OCEAN COMMOTION

Game Design Document

Can you survive the ocean?

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Game Overview

Title: Ocean Commotion

Platform: PC, Mac & Linux Standalone

Genre: Endless Runner

Rating: PG

Target: Casual Gamer, Children's Game (Ages 6-12)

Release Date: 11/10/2019

Made With: Unity

Ocean Commotion is an endless runner game where the player is portrayed as a fish. The fish can move vertically up or down using the arrow keys on the keyboard. Objects like sharks, coins and starfish come at the fish and the goal is to dodge the sharks and collect the coins and starfish. The starfish are worth more points than the coins because they are harder to collect. The fish starts off with three lives, and each time you hit a shark, you lose a life. The goal is to see how many points you can get before losing all three of your lives. The farther you make it in the game, the faster objects keep coming towards you and the harder the game gets.

High Concept

Ocean Commotion sets the player under the sea, as an orange fish. Use the up & down arrow keys on you keyboard to move the player in order to dodge sharks & collects coins and starfish. The farther you get in the game, the faster every object starts moving toward you. The starfish are worth more points because they are harder to collect. The starfish move slower and come less frequently. Sharks cause you to lose a life. You have three lives and once those run out the game is over. See how many points you can obtain before losing all three lives!

Unique Selling Points

- Fun, uplifting theme
- Bright artwork
- Kid friendly
- Captivating

Platform Minimum Requirements

PC, Mac & Linux Standalone: Generally, any PC, Mac or Linux Standalone with enough space to hold the application and a high-functioning operating system should be qualified to smoothly run and execute gameplay.

Competitors / Similar Titles

- Subway Surfer
- Temple Run
- Minion Rush

Synopsis

You are in the ocean and you are a fish. You want to avoid getting eaten by a shark and losing your life. As you swim in the ocean, you want to collect the ocean's treasures like starfish and coins. There's no getting out of the ocean - so you have to try to navigate around all the commotion while you're there!

Game Objectives

The objective of the game is to see how many points you can obtain before losing all three lives by hitting three sharks.

Game Rules

- Colliding with a shark = -1 life.
- Colliding with coins = +1 point towards your score.
- Colliding with starfish = +5 points towards your score.
- When you run out of lives, the game is over.
- Score is displayed in the top right corner.
- Lives is displayed in the top left corner.

Game Structure

Level 1

Main Menu Screen
↓
Gameplay (endless)
↓
Game Over Screen

Game Play

GAME CONTROLS:

Move Fish Up

Move Fish Down
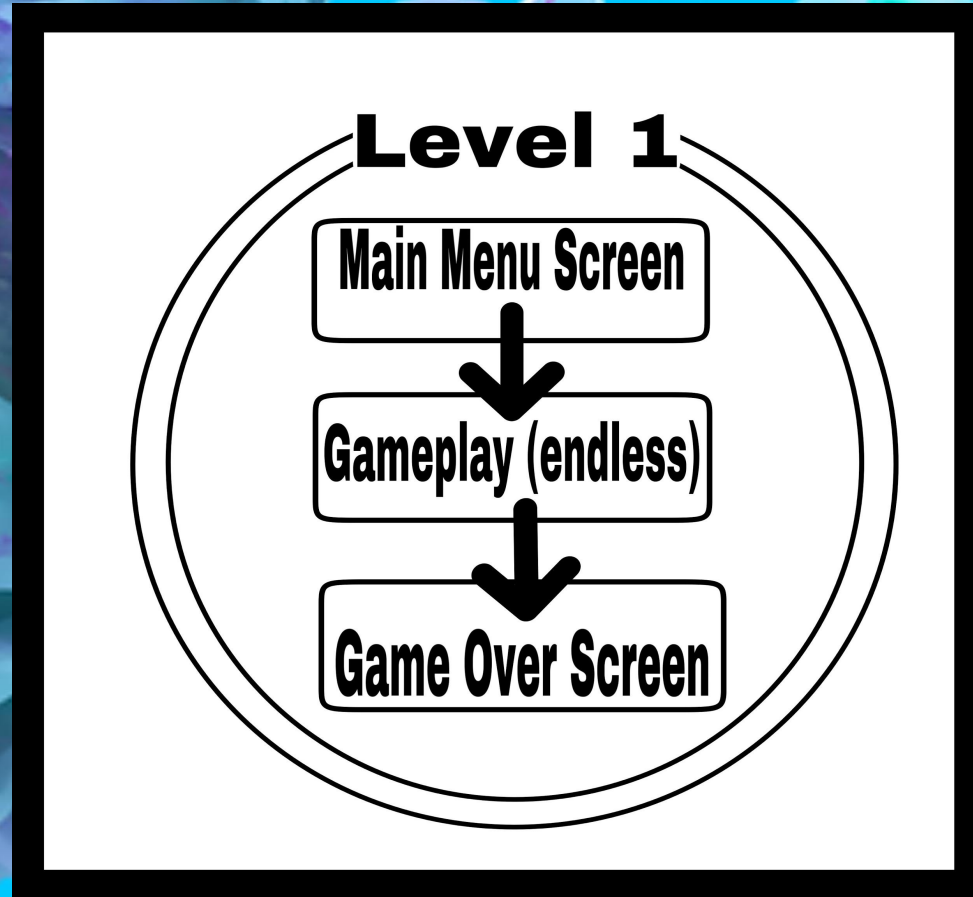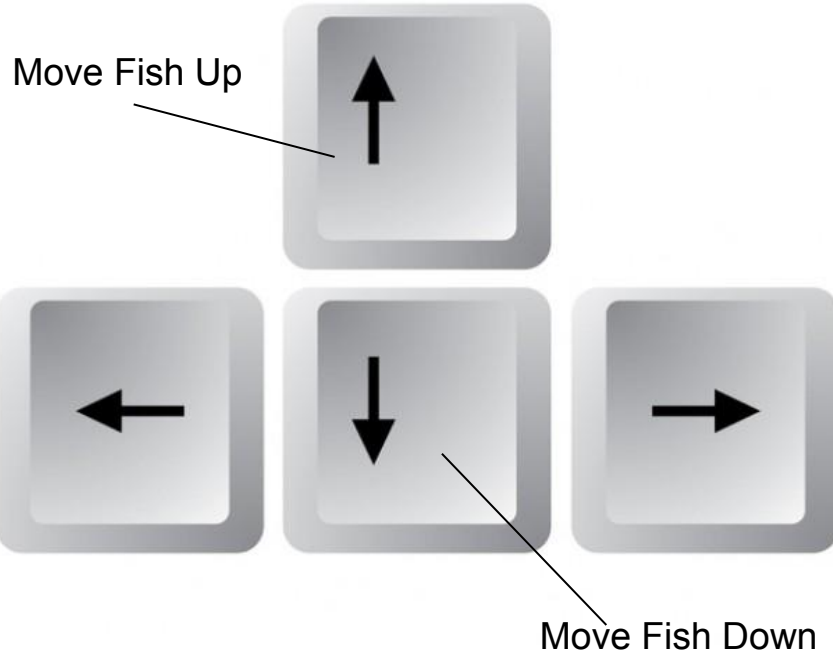
Game Play

GAME CAMERA:

Since the game is 2D, the camera is positioned precisely on the X and Y axes in order to project the entirety of whatever game stage you are on onto your computer screen. The camera does not move in the 2D game in order to make sure everything stays 2D. The camera will make it so that whatever part of the game you are on will fill your whole computer screen.

Game Play

HUD:

- NUMBER OF LIVES:
  - Displayed in the top left corner of the game. Indicates the amount of lives a player has left until the game is over and decrements with each shark collision.
- SCORE:
  - Displayed in the top right corner of the game. Indicates how many points the player has received and increments as more points are obtained.

