Game Design Document
Death Race

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Part 1 - Track Design

The track has been Inspired by the Monaco Grand Prix. I had fun designing this as I am a huge Automobile and F1 fan and I have played tons of racing games. I have been working on a racing game myself. But this included a mixture of traps and power ups to be part of the game which reminded me of other games such as mario kart and death race.

According to me, the track is fun to play with as there are both straights and very tricky curves and corners which will give the player time and angles to attack. And if he doesn't have any power ups then the player can try to overtake the other players on the straights. The track has a length of 8 kilometers, I feel the track is well balanced and can offer a lot of offensive and defensive plays.

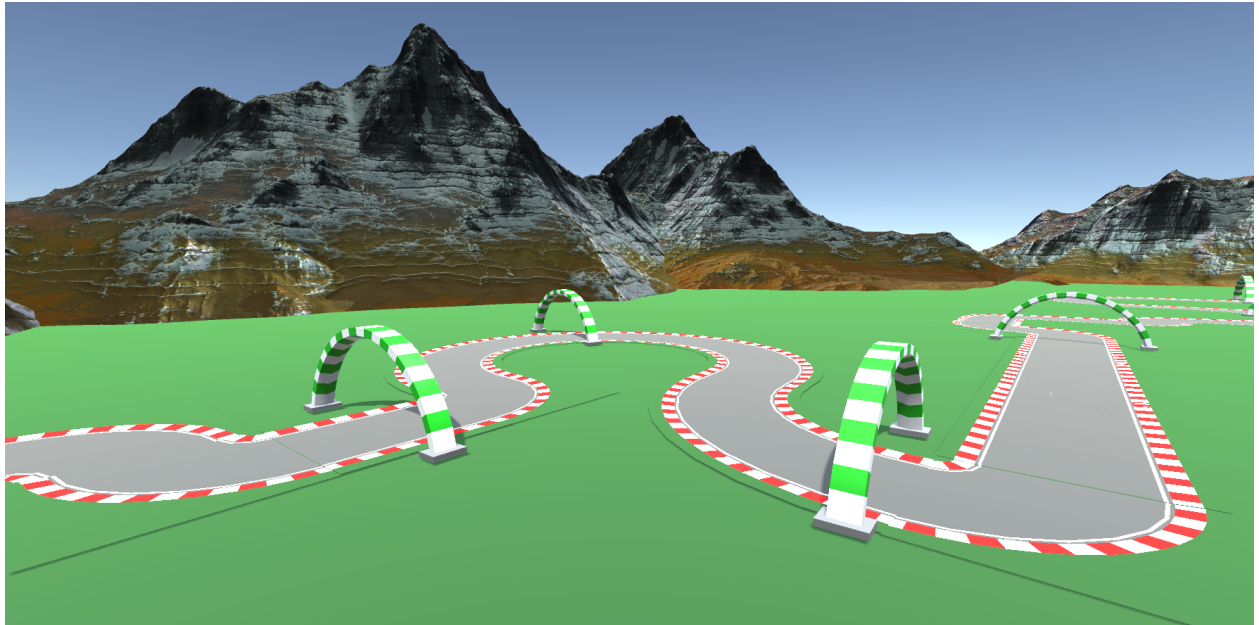Below are some of the Objects, Obstacles and Power ups I decided to add to the track.

