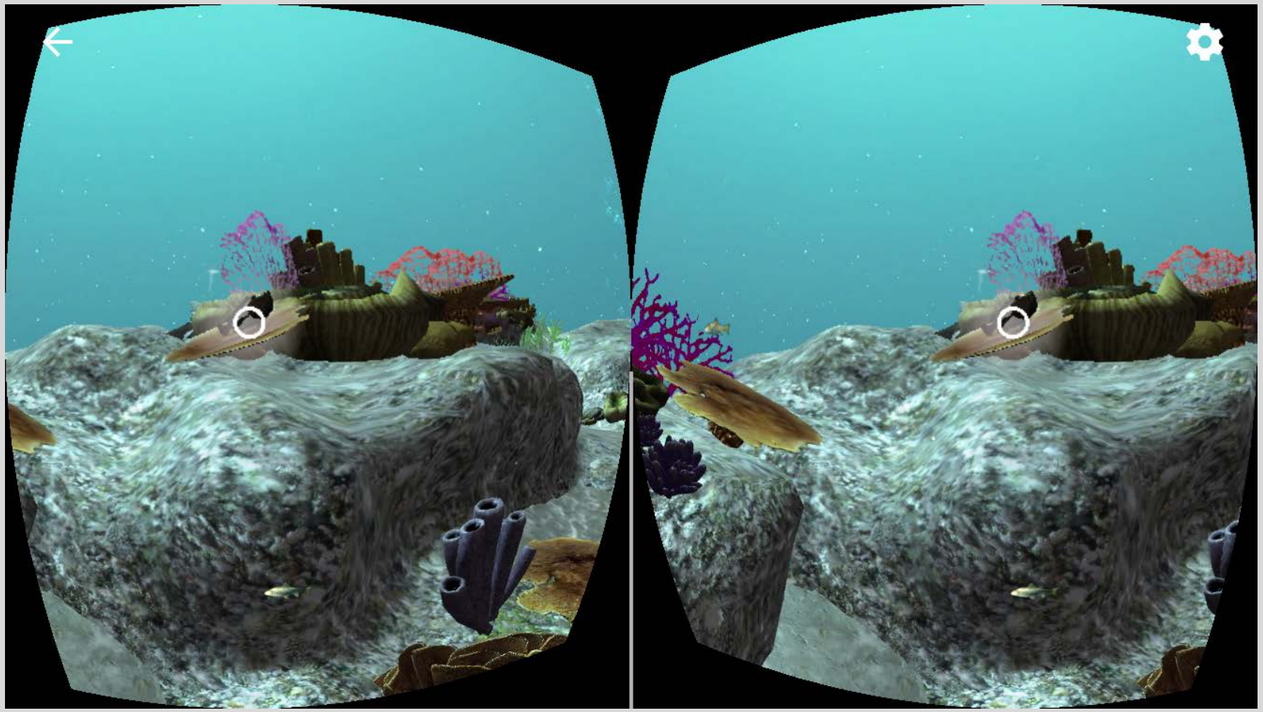
PROOF OF CONCEPT

User Flow 3: Encountering the sea creatures

4.a/5 - Jake interacts with the Stonefish by pressing the button on the viewer while pointing to the Stonefish

voice over

“The Stonefish is also a meat eater or a carnivore, they prey on smaller fish and shrimp”



action: User presses the button on the viewer to interact with the Stonefish

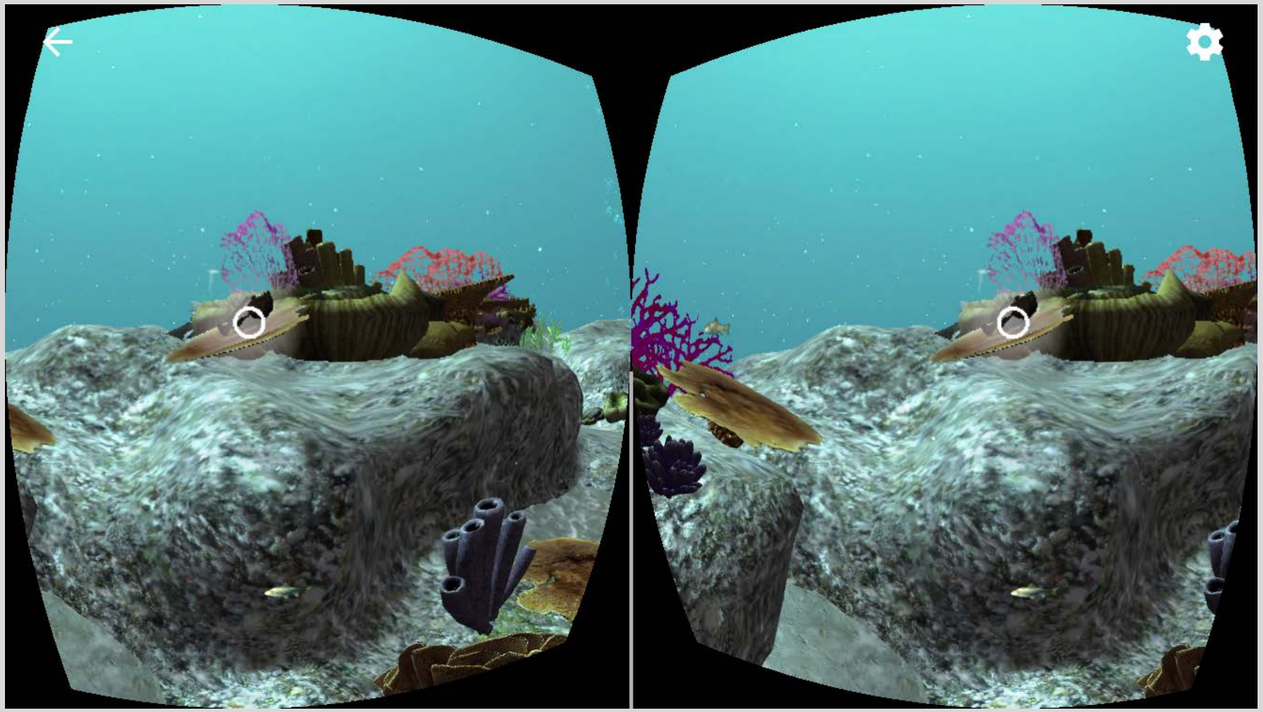
PROOF OF CONCEPT

User Flow 3: Encountering the sea creatures

4.b/5 - Jake interacts with the Stonefish by pressing the button on the viewer while pointing to the Stonefish

voice over

“The Stonefish is also a meat eater or a carnivore, they prey on smaller fish and shrimp”



action: User listens to the narrator

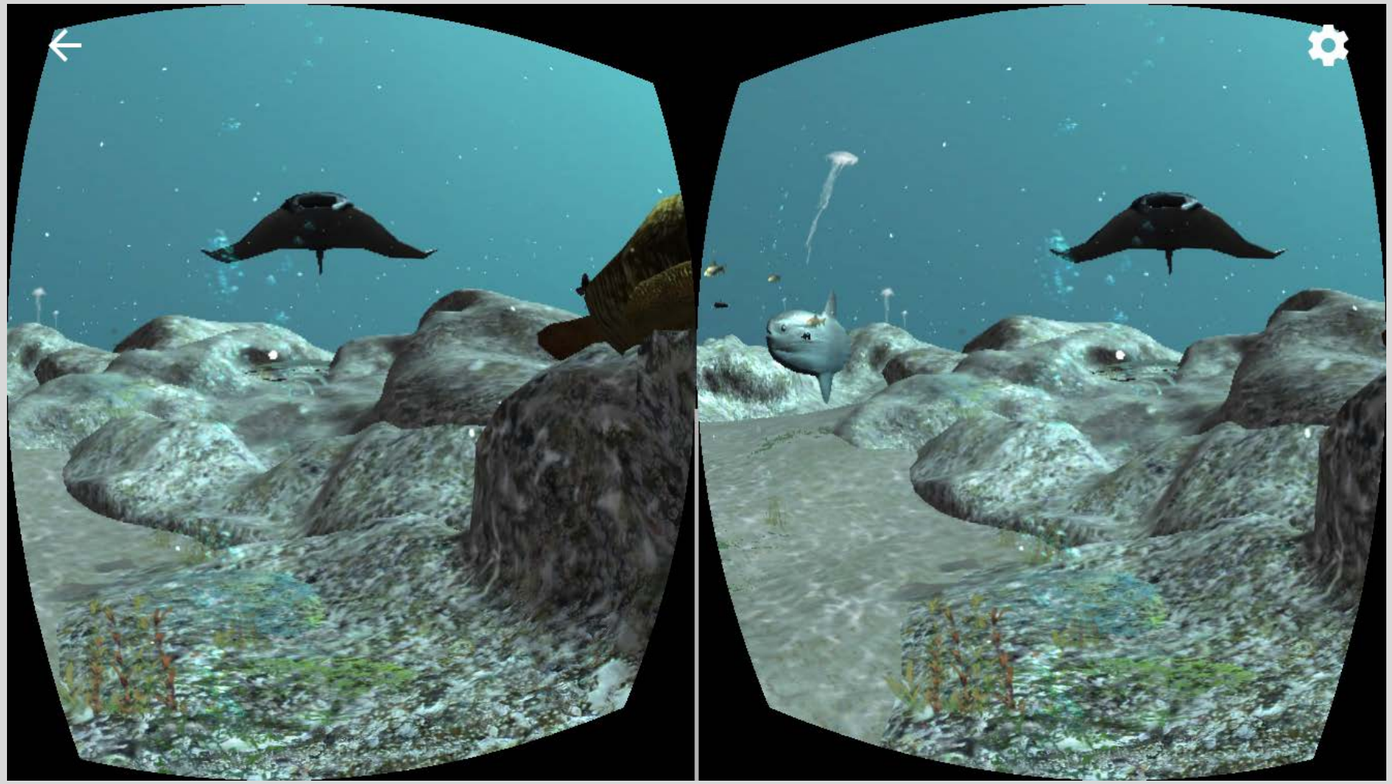
PROOF OF CONCEPT

User Flow 3: Encountering the sea creatures

5/5 - Jake looks for the next sea creature after he learns three facts about the Stonefish

voice over

“Now that you’ve learned about a Stonefish, look for more sea creatures around the ocean to interact with”



action: After hearing the narrator speak, user looks for the next sea creature to encounter

USER FLOW 4: MOVING TO THE NEXT LEVEL OF THE OCEAN

After Jake learns about three sea creatures in the Sunlight Zone, he can now move on to the second level of the ocean, the Twilight Zone.

Result:
He is in the second level of the ocean.

After Jake interacts with the last sea creature, the narrator tells him he can move to the second level of the ocean

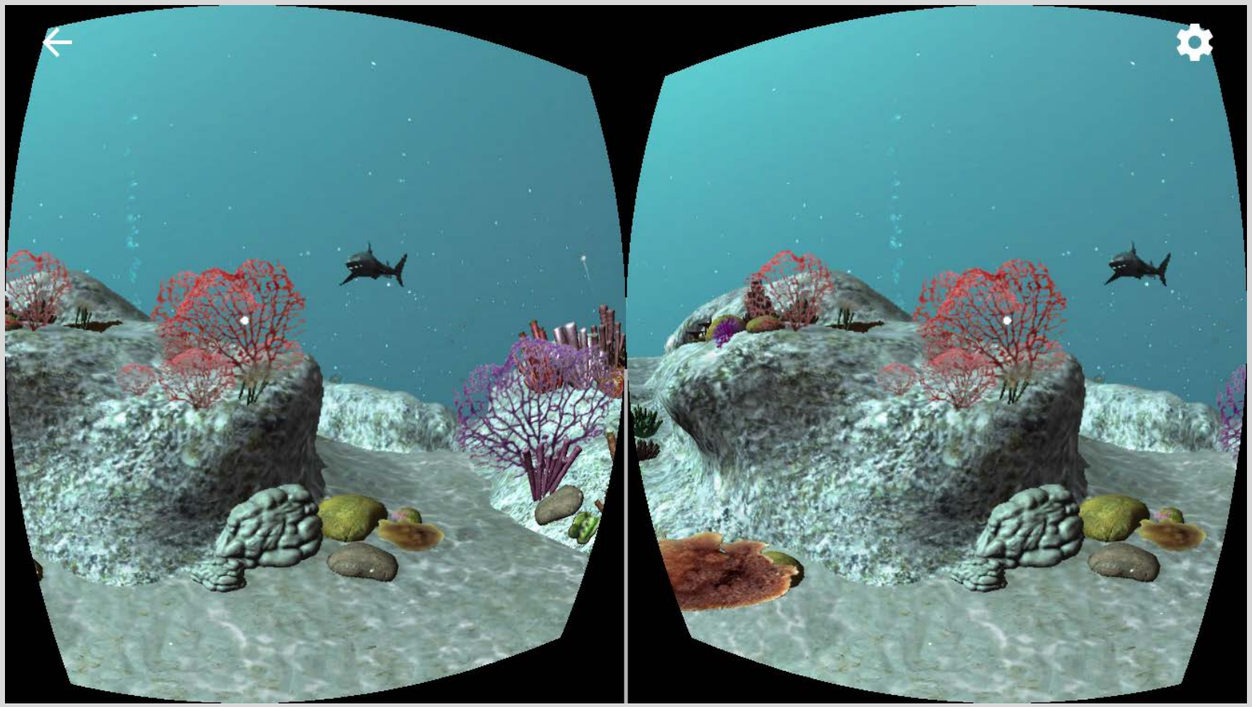
Jake moves to the second level of the ocean by clicking the second level on the depth gauge on the screen

PROOF OF CONCEPT

User Flow 4: Moving to the next level of the ocean

1/2 - After Jake interacts with the last sea creature, the narrator tells him he can move to the second level of the ocean

voice over "After encountering three sea creatures in the Sunlight Zone, you may now move on to the next level of the ocean."



action: After hearing the narrator speak, user looks for the next sea creature to encounter

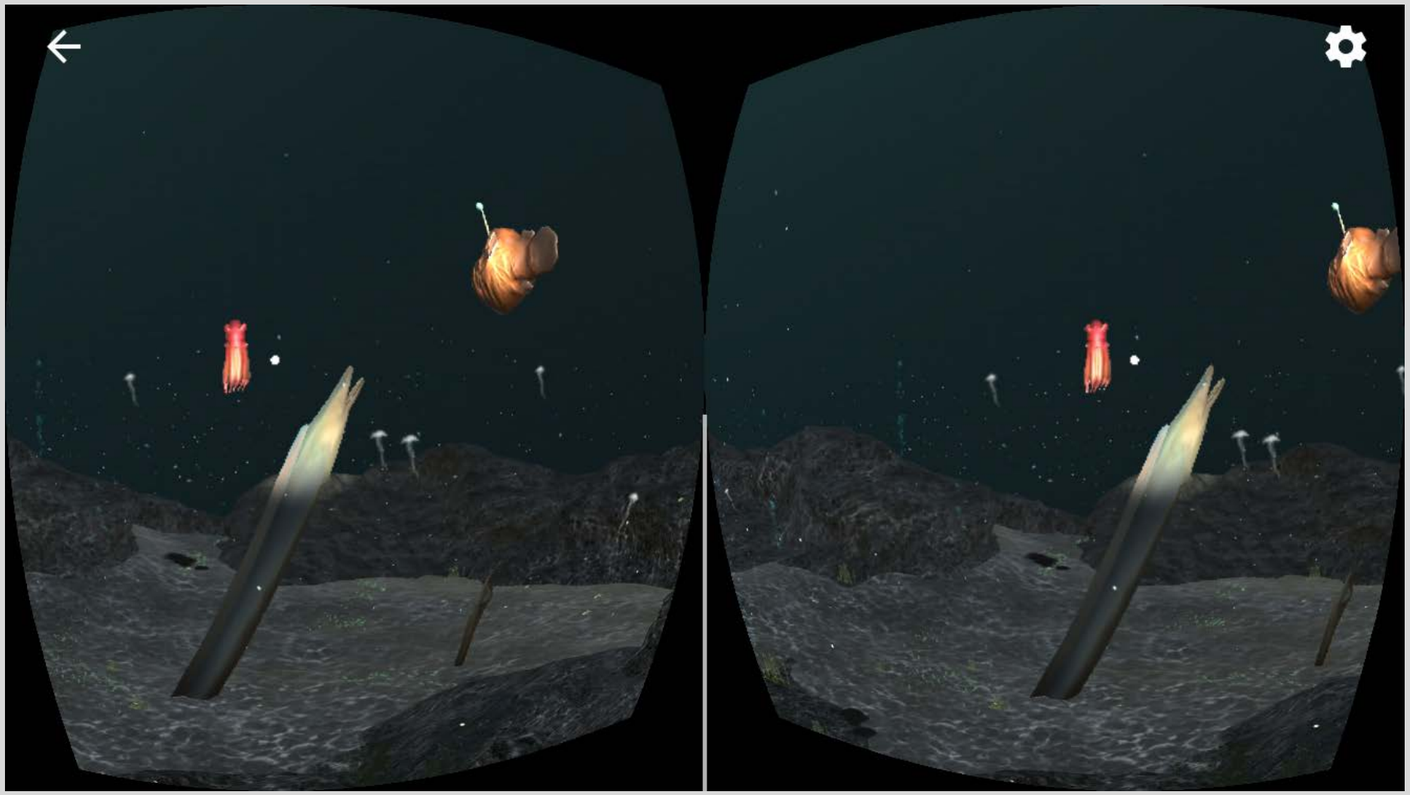
PROOF OF CONCEPT

User Flow 4: Moving to the next level of the ocean

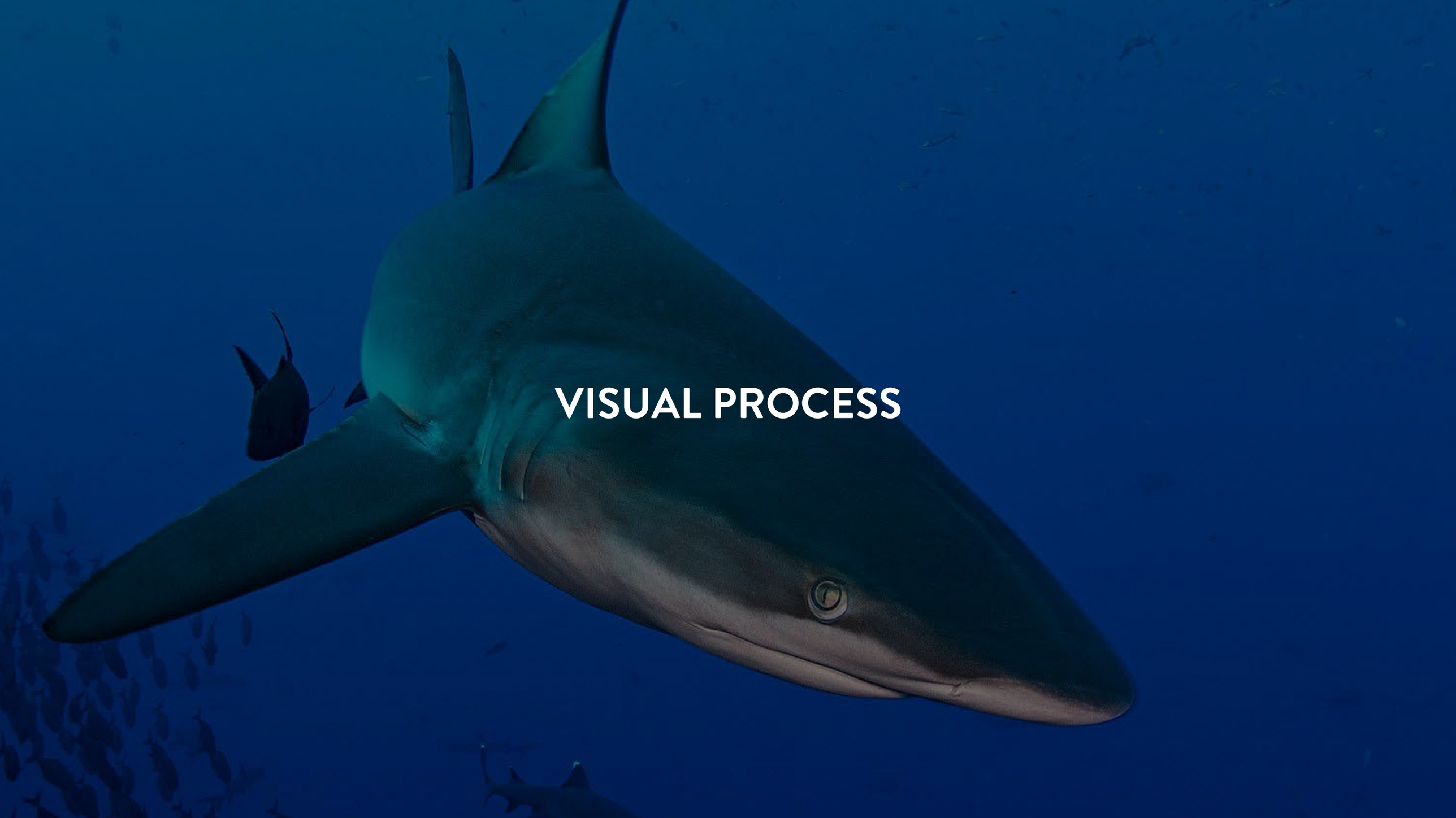
5/5 - Jake looks for the next sea creature after he learns three facts about the Stonefish

voice over

“You’re now at the second level of the ocean, known as the Twilight Zone or the Dysphotic Zone.”



