Mini Car Race Creator

Create your mini car games
Documentation.

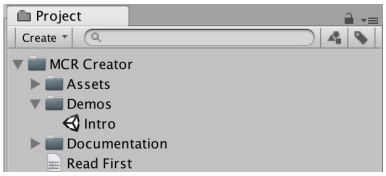
Where to begin :

First of all, thank you for purchasing MCR Creator.

Step 1: **IMPORTANT** : Some relevant settings are required to run properly this asset.

See Chapter 1-Configuring the project

Step 2: Try the demo.
Open scene Intro.
(Project tab : MCR Creator -> Demos -> Intro)



Default inputs are :
- Left and right arrows to turn
- Up and down arrows to accelerate and break
- H to respawn
- P for Pause
- return/enter to validate

Step 3: Read the next two sections in the documentation to learn the basics of MCR Creator.

2-Tuto 1 : Create your first track
3-Tuto 2 : Customize a car

Step 4: When you would like to create a build for your project read sections :
6-Lighting and Optimization
7-Export to mobile

If you don't find information you are looking for in the documentation contact us at : targetsoundfx@gmail.com

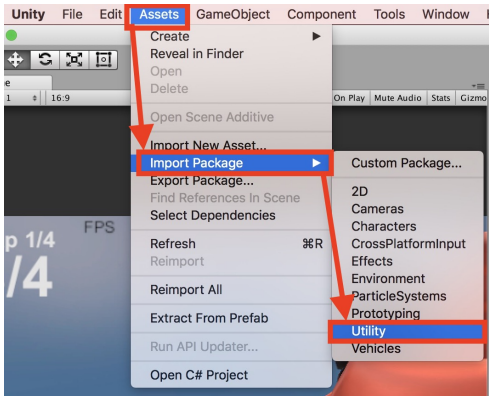
Note : After testing the asset, we really appreciate if you could post a review on the assets store. It helps us to be visible on the store. Thanks for reading. Have fun with MCR Creator.
Best regards,
Pierre from TargetStudio.

Table of contents :

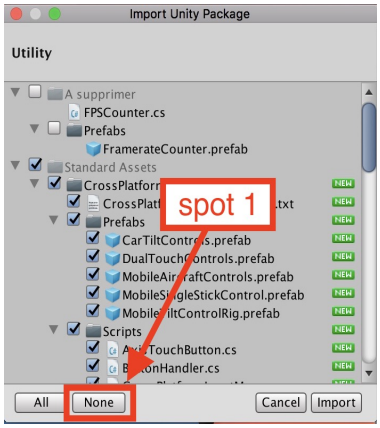
1-Configuring the project :

Import Unity Standard Assets:

1- Go to **Assets** → **Import Package** → **Utility**



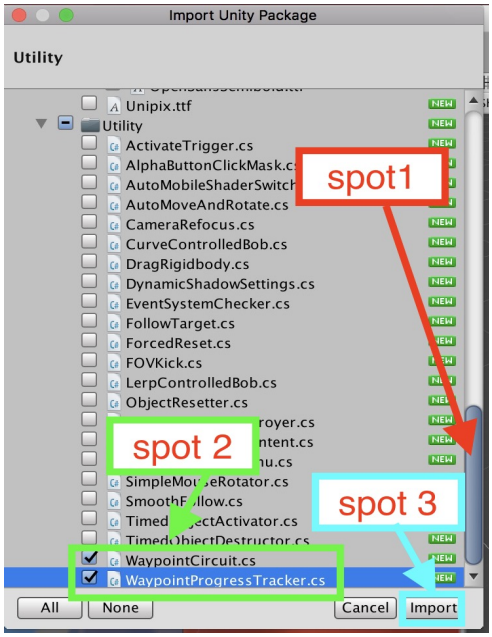
A window appears. Press button **None** (spot1)



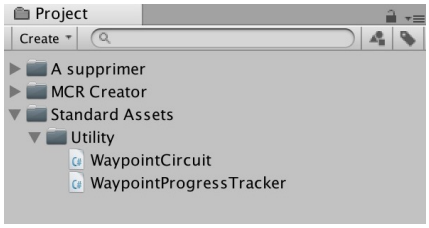
2- Go to the end of the list (spot 1)

3- Select on list (spot 2) scripts :
WaypointCircuit.cs
WaypointProgressTracker.cs

4- Press button ‘’**Import**” (Spot 3)



A new folder that contain the two scripts is created on the project folder

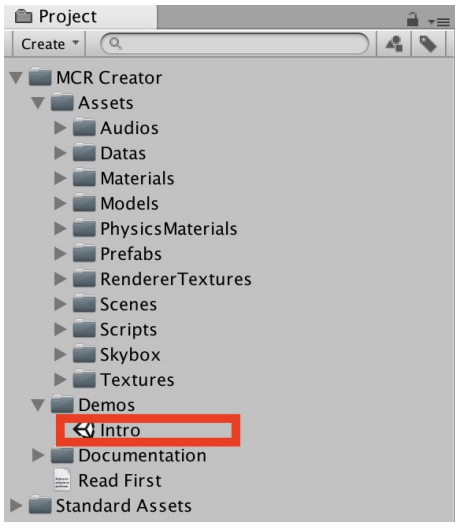


MCR Creator is now setup.

You could open the scene **Intro** to test the demo.
Project Tab : MCR Creator → Assets → Demo → Intro

*After testing the demo, we suggest you to read **Tuto 1** and **Tuto 2** to learn how to easily create a track and how to create your cars with MRC Creator.*

When you would like to export your project (create a build) we suggest you to read section :
6- Lighting and optimizations
7- Export to mobile



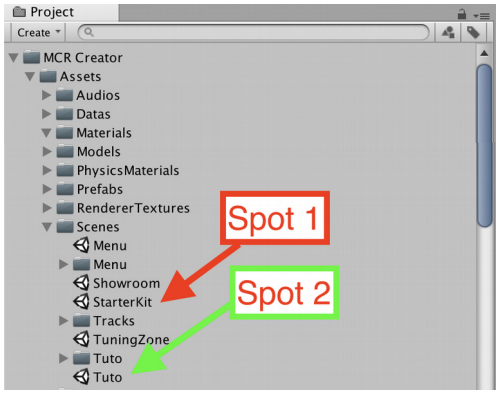
2-Tuto 1 : Create your first track

2.1- Create the track

1- Duplicate scene StarterKit (spot 1) :
Project Tab : MCR Creator → Assets → Scenes → StarterKit

2- Rename it (spot 2) :
Tuto

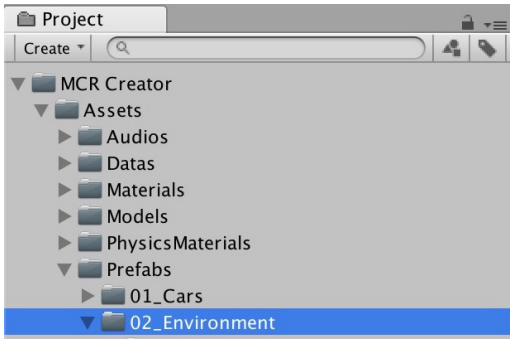
3- Open scene Tuto



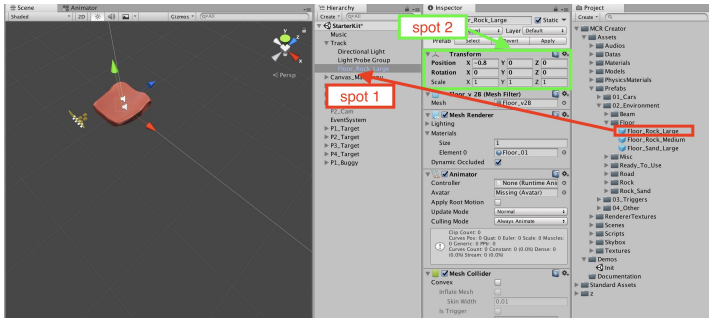
To create your track you could use ready to use prefabs

1- Open the folder 02_Environment :
Project Tab : MCR Creator → Assets → Prefabs → 02_Environment

In this folder you find all the ready to use prefabs to create tracks easily.



