RacingGame STARTER KIT

Version 2.0.0 BETA

Thank you for taking part in BETA.

This document will be very brief and will only guide you on how to create a race scene.

For support or more information on a particular subject, please contact me directly or leave a post on the Forum Thread.

Please use the BETA version to prototype your racing game and provide feedback on whatever comes to mind.

Your feedback is highly valued.

V2.0 is not a finished product and is still a work in progress.

Contents

Introduction

The Racing Game Starter Kit a tool developed for creating racing games in Unity. It features a complete racing system with several different race types. These race types include:

- Circuit
  A classic type race where the goal is to cross the finish line first

- Point To Point
  A race that begins at one point and ends at another point.

- Lap Knockout
  A last man standing race where the racer in last place is eliminated every lap.

- Checkpoint
  The aim of this race type is to reach a checkpoint to get added time.

- Speed Trap
  The aim of this race type is to pass the speed trap triggers as fast as possible. Race positions are ordered by who has the highest overall speed.

- Endurance
  This is a race type that runs for *x* amount of time.

- Elimination
  Every time the timer hits 0, the racer in last place is eliminated.

- Time Attack
  This is a race against the clock. Beat the given lap time(s) to win.

- Time Trial
  This is a free practice race where there are no winning conditions.

- Drift
  The aim of this race type is to score as many drift points as possible either before the timer runs out or the race is finished.

- Drag
  This is a race between 2 vehicles. The first to cross the finish line wins.

How to Setup a Race Scene

A race scene consists of 3 main components:

1. Track Editor – this contains all the data of the race track i.e. track limits, triggers, grid positions, track cameras and track surfaces.

2. Race Components – this contains the race managers and race cameras

3. Race Canvas – this is used to display UI during the race

Track Editor

Select *Window/Racing Game Starter Kit/Scene Setup/Track Editor*.

This will create a new game object in the hierarchy called "Track Editor".

Track Layout

Select the "Track Layout" game object and begin to place track nodes around your race track. Press Left Shift + LMB to place nodes.

Grid Positions

The grid positions define where the race vehicles will spawn. To place a new grid position, hold Left Shift and left click to where you would like to place a new grid position.

Race Triggers

These are the triggers used within the race. Select the trigger type and place the trigger using Left Shift + LMB.

- Finish Line – This is the trigger used to finish a lap / race. It is mandatory to have 1 finish line trigger in any race scene.
- Checkpoint – This trigger is used in Checkpoint races to add time
- Speed Trap – This trigger is used in Speed trap races to add total speed
- Sector – This trigger is used to mark sector times. Upon passing this trigger again, your lap delta will be displayed.

Race Track Cameras

These are positions around your race track where replay cameras are located. Hold Left Shift + LMB to place cameras around the race track.

Track Surface

The track surface defines all surfaces and collision effects.

To add a new surface, add a new element to the Surfaces array and fill in the properties of the surface.

Race Components

Select *Window/Racing Game Starter Kit/Scene Setup/Race Components*.

This will create a new game object in the hierarchy called “Race Components”.

Race Manager

The Race Manager is the heart of the scene. All available race settings can be found within the Race Manager.

Replay Manager

The Replay Manager handles recording / playing back replays.

Camera Manager

The Camera Manager handles camera activity.

Race Canvas

Select *Window/Racing Game Starter Kit/Scene Setup/UI/Race Scene UI Template*.

This will create a new game object in the hierarchy called “Race Canvas”.

The Race Canvas contains the required UI panels for a race scene. Each panel has its own function.

After creating the canvas, you can continue to populate the panels with your UI elements.

Persistent Components

Persistent components are gameObjects that are supposed to live through-out the cycle of your game, in every scene. It is recommended to create these in a splash screen scene.

Input Manager

The Input Manager handles player vehicle input within a scene. Without it, you will get off the line.

To create an Input Manager, select *Window/Racing Game Starter Kit/Scene Setup/Persistent/Input Manager*

Player Data

The Player Data stores information about the player such as, the name, nationality, XP, selected vehicle and more.

To create Player Data, select *Window/Racing Game Starter Kit/Scene Setup/Persistent/Player Data*

Audio Manager

The Audio Manager handles playing sounds within a scene. If there are no sounds in your race scene, consider checking if an Audio Manager exists.