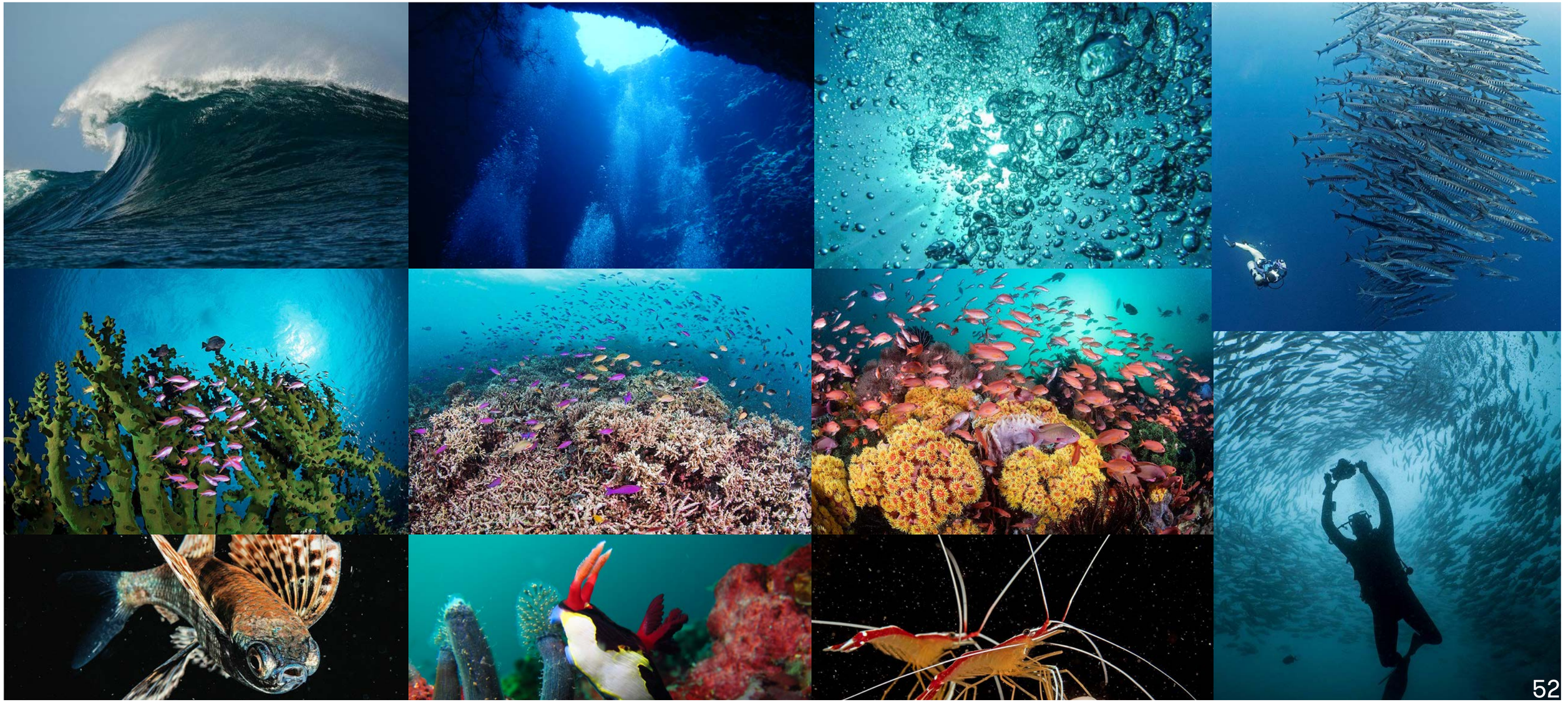
action: After hearing the narrator speak, user looks for the next sea creature to encounter



VISUAL PROCESS

MOOD BOARD

General look and feel of the app

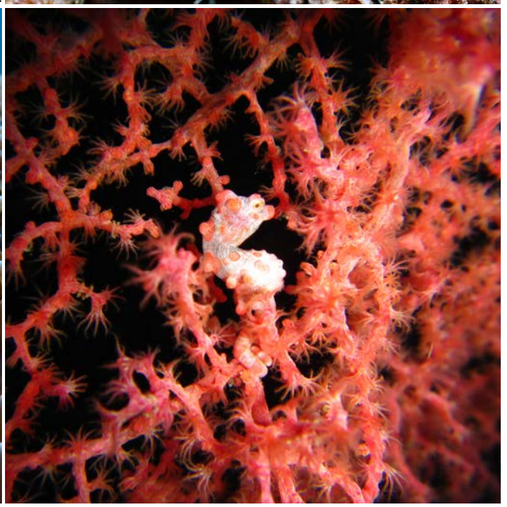


Sunlight Zone











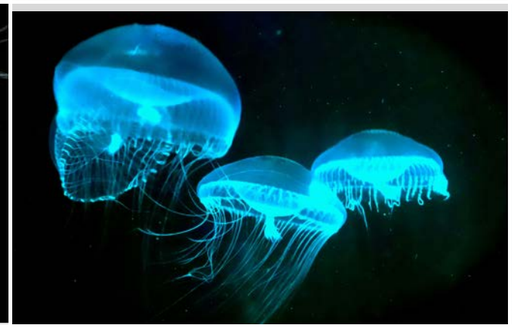

Twilight Zone





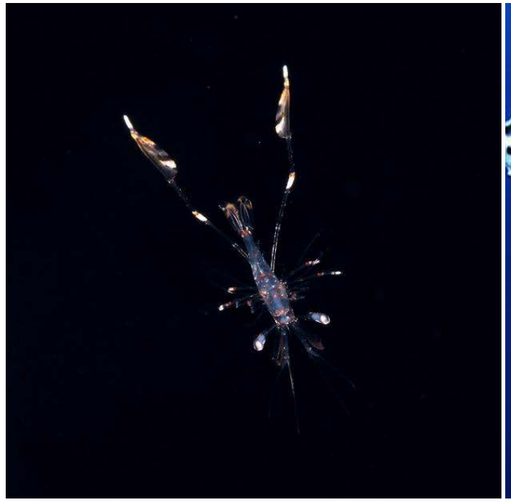
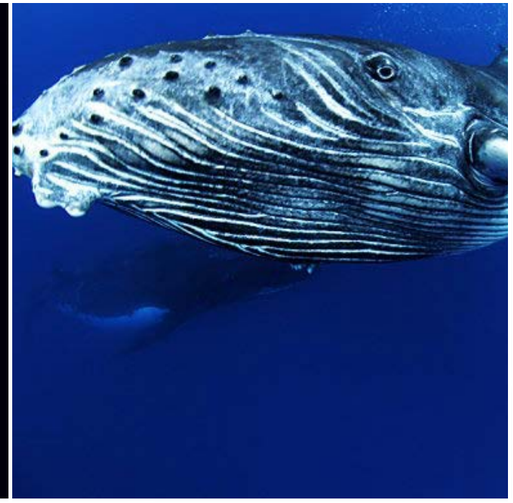






