

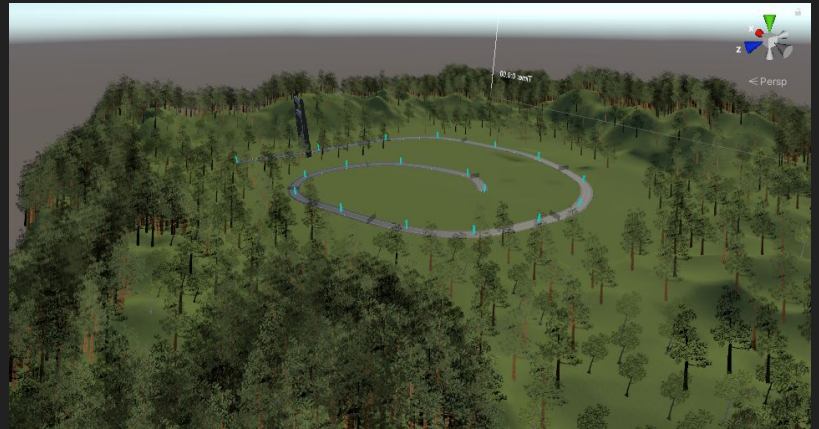
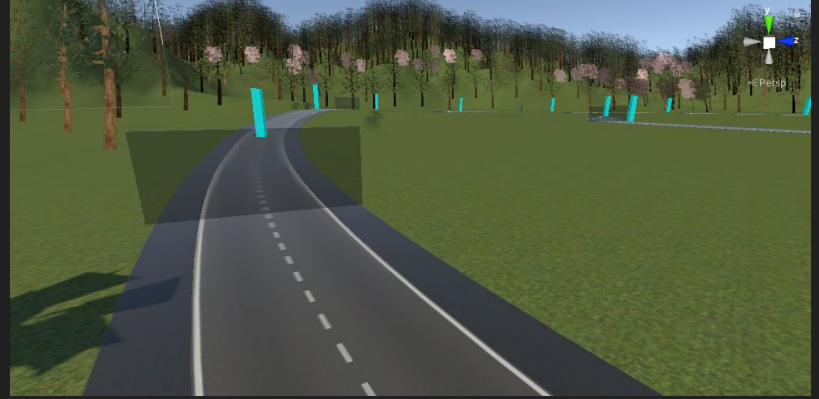
The logo features two concentric circles. The outer circle is a thick white line, and the inner circle is a thin red line. The text is centered within the space between these two circles.

# **Redline**

By: Afifah Mazhar, Amogh  
Yatnatti, Gautam Sapre

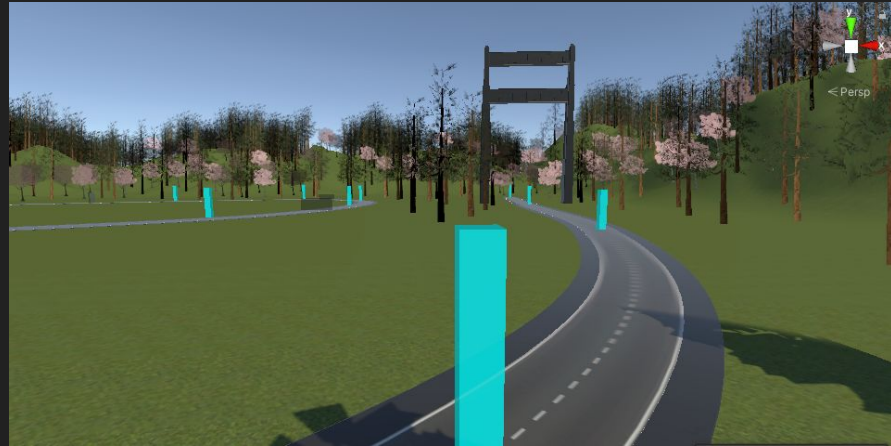
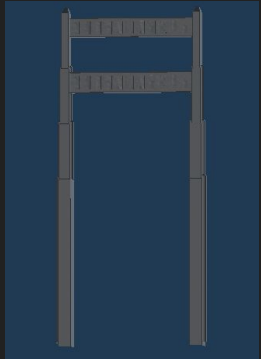
# The World

