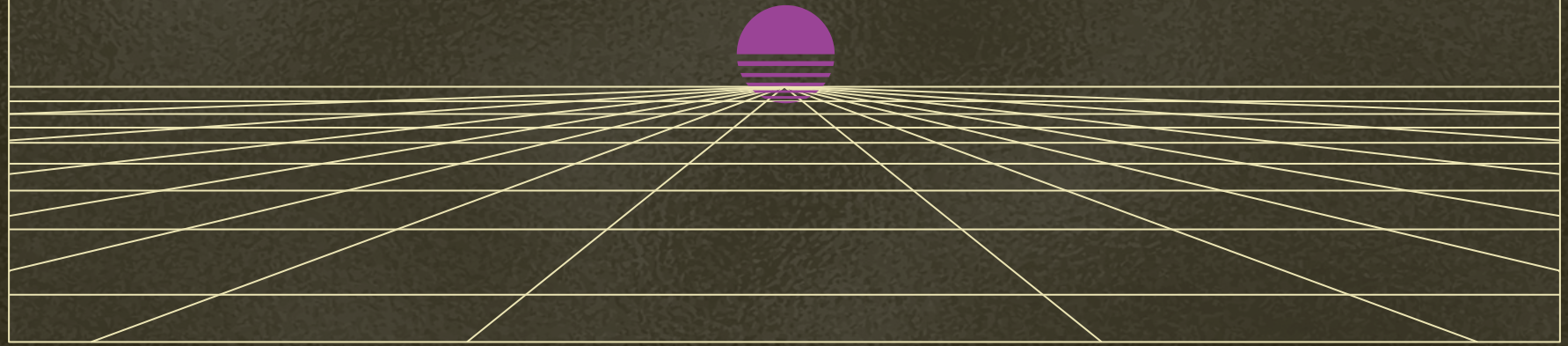
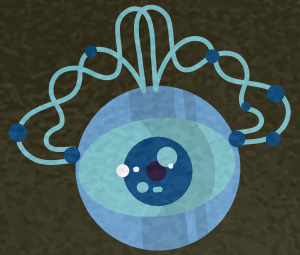
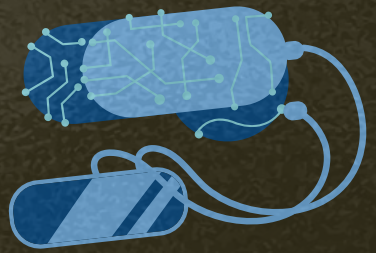
Boat Racing 360

Computer Science Game - Final





Introduction



Initial Concept

“Boat Racing 360 is a game where the player picks a boat at the start, races against NPCs in a dangerous track with many hidden secrets, and collects points to unlock new boats.” - Boat Racing 360 Game Design Document

Initial Concept Acomplished?

Boat Race	Yes
Pick your boat	Yes
Races against NPCs	No
Dangerous Track with many Hidden Secrets	No
Boost & Boost Jump	Yes
Collect points & Unlock new Boats	No

New Concepts

- Time Trial
- Constant boost for certain amount of time
- Sliding Boats
- All different boats being available from the start (time/difficulty)


BOAT RACING 360
Start
Instructions

User Experience


BOAT RACING 360
Start
Instructions

Boat Racing 360 is an intense boat racing game. Your objective is get to the finish line with the quickest time possible. You can get boost power-ups to boost your speed and help you go faster. These are placed throughout the track.

