

Tanks 2!

Change Request

CE-101	As the two tanks drive away from each other the camera gets further and further away from the scene until the world boundary is revealed. Is there a way to prevent this? Implement the most expedient solution you can think of.
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I Implemented this feature doing two things:

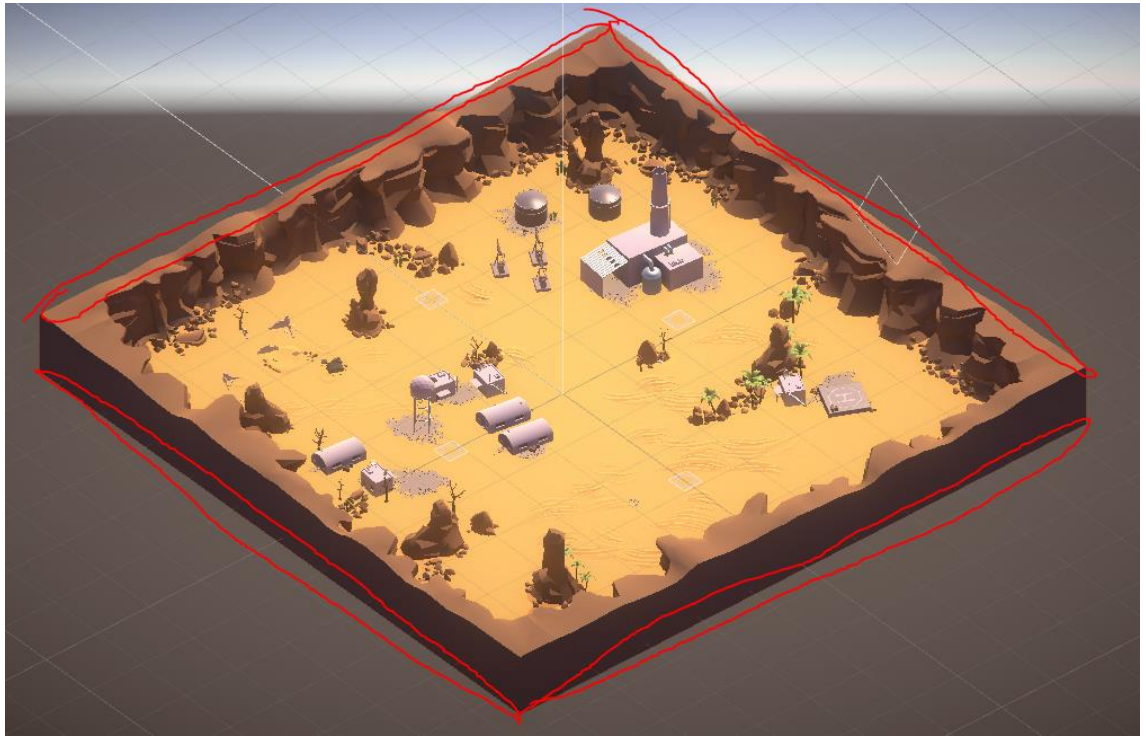
- **Making a dynamic split camera effect:** That also acts like a compass for knowing where the other player is and not lose track when the players are too far from each other. The line will grow if the players are far from each other and if they are close the line will grow thin.



The best way of doing this is doing a Voronoi Shader, but as long as I don't have much experience programming shaders in HSL/Cg language I used another method. We have two cameras which one of them has a plane mesh with a simple shader that acts like a filter and just draws the depth buffer, leaving behind the planes surface what has been rendering before.

- **Raycasting the cameras viewport corners with a world bounding box:** by making a world bounding box in a layer and later checking it by the cameras. When I calculate the next camera position I check the viewport corners for clamping them into the world's limits. I consider the world limit as the points where the skybox or the background color starts appearing.

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Pick *One* Feature

Convert to a checkpoint based race game	<p>Add checkpoints</p> <ul style="list-style-type: none">• There's a starting point in which both players spawn (which counts as the last checkpoint for completing a lap)• There are 4 additional checkpoints across the level, and the order in which they have to be completed on has to be clear for the player.• In order to win, a player has to complete 3 laps by going through all the checkpoints. <p>Add behaviours</p> <ul style="list-style-type: none">• There will be some sort of indication of what the next checkpoint each player has to go through, as well as their current lap.• When shooting and hitting the opponent, instead of them losing health, the tank will be immobilised for certain amount of seconds. We would like to make this value easily tweakable so our designers can iterate over it and find the best balance. Please specify in your notes how can they do this.• Upon one of the players finishing the last lap, the input for controlling the tanks will be disabled, and there will be some message showing which player has won the race. There will also be a restart button to start over the race.
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As long as I prefer to implement game mechanics more than AI I choose this option.