Objects

The Start and the Finish.
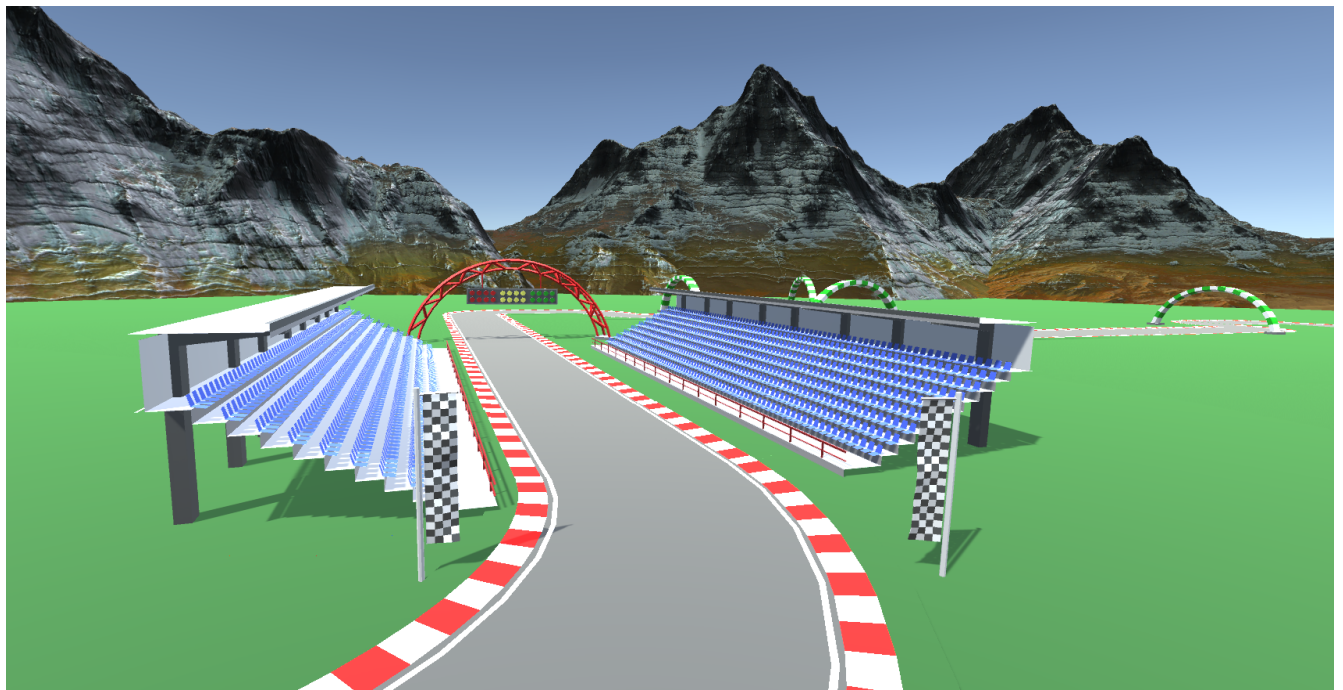
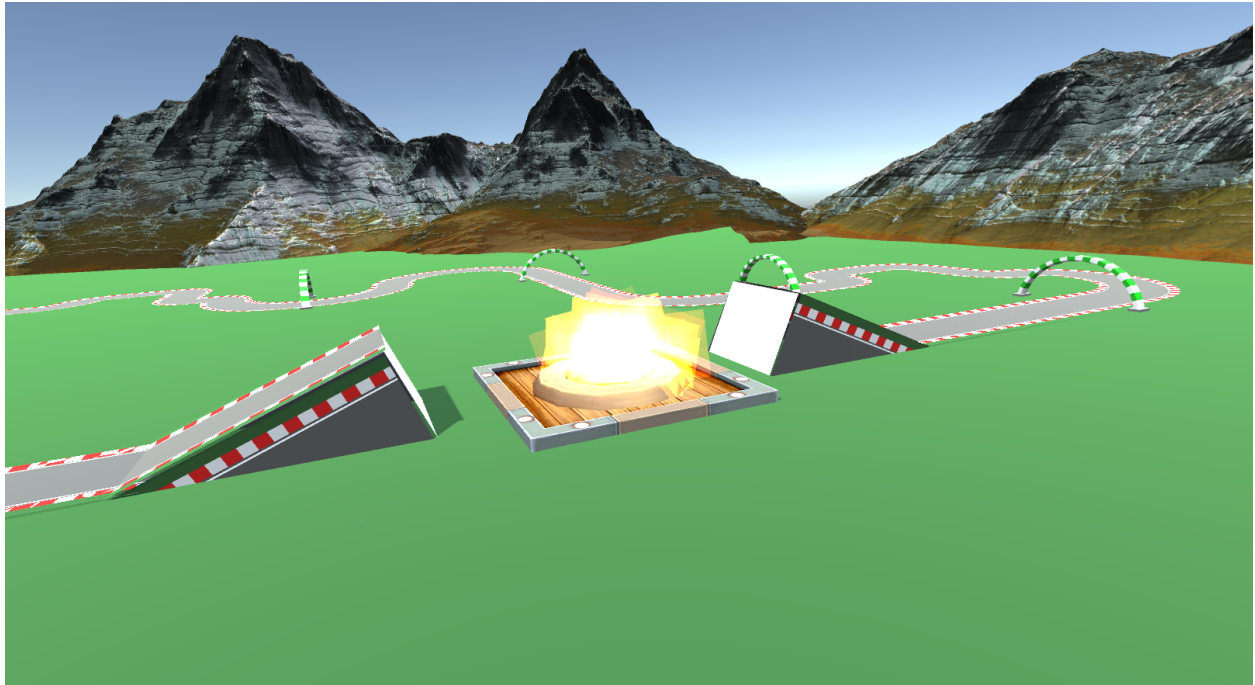This is where the players will start and end the race.