Controls

Accelerate: W or UP ARROW

Back up: S or DOWN ARROW

Turn right: D or RIGHT ARROW

Turn left: A or LEFT ARROW

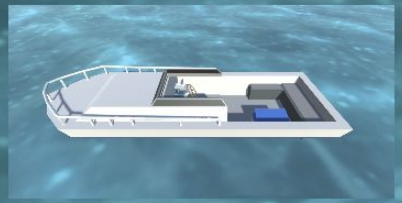
Jump boost: SPACE BAR

Respawn at last checkpoint: ESC

Back


BOAT RACING 360
Start
Instructions

CHOOSE YOUR BOAT

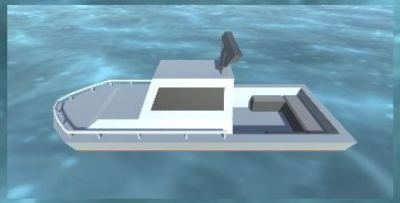


NOVICE

Phantom

PRO

Thrasher



EXPERT

Riptide

Back

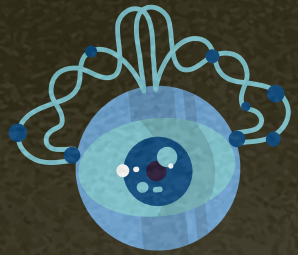

Time Elapsed: 0.3.71
Reset


Time Elapsed: 0.16.46
Reset

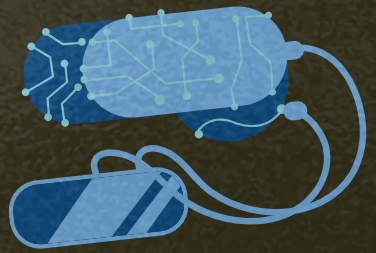

Time Elapsed: 0.14.47
Reset

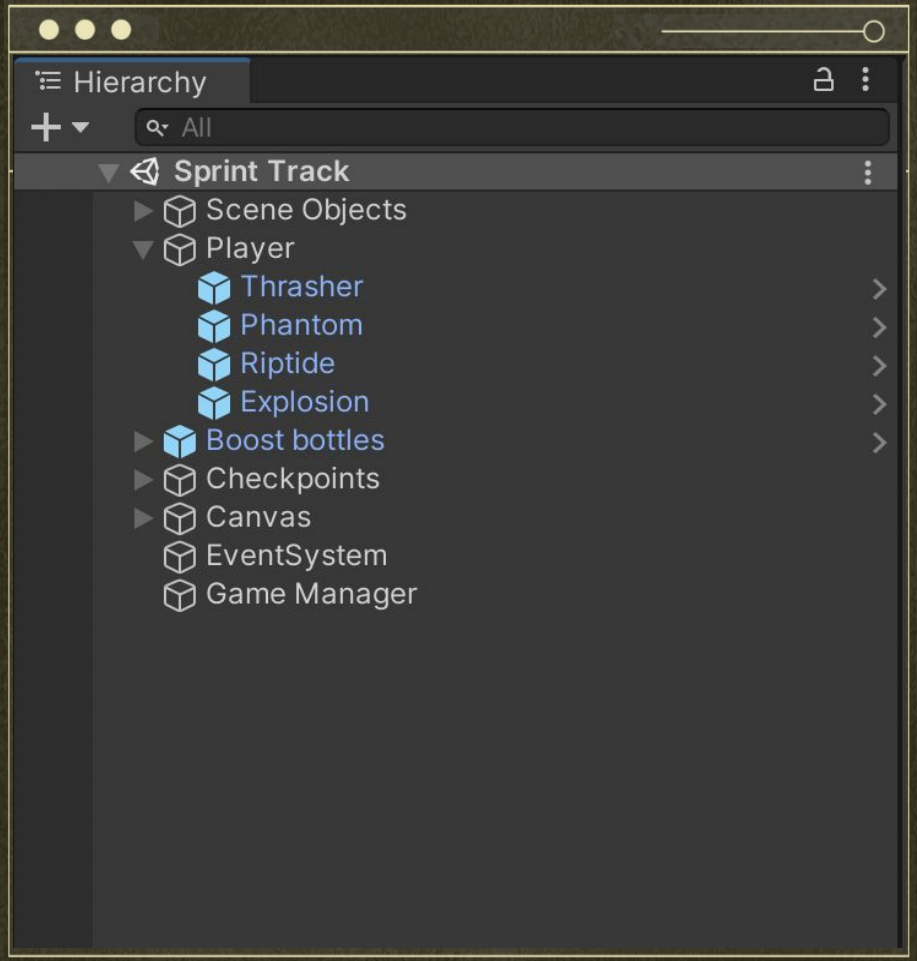

FINISHED
YOUR TIME WAS: 3 MINUTES AND 51 SECONDS
Play Again


BOAT RACING 360
Start
Instructions

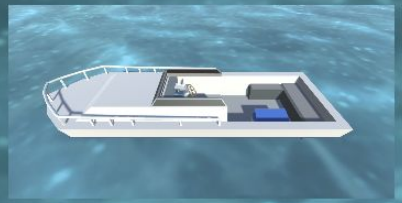


Scene




Hierarchy
All
Sprint Track
Scene Objects
Player
Thrasher
Phantom
Riptide
Explosion
Boost bottles
Checkpoints
Canvas
EventSystem
Game Manager