2- Drag and drop the prefab Floor_Rock_Large
inside gameObject Track on the Hierarchy (spot 1)
Project Tab : MCR Creator → Assets → Prefabs → 02_Environment → Floor → Floor_Rock_Large

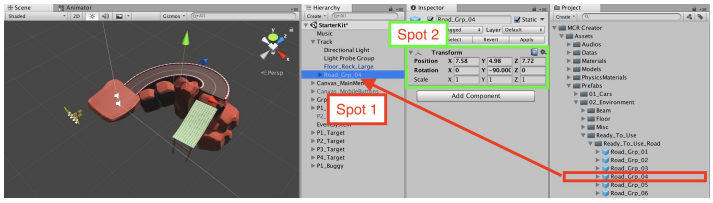


3- Change the Floor_Rock_Large position to (spot 2):

Position : X = -0.8 Y = 0 Z = 0
Rotation: X = 0 Y = 0 Z = 0
Scale : X =1 Y = 1 Z = 1

4- Drag and drop the prefab Road_Grp_04 inside gameObject Track on the Hierarchy (spot 1)

Project Tab : MCR Creator → Assets → Prefabs → 02_Environment → ReadyToUse → ReadyToUseRoad → Road_Grp_04

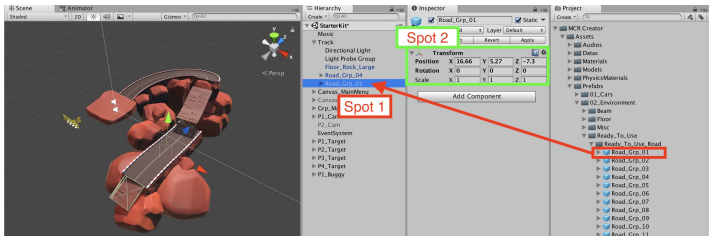


5- Change the Road_Grp_04 position to (spot 2):

Position : X = 7.58 Y = 4.98 Z = 7.72
Rotation: X = 0 Y = -90 Z = 0
Scale : X =1 Y = 1 Z = 1

6- Drag and drop the prefab Road_Grp_01 inside gameObject Track on the Hierarchy (spot 1)

Project Tab : MCR Creator → Assets → Prefabs → 02_Environment → ReadyToUse → ReadyToUseRoad → Road_Grp_01



7- Change the Road_Grp_01 position to (spot 2):

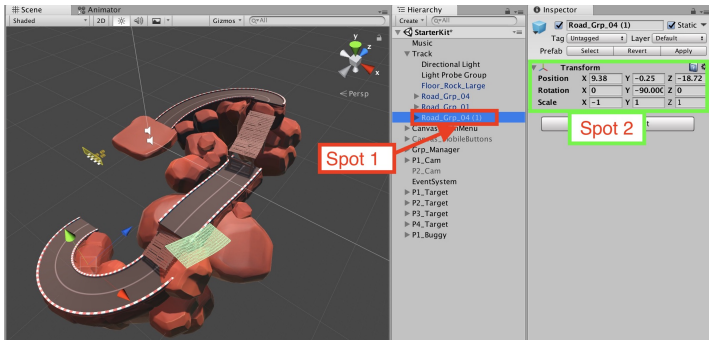
Position : X = 16.66 Y = 5.27 Z = -7.3
Rotation: X = 0 Y = 0 Z = 0
Scale : X =1 Y = 1 Z = 1

8- Duplicate Road_Grp_04 (spot 1) (Ctrl+D or Command+D)

A new gameObject is created named Road_Grp_04 (1)

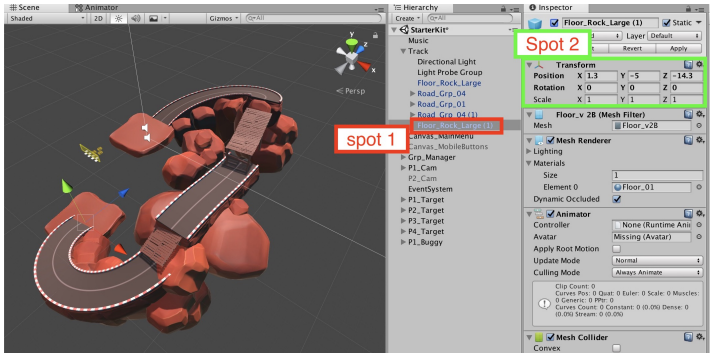
9- Change the Road_Grp_04 (1) position to (spot 2):

Position : X = 9.38 Y = -0.25 Z = -18.72
Rotation: X = 0 Y = -90 Z = 0
Scale : X = -1 Y = 1 Z = 1



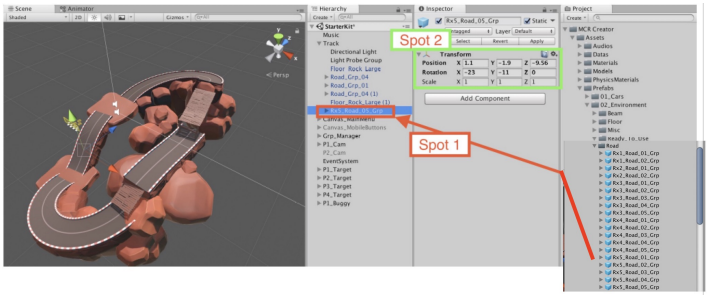
10- Duplicate Floor_Rock_Large (spot 1) (Ctrl+D or Command+D)

A new gameObject is created named Floor_Rock_Large (1)



11- Change the Floor_Rock_Large (1) position to (spot 2):
Position : X = 1.3 Y = -5 Z = -14.3
Rotation: X = 0 Y = 0 Z = 0
Scale : X =1 Y = 1 Z = 1

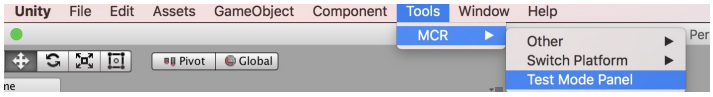
12- Drag and drop the prefab Rx5_Road_05_Grp inside gameObject Track on the Hierarchy (spot 1)
Project Tab : MCR Creator → Assets → Prefabs → 02_Environment → Road → Rx5_Road_05_Grp



13- Change the Rx5_Road_05_Grp position to (spot 2):
Position : X = 1.1 Y =-1.9 Z = -9.56
Rotation: X = -23 Y = -11 Z = 0
Scale : X =1 Y = 1 Z = 1

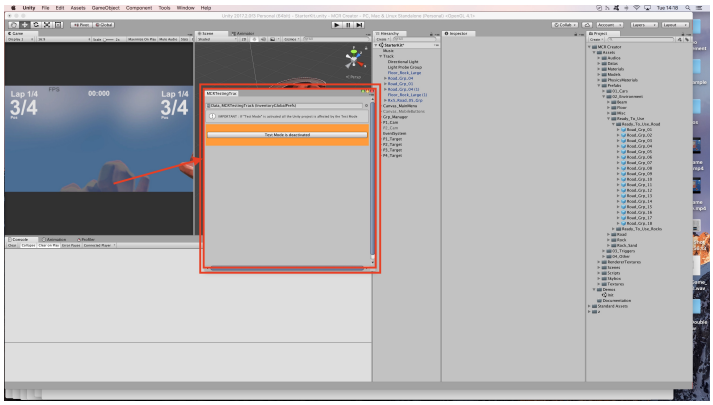
2.2- Test the track

1- Open Menu : Tools → MCR → Test Mode Panel



A new window appears.

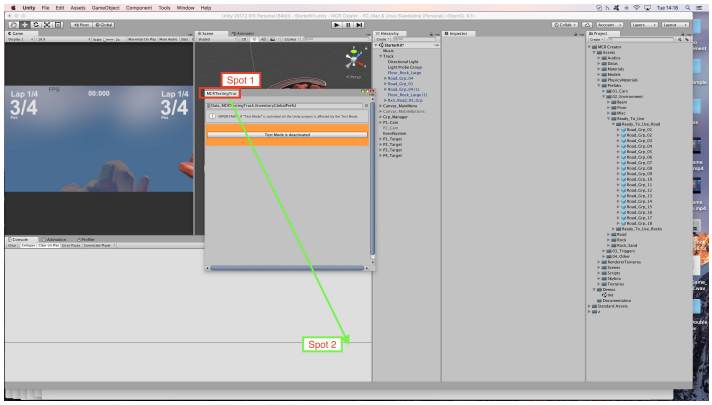
It is easier to have this window always visible on your Layout.