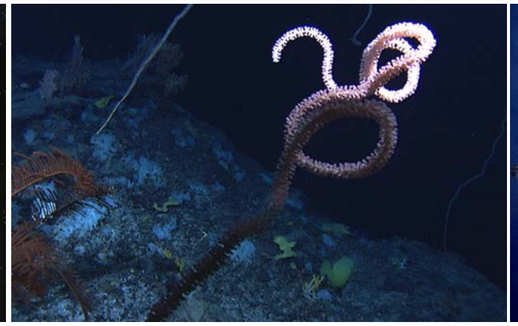

Midnight Zone



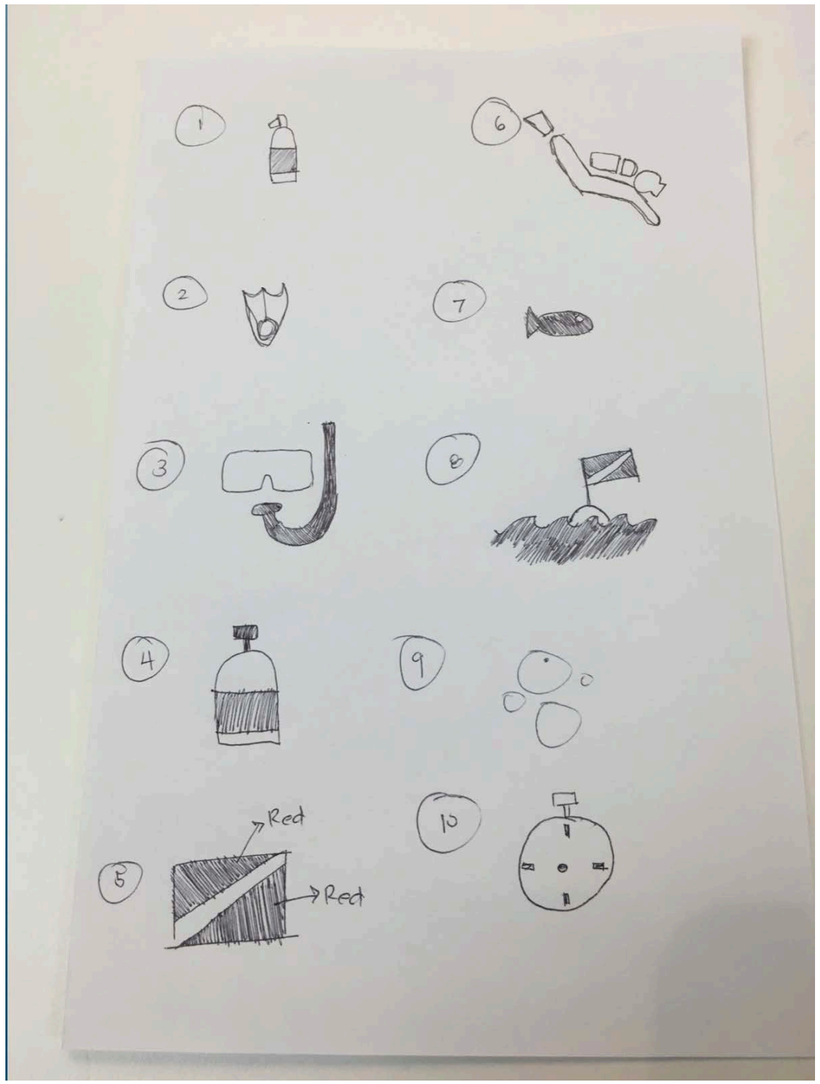


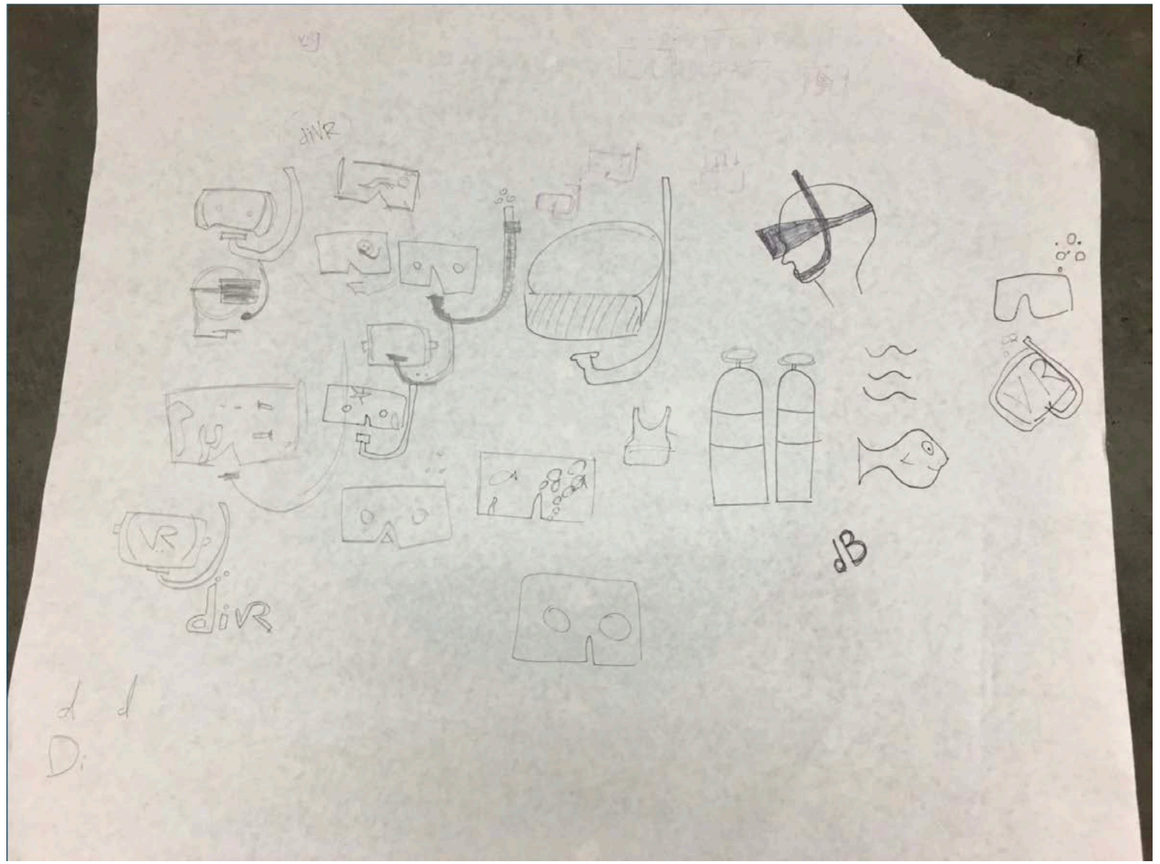




LOGO EXPLORATION

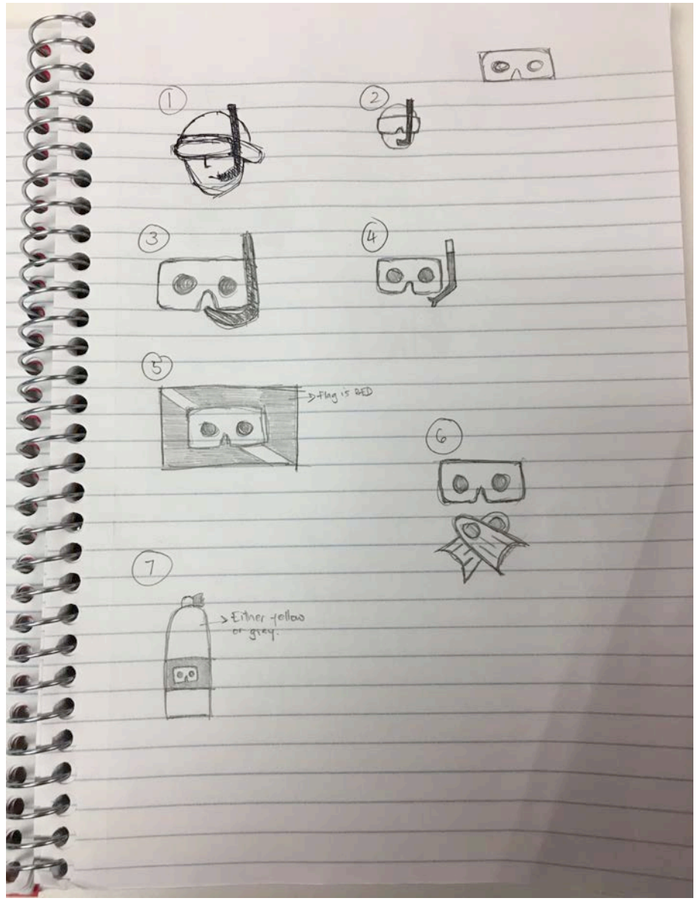
Hand drawn logos - Fall 2016

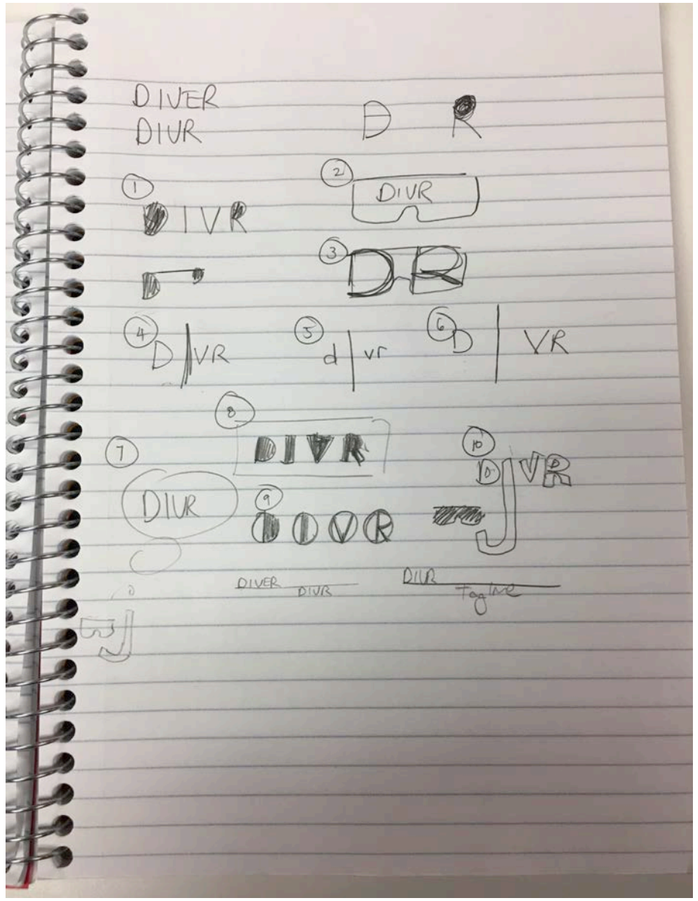


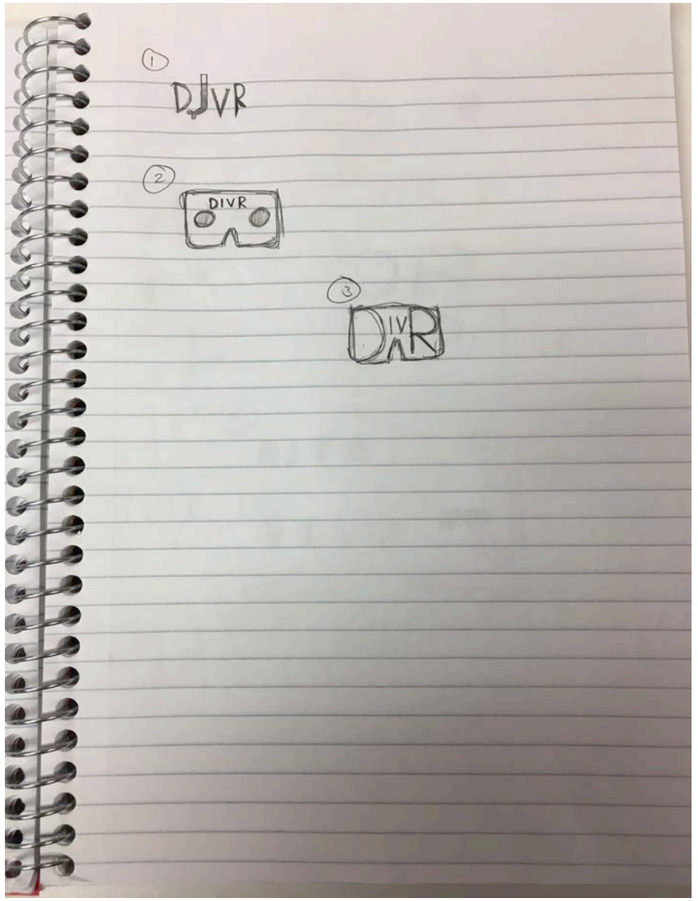


LOGO EXPLORATION

Hand drawn logos - Fall 2018

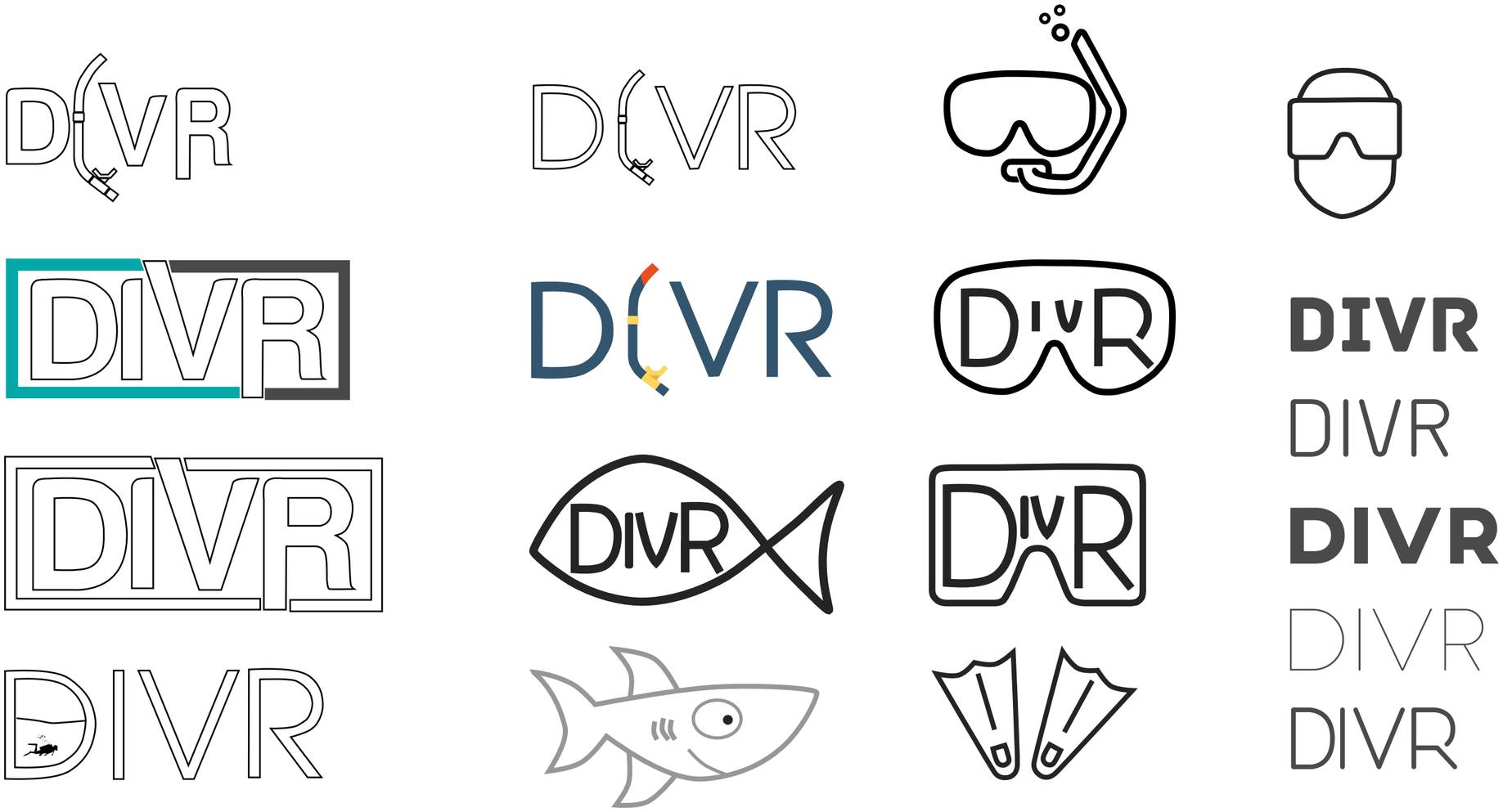






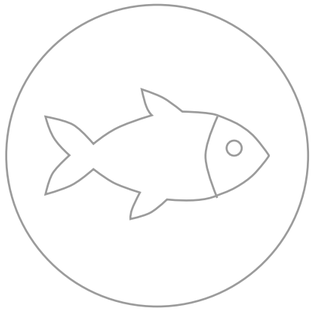
LOGO EXPLORATION

Vector based logos - Fall/Spring 2018



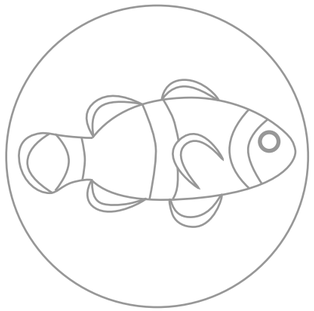
ICON EXPLORATION

Version 1

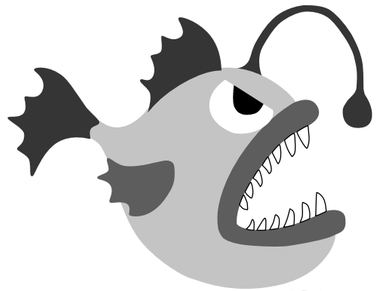


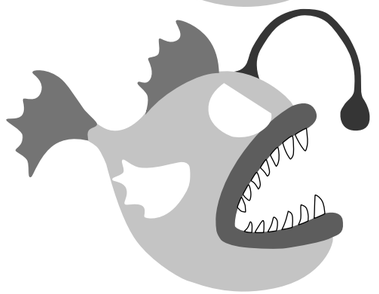
Version 2

Version 3



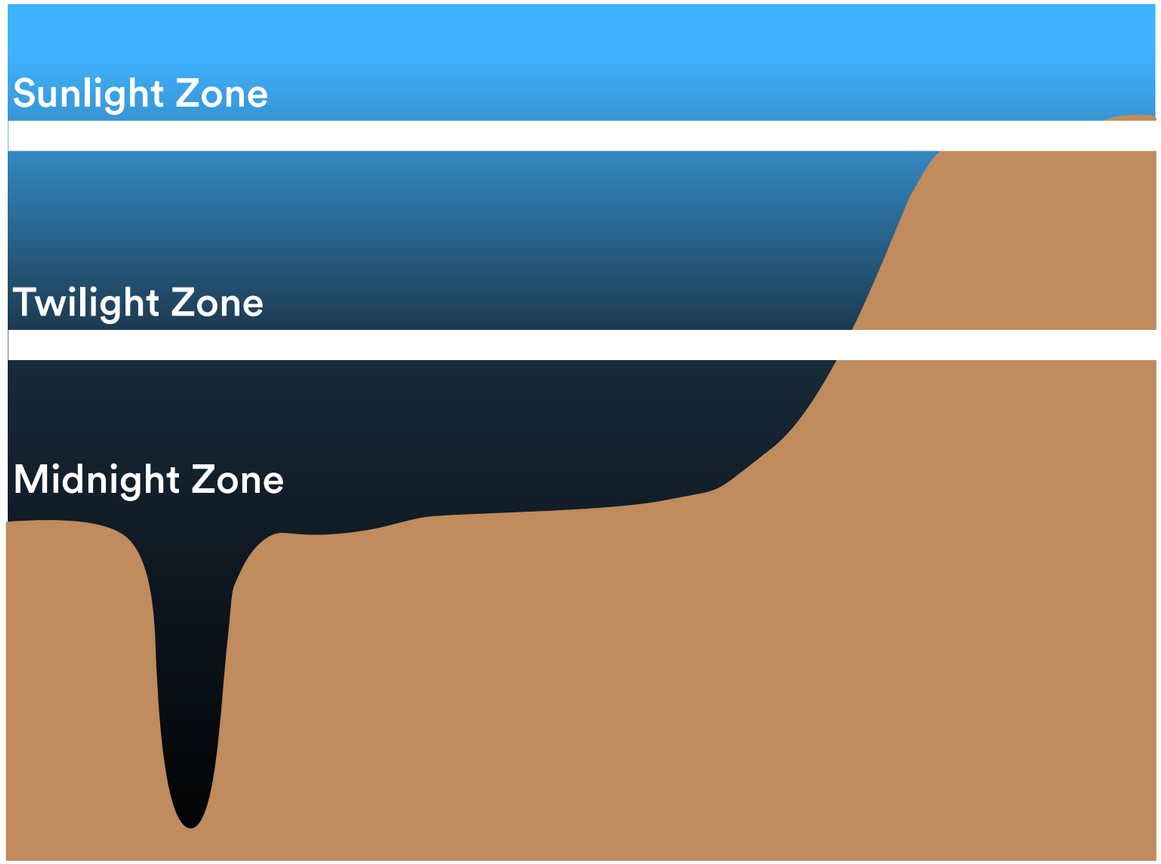
Version 4



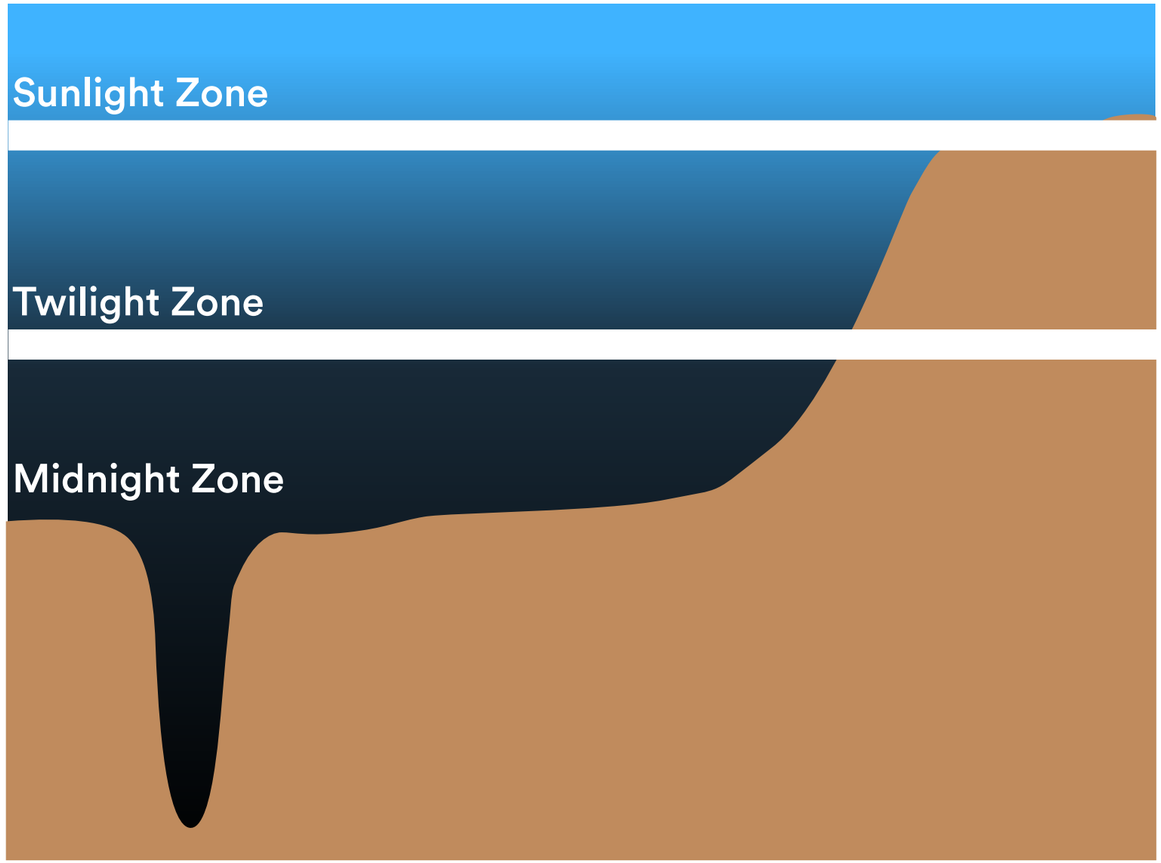


ICON EXPLORATION

Version 5



FINAL LOGO & ICONS



Level icon

Logo

TYPOGRAPHY & COLOR PALETTE

Font selection

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

1 2 3 4 5 6 7 8 9 0

The wizard quickly jinxed the gnomes before they vaporized

Circular Std Medium

Styles

Header 1

Body text

Color palette

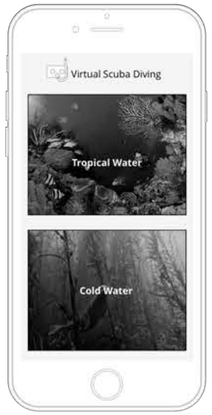
HEX #: 6FB5C1
CMYK: 42,6,0,24
RGB: 111,181,193

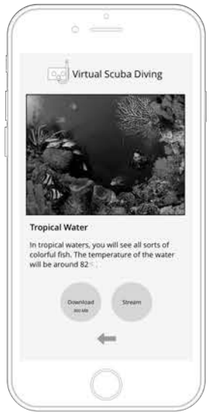
HEX #: 5687A4
CMYK: 48,18,0,36
RGB: 86,135,164

HEX #: 1A3757
CMYK: 70,37,0,66
RGB: 26,55,87

DESIGN ITERATIONS

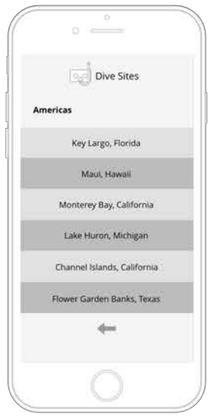
1st Round: Fall 2016 - Low-fidelity mobile wireframes

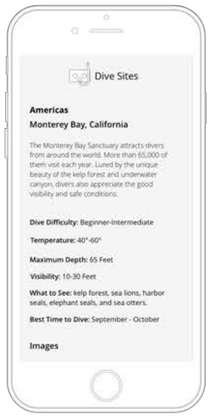




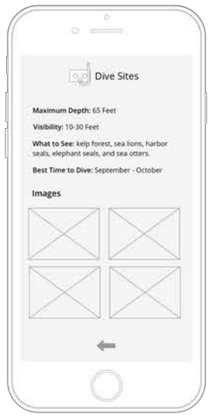
*If yes

*If no



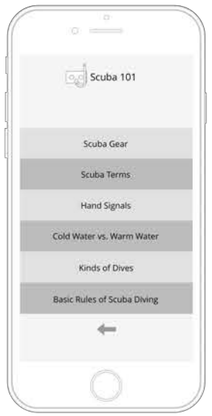


*Monterey Bay (1)



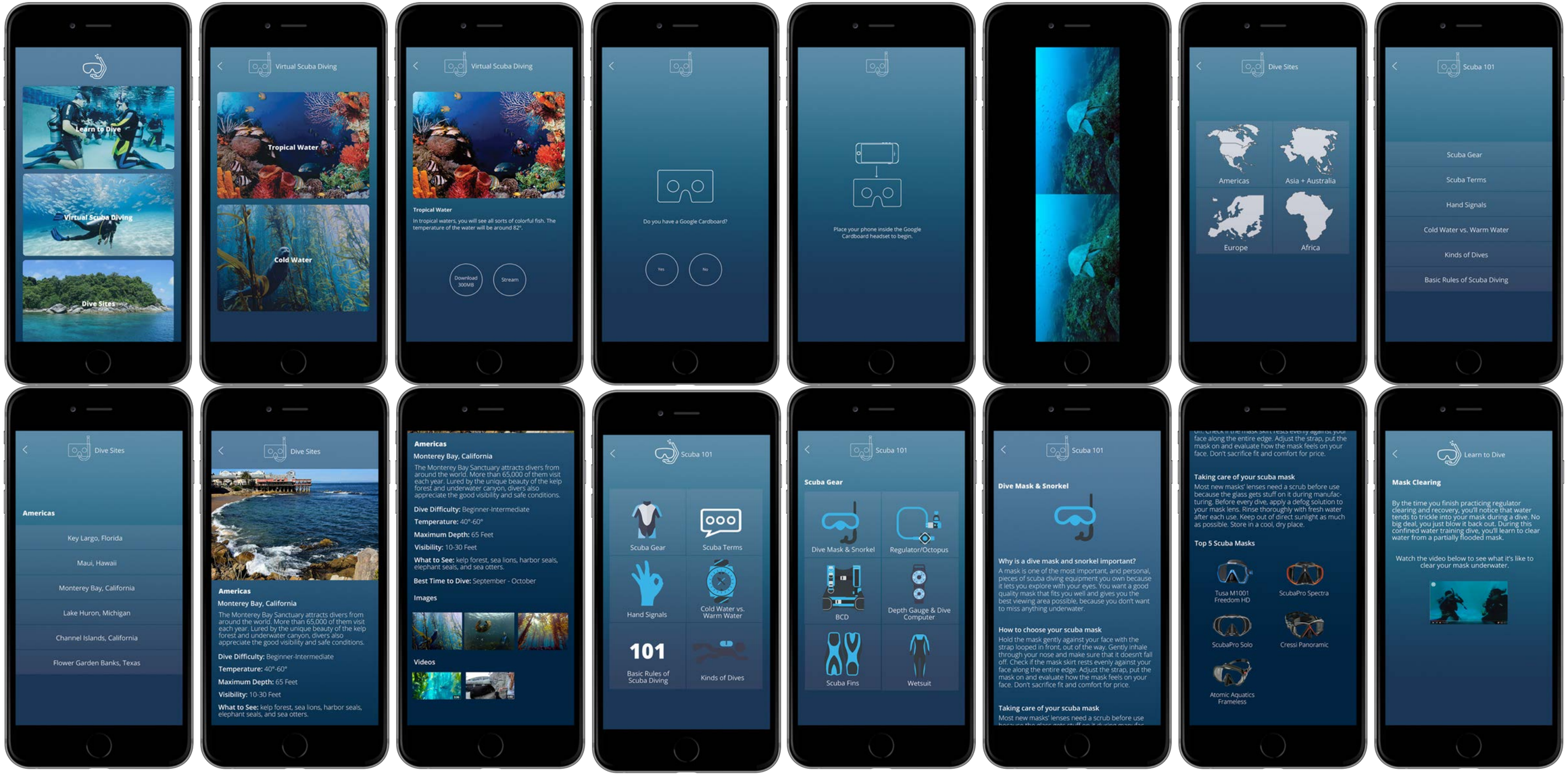
*Monterey Bay (2)

*Monterey Bay (3, if image is clicked)