CHOOSE YOUR BOAT

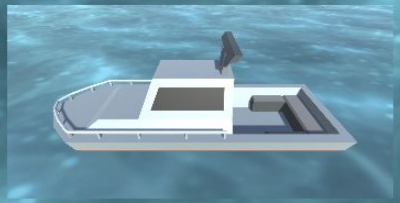


NOVICE

Phantom

PRO

Thrasher

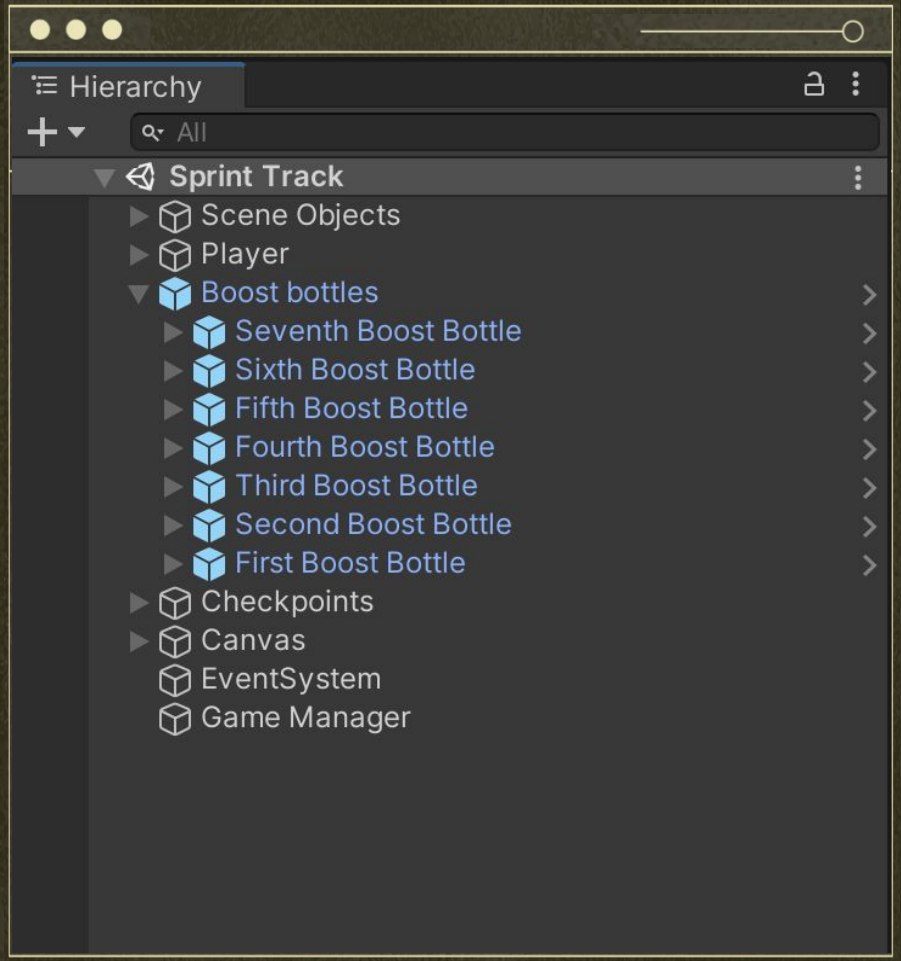


EXPERT

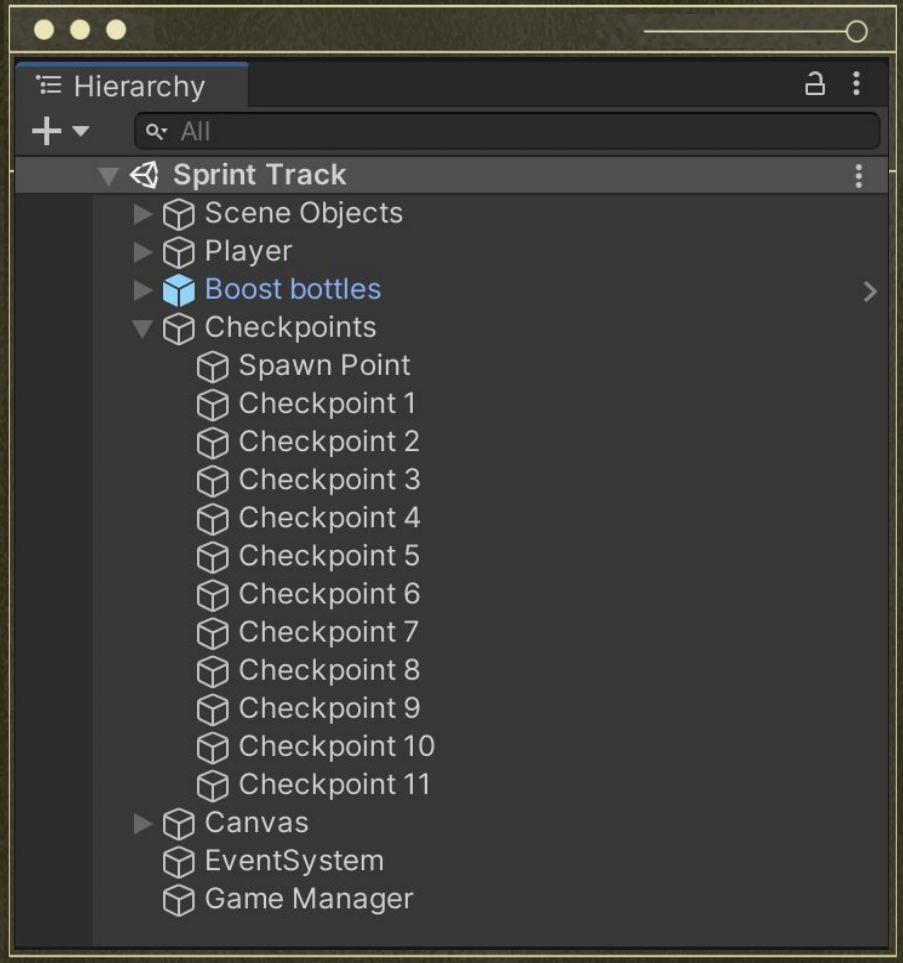
Riptide

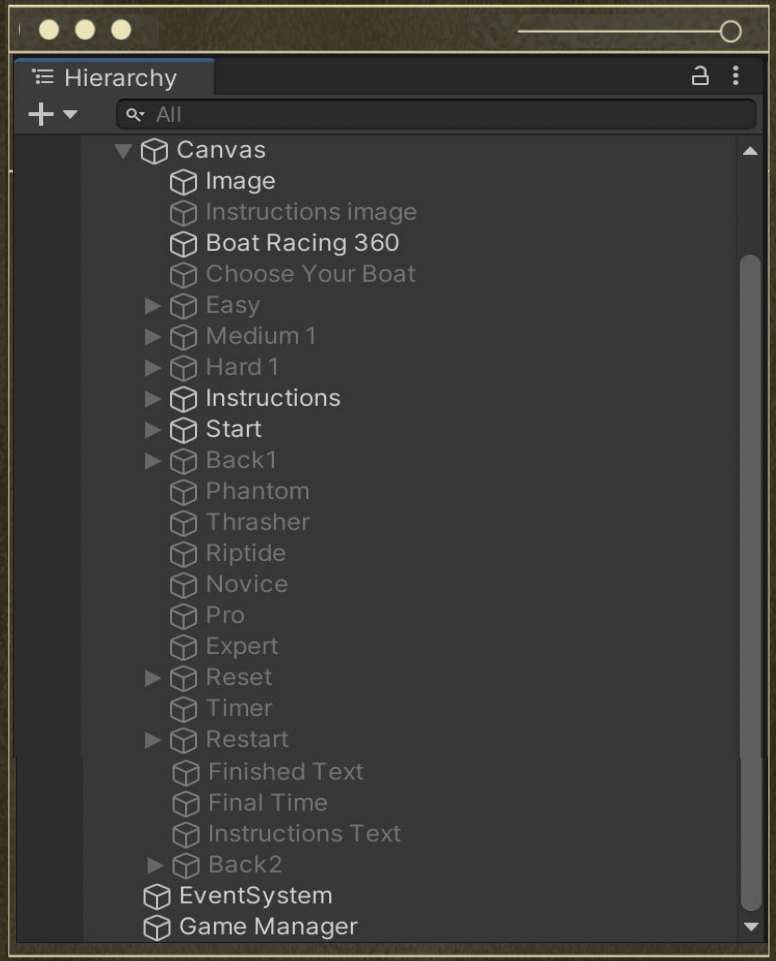
Back

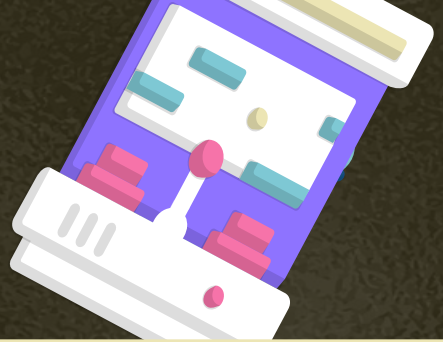

Time Elapsed: 0.14.47
Reset


Hierarchy
All
Sprint Track
Scene Objects
Player
Boost bottles
Seventh Boost Bottle
Sixth Boost Bottle
Fifth Boost Bottle
Fourth Boost Bottle
Third Boost Bottle
Second Boost Bottle
First Boost Bottle
Checkpoints
Canvas
EventSystem
Game Manager


Time Elapsed: 0.16.46
Reset


Hierarchy
All
Sprint Track
Scene Objects
Player
Boost bottles
Checkpoints
Spawn Point
Checkpoint 1
Checkpoint 2
Checkpoint 3
Checkpoint 4
Checkpoint 5
Checkpoint 6
Checkpoint 7
Checkpoint 8
Checkpoint 9
Checkpoint 10
Checkpoint 11
Canvas
EventSystem
Game Manager


Hierarchy
All
Canvas
Image
Instructions image
Boat Racing 360
Choose Your Boat
Easy
Medium 1
Hard 1
Instructions
Start
Back1
Phantom
Thrasher
Riptide
Novice
Pro
Expert
Reset
Timer
Restart
Finished Text
Final Time
Instructions Text
Back2
EventSystem
Game Manager



Scripts


Boat Racing 360
Computer Science Game - Final
Here is where your presentation begins