2- Click on the name of the tab (Spot 1)

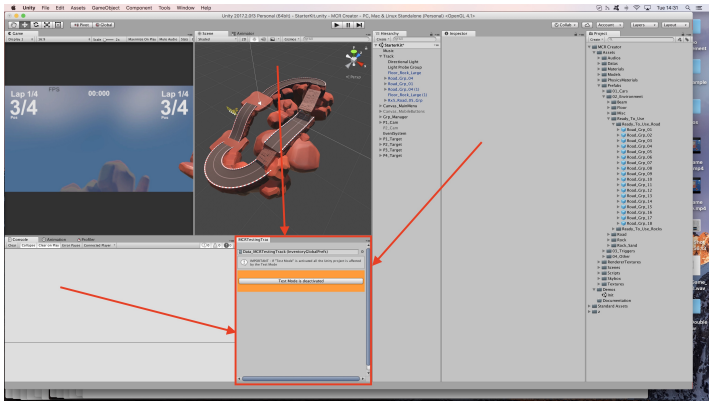
3- Then drag the window on spot 2.

4- Then release the mouse button.



The tab is now attached to the layout

More info here : https://docs.unity3d.com/Manual/CustomizingYourWorkspace.html



This tab is used to activate or deactivate the Test Mode.

5- Press button Test Mode is deactivated

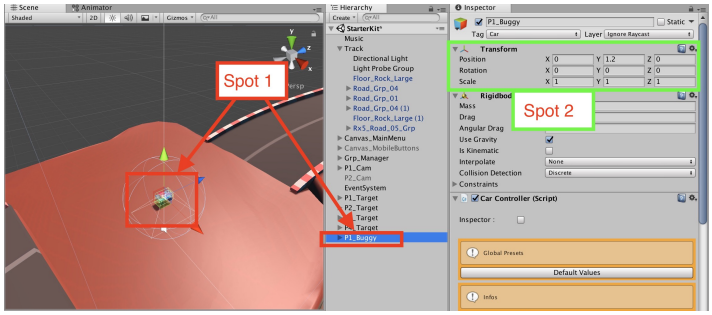
The button text change to : Test Mode is activated. Some options appears on window.

6- Press button Apply (spot 1) to create a car on the Hierarchy manage by Player 1

A new car is created on the Hierarchy named "P1_Buggy"

7- Select the car P1_Buggy on the Hierarchy (spot 1)

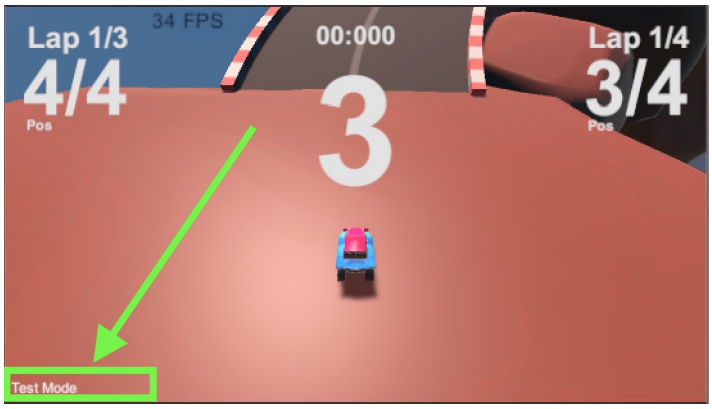
8- Change his position to (spot 2)
Position : X = 0 Y = 1.2 Z = 0
Rotation: X = 0 Y = 0 Z = 0
Scale : X =1 Y = 1 Z = 1



9- Press the button play to start the scene

By default inputs are :
***Left** : Left arrow*
***Right** : Right arrow*
***Acceleration** : Up arrow*
***Break** : Down Arrow*

As you could see when the scene start on the bottom left Test Mode is displayed on screen.
If test Mode is not activated no text is displayed on screen

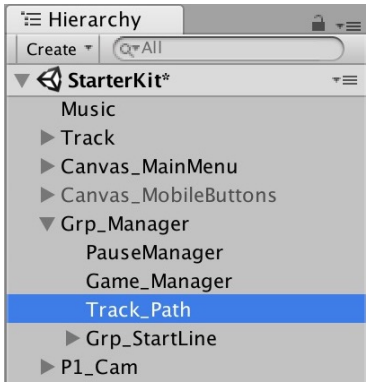


2.3- Create AI path and Respawn points

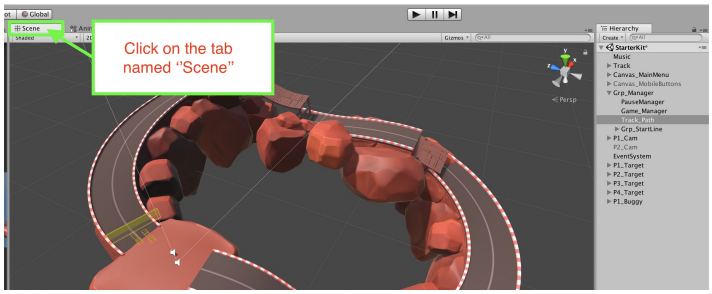
We are going to create a path.
Path is needed because :
- Car AI follow this path.
- Respawn system use the path to respawn cars.

1- Press the hand icon to select the Hand tool (shortcut: **Q**),

2- On hierarchy select Track_Path
Hierarchy : Grp_Manager → Track_Path



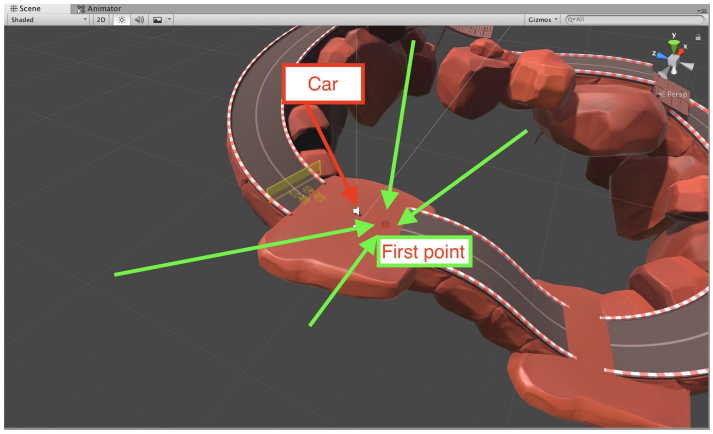
3- Click on the tab named ‘’scene” to select the Scene tab



4- Move your Mouse inside the Scene Tab and
Press key button F to activate the focus mode.

5- Put your mouse near the car on scene view then press keyboard J button to create your first path point.

This first point is used to know where the race start.

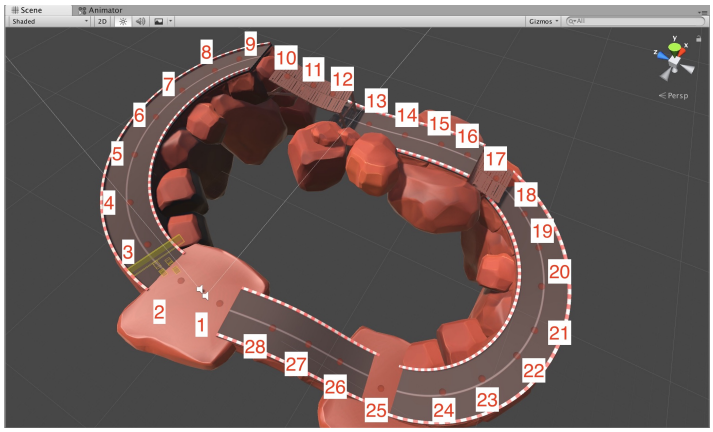


Important :
Points are created only if there is a gameObject under the mouse position.

Points are used to create respawn positions. Best pratice :
- Add your points on roads
- Not too close from a jump zone
- Not on a cliff

6-Create all the other path points for this tracks. Press J on track where you want.