The Checkpoints

There are 11 checkpoints in the track, the player has to go through all 11 checkpoints to finish the lap or race, failure going through the checkpoint will respawn the player's car right before the checkpoint.
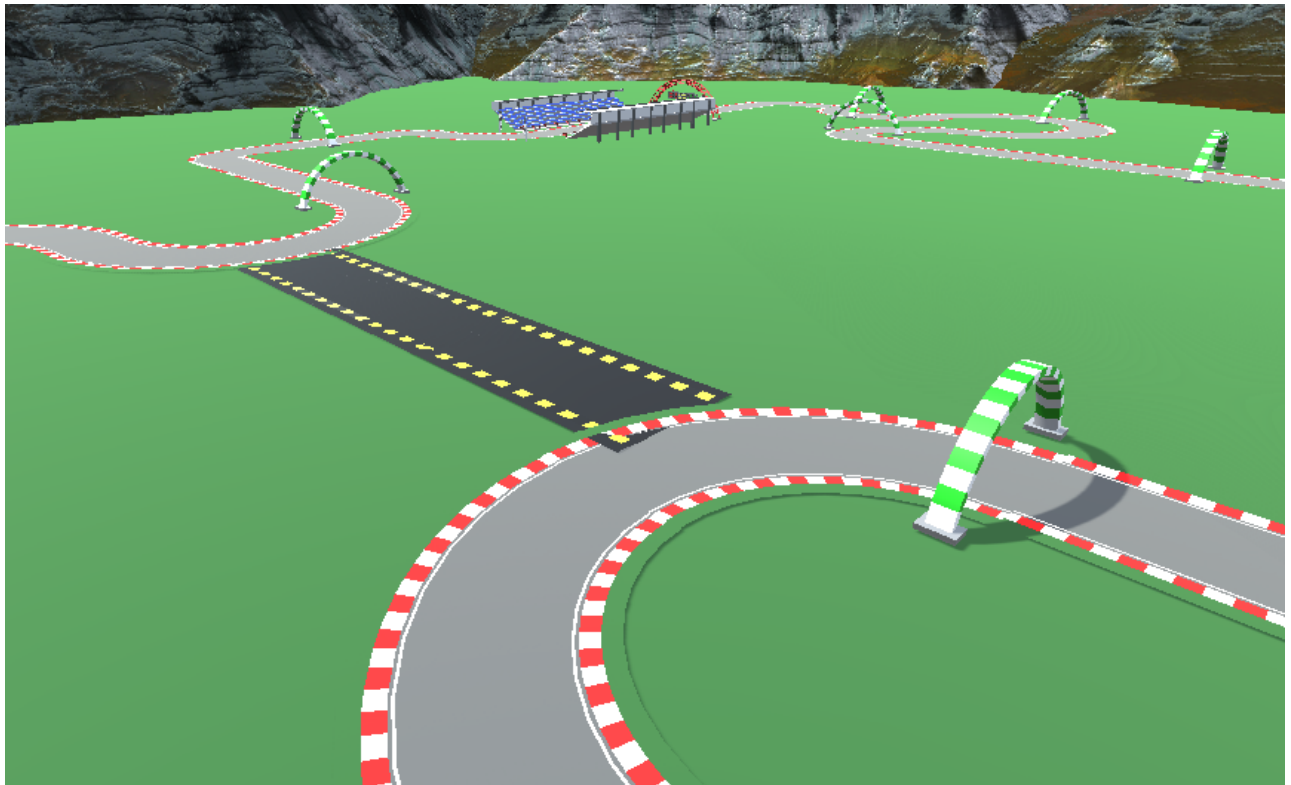
Obstacles

