



Dead Man's Sea

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1. GAME CONCEPT

- 1.1. Two Sentence Pitch:** Bullet hell meets the open water as players must navigate their ship through obstacles and hoards of cannon fire to sink their enemies, but with each level comes an increasingly stronger armada ready to serve up a one-way ticket to Davy Jones. One can only dream of the treasure that is guarded by the myths and legends of the sea but no one knows what could truly be lurking in the depths of Dead Man's Sea.
- 1.2. Two Minute Pitch:** Dead Man's Sea is a top-down bullet hell shooter, featuring open water combat against the strongest tall tales of the seven seas. The player is a ship in search of some long-lost treasure said to make a man rich for generations but in the way are many foes. Dead Man's Sea creates the infamous bullet hell atmosphere, bringing the player into a fast-paced environment where they must constantly be making quick decisions if they want to prevent themselves from being sunk. With many enemies to face and each one having a unique set of skills and fighting style, the player must learn and adapt to each type of enemy as they are introduced over the course of 20 levels. Mastering the differences in enemies is the key to countering them as every level will get progressively harder and be composed of a new combination of enemies. This makes each level a different experience from the next. The core gameplay is a shooter, shoot the enemies and sink them all while also not getting shot and sunk. However, the attributes of enemies, obstacles in each level, and the ricocheting projectiles create an open playing field where the player's choice's and shifting challenge makes each encounter their own. Dead Man's Sea culminates with a singular boss fight at the final level to really test the player and see if they are worthy of the treasure. With such open gameplay, there is no one way or correct way to beat the game but with practice, any player can hone their skills and become the captain of Dead Man's Sea.

2. GAMEPLAY OVERVIEW

2.1. Structure: The structure for Dead Man's Sea is designed to be easy to understand and play at its core but still provide a challenging experience for the player. The goal of Dead Man's Sea is to make it through all 20 levels and vanquish the Kraken without sinking. Each level contains progressively harder enemies and its own unique environment.

2.1.1. Level Completion: There are two main rules to each level, sink all enemies and do not get sunk. A hit from one cannonball will sink the player but if a player manages to sink all enemies before they are sunk they will have completed that level and progress to the next one.

2.1.2. Game Completion: If a player manages to beat all 20 levels without sinking they will be faced with one final challenge, the Kraken. After defeating the Kraken the game will be beaten and the player will be showered in riches.

2.1.3. Game Over: If the player's ship is struck by any cannonball including their own, at any point they will sink and their game will be over. They will get a display of all the ships they have sunk before they get to try again.

2.2. Controls: The controls are fairly basic and intuitive. W, A, S, and D are the movement keys, W to sail up, A to sail left, S to sail down, and D to sail right. The mouse is used to aim and left mouse button is used to shoot.



2.3. Player Ship: The player's ship is the baseline for all enemies' attributes. The player's ship has normal movement speed and its movement is controlled by the player. It can shoot one cannonball at a time but is limited to 3 cannonballs being active in the arena at a time, this is to

prevent cannonball spam. Each cannonball can ricochet once off of the environment and has a normal projectile speed. If the player's ship is hit by any projectile, including its own, the ship will be sunk and the game will end.



2.4. Projectiles: The player's ship as well as most enemies each shoot projectiles. Projectiles have a set speed that is dependent on which enemy shot them and a set amount of times they can ricochet off of the environment before exploding. The player, pirate, ghost, and coral ships all shoot normal cannonballs. The skeleton ship shoots fast cannonballs. The cursed ship shoots cursed cannonballs. The Kraken shoots ink. If a player projectile strikes an enemy ship it will sink, the Kraken has increased health and take more cannonballs to sink. Enemies cannot sink themselves or each other, they must be sunk by the player. If an enemy cannonball strikes an enemy the projectile will dissipate and deal no damage. All projectiles will travel forever until they hit a ship, another projectile, or the environment so long as they can no longer ricochet.



3. ENEMY OVERVIEW: The enemy gameplay will be diverse, as each enemy has 6 different attributes, causing every encounter to be a unique one. One player cannonball is enough to sink any normal enemy, bosses take extra hits to sink and have their own mechanics specific to them.

3.1. Enemy Attributes: Every enemy has 6 attributes. These attributes are as follows: movement speed, movement type, projectile speed, projectile count, fire rate, and ricochets.

- 3.1.1. Movement Speed:** Movement speed is the rate at which the enemies move around the open waters. There are 3 types of movement speed all of which are relative to the player ship. Normal speed is equivalent to the speed of the player ship, slow speed is .5 times the speed of the player ship, and fast speed is 2 times the speed of the player ship.