Player

PLAYER CHARACTERS:

The fish lives happily in the ocean with all of the other colorful sea life! The starfish and coins are good friends and rich treasures of the fish. There's just one problem - watch out for sharks! Sharks are not our friend.

PLAYER METRICS:

Speed: 500

Y-Move: 50

Original Score: 0

Max Score: N/A (Infinity)

Max Lives: 3

Min Lives: 0

Shark Damage: -1 Life

Coin Health: +1 Point

Starfish Health: +5 Points
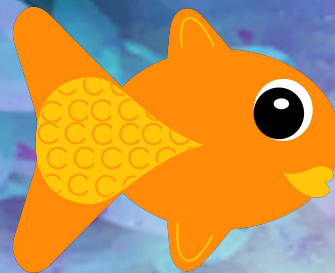
Player

PLAYER STATES:

- IDLE:
  - The idle state is just the player fish by itself at the top of the screen. No objects come at the player fish for the first few seconds of the game and the fish is just chilling by itself in the ocean.
- MOVE:
  - The movement of the player will cause him to change positions in the scene. The up arrow causes a vertical upwards movement and the down arrow causes a vertical downwards movement.
- DEATH:
  - The death of the player freezes the entire game and displays "Game Over" with your high score number.

Player

WEAPONS:

In Ocean Commotion, there are no weapons.

Player Line-Up
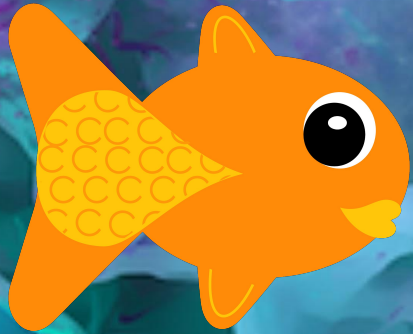
NPC

ENEMIES:

The Enemies spawn from different spawn points located in the scene. They are constantly coming towards the player. When they come close to the player, the player must dodge the enemies in order to avoid losing a life. If the player collides with the enemy, the lose a life. When all three lives are lost, the game is over.

Shark:

Initial Speed	Max Health	Collision Damage	Collision Damage	Start Time Between Shark	Time to Speed Up Shark	Minimum Time Between Shark
200	3 Lives	-1 Life	-1 Life	1.5	0.05	0.5

NPC

ENEMY STATES:

- IDLE:
  - In idle, the enemy is not yet moving towards the fish. It's initial time between sharks generated is 1.5.
- MOVE:
  - While the game is in play, the enemies are in the move state. They move towards the fish, at a start speed of 1.5, and as the game goes on and gets harder, the time speeds up by 0.05. The minimum speed, or fastest the enemy can go is 0.5.
- DEATH:
  - When the player loses all three lives after three collisions with the enemy, the game freezes and displays "Game Over" with the player's score from the game.

NPC

ENEMY SPAWN POINTS:

The enemy has three of its own spawn points and will spawn at an initial rate of 1.5, speeding up by 0.05 and stopping when it reaches the minimum of 0.5.

ENEMY	SPAWNPOINT	SPAWN RATE	MAX ENEMIES
Shark	SharkLocation1 SharkLocation2 SharkLocation3	1.5 initially, speeding up by 0.05, with a minimum of 0.5	3 per vertical line

NPC

ALLIES:

Allies are objects that the player can collide with in order to gain points and increase their score. They are in the game to help the player get the highest score possible. The ultimate goal is to see how many points you can get by colliding with the allies before all three lives are lost.