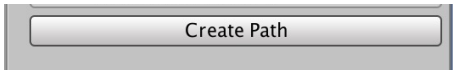
Here we have created 28 points.



Info:
-Use the hand tool to move on scene and create easily all the points.
-It is possible to delete a point.
-If you lose the focus go **step 2**

7- On hierarchy select Track_Path
Hierarchy : Grp_Manager → Track_Path

Press button Create Path on the Inspector.

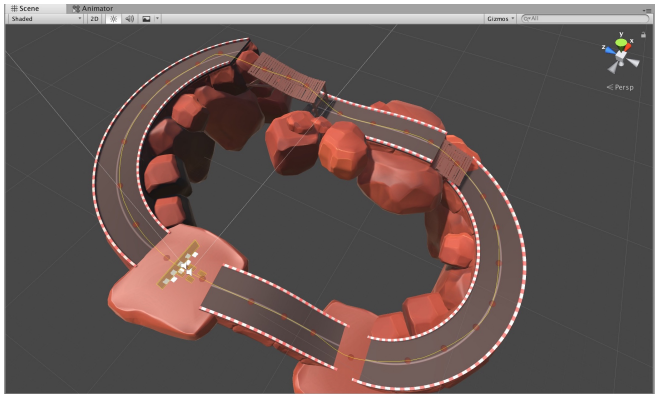


Your path is created (The yellow line)

The Start Line is automatically moved to the first path position.

More info about Path Tips here

Info :
You need to open the script ‘’Waypoint Circuit’’ on the Inspector to visualize the yellow line



***Info :** You could have this warning message on the Console tab :*
Retrieving array element that was out of bounds

It is optional but if you want to remove this message open the script : WaypointCircuit.cs on your script editor.
Project Tab : Standard Assets → Utility → WaypointCircuit.cs

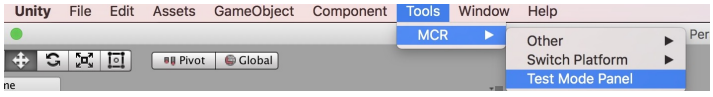
Line 255 change :
for(int i = -1; i < items.arraySize; ++i)
to
for(int i = 0; i < items.arraySize; ++i)

```
253         if (items.arraySize > 0)
254         {
255             for (int i = -1; i < items.arraySize; ++i)
256             {
257                 var item = items.GetArrayElementAtIndex(i);
```

2.4- Test the track with AI

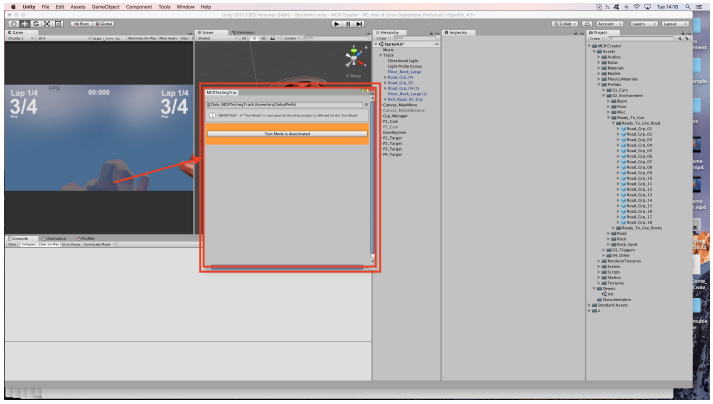
If Test Mode Panel is on your Window layout go to **step 2**.

Step 1 :
1- Open Menu : Tools → MCR → Test Mode Panel

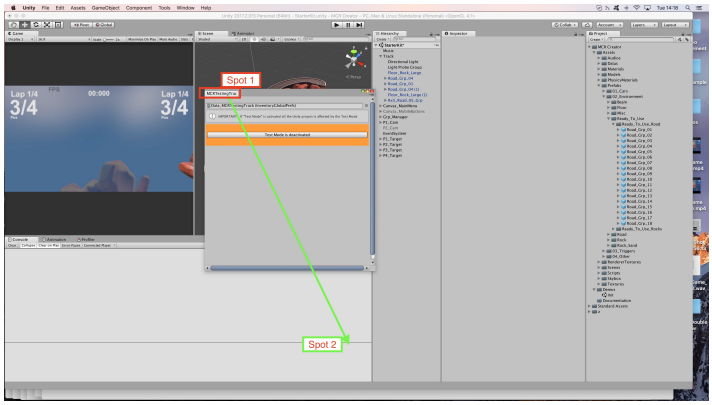


A new window appears.

It is easier to have this window always visible on your Layout.

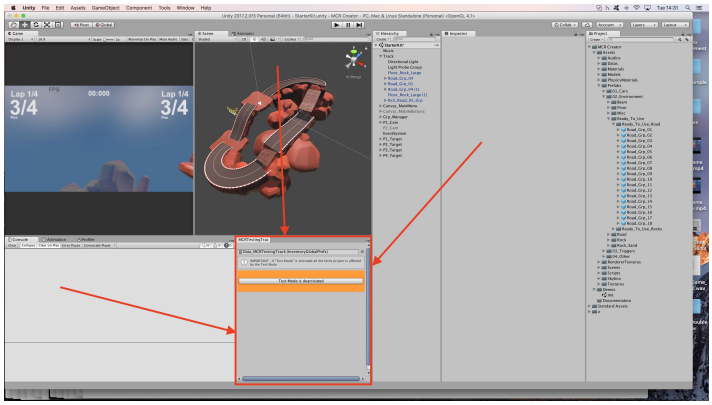


2- Click on the name of the tab (Spot 1)
3- Then drag the window on spot 2.
4- Then release the mouse button.



The tab is now attached to the layout

More info here :
https://docs.unity3d.com/Manual/CustomizingYourWorkspace.html

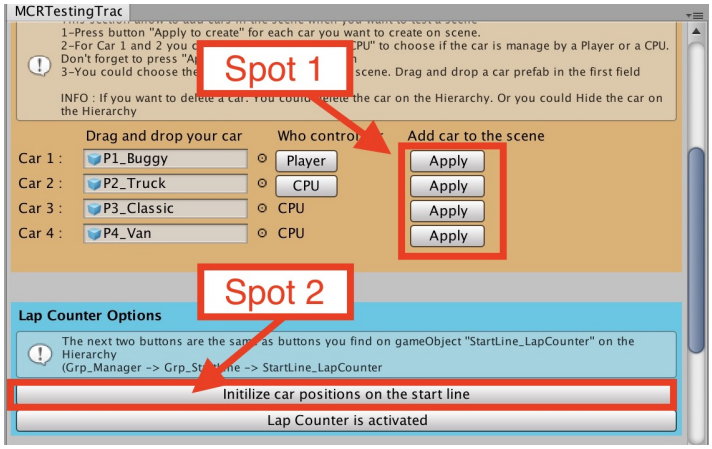


Step 2:
If Test Mode is deactivated
1- Press button Test Mode is deactivated

The button text change to : Test Mode is activated.
Some options appears on window.

2- Press on each button ‘’Apply’’ (spot 1) to create cars on the Hierarchy
New cars are created on the Hierarchy named
‘’P1_Buggy’’ : Player 1
‘’P2_Truck’’ : CPU 1
‘’P3_Classic’’ : CPU 2
‘’P_Van’’ : CPU 3

3- Press Button Initialize car positions on the start line

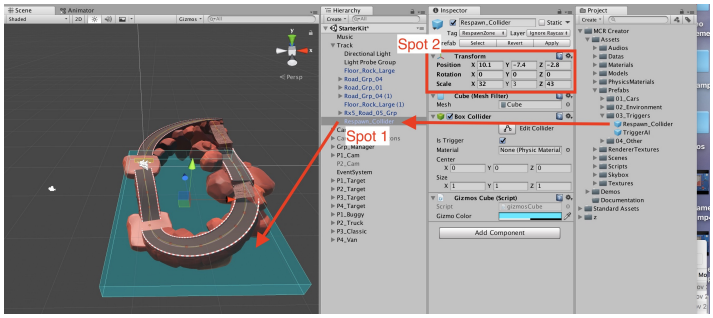


4- Press the button play to start the scene

2.5- Create respawn trigger zones

We are going to add a respawn trigger zone to respawn a car if this car goes out of the road.

