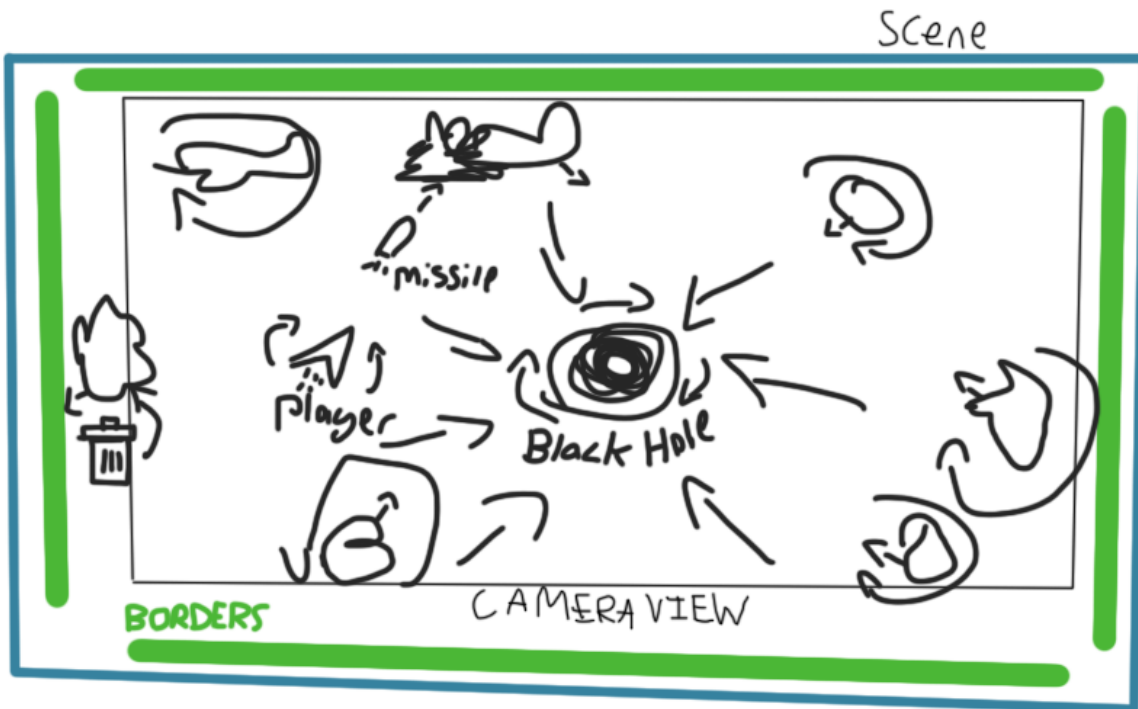


SPACE BATTLE

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A/D to rotate
W/S to ac/de-celerate
SPACE to shoot missile

Spaceship.cs (player):

- Accelerates with W/S, rotates with A/D
- Shoots missiles with space
- Physics based (has a Rigidbody2D), and will coast around (like space)
- Has a collider for detecting collisions
- Destroyed on impact with an asteroid
- Will have a BlackHoleObject script once it is created (to get pulled towards black hole)
- Destroyed on being sucked into black hole
- Pseudocode:
 - Variables for the rb, speed, maxSpeed, rotation speed, fire rate, fire timer, input
 - Set callback for being sucked into black hole (destroy ourselves)
 - Store input and check for missile launches in Update
 - Instantiate a missile if the timer is low enough and space is pressed
 - Apply forces and torque in FixedUpdate
 - Detect asteroid collision in OnCollisionEnter2D (check tag) and destroy if colliding with an asteroid

Asteroid.cs:

- Physics objects (rigidbody) with a collider
- Instantiated outside of screen, flying towards the center (with a velocity)
- Have randomized size
- Spins slightly over time
- Will be affected by black hole (won't explode)
- Destroyed by player missiles (perhaps with a little effect)
- Destroyed after leaving screen (handled by border)
- Pseudocode
 - Variables for the rb, angular velocity
 - Set velocity towards the screen in Start
 - Rotates in Update
 - Exploding due to missiles is handled by missiles
 - Function Explode() (shoots rock particles out maybe)

SpaceMissile.cs (missile):

- Physics object with collider
- Accelerates over a short time and then cuts the "thruster" and coasts
- Affected by black hole & explodes upon entering
- Faces towards its velocity vector
- Destroys asteroids
- Pseudocode
 - Variables for rb, accelerationForce, accelerationTime, timer
 - Set black hole callback in Start to explode
 - Decrement & check timer and apply forces in FixedUpdate
 - Rotate towards velocity in Update using Atan2
 - Check for collision with asteroid in OnTriggerEnter2D and blow it up
 - Function Explode() (explosion particles/sprites/animation)

BlackHole.cs:

- Pulls BlackHoleObjects towards it using Newton's ULOG
- Spins slowly
- Destroys objects that are unfortunate enough to fall in
- Pseudocode
 - Variable for gravitational force multiplier, mass, spinRate
 - apply physics in FixedUpdate to all BlackHoleObjects
 - Detect objects entering in OnTriggerEnter2D, check for BlackHoleObject script and call callback, destroy object

BlackHoleObject.cs:

- Pulled towards the black hole
- Calls a function when entering the black hole
- Pseudocode
 - Variable for rb, callback
 - Static list of BlackHoleObjects
 - Add self to list on start
 - Remove self from list on destroy
 - Action<> OnEnterBlackHole called by BlackHole.cs

Border.cs:

- Checks for players entering the trigger and wraps them around the screen
- Checks for asteroids/missiles entering and deletes them
- One on each side of the screen
- Pseudocode
 - Variables for tags (for player, asteroid, missile), player teleport position
 - Check for these tags in OnTriggerEnter2D and take an effect
 - Delete missiles & asteroids
 - Teleport players to the other position specified