NASA Space Apps Challenge 2023 Jubail – Saudi Arabia

Challenge : Everything starts with water – Game

Team name :BRWM

Ocean circulation

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Team members :
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Introduction

Ocean circulation is an interactive game that allows students to interact and navigate through different aquatic environments. Students will face some challenges such as melting ice or rising water salinity or pollution on ocean that may negatively impact the survival of some ocean creatures.

Through this interactive game, students learn in an enjoyable and engaging manner about biodiversity in the sea and the effects of climate changes on marine life. An exciting educational experience is provided that encourages students to explore and experience different types of ocean life and understand the environmental impacts on them.

Game design


Ocean
circulation
عالم داخل المحيط
start

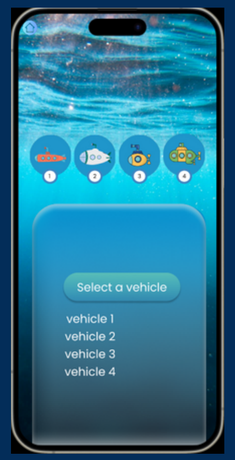

Earth
&
Moon


Earth
&
Moon

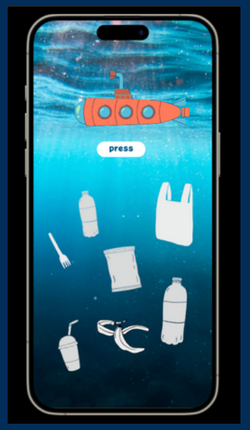

space rocket
Are you ready to embark on an extraordinary space adventure in pursuit of understanding tides and their captivating forces?
play

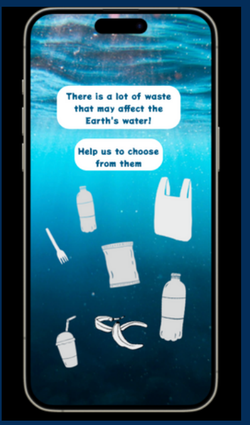

ocean wave in
eart
Discover the enigmatic dance of ebb and flow—the eternal rhythm of the tides. Unveil the secrets behind the gravitational forces that shape the rise and fall of the ocean's waters. Delve into the captivating mysteries of this natural phenomenon, as you explore its profound influence on our planet.
begin

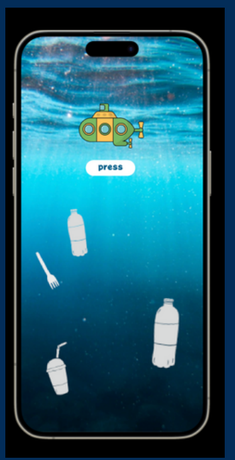

ocean wave in
earth
press here to finish


Select a vehicle
vehicle 1
vehicle 2
vehicle 3
vehicle 4


Human-
Marine
Environment
Interaction


press


There is a lot of waste that may affect the Earth's water!
Help us to choose from them


press

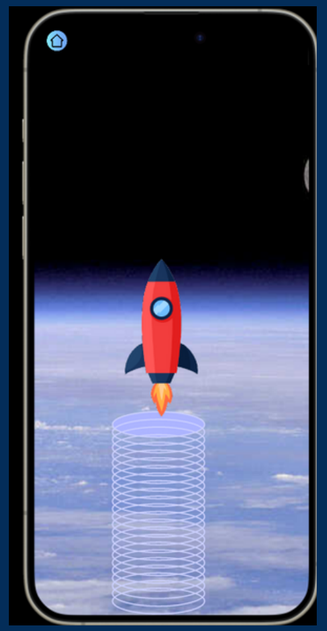
Methodolgy

Earth & Moon

The Moon and Earth is the name of the first level in our game, where students will learn about tides while having fun traveling through space in a rocket.