Fire Jump

This is a 40° jump that has a fire pit in the middle, The player has to make the jump at the perfect speed to make it to the other, Going slower will put him in the fire pit, which will cause his car to reset 2 checkpoints back, so that he can gain the speed required for him to make the jump.
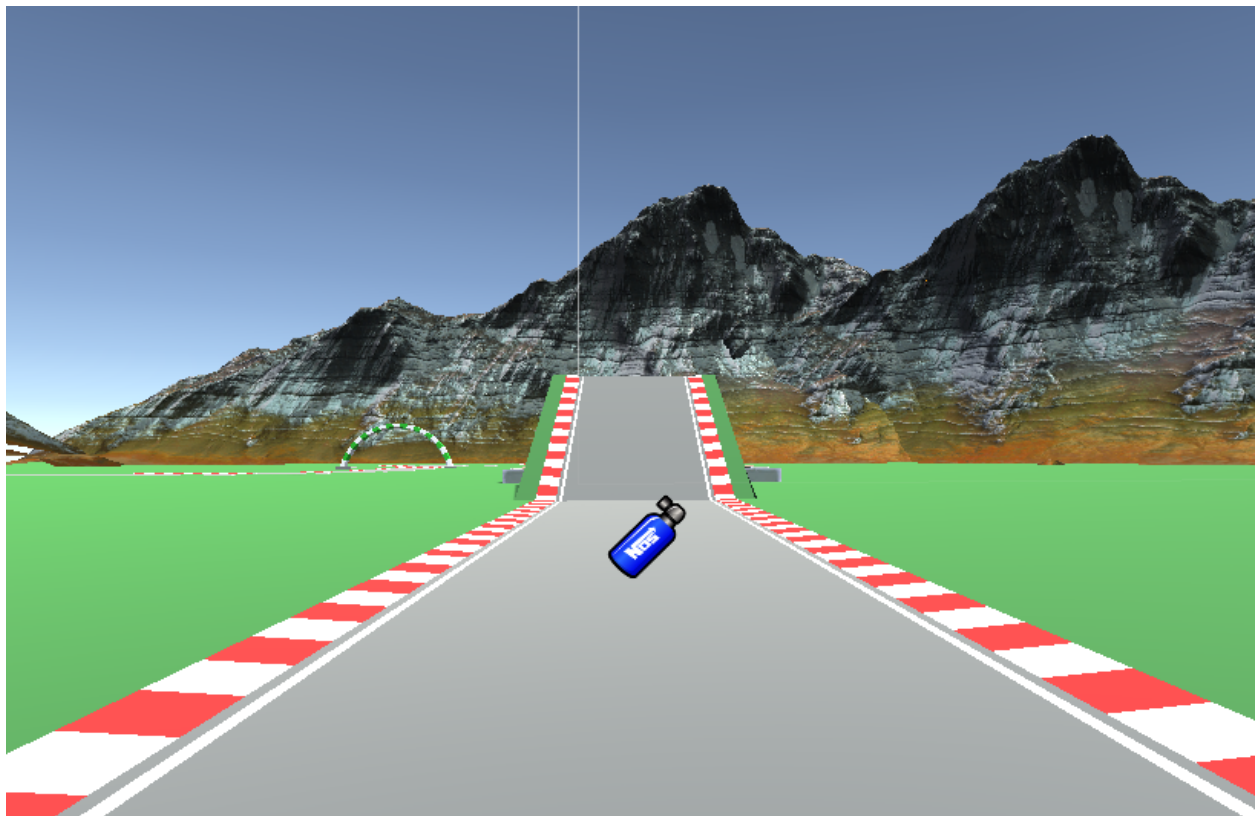
Shortcut

This is a shortcut placed after the 9th checkpoint. It activates randomly for the people who go through the 9th checkpoint. Players who go through this skip a huge chunk of the track and get a noticeable lead.