- 3.1.2. Movement Type:** Movement type is the variation in pathing the enemy ships have. There are 3 types of movement, stationary, passive, and aggressive. Stationary enemies do not move, passive enemies move around their current location, and aggressive enemies move closer to the player.
- 3.1.3. Projectile Speed:** Projectile speed is the rate at which projectiles move. There are 3 different speeds of projectiles all of which are relative to the projectile speed of the player. Normal speed is equivalent to the speed of the player's projectiles, slow speed is .5 times the speed of the player's projectiles, and fast speed is 2 times the speed of the player's projectiles.
- 3.1.4. Projectile Count:** Projectile count is the number of projectiles an enemy will shoot in one attack.
- 3.1.5. Fire Rate:** Fire rate is how often an enemy will attack. There are 3 types of fire rates. Normal fires every second, slow fire every 2 seconds, and fast first every .5 seconds.
- 3.1.6. Ricochets:** ricochets are how many times a projectile will bounce off of the environment before exploding.
- 3.2. Enemy Attacking:** Some enemies will fire at the player's location and some will fire randomly. Enemies do not need line of sight to fire at the player but their projectile will ricochet or explode if any environment blocks their path.

3.3. Enemy Movement: Enemies will move according to their movement type but will also change direction randomly or if they are going to run into the environment.

3.4. Enemy Types: There are 6 different enemies, 5 of which are normal enemies, and 1 is a boss. Each enemy has its own unique attributes and the boss has its own special mechanics.

	Movement Speed	Movement Type	Projectile Count	Projectile Speed	Fire Rate	Ricochets
Player	Normal	Controlled	1	Normal	Controlled	1
Pirate Ship	-	Stationary	1	Normal	Normal	1
Ghost Ship	Slow	Passive	1	Normal	Normal	1
Skeleton Ship	Normal	Aggressive	1	Fast	Slow	0
Coral Ship	Fast	Aggressive	1	Slow	Fast	1
Cursed Ship	Normal	Passive	1	Normal	Normal	1
Kraken Tentacle	-	Stationary	1	Normal	Normal	0
Kraken Head	-	Stationary	14	Normal	Fast	0

3.4.1. Pirate Ships: Pirate ships are the first enemy the player will encounter. They are the most basic enemy and have almost matching attributes to the player ship. They have no movement speed as they remain stationary at all times. Their projectile speed is normal, projectile count is 1, fire rate is normal, and their projectiles ricochet 1 time.



3.4.2. Ghost Ships: Ghost ships will be the second enemy the player encounters. They have slow movement speed, passive movement type, normal projectile speed, a projectile count of 1, a normal fire rate, and their projectiles ricochet 1 time.



- 3.4.3. Skeleton Ships:** Skeleton ships will be the third enemy the player encounters. They have normal movement speed, aggressive movement type, fast projectile speed, a projectile count of 1, a slow fire rate, and their projectiles ricochet 0 times.



- 3.4.4. Coral Ships:** Coral ships will be the fourth enemy the player encounters. They have fast movement speed, aggressive movement type, slow projectile speed, a projectile count of 1, a slow fire rate, and their projectiles ricochet 1 time.



- 3.4.5. Cursed Ship:** Cursed ships will be the fifth enemy the player encounters. They have normal movement speed, passive movement type, normal projectile speed, a projectile count of 1,

and a normal fire rate. If a cursed ship's projectile hits the player, they will not sink but instead will be cursed. There are 3 different curses, each debuffing the player.



- 3.4.5.1. Anchor Curse:** The anchor curse is a debuff given to the player by the cursed ship that causes the player's ship to move slower until the cursed ship is sunk.
- 3.4.5.2. Cannon Curse:** The cannon curse is a debuff given to the player by the cursed ship that causes the player's projectiles to move slower until the cursed ship is sunk.
- 3.4.5.3. Gunpowder Curse:** The gunpowder curse is a debuff given to the player by the cursed ship that causes the player's projectiles to not ricochet until the cursed ship is sunk.
- 3.4.6. Kraken:** The Kraken is the final boss of the game and appears in the final level of the game.
 - 3.4.6.1. Kraken Tentacle:** The Kraken tentacles appear during the Kraken boss fight. In phase 1 the Kraken will reveal 4 tentacles, phase 2 will reveal 6 tentacles, and phase 3 will reveal 8 tentacles. It takes one cannonball to sink a tentacle. Sinking all tentacles in a phase will reveal the Kraken's head. Kraken tentacles have no form of movement but do shoot projectiles with a normal speed, 0 ricochets, and at a normal fire rate.