Add checkpoints

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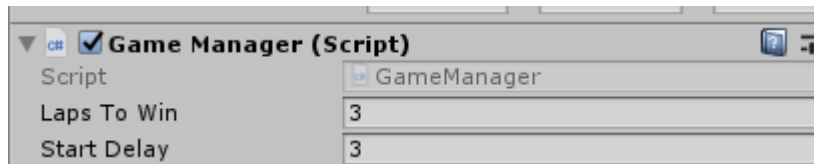
- There's a starting point in which both players spawn (which counts as the last checkpoint for completing a lap)

The circle in gray is a checkpoint. It makes a noise and blinks with the player color when is triggered. I made the players start at the last checkpoint in the collection so they know where the lap is going to end.

- There are 4 additional checkpoints across the level, and the order in which they have to be completed on has to be clear for the player.

As you can see in the image I added an arrow that acts like a compass. It rotates to the next checkpoint and grows depending on the player's distance.

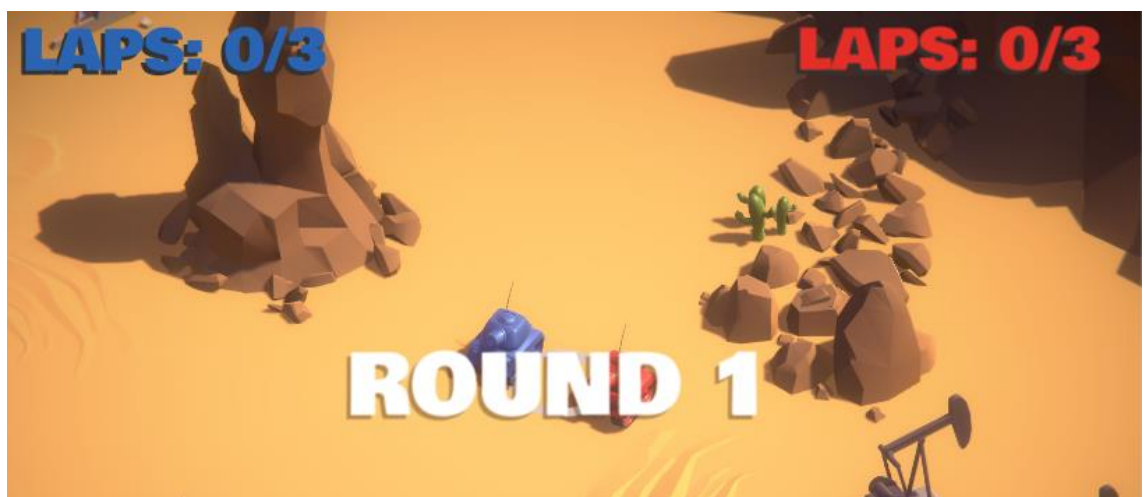
- In order to win, a player has to complete 3 laps by going through all the checkpoints.



You can change this value from the editor.

Add behaviours

- There will be some sort of indication of what the next checkpoint each player has to go through, as well as their current lap.



Along with the arrow, you can see the player's lap dials in the screen.

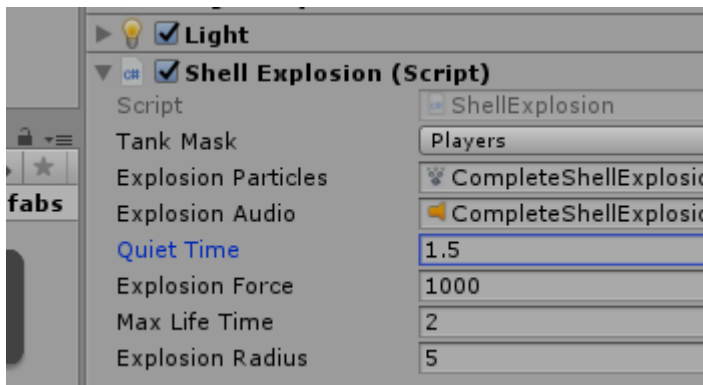
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- When shooting and hitting the opponent, instead of them losing health, the tank will be immobilised for certain amount of seconds.



I changed the health bar behavior. Now it shows the time you are going to be immobilized.

- We would like to make this value easily tweakable so our designers can iterate over it and find the best balance. Please specify in your notes how can they do this.



In the **Complete Shell** Prefab, the **Shell Explosion** script. I called it quiet time.

- Upon one of the players finishing the last lap, the input for controlling the tanks will be disabled, and there will be some message showing which player has won the race. There will also be a restart button to start over the race.



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At the end of the race we will have this screen. The play again text button will have a breath in/out color effect for letting know the player that you can click it.