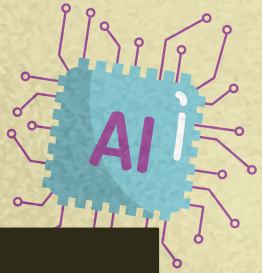
Player Movement

```
if (finished == false)
{

    horizontalInput = Input.GetAxis("Horizontal");

}

if (Input.GetKeyUp(KeyCode.UpArrow) || Input.GetKeyUp(KeyCode.W) && forward == 1 && finished == false)
{


    StartCoroutine(SlowDown1());


}

if (Input.GetKey(KeyCode.UpArrow) || Input.GetKey(KeyCode.W) && finished == false)
{

    forwardInput = Input.GetAxis("Vertical");

}


transform.Translate(Vector3.right * Time.deltaTime * (speed - movingSpeed - actualSpeed) * forwardInput);
transform.Rotate(Vector3.up * Time.deltaTime * turnSpeed * horizontalInput);

if (Input.GetKeyDown(KeyCode.Space) && isOnWater && hasBoost && hasJumpedOnce == false)
```

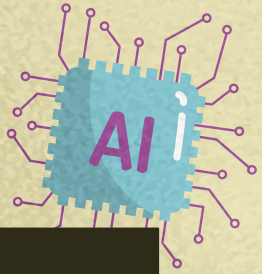
Differentiate Terrain & Water

```
private void OnCollisionStay(Collision collision)
{

    if (collision.gameObject.CompareTag("Ground") && hasBoost == false && finished == false)
    {

        isOnWater = true;
        Speed();
        TurnSpeed();

    }

    if (collision.gameObject.CompareTag("Ground") && hasBoost == true && finished == false)
    {

        isOnWater = true;
        Boost();
        TurnSpeed();

    }

    if (!collision.gameObject.CompareTag("Ground") && finished == false)
    {

        isOnWater = false;

    }

    if (collision.gameObject.CompareTag("Terrain") && isOnWater == false && finished == false)
    {

        speed = 1;
        turnSpeed = 1;

    }
}
```

Keeping Time Neat



1.0.40



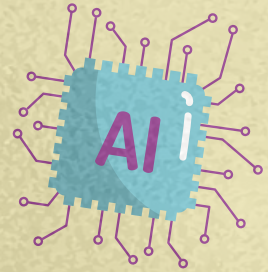
1.1031.405

```
Update is called once per frame
d LateUpdate()


 if (timeRunning == true)
 {

     time += Time.deltaTime;
     min = (int)time;
     secs = time % 60;

     timer.text = "Time Elapsed: " + min/60 + "." + secs.ToString("0.00");

 }



lic void Standby()
```

Challenge

Slowing Down Gradually

```
IEnumerator SlowDown1()
{

    if (!Input.GetKeyDown(KeyCode.UpArrow) && !Input.GetKeyDown(KeyCode.W))
    {
        tempo = speed / 10;
        forwardInput = 1;
        actualSpeed += tempo;
        yield return new WaitForSeconds(0.18f);
        StartCoroutine(SlowDown2());
    }

    else if (Input.GetKeyDown(KeyCode.UpArrow) && Input.GetKeyDown(KeyCode.W))
    {

        forwardInput = Input.GetAxis("Vertical");
        actualSpeed = 0; yield break;

    }

}

IEnumerator SlowDown2()
{

    if (!Input.GetKeyDown(KeyCode.UpArrow) && !Input.GetKeyDown(KeyCode.W))
    {
        tempo = speed / 10;
        actualSpeed += tempo;
        yield return new WaitForSeconds(0.18f);
        StartCoroutine(SlowDown3());
    }

    else if (Input.GetKeyDown(KeyCode.UpArrow) && Input.GetKeyDown(KeyCode.W))
    {

        forwardInput = Input.GetAxis("Vertical");
        actualSpeed = 0; yield break;

    }
```



"Whether you think you can, or you think you can't... you're right." - Henry Ford

Thanks for the Semester