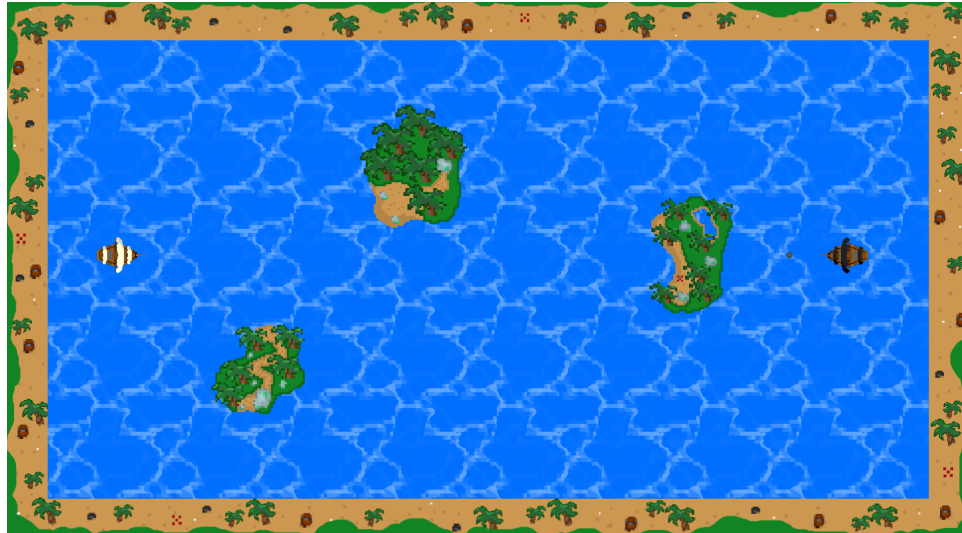


- 3.4.6.2. Kraken Head:** The Kraken head appears in each phase of the Kraken boss fight after all tentacles have been sunk. In phase 1 it takes 10 cannonballs to sink the head, phase 2 takes 13 cannonballs, and phase 3 takes 16 cannonballs. The Kraken head shoots waves of 14 projectiles in random directions at a fast fire rate. Its projectiles have normal speed and 0 ricochets. Phase 3 of the Kraken head is the final encounter of Dead Man's Sea.



4. ENVIRONMENT AND LEVEL DESIGN OVERVIEW

- 4.1. Environment:** The environment of each level is designed to make the player feel like they are truly in a heated cannon battle with some of the most well-known tall tales of the sea. The environment while visually appealing also maintains practical use that can be easily interpreted.



- 4.1.1. **Play Area:** The play area is the main portion of each level and is designed to be the open waters on which the battles of each level will take place.
- 4.1.2. **Border:** Every level will have a land border around it to define the play area. Projectiles will be able to ricochet off of the border adding more mayhem the player must account for.
- 4.1.3. **Obstacles:** There is currently one obstacle that can appear in a level, islands. Obstacles have special mechanics and will cause the player to play around them or use them to their advantage.
 - 4.1.3.1. **Islands:** Islands are present in almost all levels. Islands act as an extra barricade that ships must navigate around. They can be used as cover and will ricochet projectiles.



- 4.2. **Level Design:** Every level is designed according to the enemies that the player will face. All levels are created with open play in mind. Each one provides adamant protection for players to use while also giving them a

challenge in sinking their foes as they navigate the terrain. The design is meant to feed creative gameplay and streamline some ideas but no one level is meant to be beaten a certain way. Each level gives the player the right amount of tools to work with but ultimately the decision is up to the player.

- 5. ART DIRECTION DOCUMENTATION:** Dead Man's Sea will feature a 2D art style for each component of the game. Preset and original assets will be used to achieve a cartoony, pixel art style. The game will take place in one setting with multiple environments, each one capturing the intrinsic nature of pirate myths and legends throughout history.

5.1. Player Ship



Don't be fooled, this ship may lack the visual intimidation of its foes in the open waters but it makes up for this with its power and reliability once in battle. This ship, helmed by the player, is befitted with white sails and accompanies the player throughout their playthrough.

5.2. Pirate Ship



The enemy ships, befitted with black sails appear as one of the many opponents standing in the player's way. They patrol the waters, taking any chance they get to engage in a firefight.

5.3. Ghost Ship



The Ghost Ships haunt the most lethal areas of Dead Man's Sea. Spirits of forgotten sailors these pirates traversed the corporeal plane of existence with one goal in mind, to bring you back with them.