1- Drag and drop the prefab Respawn_Collider on the Hierarchy.
Project tab : MCR Creator → Assets → Prefabs → 03_Triggers → Respawn_Collider



2- Change his position and scale to (spot 2)
Position : X = 10.2 Y = -7.4 Z = -2.8
Rotation: X = 0 Y = 0 Z = 0
Scale : X = 40 Y = 3 Z = 43

3- Press the button play to start the scene

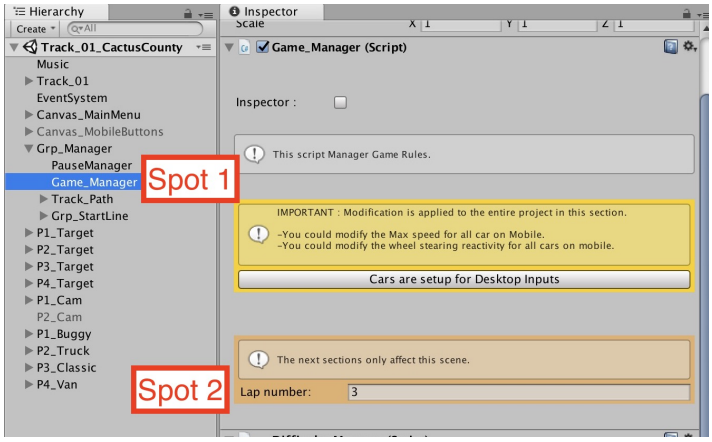
Try to go out the road with your car.

When your car enter on collision with the Respawn_Collider your car is respawned on track.

2.6 Choose the number of laps

1- On the Hierarchy Select Game_Manager (spot 1)
Hierarchy tab : Grp_Manager → Game_Manager

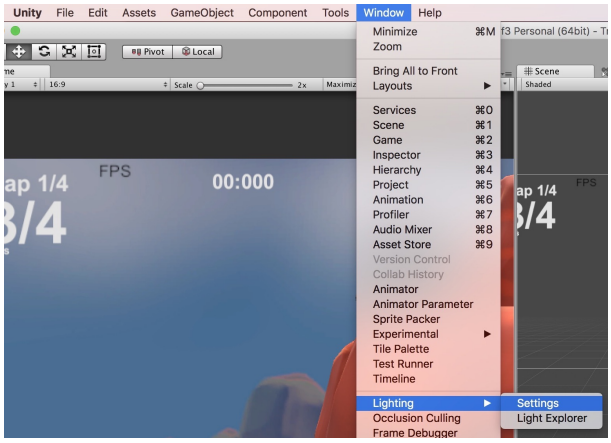
2- On the Inspector change the number of Lap for this track (spot 2)



2.7 Generate Lightmaps

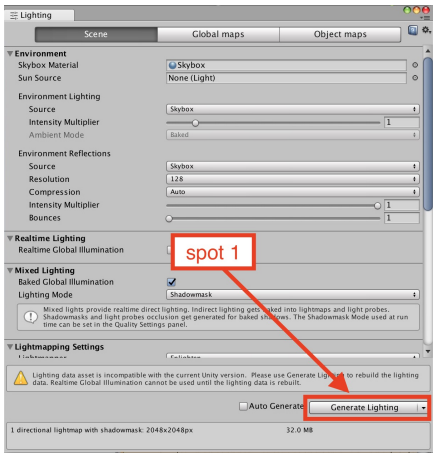
This step is optional. But it help to optimize game performance.

1- Go to : **Window** → **Lighting** → **settings** to open the Lighting tab



A new window appears on screen.

2- Press button ‘’**Generate Lighting**’’ (spot 1) to generate the lightmap for this scene.



Info : Generate the lightmap is about 5-10 minutes

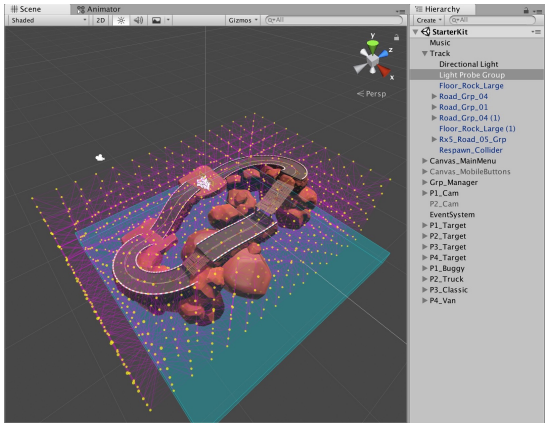
More info about how to create Lightmap here :

2.8 Light Probes.

Light probes are used to provide lighting on moving objects (cars, cone signaling ...) .

There is a ready to use light probe on the startKits scene.

More about how to create your Light Probe here



2.9 Add track to the main track list.

1- Open TrackTuto1
Project Tab : Assets → Scenes → Tuto → *TrackTuto1*

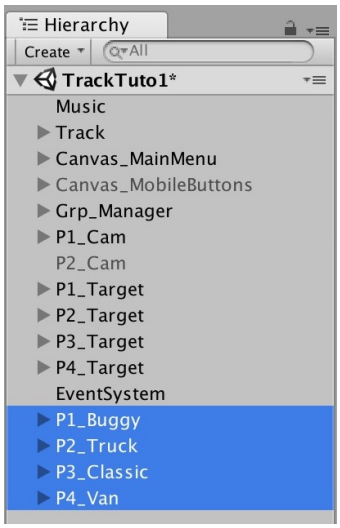
2- If Test Mode is activated
Press button Test Mode is activated
The button text change to : Test Mode is deactivated.

- IMPORTANT : Cars are not destroyed when Test Mode is deactivated.

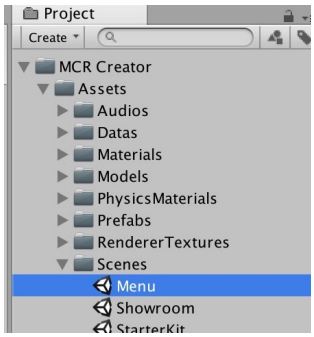
You need to destroy them manually.

3- Select the cars on the Hierarchy then delete them.

If the game is not running on "Test Mode" when the game starts the cars on scene are automatically destroyed and replaced by the needed cars selected on main menu car selection



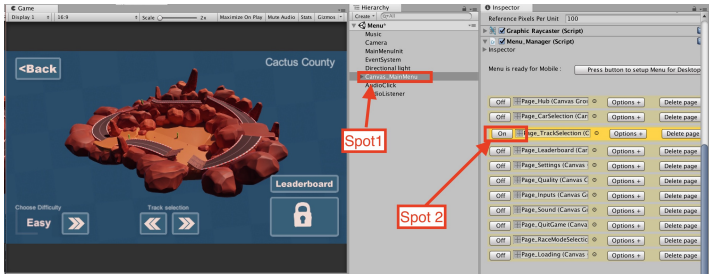
4- Open scene Menu :
Project Tab : MCR Creator → Assets → Scenes → Menu



5- On the Hierarchy select Canvas_MainMenu (spot 1)
Hierarchy tab : Canvas_MainMenu

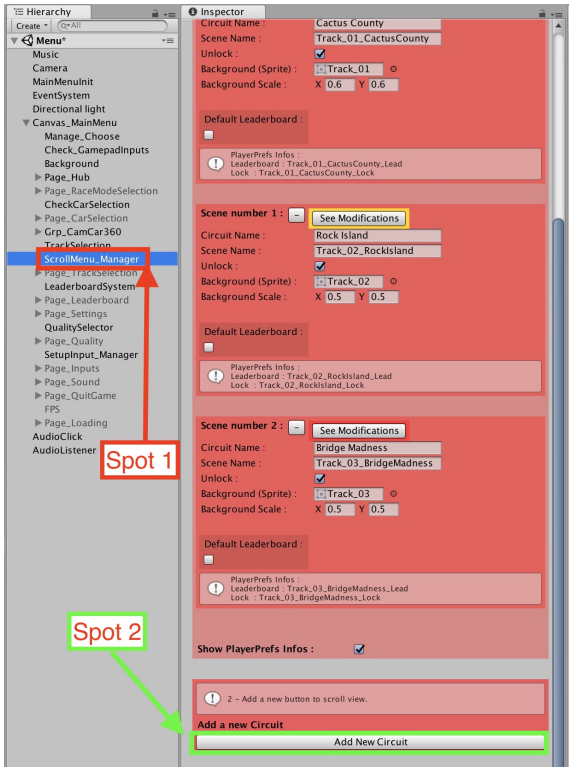
7- On the Inspector Press button Off (Spot 2) to display the track menu page.