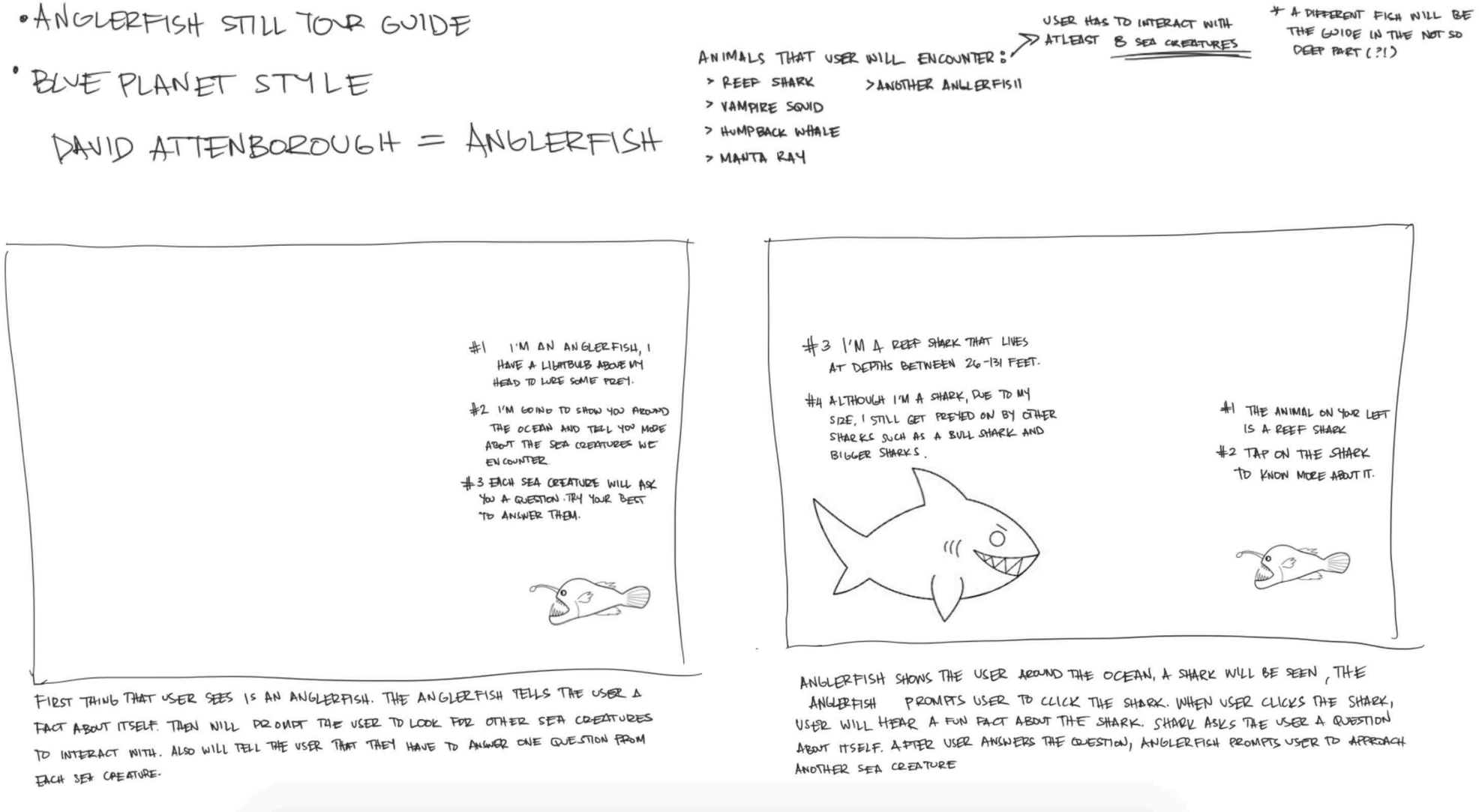
DESIGN ITERATIONS

1st Round: Fall 2016 - High-fidelity mockups



DESIGN ITERATIONS

2nd Round: Fall 2017 - Low-fidelity storyboards



DESIGN ITERATIONS

2nd Round: Fall 2017 - Low-fidelity storyboards

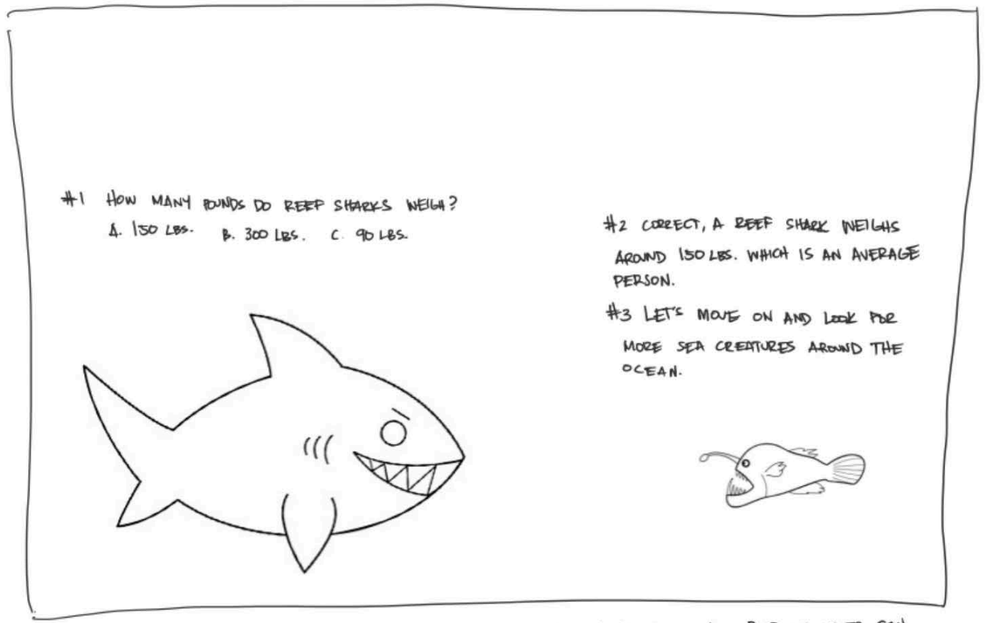
- ANGLERFISH STILL TOUR GUIDE
- BLUE PLANET STYLE

DAVID ATTENBOROUGH = ANGLERFISH

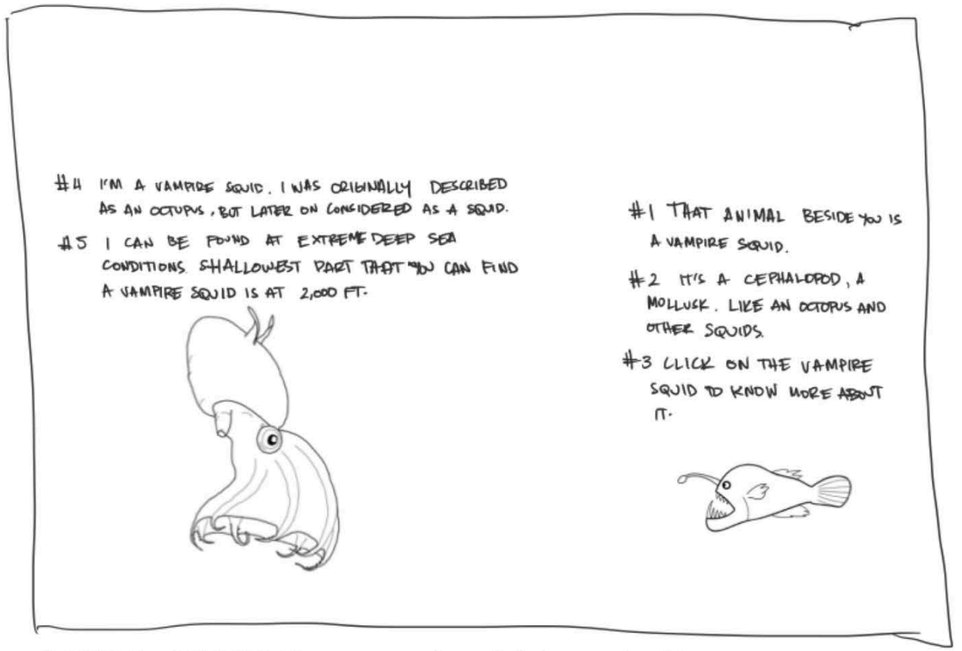
ANIMALS THAT USER WILL ENCOUNTER:
- > REEF SHARK
- > VAMPIRE SQUID
- > HUMPBACK WHALE
- > MANTA RAY
- > ANOTHER ANGLERFISH

→ USER HAS TO INTERACT WITH ATLEAST 8 SEA CREATURES

* A DIFFERENT FISH WILL BE THE GUIDE IN THE NOT SO DEEP PART (?!)



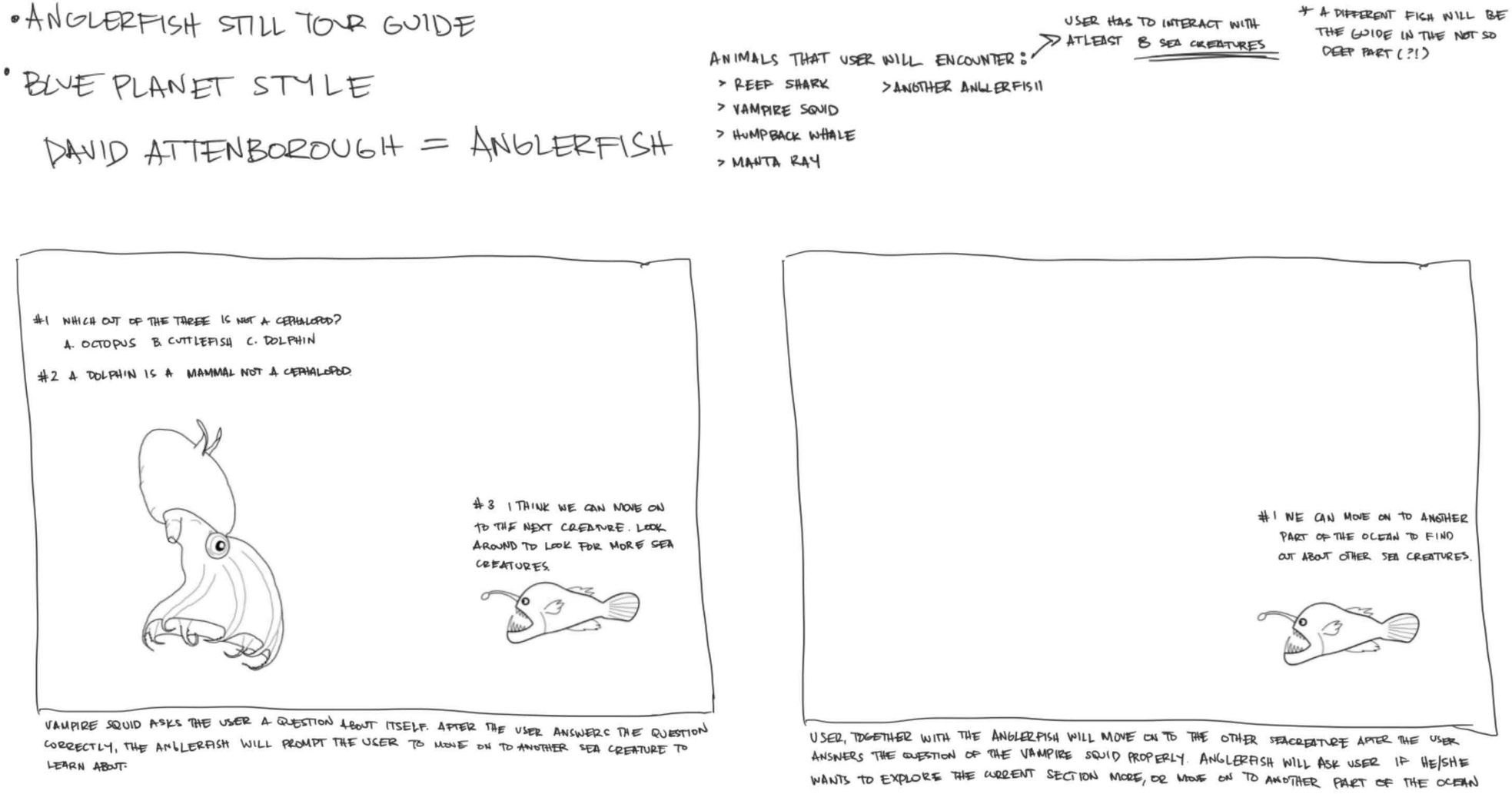
ANGLERFISH WILL TELL THE USER TO LOOK FOR ANOTHER SEA CREATURE, BUT BEFORE USER CAN MOVE TO ANOTHER CREATURE, USER MUST BE ABLE TO ANSWER THE QUESTION THAT THE SHARK WILL ASK.



ANGLERFISH AND THE USER WILL ENCOUNTER ANOTHER SEA CREATURE. ANGLERFISH TELLS THE USER WHAT KIND OF CREATURE IT IS, THEN WILL PROMPT THE USER TO CLICK ON THE SEA CREATURE TO KNOW MORE ABOUT IT.

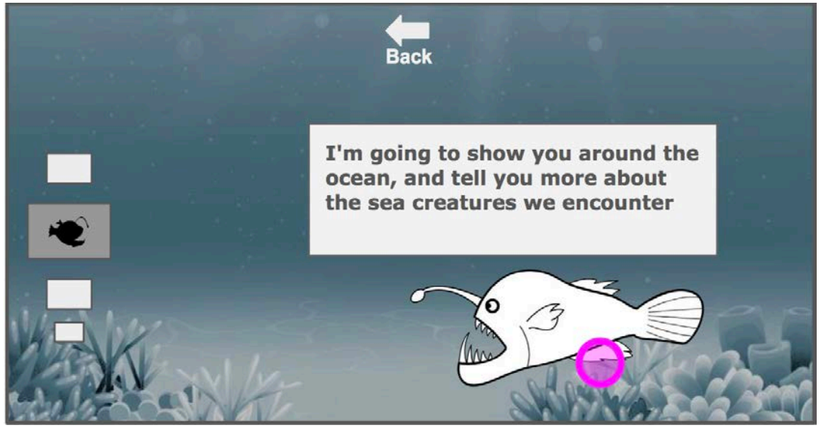
DESIGN ITERATIONS

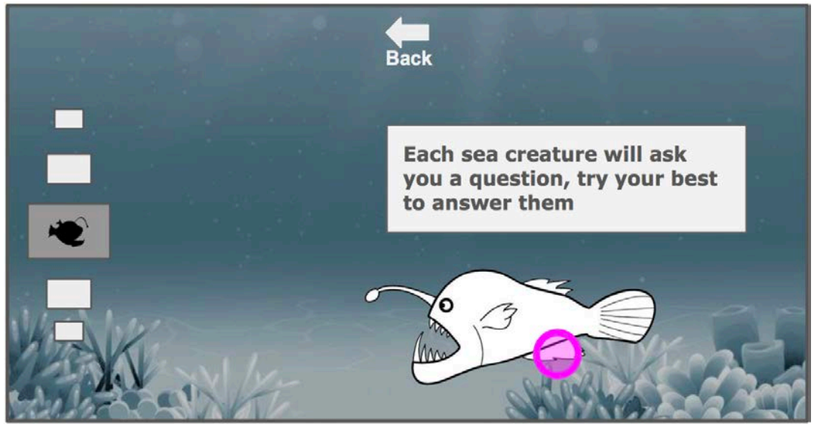
2nd Round: Fall 2017 - Low-fidelity storyboards