Powerups / Traps

Nitrous

Nitrous is an essential part of the race, The player starts with a full tank of NOS, nitrous doesn't get replenished until he/she picks up the nitrous can on the track. It spawns every 5 seconds once the player has picked it, It is key that the player has enough nitrous to make the jump, Nitrous gives the car enough power to knock other cars out of track

Health
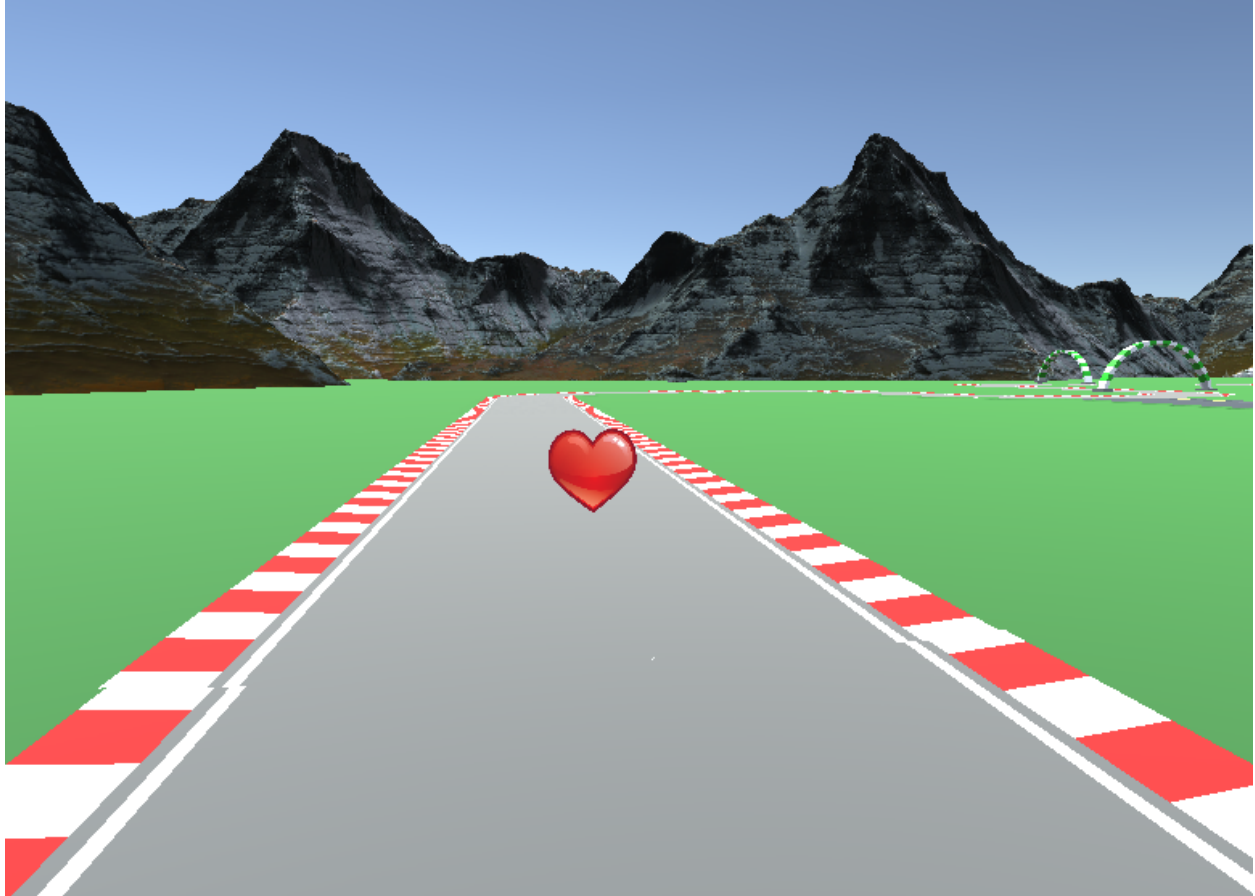
This is a straight forward power up, It replenishes the health of the car to maximum. It only spawns every 10 seconds, to make it hard for players. Once collected the Player has a shield for 3 seconds which can't be penetrated through any weapon.