More about how to use Menu Manager here

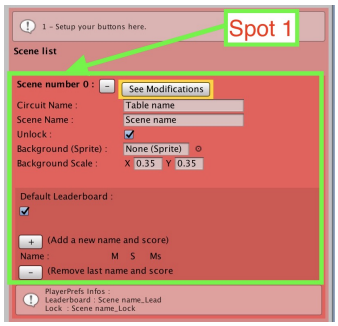


8- On the Hierarchy select ScrollMenu_Manager (spot 1)
Hierarchy tab : Canvas_MainMenu → ScrollMenu_Manager

9- On the Inspector go to the end of the scroll view and press button Add a new Circuit



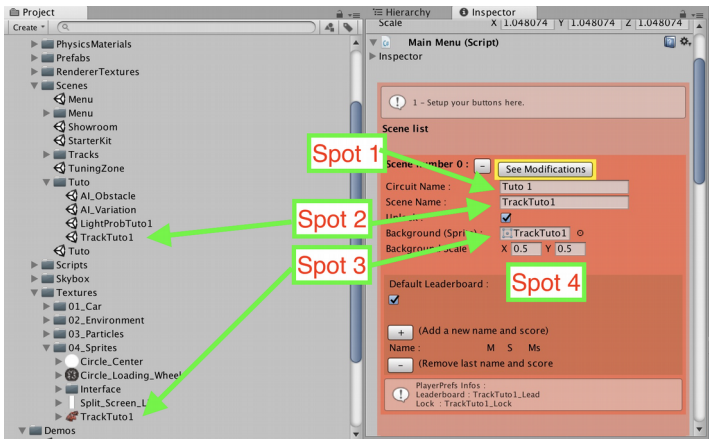
10- On the Inspector go to the top of the scroll view. A new empty Slot Scene number 0 is created.



11- Change circuit name (spot 1) to : Tuto 1
(you could choose the name you want)

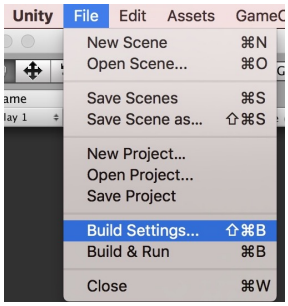
12- Change Scene name (spot 2) to : TrackTuto1
(you need to choose the same name as the scene you want to use on Project Tab)

13- Choose a sprite for your track (spot 3):
In our example drag and drop the sprite TrackTuto1
Project tab : MCR Creator → Assets → Textures → 04_Sprites → TrackTuto1



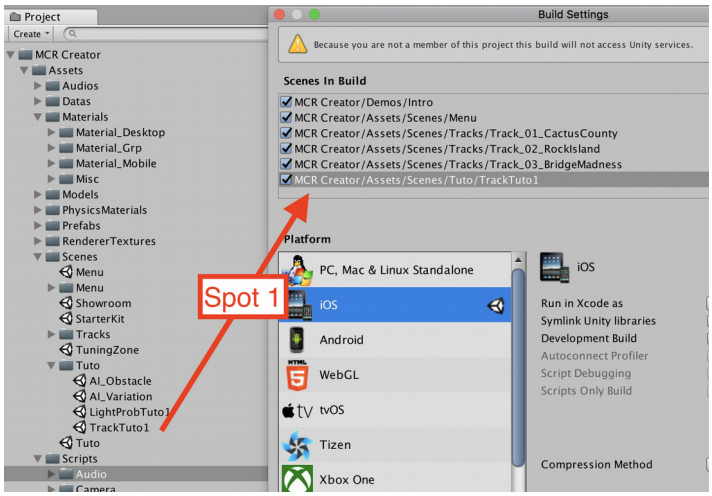
14- Change scale sprite to (spot 4) :
X=0.5 Y=0.5

15- Go to : **File** → **Build Settings**



16- Drag and drop TrackTuto1 from the project tab to the Scenes in build window (spot 1)

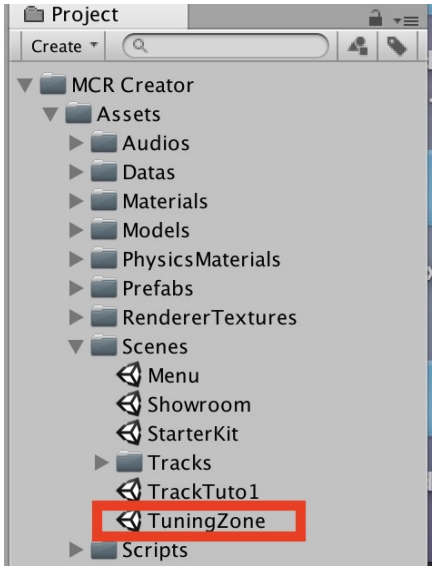
TrackTuto1 scene is now setup and could be choose on track selection page



IMPORTANT : When you test your scene don't forget to check if Test Mode is deactivated.
(More info on Step 2)

3-Tuto 2 : Customize a car

3.1 Change car models :



1- Open scene Tuning Zone

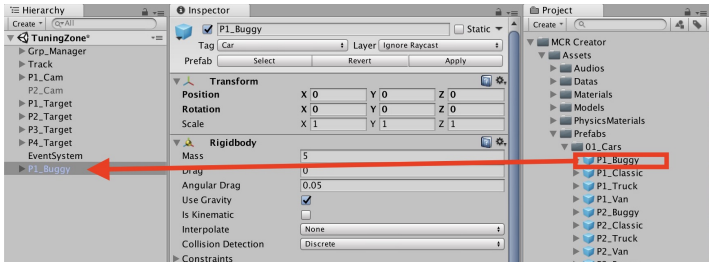
Project tab : MCR Creator → Assets → Scenes → TuningZone

We have created this scene to test car modification but you could customize your car in every scene if TEST MODE is activated.

***Info** : Respawn system doesn't work on this scene. If your car can't move, restart the scene*

2- Drag and drop P1_Buggy from the project folder to the Hierarchy (spot 1)

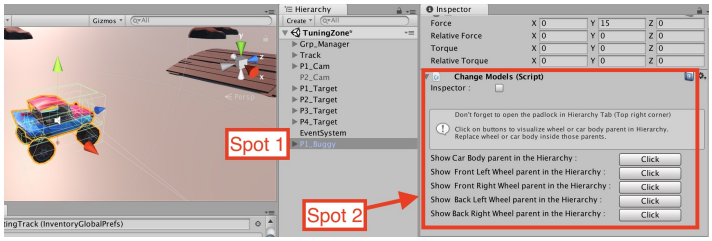
Project tab : MCR Creator → Assets → Prefabs → 01_Cars → P1_Buggy



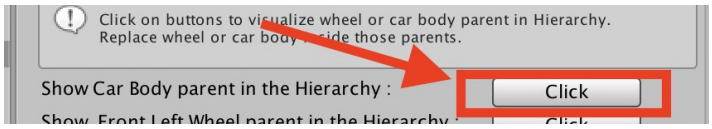
3- Select P1_Buggy on the Hierarchy (spot 1)

On the Inspector : At the end of the scroll view there is the script Change Models.

This script helps finding Wheels and body car 3D models in the Hierarchy tab.