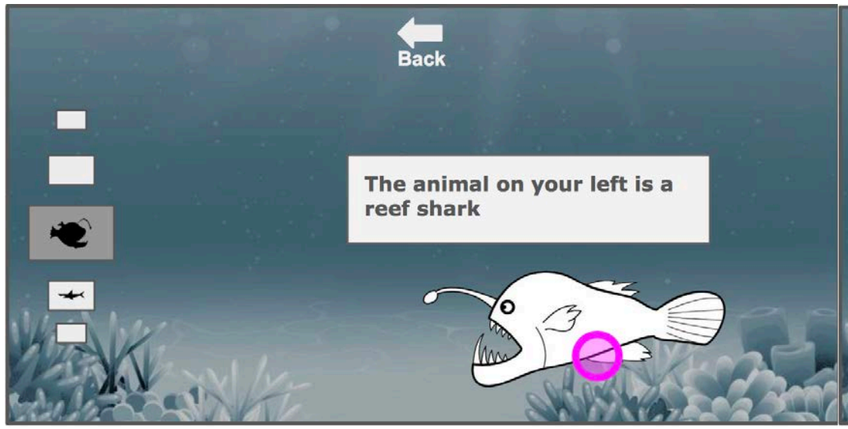


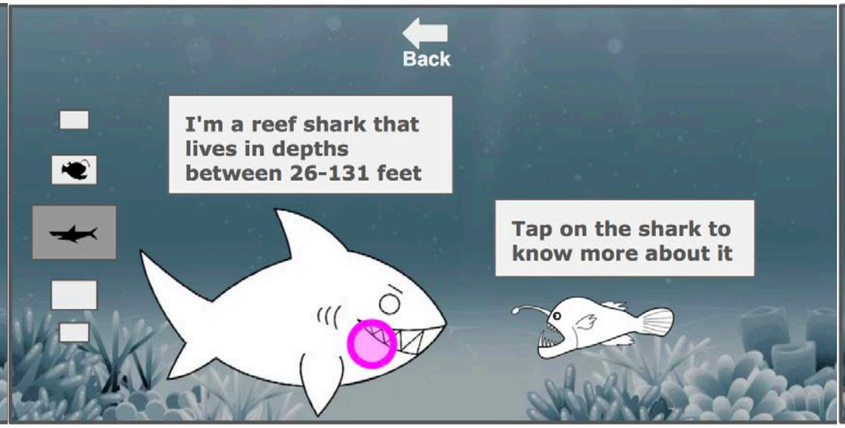
DESIGN ITERATIONS

2nd Round: Fall 2017 - Low-fidelity storyboards



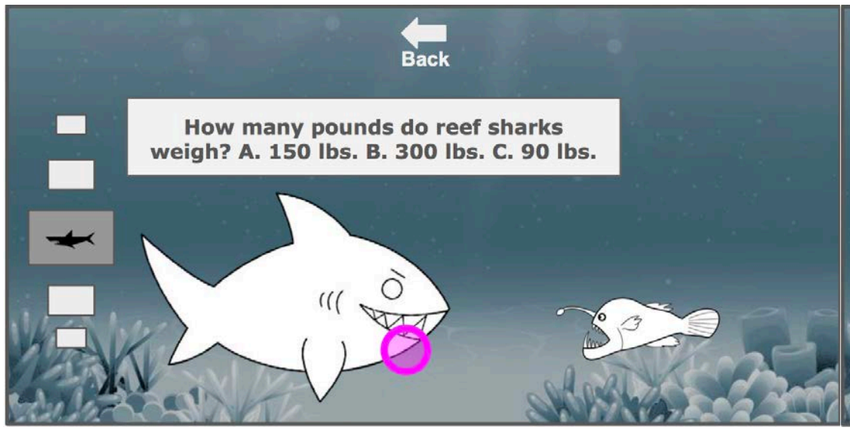


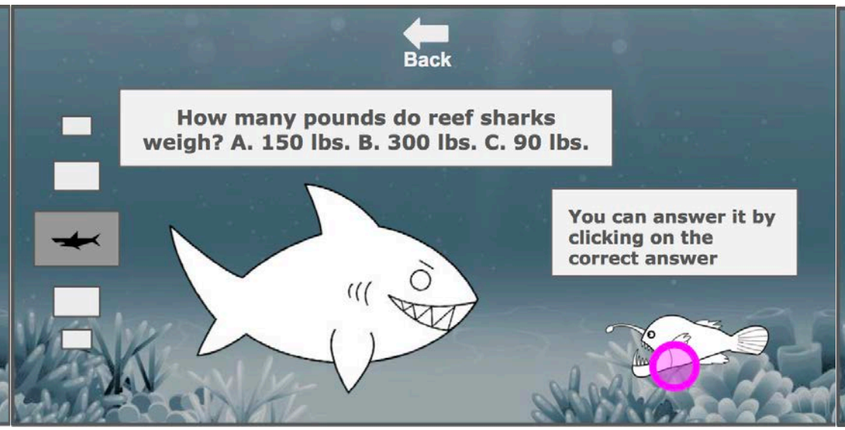


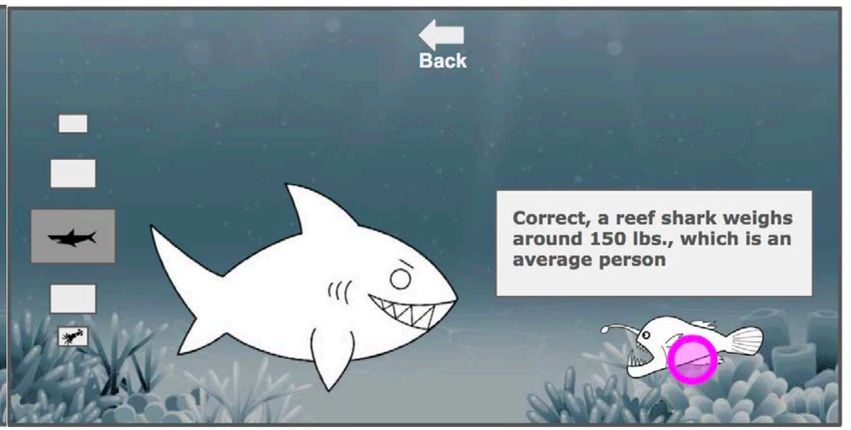


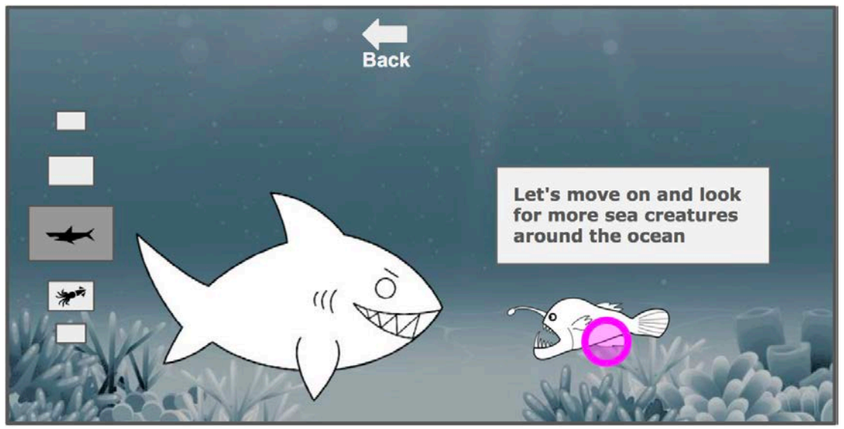
DESIGN ITERATIONS

2nd Round: Fall 2017 - Low-fidelity storyboards



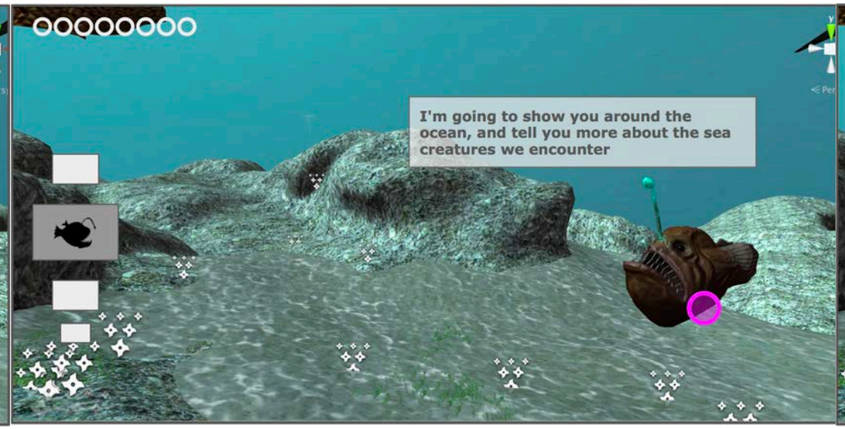


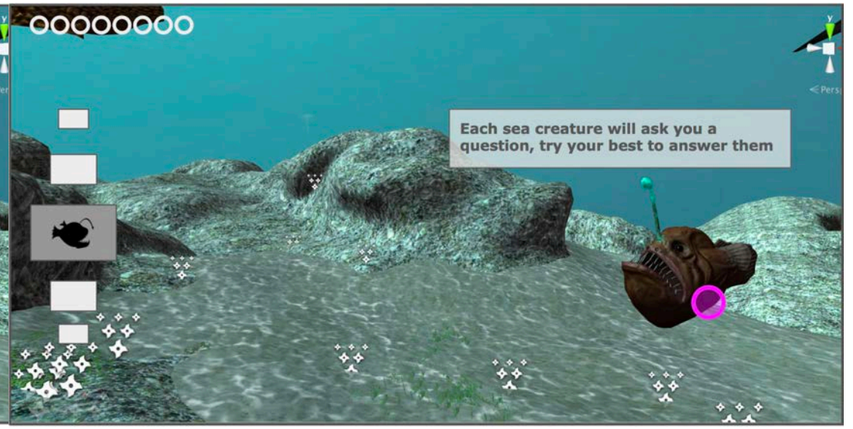


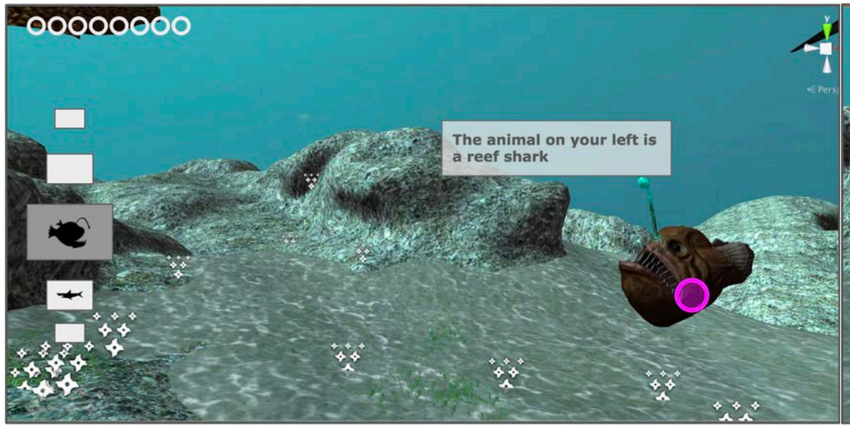


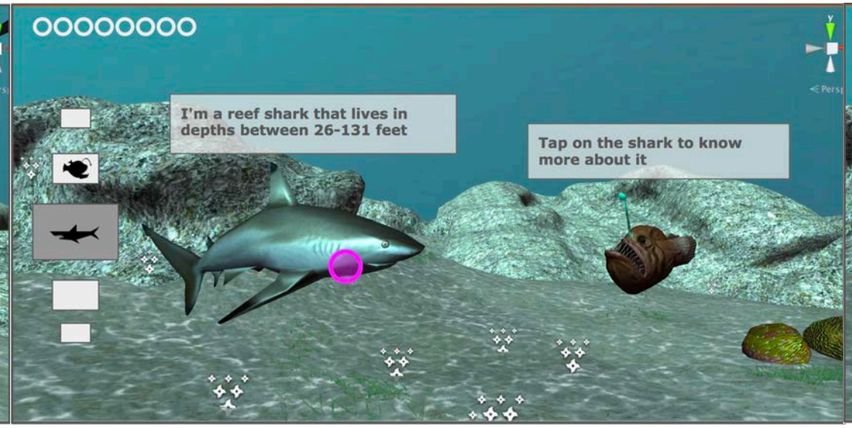
DESIGN ITERATIONS

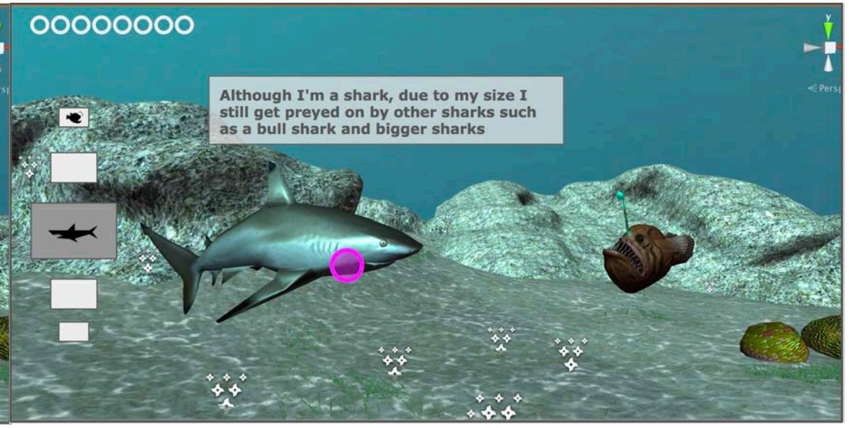
2nd Round: Fall 2017 - medium-fidelity storyboards





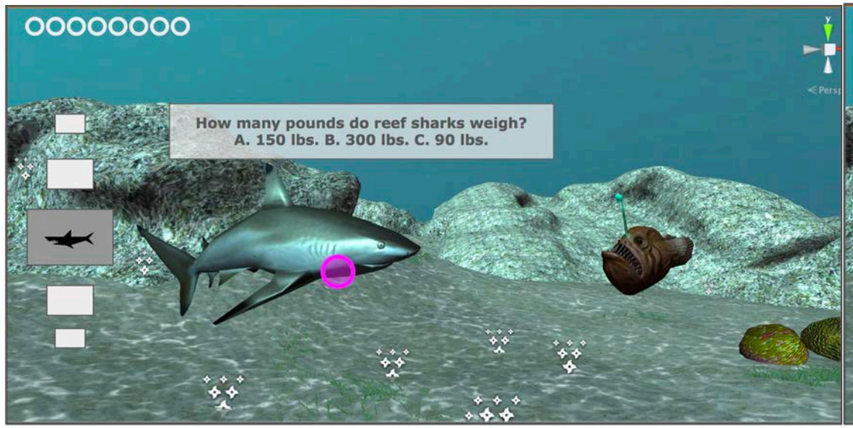


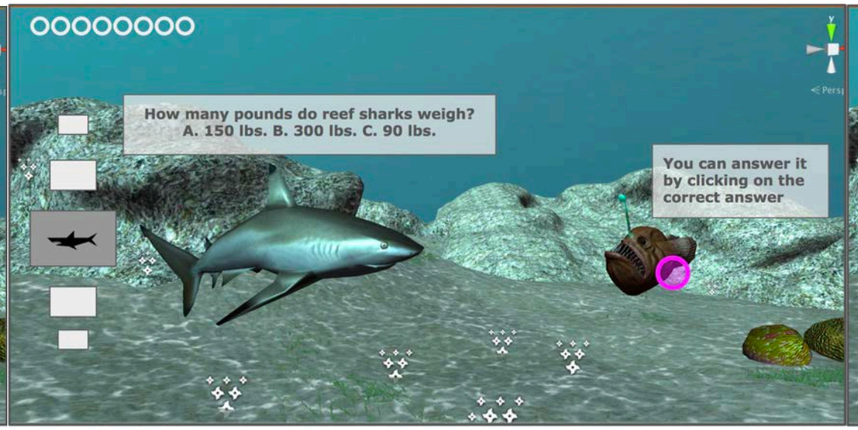


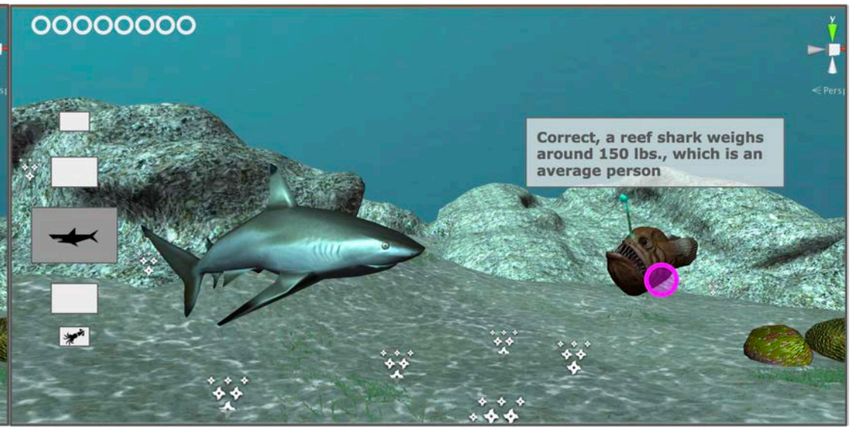


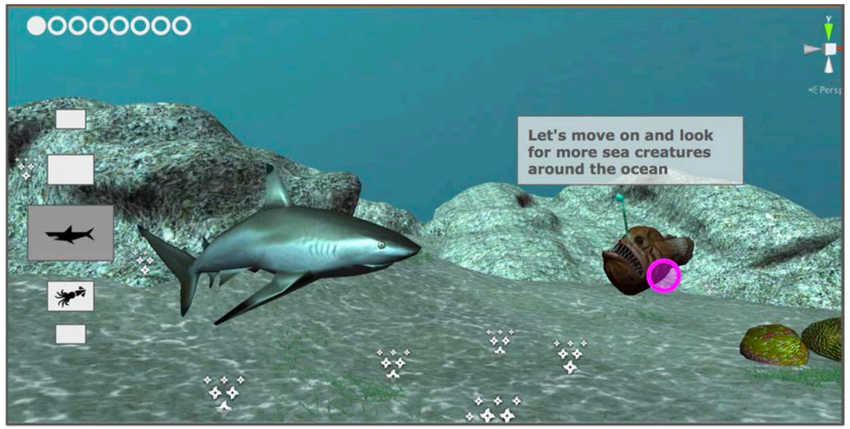
DESIGN ITERATIONS

2nd Round: Fall 2017 - medium-fidelity storyboards





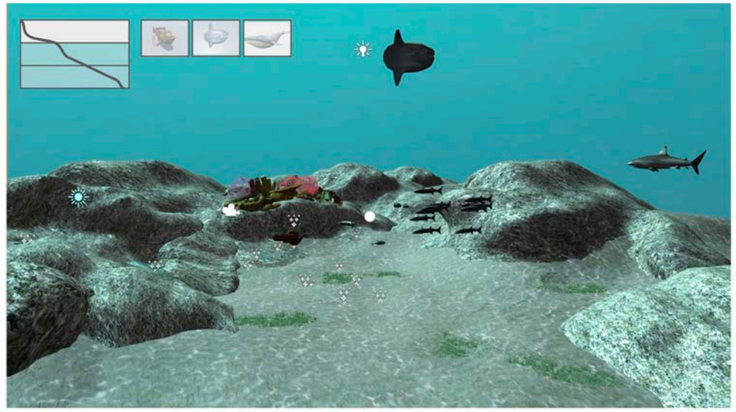




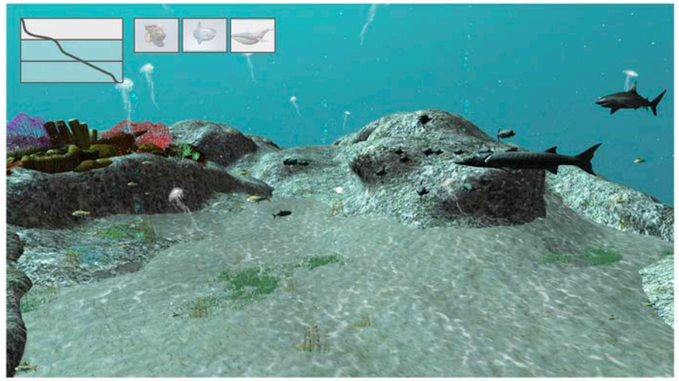
DESIGN ITERATIONS

3rd Round: Spring/Fall 2018 - medium-fidelity storyboards

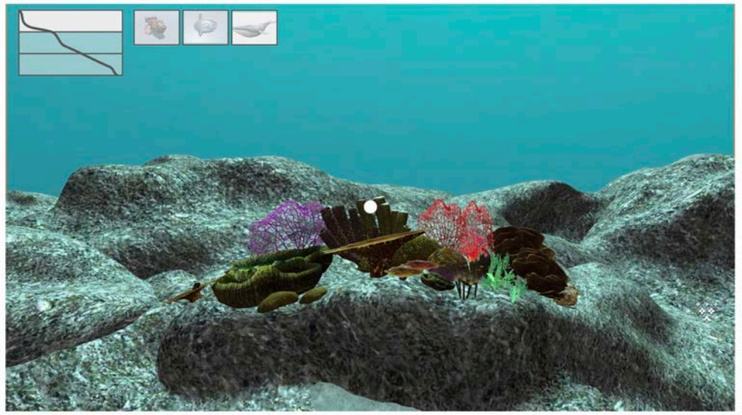
VOICE OVER "Move towards the Stonefish resting on top of a coral to learn more about it"



VOICE OVER "You've reached the most shallow part of the ocean, which is called the Sunlit Zone or Euphotic Zone"

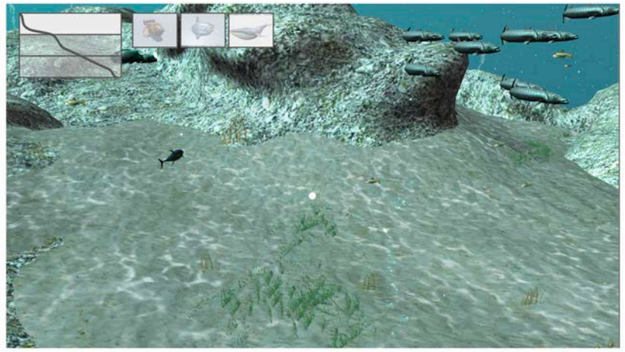


Action: Fish swimming. User is static



Action: User tilts his head down and moves his head to look for the Stonefish

VOICE OVER "Explore the area by tilting your head down to move around the ocean"
"To interact or learn more about a sea creature, while looking at the sea creature, press the button on the cardboard"



Action: User tilts head up and down to move around level

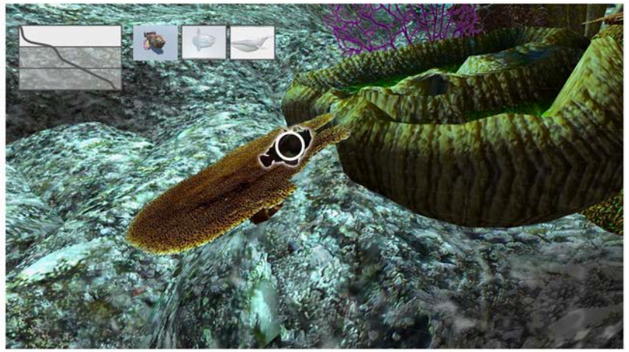
VOICE OVER "The Stonefish on top of the coral is one of the most poisonous fish in the world. It can kill you in less than five minutes"

"Press the button on the cardboard to know about the Stonefish"

DESIGN ITERATIONS

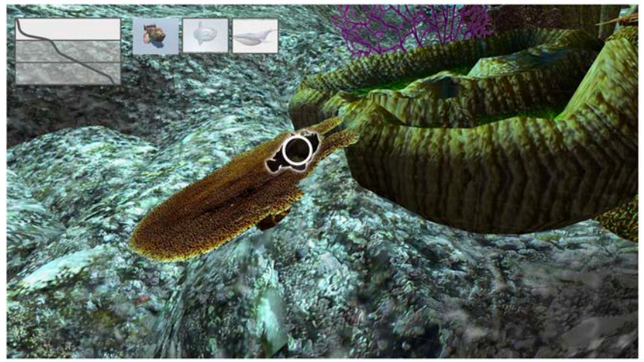
3rd Round: Spring/Fall 2018 - medium-fidelity storyboards

VOICE OVER "The Stonefish is also a meat eater or a carnivore, they prey on smaller fish and shrimp"



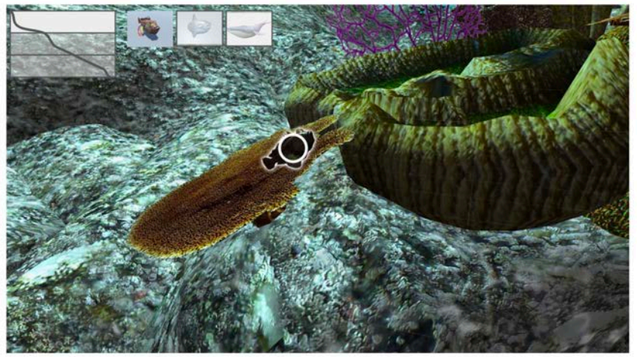
Action: User presses the button on the Google Cardboard to interact with the Stonefish