Methodolgy

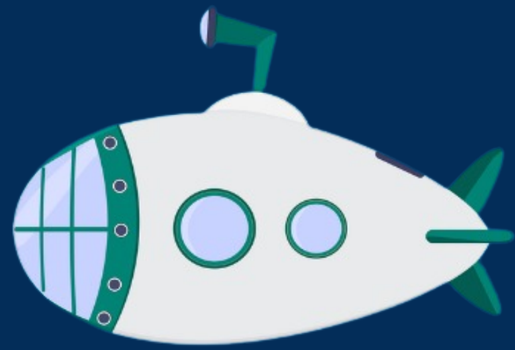
Earth & Moon



Methodolgy

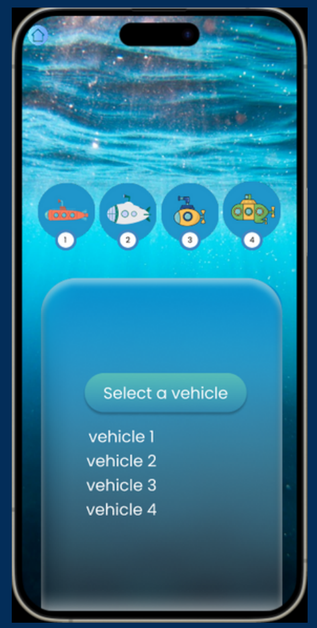
Human–Marine Environment Interaction

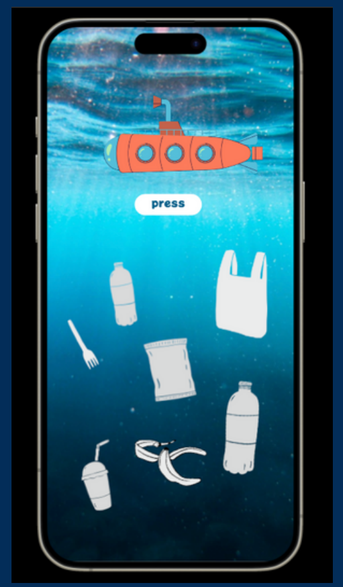
Human Marine Environment Interaction is the second level, when the student selects his own submarine and embarks on an intriguing and enigmatic quest to learn about what is beneath the ocean's surface.