Bomb

The Bomb is a trap on the track, Once the first player activates the bomb, it triggers the bomb and when the second player goes on top of it he faces the wrath of the bomb, The second player cannot dodge the bomb no matter what. It reactivates every 5 seconds. Many other traps like this can be added and some of them can have mystery/suspense traps where the player which activates them can only get knocked out or destroyed.

Part 2 - Car Design

Car attributes

SPEED - 7/10

ATTACK - 7/10

DEFENSE - 8/10

ARMOR - 9/10

Cars are one of my most favorite things, So coming up with a design that has to be balanced and fun to play with too. The car is a 5.5m long Pickup truck which works completely on raw power(muscle car) without an ECU so that it can't be shut down by a EMP wave (which it has been installed with) It has been completely covered with bullet proof material leaving the drivers side windshield. The tires are made with un puncturable material and my car comes with 6 wheels to take on all the weight and can go even if one of the wheels is destroyed . This car will be on the slower side as it is completely armored which will make it heavy and slow. This is so that the car isn't overpowered. All the unwanted things such as the pillion and back seat have been removed so that it gives space for ammo and weapons required for destroying other cars. I have come up with 4 power ups which will make it a good option for Offense as well as Defense. I have added a MOCK UI of the game according to my powerups(in the end).

Value - This car has the perfect balanced weapons and defenses. The car has slightly powerful secondary weapons that's why I have limited them. As it is a combat racing game, speed does not matter as much as other games. The weapon choices and powers have been balanced so that other players don't get overpowered with their cars. But this car is going to be a lot of fun as EMP and Heat seeking missiles are very fun to play with.

Powerups

Gatling Gun

- Primary Weapon
- 30000 rounds every lap
- 1 on each side of the back door (total 2)
- Fire rate - 2800 rounds per minute
- Guns Can be destroyed by other weapons
- Use - Attack

This is the basic weapon where the player can shoot off other weapons and these guns auto lock on the other carsr and its tap to shoot. They are useful as they can fire rounds at high speeds and can get the player out of tight situations.
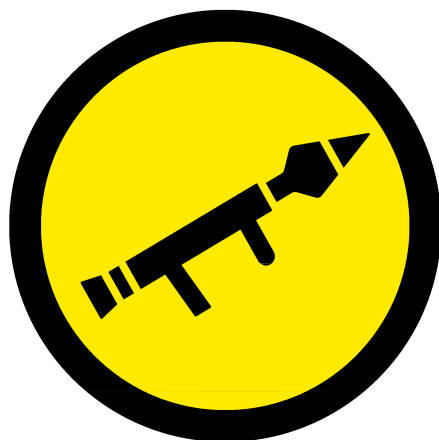
Rocket launcher

- Secondary Weapon
- 3 missiles every Lap
- 1 launcher on top
- Heat seeking missiles
- Launcher cannot be destroyed.
- Use - Attack

These are heavy powered missiles which can take out more than half of the life of the other car, these have to be used very carefully as they are limited. They can auto lock on other cars and destroy them completely if their life is low.

Oil spill

- Primary Defense
- 2 Spills every Lap
- Attached to the rear bumper
- Can be destroyed if the bumper has fallen off
- Use - Defense

This is taken as a reference from Death race. In this the player has to deploy the can when a second player is on his tail, this will spill a can of greasy oil and cause the player to lose control for 3-5 seconds, by doing this the player can escape from tight and difficult scenarios.

EMP Wave

- Secondary Defense
- 1 mini pulse per lap or 1 strong pulse every 2 lap*
- Antenna Can be destroyed
- Use - Defense

* Strong wave can be used every other lap only if the mini wave isn't used

This is an ElectroMagnetic Pulse which allows all cars with ECU's to shut down for 3-4 seconds, it doesn't affect any car which is running only on pure power, The mini pulse has a radius of 500 mtrs and the strong pulse has a radius of 2 kilometers. It takes time to recharge as it consumes a lot of energy. This is a very powerful defense as it gives a player an obvious advantage, but other players can destroy the antenna and players cannot use this if the health of the car is below 50%.

MOCK UI

I have created a Mock UI of the game in Unity and photoshop, I have used default assets, not to scale. But I feel the game should closely look like this. We could replace the joystick with gyro sensing. The car will auto accelerate as most of the games are built on it.