VOICE OVER "The Stonefish is also a meat eater or a carnivore, they prey on smaller fish and shrimp"



Action: User looks for the next sea creature he can learn about

VOICE OVER "Now that you've learned about a Stonefish, look for more sea creatures around the ocean to interact with"



Action: User presses the button on the Google Cardboard to interact with the Stonefish

TECHNICAL PROCESS

PROJECT DEVELOPMENT

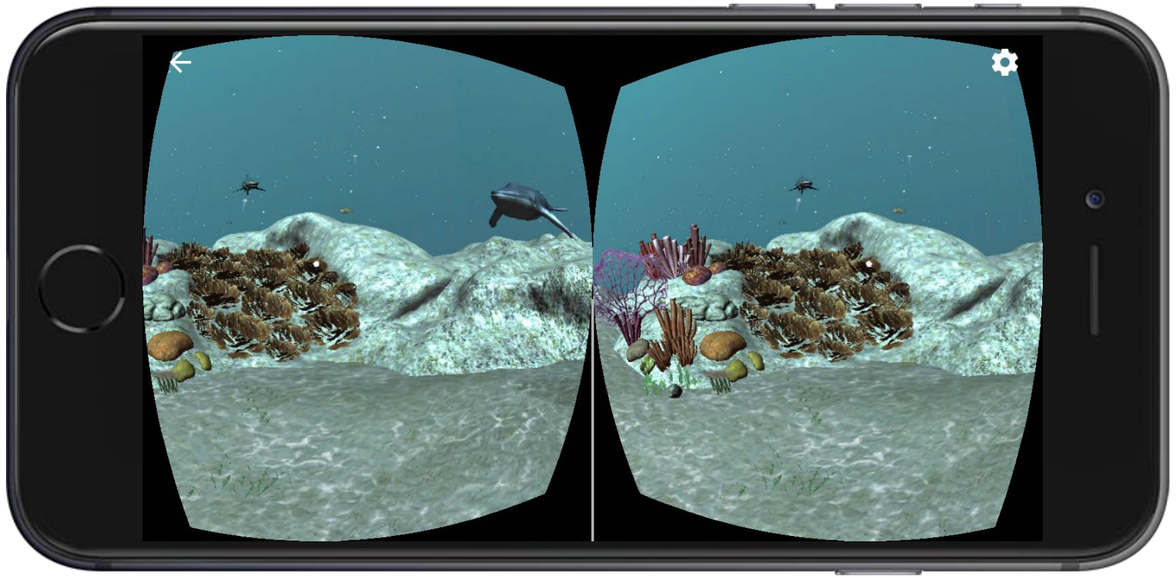
Project form

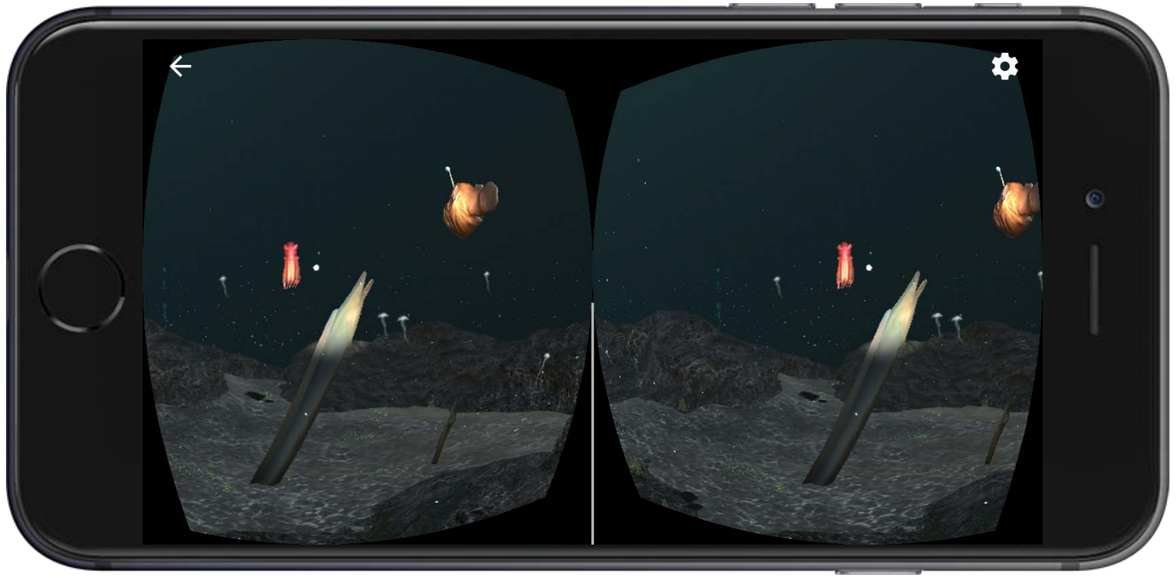
DiVR is a VR enabled mobile app available for iOS, optimized for iPhone 6 and newer models.

Technology used

- C#
- Google Cardboard SDK
- Unity software
- Xcode software

unity





VR & GOOGLE CARDBOARD

Why use VR to execute the project?

Virtual reality is used to execute this project so that the users get to immerse themselves in an enviroment that is unfamiliar to them.

Also allows the users to experience how the underwater world looks like without them having to step outside.

Why Google Cardboard?

- Affordable
- Google Cardboard turns any mobile phone into a VR viewer.
- Accessible to anyone with a mobile phone.

MINIMUM VIABLE PRODUCT

Project form

The minimum viable product in terms of development is to have the first level, the Sunlight Zone, fully functional with sea creatures that the user can interact with. I have three sea creatures that the user can interact with in the Sunlight Zone level.

I used a lot of distance detection scripts so that the user can interact with the sea creatures seamlessly.

```
public class VRLookWalk : MonoBehaviour {

    //VR Main Camera
    public Transform vrCamera;
    //Angle at which walk/stop will be triggered (X value of main camera)
    public float toggleAngle = 5.0f;
    //How fast to move
    public float speed = 3.0f;
    //Should I move forward or not
    public bool moveForward;
    //CharacterController script
    private CharacterController cc;

    // Use this for initialization
    void Start () {
        //Find the CharacterController
        cc = GetComponent<CharacterController> ();
    }

    // Update is called once per frame
    void Update ()
    {
        //Check to see if the head has rotated down to the toggleangle, but not more than straight down
        if (vrCamera.eulerAngles.x >= toggleAngle && vrCamera.eulerAngles.x < 40.0f)
        {
            //Move forward
            moveForward = true;
        }

        else
        {
            //Stop moving
            moveForward = false;

        }

        //Check to see if I should move
        if (moveForward)
        {
            //Find the forward direction
            Vector3 forward = vrCamera.TransformDirection(Vector3.forward);
            //Tell CharacterController to move forward
            Vector3 newPos = new Vector3(forward.x * speed, 0, forward.z * speed);
            //cc.SimpleMove(forward * speed);
            //this.transform.position = newPos;
            cc.Move(newPos * Time.deltaTime);
```

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class AnglerFishNearShark : MonoBehaviour {

    public GameObject sharkObject;
    public AnglerAudioScript anglerFishAudio;
    public float triggerDistance;

    private bool isPlayed = false;

    void Update () {

        float dist = Vector3.Distance(transform.position, sharkObject.transfo
        Debug.Log(dist);
        if (dist <= triggerDistance && !isPlayed)
        {

            anglerFishAudio.PlayLastClip();
            isPlayed = true;
        }

        if (dist >= triggerDistance) {

            isPlayed = false;
        }


    }
}
```

TECHNICAL ISSUES

The project was difficult for me to develop because I had no background in C#. I also had zero experience UX and interaction design when it came to virtual reality,
I was only familiar with the other traditional media such as websites and mobile apps.

The biggest and most difficult problem I encountered was deploying my project to my phone for me to test it. The previous version of Unity (2017.1.f1) had issues with Xcode and cocoapods which prevented me from transferring my project to my phone. It took me a few weeks and a lot of trial and error to be able to view my project on my phone. Everyone who was a Mac user had the cocoapods issue.

Another small issue I encountered during development was the limited number of times I can transfer my project to my phone using a free Apple developer account. I discovered that I had to change the Bundle Identifier if I installed the project more than nine times in a week.

Once Unity updated to 2017.3.f03, the cocoapods issue was resolved and I'm able to transfer my project with ease.

```
Last login: Sun Oct  1 19:55:09 on ttys000
Margas-MacBook-Pro:~ Marga$ cd /Users/Marga/Desktop/Fall2017/WNM499/module_4/GVR\ Demo/Builds/Demo pod update [PODNAME]
Margas-MacBook-Pro:Demo Marga$ cd /Users/Marga/Desktop/Fall2017/WNM499/module_4/GVR\ Demo/Builds/Demo
Margas-MacBook-Pro:Demo Marga$ pod update
Update all pods
Updating local specs repositories
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master fetch origin --progress
  remote: Counting objects: 36, done.
  remote: Compressing objects: 100% (20/20), done.
  remote: Total 36 (delta 22), reused 25 (delta 14), pack-reused 0
  From https://github.com/CocoaPods/Specs
     9900bc4022e..001c3d9deea  master     -> origin/master
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master rev-parse --abbrev-ref
  HEAD
  master
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master reset --hard
  origin/master
  HEAD is now at 001c3d9deea [Add] Yakka 2.0.1

CocoaPods 1.4.0.beta.1 is available.
To update use: `sudo gem install cocoapods --pre`
[!] This is a test version we'd love you to try.

For more information, see https://blog.cocoapods.org and the CHANGELOG for this version at https://github.com/CocoaPods/CocoaPods/
releases/tag/1.4.0.beta.1

Analyzing dependencies
[!] Unable to satisfy the following requirements:

- `GVRSDK (~> 1.60)` required by `Podfile`

Specs satisfying the `GVRSDK (~> 1.60)` dependency were found, but they required a higher minimum deployment target.

[!] Automatically assigning platform ios with version 7.0 on target Unity-iPhone because no platform was specified. Please specify a
platform for this target in your Podfile. See `https://guides.cocoapods.org/syntax/podfile.html#platform`.
Margas-MacBook-Pro:Demo Marga$ pod cache clean --all
Margas-MacBook-Pro:Demo Marga$ pod update
Update all pods
Updating local specs repositories
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master fetch origin --progress
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master rev-parse --abbrev-ref
  HEAD
  master
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master reset --hard
  origin/master
  HEAD is now at 001c3d9deea [Add] Yakka 2.0.1

CocoaPods 1.4.0.beta.1 is available.
To update use: `sudo gem install cocoapods --pre`
[!] This is a test version we'd love you to try.

For more information, see https://blog.cocoapods.org and the CHANGELOG for this version at https://github.com/CocoaPods/CocoaPods/
releases/tag/1.4.0.beta.1

Analyzing dependencies
[!] Unable to satisfy the following requirements:

- `GVRSDK (~> 1.70)` required by `Podfile`

Specs satisfying the `GVRSDK (~> 1.70)` dependency were found, but they required a higher minimum deployment target.

[!] Automatically assigning platform ios with version 7.0 on target Unity-iPhone because no platform was specified. Please specify a
platform for this target in your Podfile. See `https://guides.cocoapods.org/syntax/podfile.html#platform`.
Margas-MacBook-Pro:Demo Marga$ pod update
Update all pods
Updating local specs repositories
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master fetch origin --progress
  remote: Counting objects: 9, done.
  remote: Compressing objects: 100% (9/9), done.
  remote: Total 9 (delta 5), reused 0 (delta 0), pack-reused 0
  From https://github.com/CocoaPods/Specs
     001c3d9deea..e3bc5e996d5  master     -> origin/master
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master rev-parse --abbrev-ref
  HEAD
  master
  $ /usr/bin/git -C /Users/Marga/.cocoapods/repos/master reset --hard
  origin/master
  HEAD is now at e3bc5e996d5 [Add] JKCalendar 0.1.2