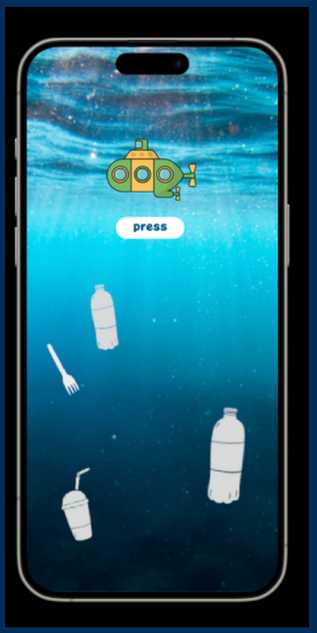


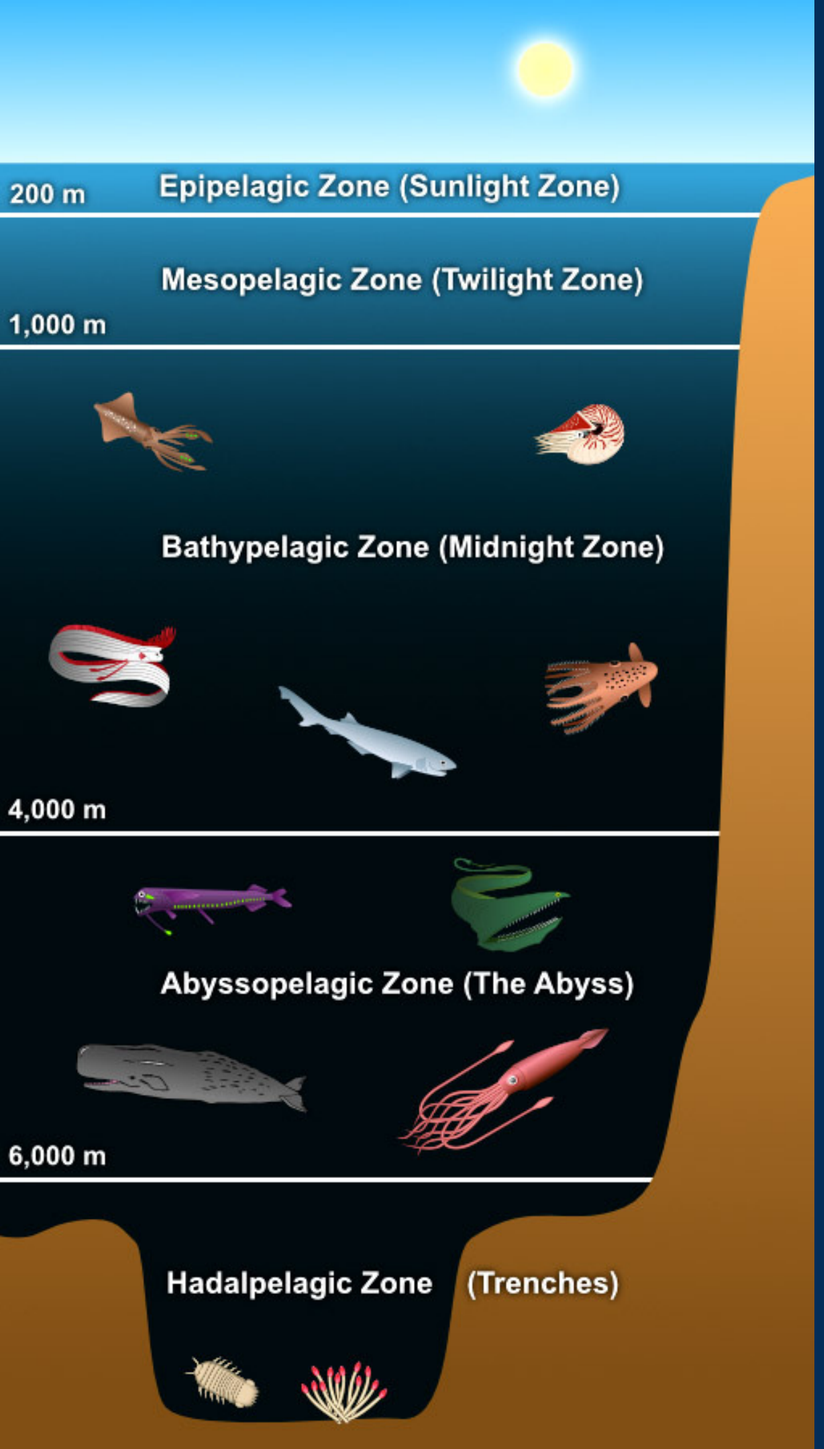
Methodolgy

Human-Marine Environment Interaction





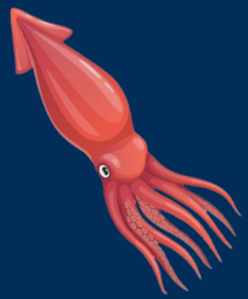


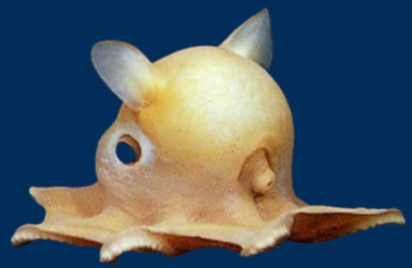


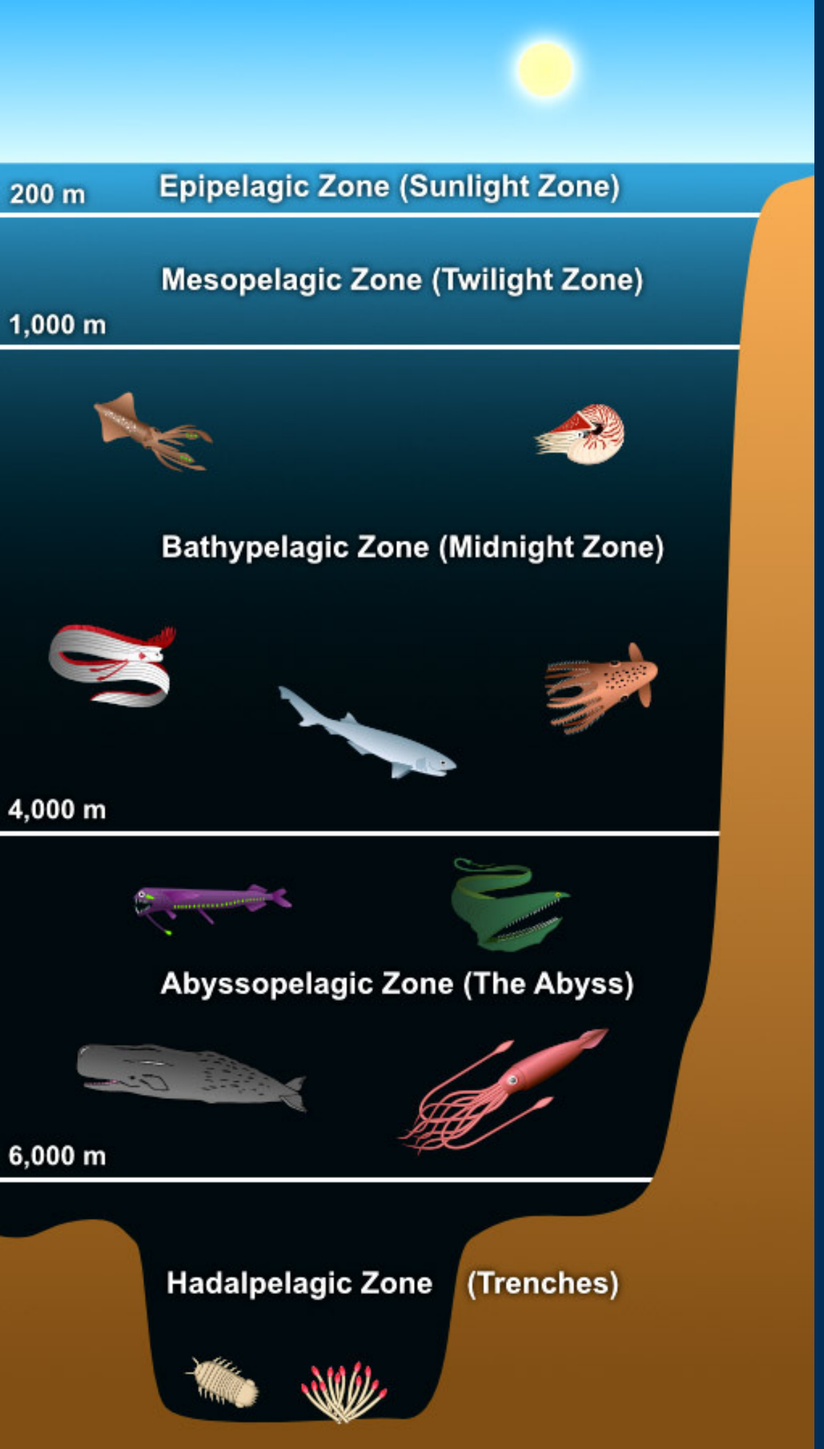
Methodolgy

Ocean floor levels

Ocean Flower Levels make up the third level. The character the player will play as, such as the shark and squid, is entirely up to him. The player will discover the depth of the water, where the fish reside, and how to explore caves.