STARFISH:

Speed	Time Between Starfish	Points it's Worth	Time Between Increases By
50	15	5	0, Speed stays consistent

NPC

COIN:

Speed	Initial Time Between Coins	Points it's Worth	Time Decrease Between Coins Generated	Minimum Time:
200	2.5	1	0.05	0.5

NPC

ALLY STATES:

- IDLE:
    - In idle, the allies are not yet moving towards the fish. The initial time between coins generated is 2.5 and the initial (and constant) time between starfish generated is 15.
- MOVE:
    - When the game is in play mode, the allies are generated at their own rates. The starfish maintains a constant speed of 50 and is worth 5 points because it's harder to get. The time between starfish generated is 15. The coin has a speed of 200 and the time between coins generated starts at 2.5, speeding up between 0.05 and stopping at a minimum time between of 0.5.
- DEATH:
    - When the player loses all three lives after three collisions with the enemy, the game freezes and displays "Game Over" with the player's score from the game. The score displayed is the high score the player received from collecting the allies.

NPC

ALLY SPAWN POINTS:

ALLY	SPAWNPOINT	SPAWN RATE	MAX ALLIES
Starfish	StarFish Location	The starfish maintains a constant speed of 50 and is generated every 15 seconds.	1 Per Vertical Line
Coin	CoinLocation1 CoinLocation2 CoinLocation3	The coin has a speed of 200 and the time between coins generated starts at 2.5, speeding up between 0.05 and stopping at a minimum time between of 0.5.	3 Per Vertical Line

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ART

SETTING:

The game takes place under the sea, in the ocean, with all of the other sea life!

ART

LEVEL DESIGN:

The level consists of the underwater scene, the light of the outside world is beaming down into the dark blue of the deep ocean. The level starts out blank, with only the fish. The objects spawn faster and more frequently as you get further in the game.

There are 3 spawn points for the shark enemy, 3 spawn points for the coin ally and 1 spawn point for the starfish ally. Enemies and allies appear from the spawn points at the previously mentioned rates.

ART

AUDIO:

NAME	CATEGORY	DESCRIPTION
Background Song	Background Music	Main Menu (Under the Sea Instrumental)
Surfin' USA (Instrumental Version)	Background Music	Rules
Baby Shark (Jauz Remix)	Background Music	Game
Somewhere Over the Rainbow - Israel Kamakawiwo'ole (Karaoke)	Background Music	Credits

GENRE

ENDLESS RUNNER

- Ocean Commotion is an endless runner game.
- The endless runner game has one main player (the fish) and the fish is in constant movement, passing objects it must either collect or avoid.
- The endless runner game goes on and on until the player fish loses all three lives.
- The farther that the player fish gets, the faster everything moves, thus increasing gameplay difficulty.
- The game can also be categorized as a children's game.
- Ocean Commotion is very colorful and cartoon-like.

Procedurally Generated Content

ENVIRONMENT:

The environment in Ocean Commotion is defined by a number of things. For starters, it's a kid-friendly, upbeat and light environment. It's very cartoon-like. The environment is also based off of sea life and ocean themes. It's a very colorful and bright environment in terms of the artwork and visuals. Additionally, the music adds a lot of pep and lightheartedness to the game.

Procedurally Generated Content

LEVELS:

Ocean Commotion is an endless runner game. Instead of having distinct levels, the difficulty increase comes as you get farther along in the game. The farther you get, the fast the enemies are generated, and the more they come towards you. In a parallel fashion, the coins come more frequently as the player gets farther along in the game as well.

Procedurally Generated Content

ARTIFICIAL INTELLIGENCE NPC:

The sharks disappear after they collide with the finish, signifying that a life has been lost.

The coins and starfish also disappear after the fish has collected them, signifying them being in possession of the fish, and no longer up for grabs.