CocoaPods 1.4.0.beta.1 is available.
To update use: `sudo gem install cocoapods --pre`
[!] This is a test version we'd love you to try.
```

USER EXPERIENCE PROCESS

PRIMARY TARGET MARKET

Attributes

- Curious about wildlife
- Body of water is not easily accesible
- Owns a smart phone

Demographics

- Men & women
- 18-40 years old
- Environmentally conscious

Primary goals

- Wants to learn about the not-so-common animals found in the ocean
- Wants to incorporate technology while learning

Behavior

- Up to date with the latest technology
- Medium-heavy mobile phone user
- Curious about the ocean

SECONDARY TARGET

Attributes

- Grew up with technology
- Parents are familiar with the latest technology
- Body of water is not easily accesible

Demographics

- Boys & girls
- 9-13 years old

Primary goals

- Wants to learn about the not-so-common animals found in the ocean
- Wants to have fun while learning

Behavior

- Familiar with technology
- Uses technology to supplement education
- Curious about the animals and the enviroment

PERSONA

Primary Persona

Name: Jake
Age: 26
Occupation: Grad student

Scenario

Jake is a graduate student who's always been fascinated with the ocean ever since he was a kid. All his life, he's always lived near the beach up until he moved to continue his education. If he isn't working or doing school work, he frequently visits the aquarium to check out the different animals or when he's at home he watches shows about the ocean. In the aquarium, he can only observe the common animals such as jellyfish, sharks, and stingrays. For many years, he's also been considering to get certified in scuba diving after graduating.

While browsing through the app store, he discovers a VR applicartion called, DiVR. He noticed that it's an application which is about the ocean and the different kinds of sea creatures. After downloading the app, he discovers that it shows not only the first level of the ocean, but also the other two levels which aren't as known or talked about compared to the first level of the ocean. He decides to download the application to see what else he can discover about the ocean and its sea creatures that inhabit it.

PERSONA

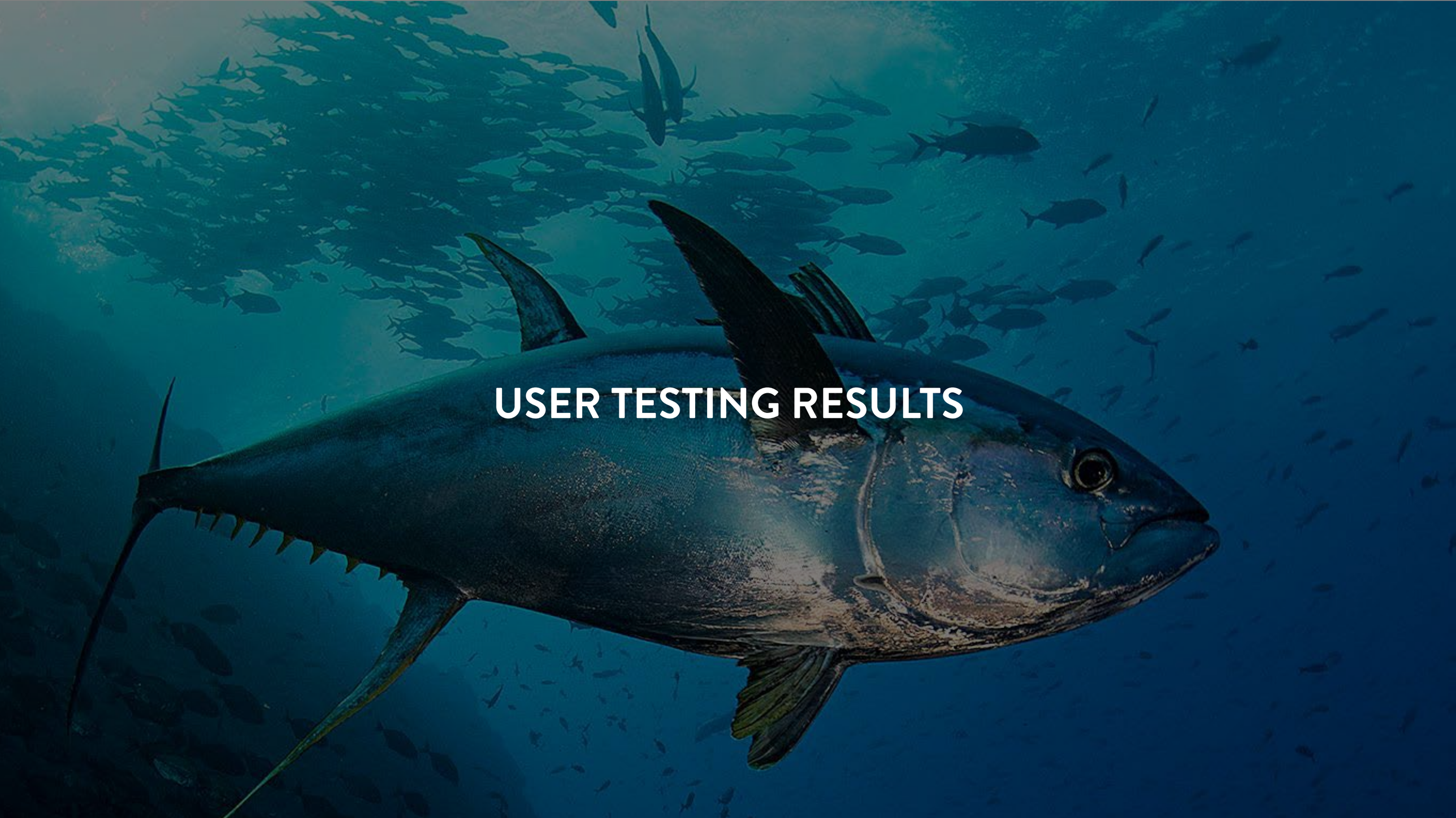
Secondary Persona

Name: Mila
Age: 9
Location: Portland, OR

Scenario

Mila is a 3rd grade student and ever since she's been born, she's been surrounded with technology. From a connected home to an iPhone. After school, she gets picked up by her mom, and on their way home she watches animal videos on her mom's phone. She's interested with all kinds of animals, she borrows her mom's phone to watch videos of dinosaurs and jungle animals. Her parents encourage her curiosity by downloading apps or software that will let her learn things in a fun and interesting way.

While her mom was looking for new applications for Mila to explore, she discovers DiVR and decides to download it. She decides to test out DiVR before making Mila try it and sees that it's something that Mila will enjoy. She gives Mila her phone and introduces DiVR to her. Mila quickly picks up how to use the app and enjoy learning about the ocean and animals in virtual reality, something that is new to her.



USER TESTING RESULTS

SUMMARY OF ITERATIONS

Date	Method	Topic	No. of Testers	Feedback	Documentation
Fall 2018	A/B testing	UI design (level icons)	4	Testers prefer the depth levels over fish icons to show the current level they're at.	https://tinyurl.com/y9je8zxn
Spring 2018	User testing	Icon design	2	Create icons for each level of the ocean.	
Fall 2017	A/B testing	UI design (status bar)	4	Testers prefer the horizontal status bar without the silhouette of the sea creatures.	https://tinyurl.com/ya54dsla
Fall 2017	A/B testing through storyboarding	UI design	4	Putting only one sea creature at a time on the status bar is less confusing.	https://tinyurl.com/y7r2gek5
Fall 2017	Animatics	POV used (1st or 3rd person)	3	Testers feel they're really part of the story. Prefer 1st POV.	https://tinyurl.com/ybpv8dbo
Fall 2017	Animatics + storyboard	Style of storytelling	3	Goals of each persona weren't so clear. Might be too similar from each other.	https://tinyurl.com/yadvd7b6
Fall 2017		Personas	3	Background for the animatic looks a lot better. Maybe have an introduction for each sea creature.	https://tinyurl.com/yb43m3gx
Fall 2017	Usability testing	Task flows	3	User doesn't know what will happen after the interacting with the fish. The game might be too simple for the users	https://tinyurl.com/yb43m3gx

SUMMARY OF ITERATIONS

Date	Method	Topic	No. of Testers	Feedback	Documentation
Fall 2017	Paper prototype	General flow of the app	4	It lacks prompts for the user. Testers suggest that I add cues. Add audio cues.	https://tinyurl.com/ybep68bg
Fall 2017	Q&A + animatics	Overall look and feel of the app	4	Distance of sea creatures and text are too far from each other. The users moves their head too much.	https://tinyurl.com/y9azj8xr
Fall 2017	Q&A + animatics	Overall look and feel of the app	5	Font size issues, too big, sentences are too long.	https://tinyurl.com/yc3pguhk
Fall 2017	Interview	Audience & expert interviews	3	Audience: uses VR seldomly and for entertainment purposes, not educational Expert: VR will help people learn about the ocean	https://bit.ly/2EK1eNp https://bit.ly/2EKlRcx https://bit.ly/2JfVXfi
Fall 2016	Survey	Content of the app	30	Would not try scuba diving. Most haven't tried scuba diving. Everyone is curious about the underwater world.	https://tinyurl.com/ybpv8dbo

USER TESTING: ROUND 1.A

When: Fall 2017
Number of people: 5
Type of user testing: Q&A and animatics

Scenario: User must interact with the shark with the help of the Anglerfish and answer the shark's question correctly in order to move on to the next sea creature.

Results & feedback:

- Text is too big, user has to move his head a lot in order to read properly.
- Slow down the speed of the video.
- Font weight (bold) and font color (white) make the text easier to read.
- Put more animations for the animals.
- Users preferred the 360 animatics version over the flat animatics.

360 view: https://youtu.be/ryKhhCHjR4M
Flat view: https://youtu.be/2aUJVovgzA8

Documentation: https://tinyurl.com/yc3pguhk

USER TESTING: ROUND 1.B

When: Fall 2017
Number of people: 4
Type of user testing: Q&A and animatics

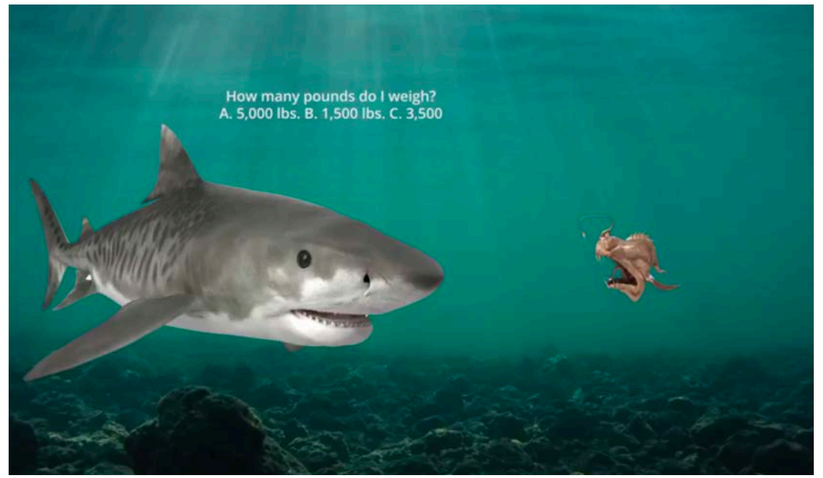
Changes done:

- Shortened length of text.
- Made font size smaller.
- Made the spped of the video slower.

Scenario: User must interact with the shark with the help of the Anglerfish and answer the shark's question correctly in order to move on to the next sea creature.

Results & feedback:

- Decide if you want to make it more scientific (adults) or "cartoony" (kids).
- Distance between two sea creatures are too far from each other.
- Sea creatures are positioned too high on the screen.



360 view: https://youtu.be/CO5flJihnlg
Flat view: https://youtu.be/xwAC2q7_bZc

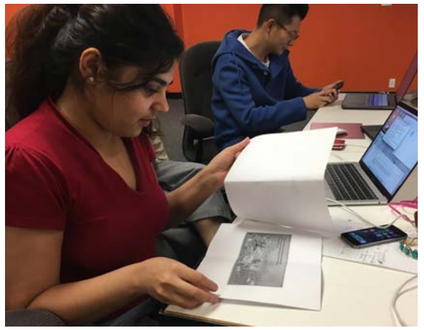
Documentation: https://tinyurl.com/y9azj8xr

USER TESTING: ROUND 2

When: Fall 2017
Number of people: 5
Type of user testing: Paper prototype

Scenario: User must help, Aggie, the Angler fish to his lightbulb back from a sea creature. In order for the user to get back the lightbulb, the user must interact with different sea creatures.





Results & feedback:

- They didn't what to do after reading the text.
- Add a "next" button and sound cues to inform the user in what to do next.
- Make paper prototype colored.
- Change "click" to "gaze".
- Make the sea creatures bigger and make it more interactive by having it make eye contact with the user.
- Try making the characters 2D, but the environment 3D.
- Story is interesting and fun.
- When doing paper prototype, let the user know that it will be a 360 view.

Paper prototype: https://bit.ly/2zNaIas
Documentation: https://tinyurl.com/ybep68bg

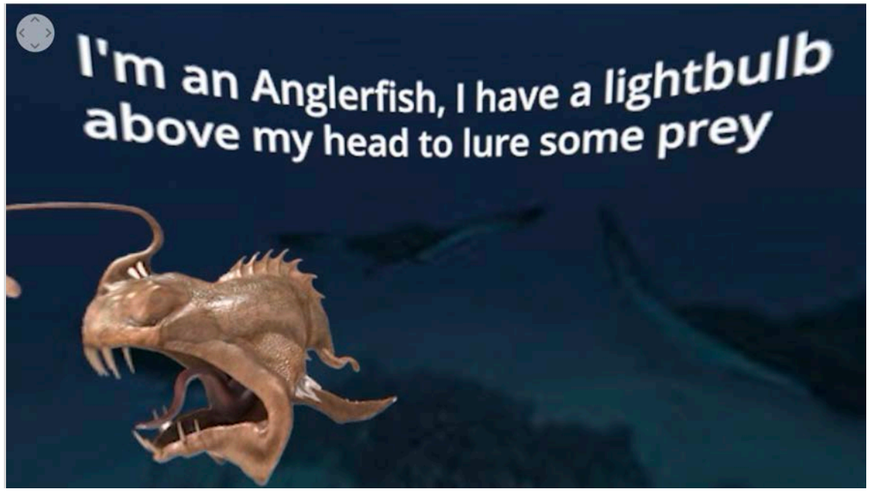
USER TESTING: ROUND 3

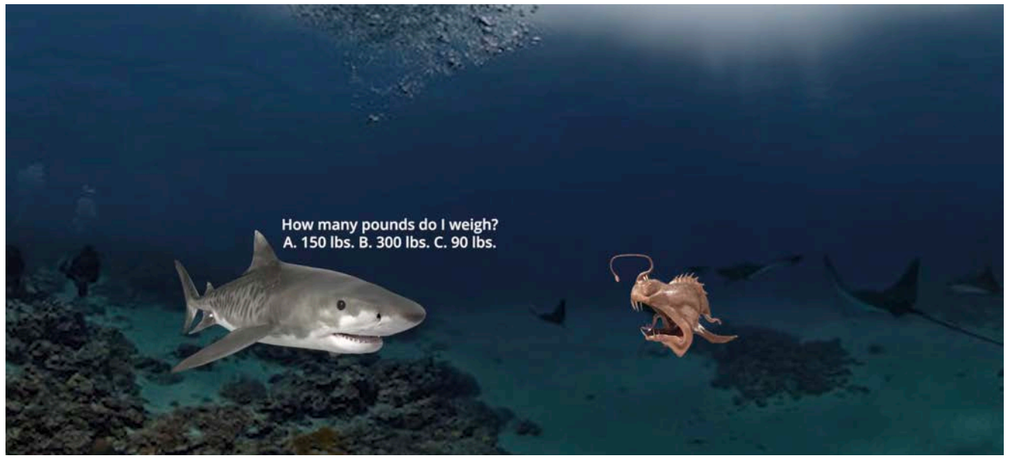
When: Fall 2017
Number of people: 3
Type of user testing: Animatics + storyboard

Scenario: User should be able to interact with three sea creatures from each level of the ocean. The user is guided by an Anglerfish around the ocean. User should interact with three sea creatures from the Sunlight Zone.