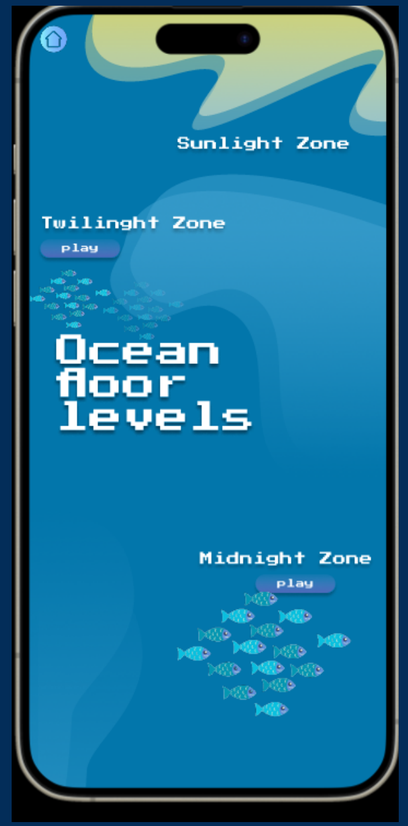


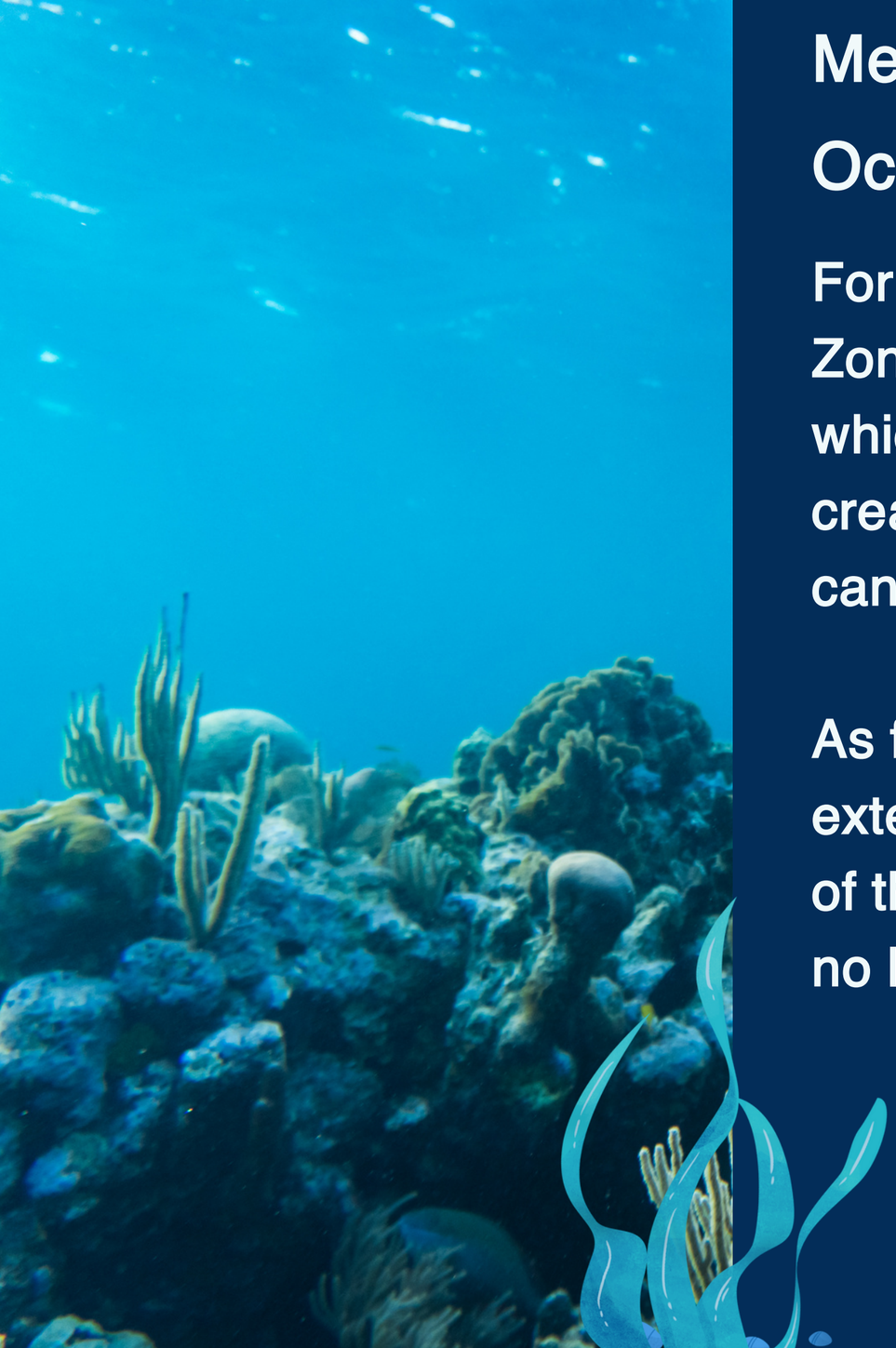




Methodolgy

Ocean floor levels





Methodolgy

Ocean floor levels

For example, the shark lives in the Bathypelagic Zone (Midnight Zone). This level extends from 1000 meters to 4000 meters, which makes it dark and the only source of light will be from the creatures themselves. Also, the water pressure is massive and can reach till 5,850 pounds per square inch.

As for the squids, they live in the Abyssopelagic Zone, which extends fro, 4000 meters to 6000 meters, where three quarters of ther ocean floor is taking a part there. In this layer, there is no light and the temrature is very low, mostly freezing.

References

-Layers of the ocean. Layers of the Ocean – Deep Sea Creatures on Sea and Sky. (n.d.). http://www.seasky.org/deep-sea/ocean-layers.html

-Data, M. N. (2019, September 4). Ocean surface salinity data analysis. NASA. https://mynasadata.larc.nasa.gov/mini-lessonactivity/ocean-surface-salinity-data-analysis

click here

OCEAN CIRCULATION

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