5.4. Skeleton Ship



The skeleton ships will send shivers down your spine, these soulless enemies fear nothing. The remains of the undead have come to add you to their ranks.

5.5. Coral Ship:



The loathed coral ships hide in the waters below. Shrouded in coral and barnacles, these ships are unmistakable. Remember to keep your eyes open, because you never know where they will be lurking.

5.6. Cursed Ship:



Cursed to wander the most desolate areas of Dead Man's Sea, these ships tower over the black waters they sail on and will bring an unfortunate end to any newcomers.

5.7. Kraken:



The most feared creature in all of Dead Man's Sea lurks in the shadows way below. Believed to be a myth because anyone who has met this creature's nightmarish gaze surely never lived to tell the tale. Disrupt the balance in Dead Man's Sea and you may be met with a similar fate.

5.8. Projectiles and Explosions:



6. APPROXIMATE TIMELINE AND MILESTONES:

6.1. Week 1 (10/10/2022): Get the Base Build Together

- 6.1.1. Goals:** By the end of this week have the skeleton level design finished, the player created, and audio chosen/created. Begin work on enemies and art.

6.2. Week 2 (10/17/2022): Continue Base Build

- 6.2.1. Goals:** Have all enemies created and at least one fully functioning level. A majority of the art should be done and new levels can start being created.

6.3. Week 3 (10/24/2022): Working Build

- 6.3.1. Goals:** All art and audio are finished game assets are all functional and 5-10 levels are working and playable.

6.4. Milestone 1: First Check-In (10/31/2022)

- 6.4.1. Goals for Check-In:** Foundation of the game is realized and functioning to design specifications. The base build of the game should be near or completed.
- 6.4.2. Goals for Week:** Base build finished/needs to be finished, Game is functional, and further enhancements can start. Begin creating a boss fight and start end, and game over screens.

6.5. Week 6 (11/7/2022): Enhance and Polish Build

- 6.5.1. Goals:** Base build completely done. Polish should start being implemented on the base build, and additional levels and content should start being added to fill out the game if need be. The game should be ready to be almost ready to play.

6.6. Milestone 2: Second Check-In (11/14/2022)

- 6.6.1. Goals for Check-In:** The game should be completely playable, and closing in on completion. The game should be in a presentable state.
- 6.6.2. Goals for Week:** The game should at this point be nearly done with polish being implemented. The team at this point should start to focus on the gameplay presentation and game presentation.

6.7. Week 8 (11/21/2022): Final Presentation Preparations, and Game polish

- 6.7.1. Goals:** The team should be creating a presentation outline, and make sure that the game is absolutely presentable and playable. Last-minute touches should be done to the game, and development on the game is largely completed.

6.8. Milestone 3: Final Presentation (Last week of classes)

- 6.8.1. Goals for Presentation:** The team is clearly ready, and has a firm understanding of the game they are presenting. The presentation should be largely practiced, and each team member should know what they are presenting.

7. TEAM BIO AND CONTRIBUTIONS

- **Kay Tuan Schnulo - Lead Director / Lead Designer / Lead Developer:** Kay Tuan is a junior at ASU pursuing a computer science degree with a software engineering focus along with a certificate in computer gaming. He has had a passion for gaming since a young age and is inspired to create something that will spark that passion for future youth.
 - **Expected Contribution:** Implement the mechanics and integrate all the components as well as lend a hand to creating the art and level design.
- **Brennan Sammis - Developer / Designer:** Brennan Sammis is a sophomore Computer Science Student with an emphasis in software engineering, and a student in the computer gaming certificate program. He is dedicated to level design and helping to create/develop the code which runs the game.
 - **Contribution:** Creation of levels, including level design game-stages, and overall design of the game.
- **Nicholas Kelly - Lead Artist / Level Designer / Developer:** Nick Kelly is a Computer Science Major and is actively pursuing a game Computer Gaming Certificate as well. He enjoys creating 3D art and programming and finds the combination of both to be very rewarding.

- **Contribution:** Responsible for game assets and overall narrative and art design. In charge of all art and created assets.
- **Abhimanyu Sathish - Lead Audio Engineer / Artist / Developer:** Abhi Sathish is a junior Philosophy student with an interest in game design and development, especially in terms of audio and visual components. He is proficient in multiple Digital Audio Workstations, and will be working on audio, but he is also proficient in Blender, Adobe Illustrator, Adobe Photoshop, and a variety of other drawing/animation programs.
 - **Contribution:** Audio design, and development of sound effects and music throughout the game. Also helped with the art.