4- Press Button Click beside text ''Show car body parent in the Hierarchy''

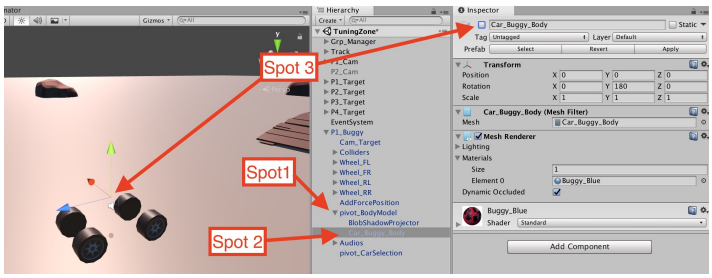


The group that contain 3D body models is selected

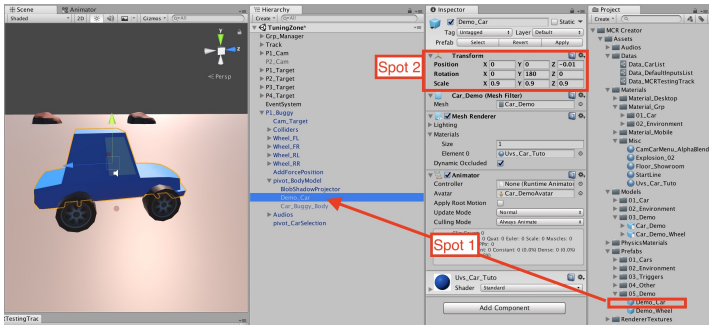
5- Open the group (Spot 1)

6- Select the car body (spot2)

7- Deactivate or delete the Car_Buggy_Body (spot 3)



8- Drag and drop Demo_Car inside the group pivot_BodyModel (spot 1).
Project tab : MCR Creator → Assets → Prefabs → 05_Demo → Demo_Car

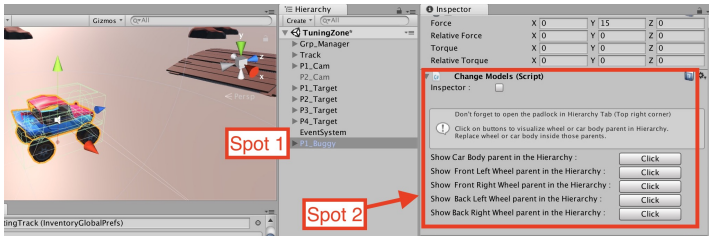


9- Change Demo_Car position,rotation and scale (spot 2):
Position : X =0 Y = 0 Z = -0.01
Rotation: X = 0 Y = 180 Z = 0
Scale : X =0.9 Y = 0.9 Z = 0.9

10- Select P1_Buggy on the Hierarchy (spot 1)

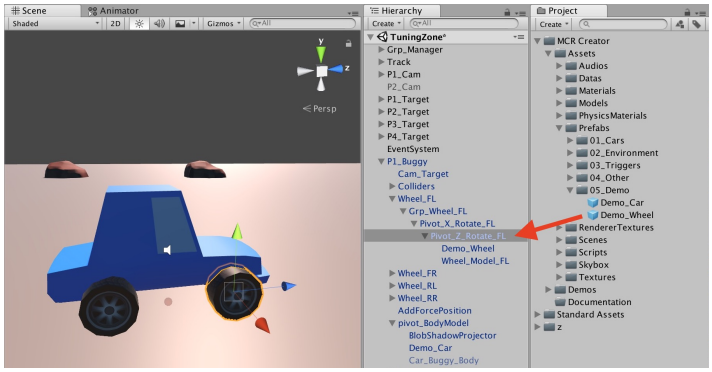
On the Inspector : At the end of the scroll view there is the script Change Models.

This script helps finding Wheels and body car 3D models in the Hierarchy tab.

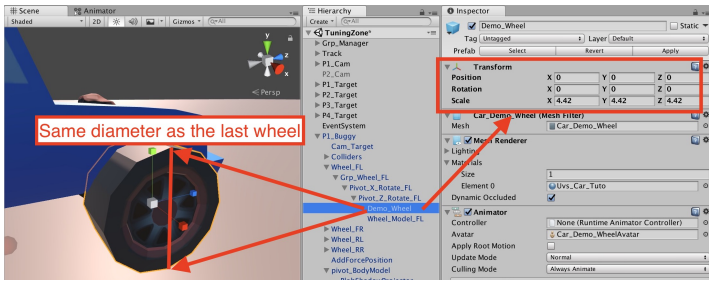


11- Press Button Click beside text ''Show Front Left Wheel parent in the Hierarchy''

12- Drag and drop Demo_Wheel inside the group Pivot_Z_Rotate_FL (spot 1).
Project tab : MCR Creator → Assets → Prefabs → 05_Demo → Demo_Wheel



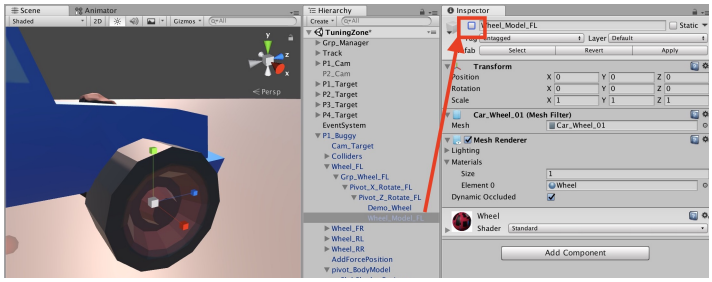
Very Important :
- The diameter of the new wheel need to be same as Wheel_Model_FL to avoid visual collision between wheel and ground.



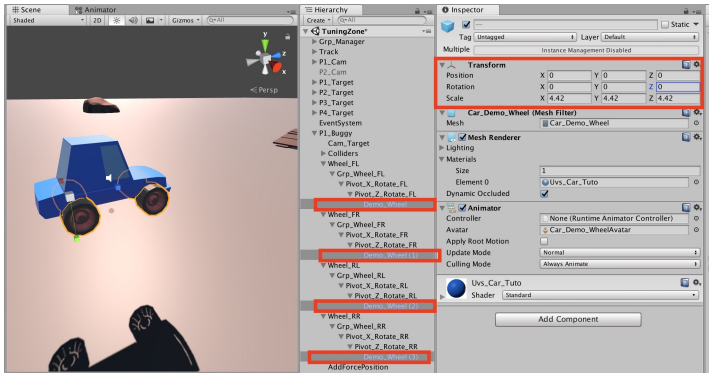
So in our example :

13- Change Demo_Wheel position, rotation and scale:
Position : X =0 Y = 0 Z = 0
Rotation: X = 0 Y = 0 Z = 0
Scale : X = 4.42 Y = 4.42 Z = 4.42

14- Deactivate or delete Wheel_Model_FL



15- Do the same operation for the other three wheels (step 11 to 13).

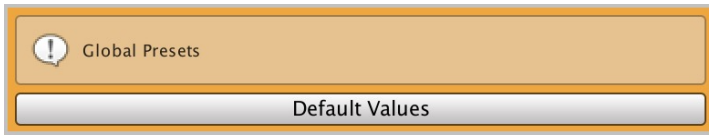


3.2 Modify car parameters :

1- Select P1_Buggy on the Hierarchy (spot 1)

On the Inspector :
The script Car Controller manage the car.

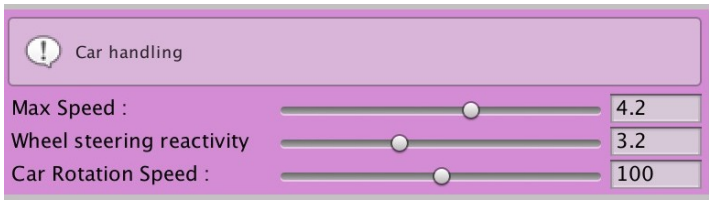
Default values : reset the car parameters



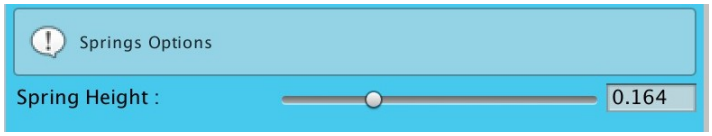
Max Speed : Max speed for the car

Wheel steering reactivity : reactivity when left and right is pressed.