Procedurally Generated Content

VISUAL ARTS:

Original Images:

- I created a number of original images with a free iOS app called PicsArt.
- My original art is what follows: the fish, the coin, the starfish, the splash screen/credits page background image (also the background art used in this GDD) and the purple octopus on the main menu.
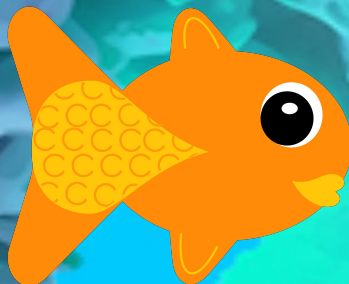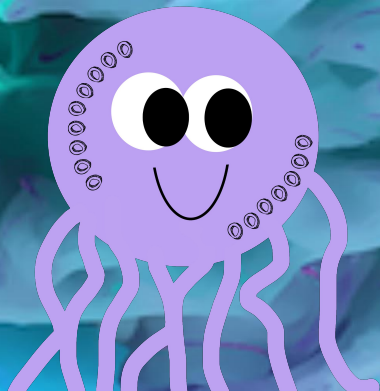
Procedurally Generated Content

VISUAL ARTS:

Image Credits:

- "Imagen a Color De TIBURONES." *Imagen a Color De TIBURONES*, 10 Sept. 2013, 20:20, www.got-blogger.com/mentamaschocolate/5294651971873009848/.
- Svaga. "Sea Bottom. Vector Illustration with a Background in Cartoon Style. Depths of the Ocean." *Sea Bottom Vector Illustration Background Cartoon Stock Vector (Royalty Free) 1177425481*, www.shutterstock.com/image-vector/sea-bottom-vector-illustration-background-cartoon-1177425481.
- Larson, Roxanne. "Circle Ball Blue Bubble 3D PNG." *Picpng*, www.picpng.com/image/circle-ball-blue-bubble-3d-png-73520.
- "Under the Sea Background ·① Download Free Stunning Full HD Backgrounds for Desktop and Mobile Devices in Any Resolution: Desktop, Android, IPhone, IPad 1920x1080, 2560x1440, 320x480, 1920x1200 Etc. WallpaperTag." *·① Download Free Stunning Full HD Backgrounds for Desktop and Mobile Devices in Any Resolution: Desktop, Android, IPhone, IPad 1920x1080, 2560x1440, 320x480, 1920x1200 Etc. WallpaperTag*, wallpapertag.com/under-the-sea-background.

Procedurally Generated Content

AUDIO:

Sound Credits:

- ComboJam and Israel Kamakawiwoʻole, directors. *Somewhere Over The Rainbow - Israel Kamakawiwoʻole (Karaoke). YouTube*, YouTube, 11 Apr. 2018, www.youtube.com/watch?v=7JF5R8q4VnI.
- Hikarithunder, director. *[Instrumental Theme] Under The Sea [The Little Mermaid]. YouTube*, YouTube, 30 June 2011, www.youtube.com/watch?v=Sds8vgkZykc.
- The Hit Crew - Topic and The Beach Boys, directors. *Surfin' USA (Instrumental Version). YouTube*, YouTube, 25 Feb. 2015, www.youtube.com/watch?v=PA1CM3K1IsU.
- Pinkfong - Topic and Jauz, directors. *Baby Shark (Jauz Remix). YouTube*, YouTube, 30 May 2019, www.youtube.com/watch?v=HG3ccUqvt-A.

Procedurally Generated Content

MINIMUM VIABLE PRODUCT (MVP):

- Built for Mac OS Platform
- Only one color fish, player fish is automatic and uncustomizable

Wish List

- Add the option to customize the player fish. The player can choose the color they want their fish to be.
- A more complex inventory system. Points are get based on user's device. Player can buy extra lives and keep going when they lose all three, instead of starting over.
- Background Picture Movement. Make it so that the light beams in the gameplay background move around or sparkle for a more realistic effect.

Works Cited

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- Blackthornprod, director. *HOW TO MAKE A SIMPLE GAME IN UNITY - ENDLESS RUNNER - #1. YouTube*, YouTube, 26 July 2018, www.youtube.com/watch?v=5M7vX_z6B9I.
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