To create an Audio Manager, select *Window/Racing Game Starter Kit/Scene Setup/Persistent/Audio Manager*

Scene Controller

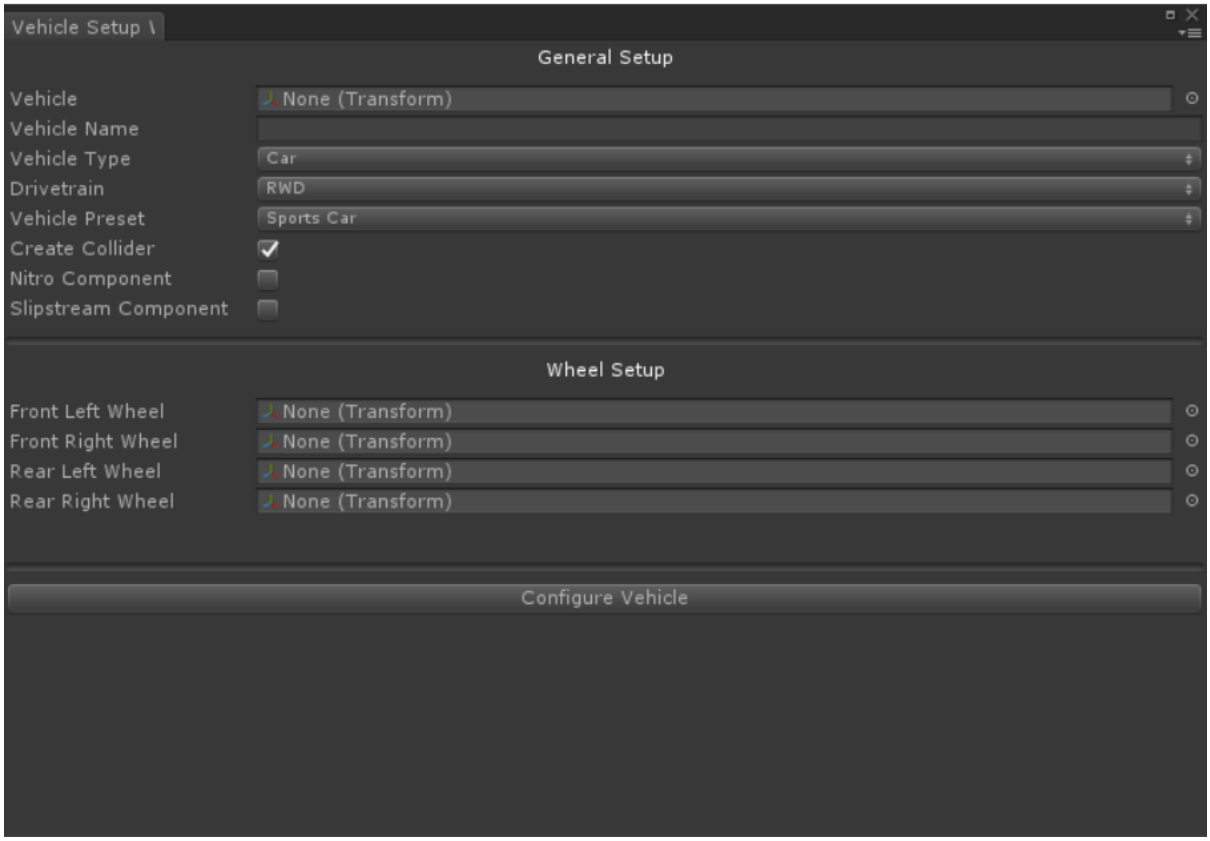
The Scene Controller handles scene loading and displaying loading screens.

To create a Scene Controller, select *Window/Racing Game Starter Kit/Scene Setup/Persistent/Scene Controller*

Set the “Menu Scene” and make changes to the loading screen UI to match your preference.

How to Setup a Vehicle

To set up a new vehicle select *Window/Racing Game Starter Kit/Vehicle Setup/Vehicle Setup Wizard*



Vehicle – Drag your vehicle model here

Vehicle Name – This is the name of the vehicle.

Vehicle Type – Car or motorbike?

Drivetrain – Rear wheel drive, Front wheel drive or all-wheel drive.

Vehicle Type – This lets you define the type of vehicle this is. The specs will correspond to the vehicle type.

Create Collider – Create a bounding box collider around the vehicle?

Nitro – Give this vehicle nitro?

Slipstream – Make this vehicle capable of slipstreaming?

Once all these have been configured click on the “Configure Vehicle” button and your vehicle will be ready to race.

Testing a vehicle

If you are testing a vehicle in a race scene, be sure to de-activate the “Race Manager” gameObject.

If you are testing a vehicle in a non-race scene (recommended), be sure to include an Input Manager to the scene.

Set up AI Vehicle

To set up an AI vehicle:

1. Drag the vehicle to the hierarchy.
2. Select the vehicle in the hierarchy.
3. Select *Window/Racing Game Starter Kit/Vehicle Setup/Convert to AI*

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This document should guide you on how to create a working race scene with AI to prototype with.

There are many things that have not been mentioned in this document so feel free to play around with whatever you may find.

If you have any questions, contact me or leave a post on the forum thread.

A special thanks for taking part in BETA!