Results & feedback:

- This version looks a lot better.
- The background and creatures look more realistic than the previous animatics.
- The characters have a better introduction now. Although the Anglerfish's introduction is a bit short.





360 view: https://youtu.be/OOIrJQepbv0
Flat view: https://youtu.be/XgHCbDbnLBI

Documentation: https://tinyurl.com/yadvd7b6

USER TESTING: ROUND 4

When: Fall 2017
Number of people: 3
Type of user testing: Animatics

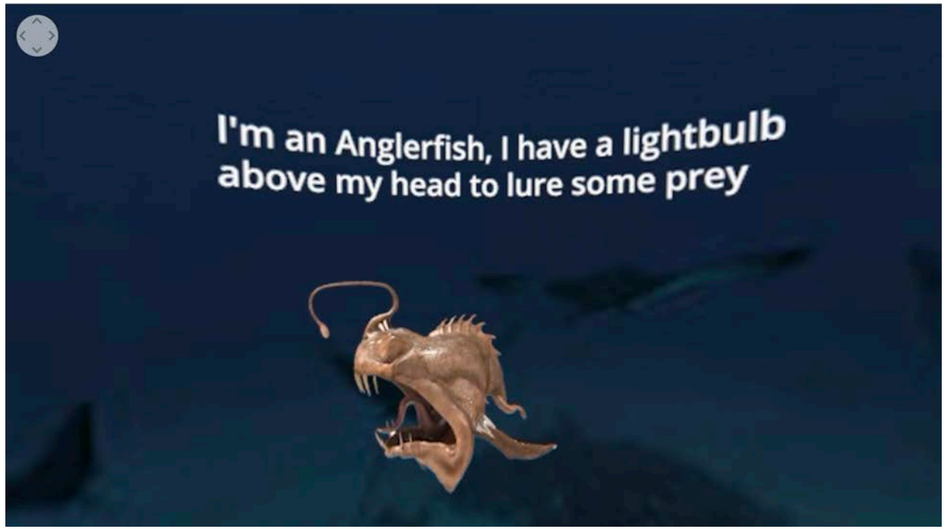
Scenario: User should be able to interact with three sea creatures from each level of the ocean. The user is guided by an Anglerfish around the ocean. User should interact with three sea creatures from the Sunlight Zone.
User must also decide if first or third person point of view is better for the video.

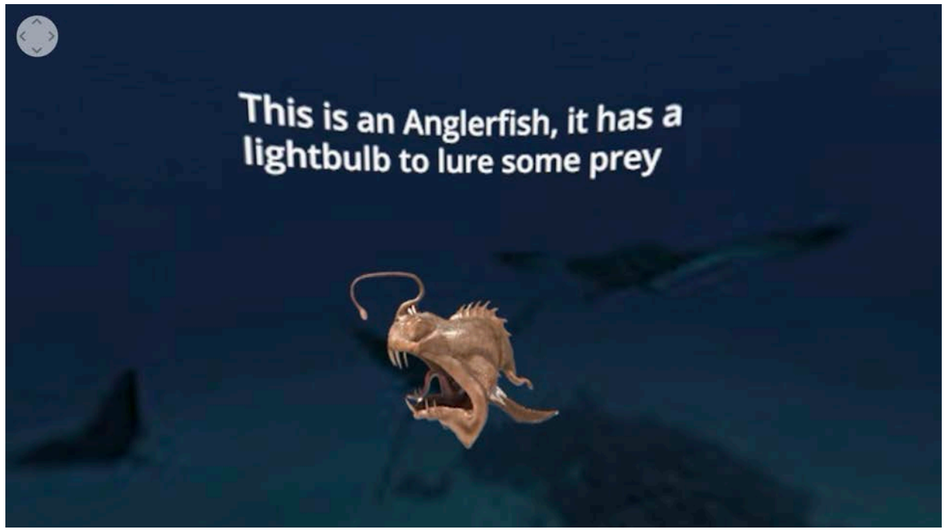
Results & feedback:

- First person point of view is better than third person point of view
  - It feels like the sea creatures are talking to the user, makes them feel more involved.
  - Video seems more friendly and interesting if it's in first person point of view.

1st person point of view: https://youtu.be/wLXMZp3FBxg
3rd person point of view: https://youtu.be/T5njMPHwoTg

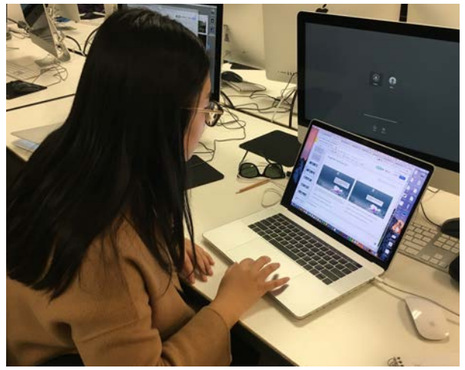
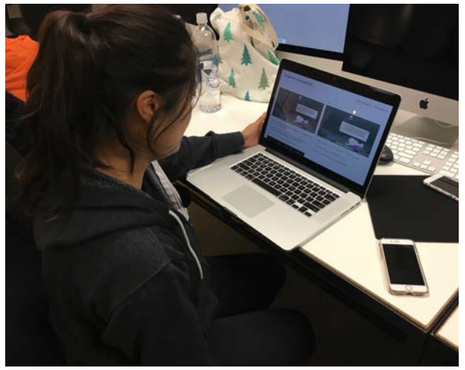
Documentation: https://tinyurl.com/ybpv8dbo





USER TESTING: ROUND 5

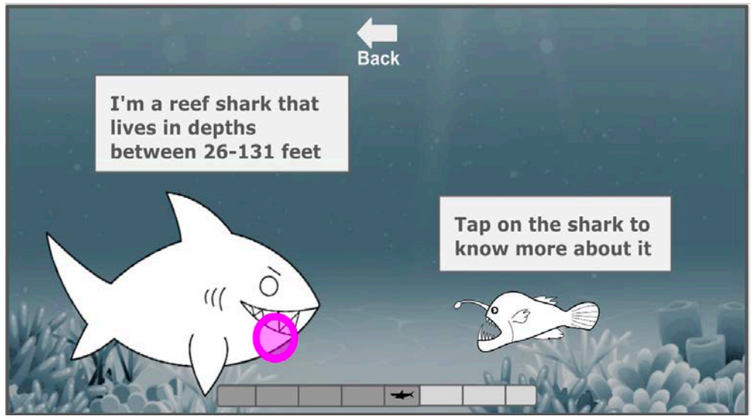
When: Fall 2017
Number of people: 4
Type of user testing: A/B testing through storyboarding

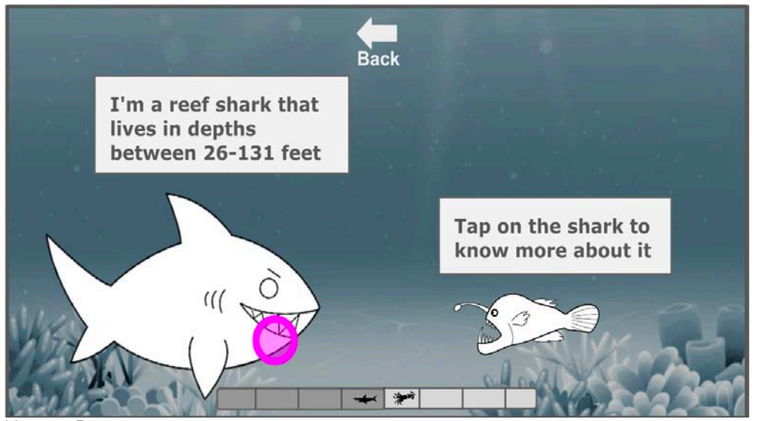
Scenario: User should be able to interact with three sea creatures from each level of the ocean. The user is guided by an Anglerfish around the ocean. User should interact with three sea creatures from the Sunlight Zone.
User must also decide which of the two status icons are better for the app.

Results & feedback:

- Testers prefer version A over version B.
- Remove the icon once the user interacts with the sea creature, but show how many sea creatures they have to interact with after.
- Icons show more info, but at the same time it's also confusing for the user.
- Before the user interacts with the sea creature, make the icon a question mark instead of the sea creature's silhouette.



Version A



Version B

Storyboard: https://tinyurl.com/y7r2gek5
Documentation: https://tinyurl.com/y7r2gek5

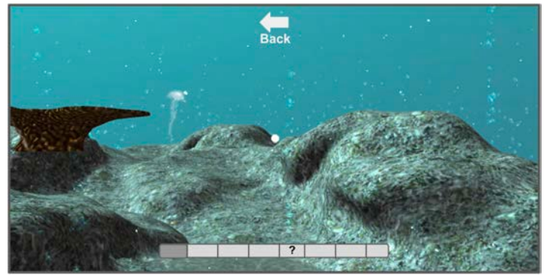
USER TESTING: ROUND 6

When: Fall 2017
Number of people: 4
Type of user testing: Multiple variant testing

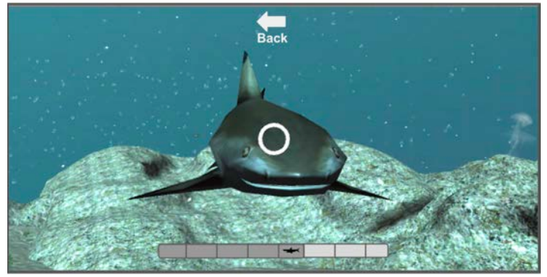
Scenario: User must decide which out of the four icons work best for the app.

Results & feedback:

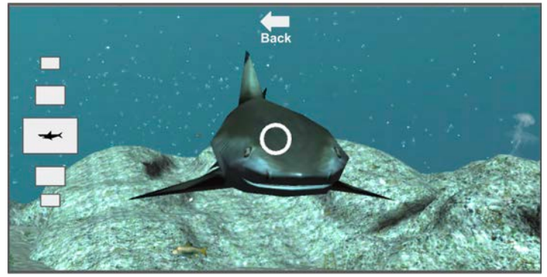
- Most of the testers voted for version B.
  - Version B looks like a slideshow.
- Version C is confusing for the user.
- The back arrow may be moved somewhere else aside from the center of the screen.



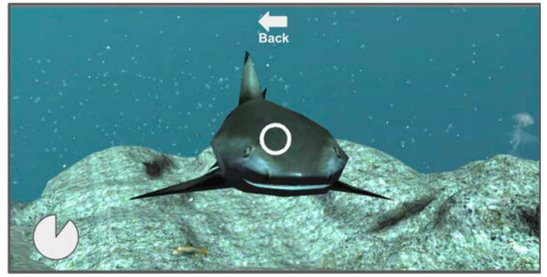
Version A.a



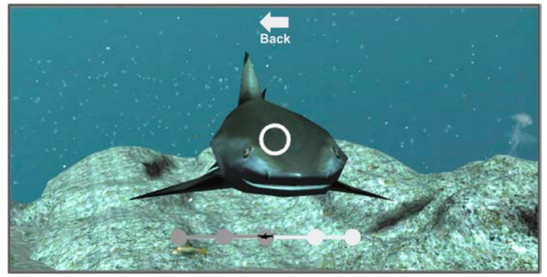
Version A.b



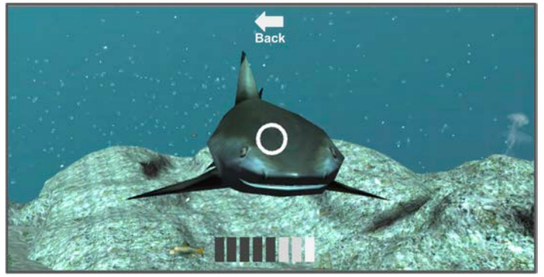
Version B



Version C



Version D



Version E

Documentation: https://tinyurl.com/ya54dsla

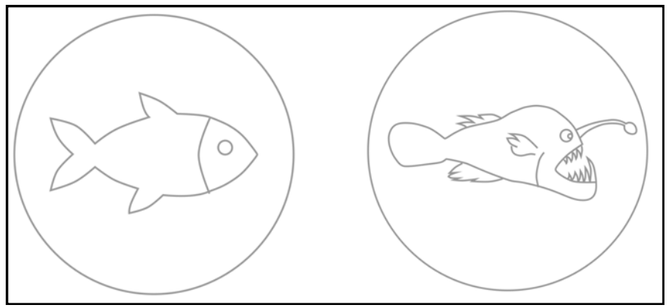
USER TESTING: ROUND 7

When: Spring 2018
Number of people: 2
Type of user testing: Multiple variant testing

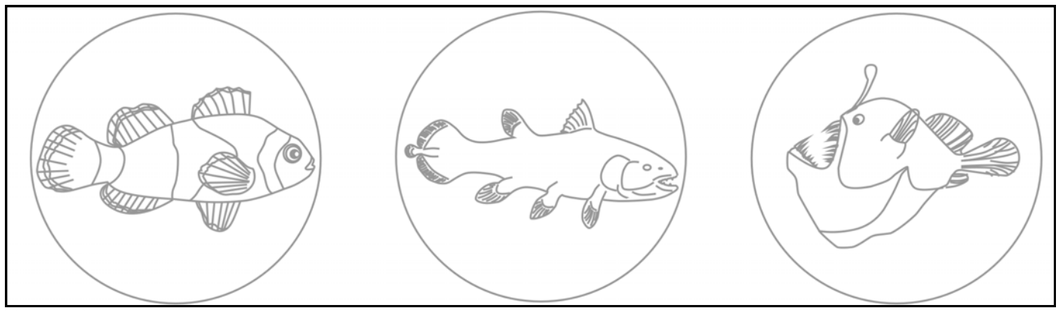
Scenario: User must decide which of the icons work best for the icon level of the app.

Results & feedback:

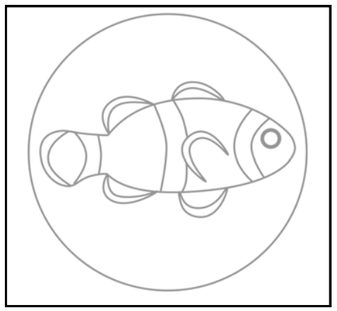
- Simplify icons more using less lines.
- Experiment with negative space.
- Be consistent with the icons, if it's all fish, then use all fish for the icons.
- Users prefer version E out of everything.



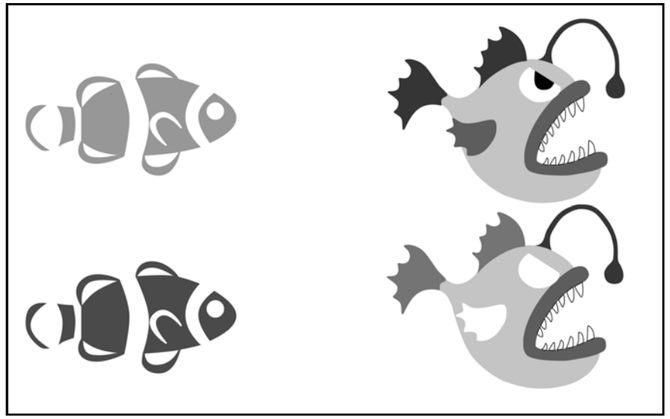
Version A



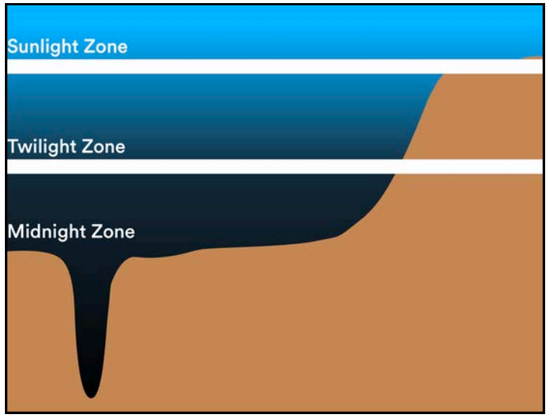
Version B



Version C



Version D



Version E

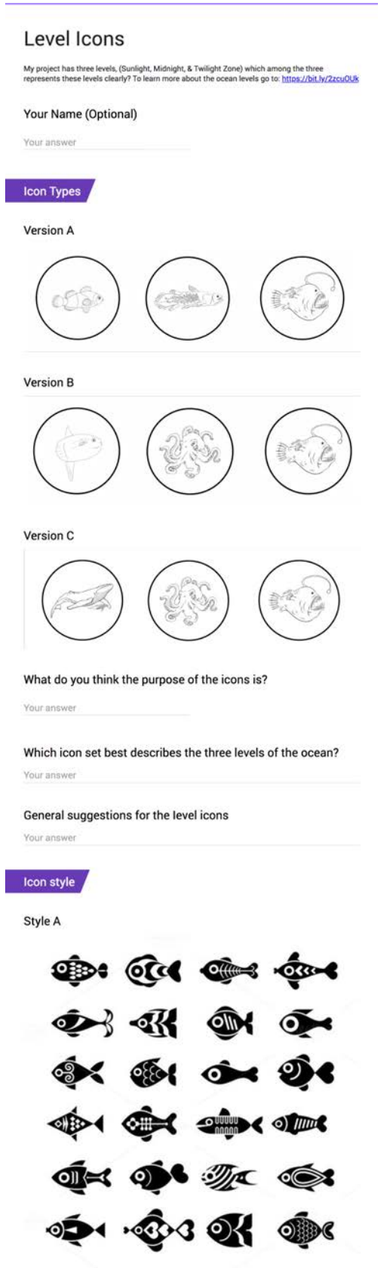
USER TESTING: ROUND 8

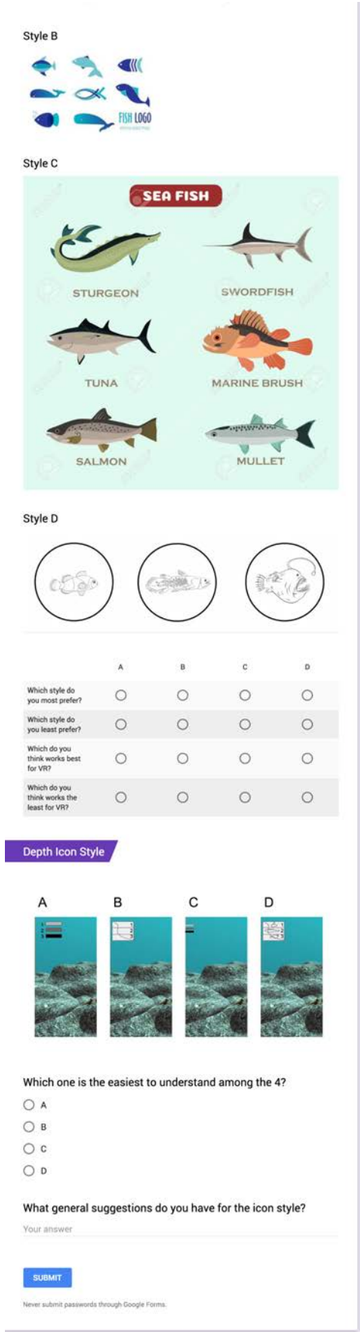
When: Spring 2018
Number of people: 4
Type of user testing: A/B testing

Scenario: User must pick what kind of style should the bar graph be in terms of design.

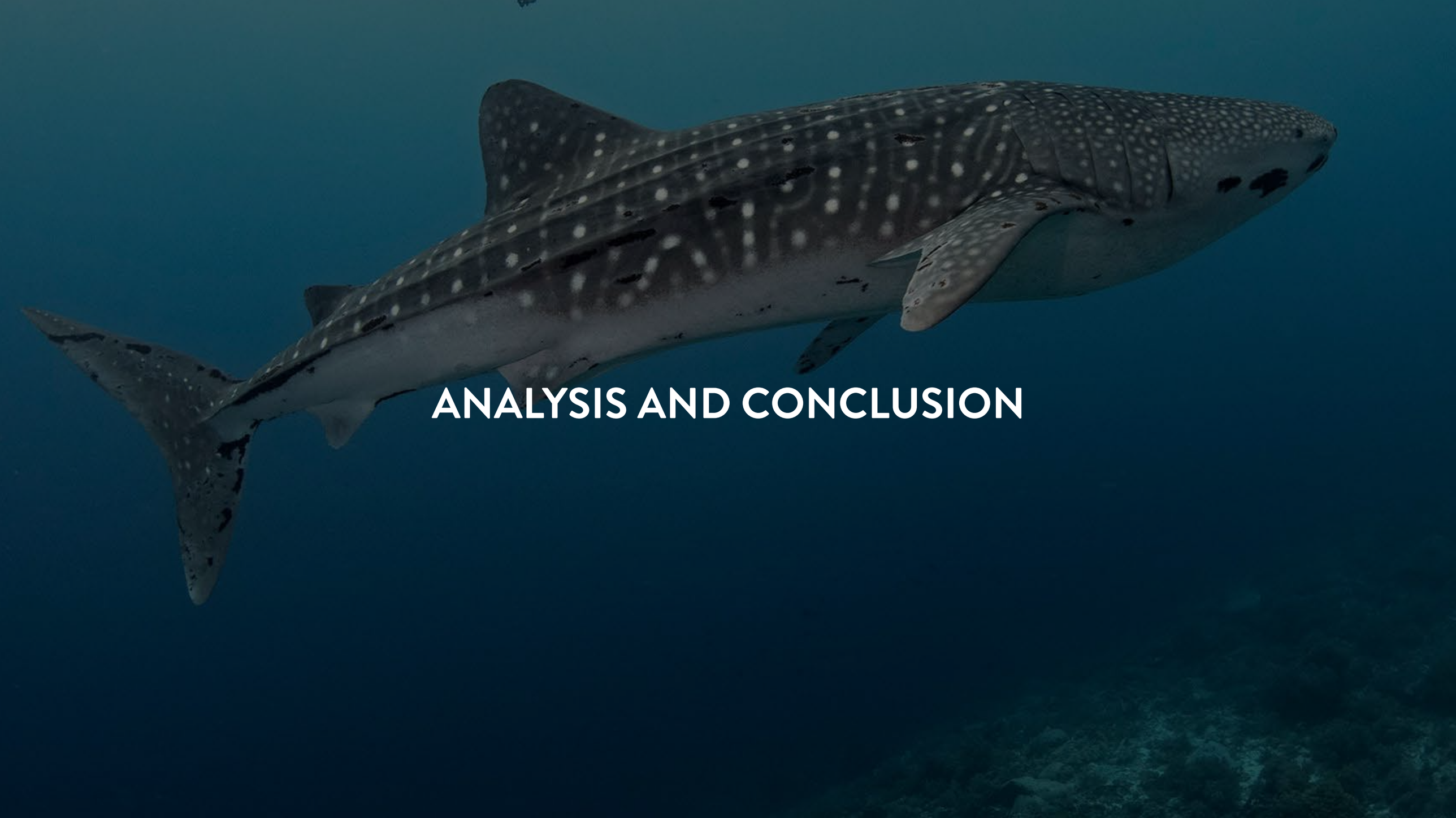
Results & feedback:

- Regarding the fish icons to show the level of the ocean, users were more confused. They didn't know that each fish represented one level of the ocean.
- Adding color to represent the depth of the ocean would be nicer than showing fish.
- Use a graph to show the levels instead of sea creatures.
- Keep the color simple, don't use too many lines.



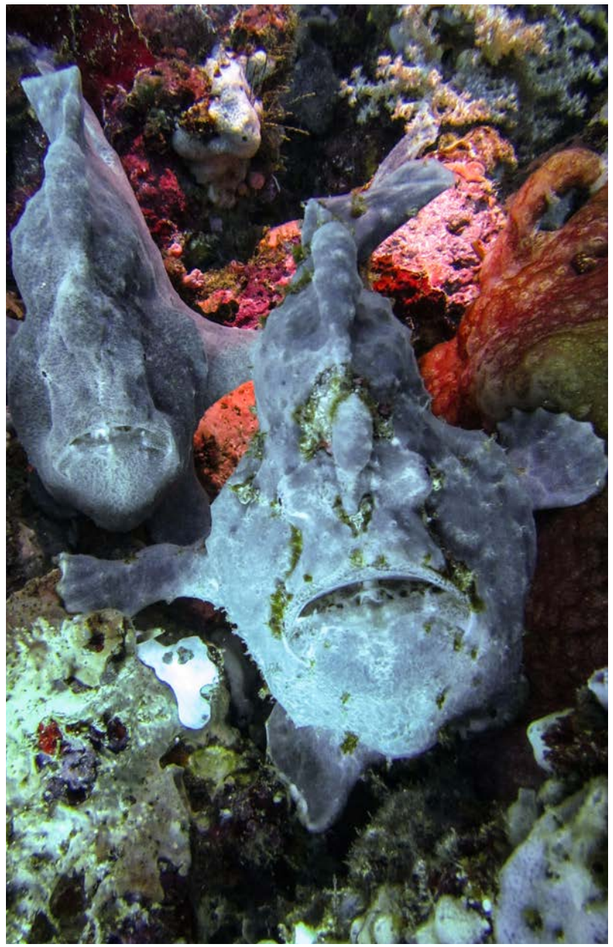


Documentation: https://tinyurl.com/y8j6jcgb



ANALYSIS AND CONCLUSION

ANALYSIS & CONCLUSION

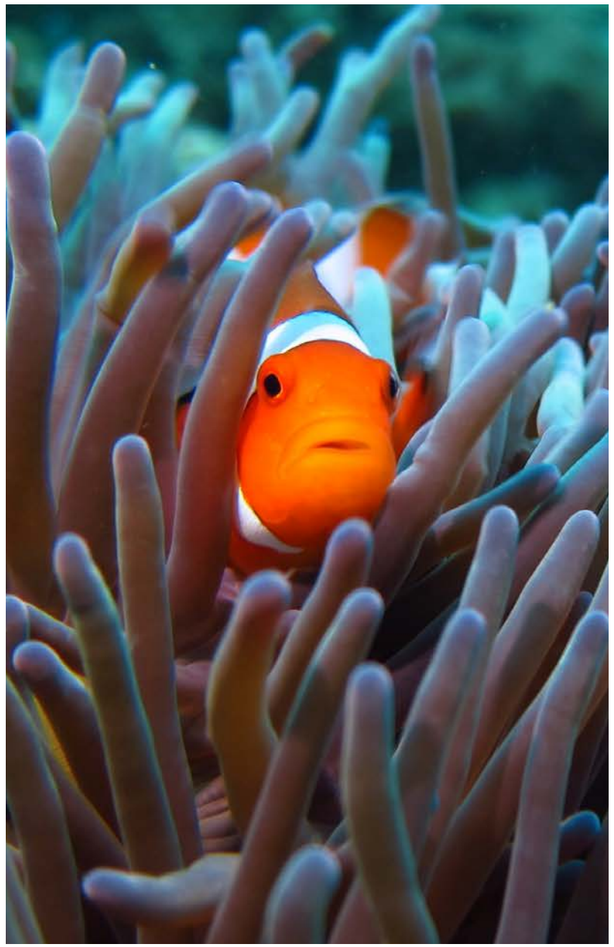


I originally wanted my project to be a mobile app to encourage people who are scared to scuba dive or those who would never try scuba diving to at least try scuba diving once in their lives. I wanted my project to be the stepping stone for scuba diving. I initially wanted to have three main parts for my project, virtual scuba diving, dive sites, and scuba 101. After my midpoint, I realized that my project was too simple and all the contents would just be videos or information pulled from several websites.

I soon realized that my project was in fact too simple and if I wanted to impress my teachers and wanted to show something unique in my portfolio, I had to step up my thesis project. This is when I thought of it to be an interactive VR story, and instead of encouraging people to try to scuba dive, I'm immersing them in an experience of how it's almost like to scuba dive or experience how it's like to be a sea creature in the ocean. I'm also showing them different kinds of sea creatures that people usually aren't familiar with.

To summarize what I've experienced in making this project from the beginning up until presenting it to the panel and my chair, I've learned that it's actually possible for me to create an app from the ideation to the development. I never would've thought that I'd be able to make an app by myself, let alone a VR app. I didn't think that I would be working in VR during my stay in AAU. I'm also glad that I'm able to show people what it's like to be underwater and show them all the different kinds of sea creatures in the ocean.

NEXT STEPS



For my final review, I'm only showing the first level, the Sunlight Zone, as the completed level. Right now, there are only three sea creatures that the user can interact with, but later on I plan to add more sea creatures that the user can interact with and learn about. In the future, the other two levels of the ocean, the Twilight and Midnight Zone, will also be fully functional. I plan to add several creatures to those levels as well.

CREDITS

Underwater images provided by Gutsy Tuason
and Marga Tanchuling

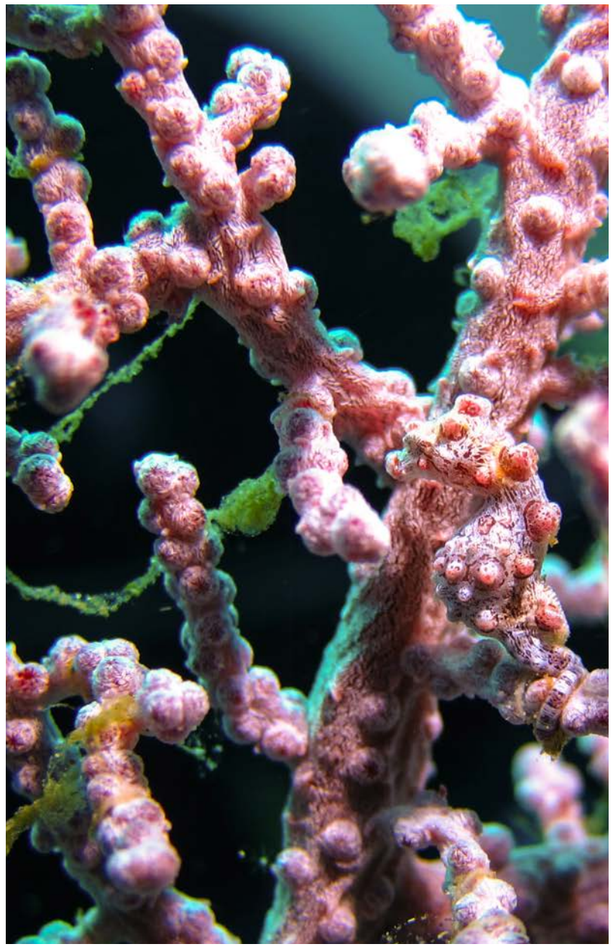
Other images:

https://www.maritime-executive.com/article/ocean-waves-trap-more-co2-than-previously-thought
https://i.ytimg.com/vi/SuZcVyYDWwE/maxresdefault.jpg
http://www.brandedvr.com/blog/
https://www.gamasutra.com/blogs/JakeParmley/20160913/281175/
Despite_Growing_Pains_Virtual_Reality_is_on_the_Rise_in_Education.php
https://www.pinterest.ph/pin/359373245241226871/?lp=true
https://www.desumama.com/faq-curly-biracial-hair-care-tips/

Special thanks to:

Z
Ryan Medieros
Claudia Dallendorfer
Phil Kauffold

CREDITS (DIVR VR APP)



3D Models:

Underwater Life Deluxe: https://assetstore.unity.com/packages/3d/characters/animals/underwater-life-deluxe-115733
Animating Fish: https://assetstore.unity.com/packages/3d/characters/animals/animating-fish-80136
Underwater FX: https://assetstore.unity.com/packages/vfx/particles/environment/underwater-fx-61157
Coral Pack: https://assetstore.unity.com/packages/3d/environments/coral-pack-14389
Monsters of the Deep: https://assetstore.unity.com/packages/3d/characters/animals/monsters-of-the-deep-19664
Humpback Whale: https://assetstore.unity.com/packages/3d/characters/animals/humpback-whale-3547
Blue Whale: https://sketchfab.com/models/d24d19021c724c3a9134eebcb76b0e0f

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