- Checkpoints
  - Black Translucent Boxes
  - Checks they're staying on path
  - Penalizes when checkpoints are not hit
- Road
  - The blue prisms capture where the road turns
  - Two different textures used; one for shoulder and one for main road
- Terrain
  - Raised and lowered to simulate a hilled area
- Trees
  - Added to better represent the hilled environment and provide contrast



# Problems Faced

- Problems
  - Universal Render Pipeline Issues
  - Tree and asset placement
  - Fixing textures and materials manually
- Assets
  - Universal Render Pipeline/Lit
  - Placed in same terrain





# The Car

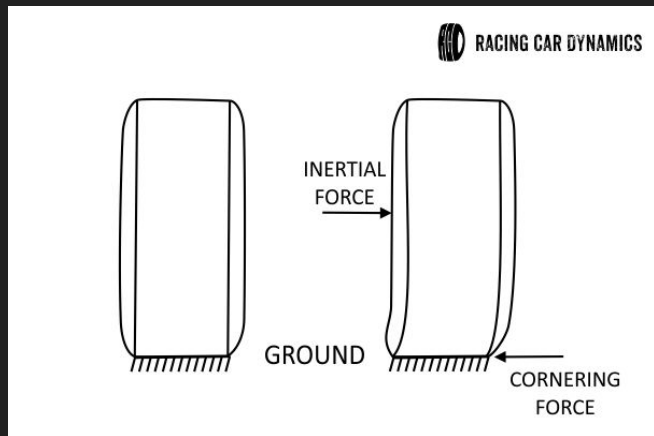


- Engine Noise derived from 4 audio clips
  - Low acceleration
  - Low deceleration
  - High acceleration
  - High deceleration
- Body collider
  - Allows car to collide/interact with other object
- Center of mass
  - Used in driving physics calculations
- Steering wheel
  - Needed to configure the car's steering wheel to move in relation to our physical steering wheel
- Wheels
  - Driving physics are calculated based on the wheels of the car. Each wheel has its own wheel collider.



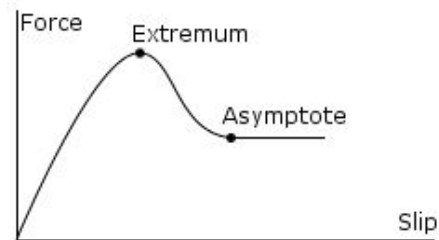


# Driving Physics



Car is built using Unity Wheel Collider Physics. These include the following adjustable points

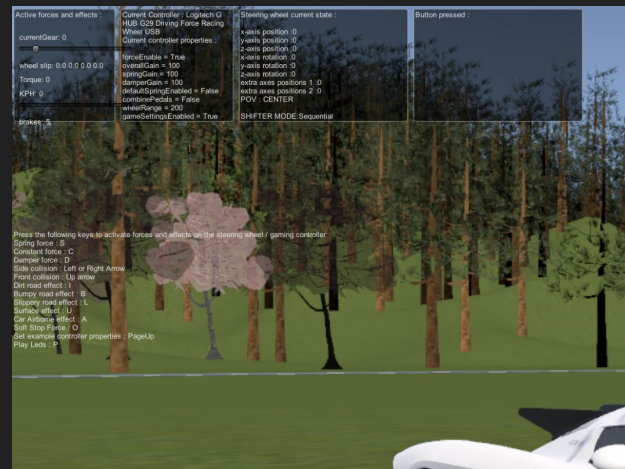
- Suspension
  - Spring Rate
  - Dampers
  - Ride height/travel
- Forward Friction
  - Extreme Slip
  - Asymptote Slip
- Sideways Friction
  - Extreme Slip
  - Asymptote Slip



# Controller

## Steering Wheel/Pedals → Logitech G29

- Functionality comes from Logitech G SDK assets
- Steering the wheel corresponds to car's steering
- Steering wheel centers itself with input
- Pedals function as expected



## *Game Play*

- Timer → Task is to finish the track in minimum time
- Checkpoints to track path of vehicle movement and progress