Car rotation speed : car rotation speed



Spring Height : Change the height of car spring



Damper and Spring Stiffness : how smooth is car spring

Rear wheels distance : local X Axis

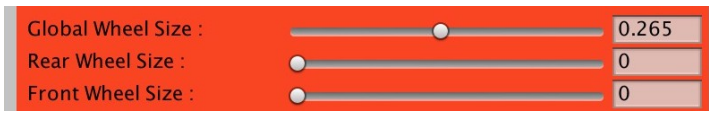
Front wheels distance : local X Axis

Length wheels distance : local Z Axis

Global Wheel size : all the wheels are scaled at the same time

Rear Wheel size : Rear wheels are scaled

Front Wheel size : Front wheels are scaled

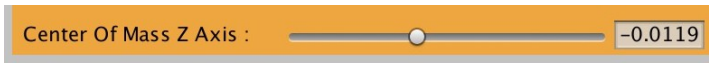


Body Model Z Position : local Z Axis. Move the group pivot_BodyModel

Body Collider Position : local Z Axis. Move the group Pivot_BodyCollider

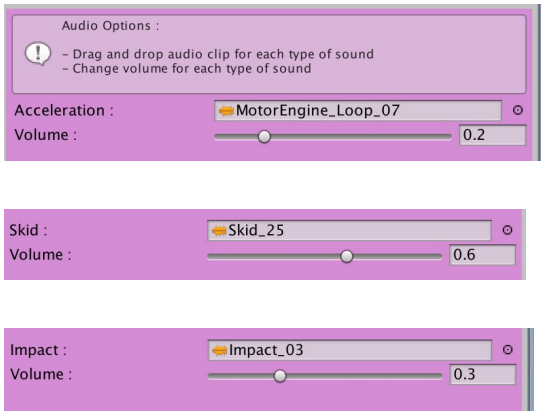
Body Collider Scale : Scale the group Pivot_BodyCollider

Center of Mass Z Axis : local Z Axis.



Offset Z Axis : Change for the gameObject pivot_CarSelection used as a pivot on Menu Car Selection.

Audio volume options

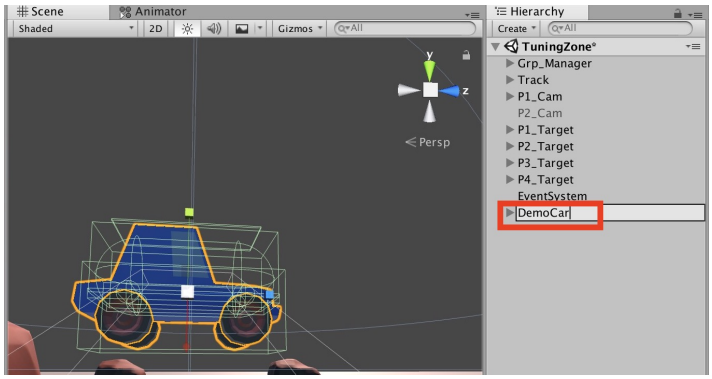


Rotation : When the car turn left or right a fake rotation is apply to the car body group.

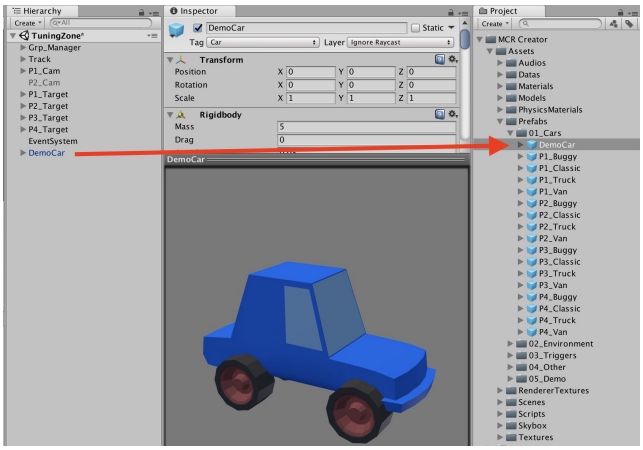
3.3 Save the car :

1- Select P1_Buggy on the Hierarchy

2- Rename it :
For this example name the car DemoCar

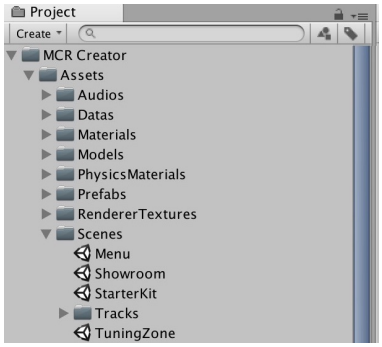


3- Drag and drop DemoCar from the Hierarchy to the folder 01_Car on the Project tab
Project tab : MCR Creator → Assets → Prefabs → 01_Cars

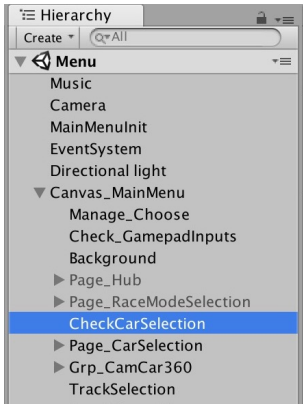


3.3 Add car to the main menu car List :

1- Open Menu scene :
Project tab : MCR Creator → Assets → Scenes → Menu

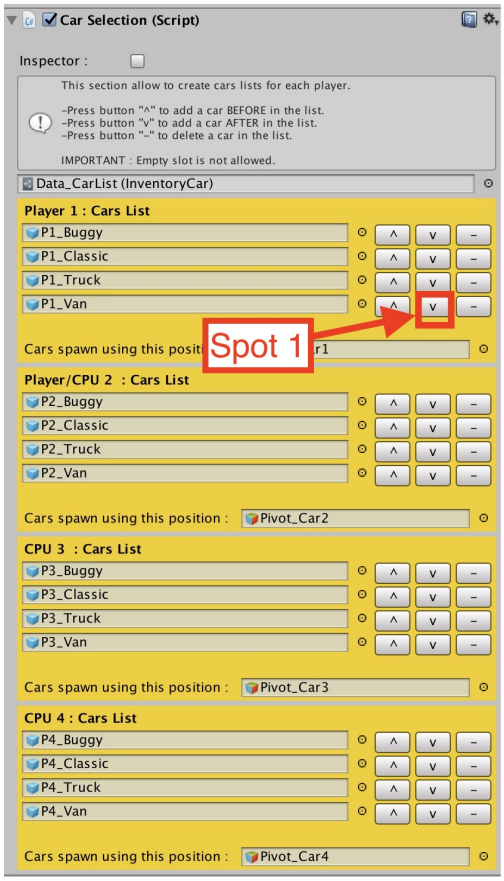


2- On the Hierarchy select CheckCarSelection
Hierarchy tab : Canvas_MainMenu → CheckCarSelection



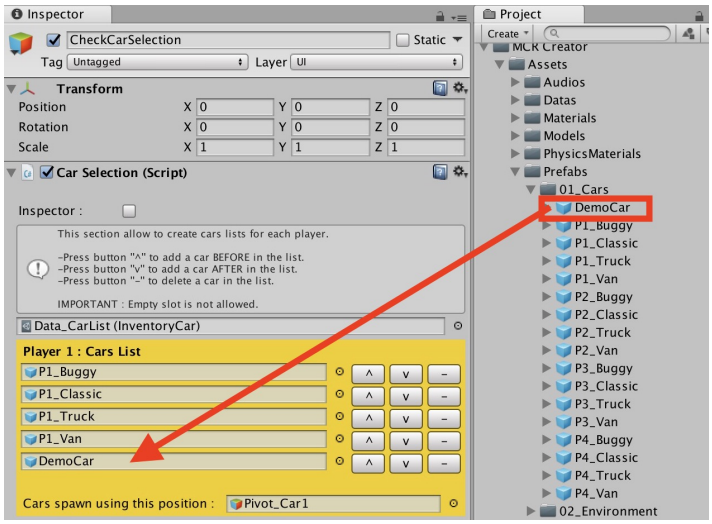
We are going to add our car on Player 1 car list but you could do the same for player 2,3,4

3- Press the button ‘’v” to add new slot at the end of the list (spot 1)



4- Drag and drop DemoCar inside the empty slot

Now this car car could be selected by the player 1



4-Tuto 3 : Setup and/or modify car AI

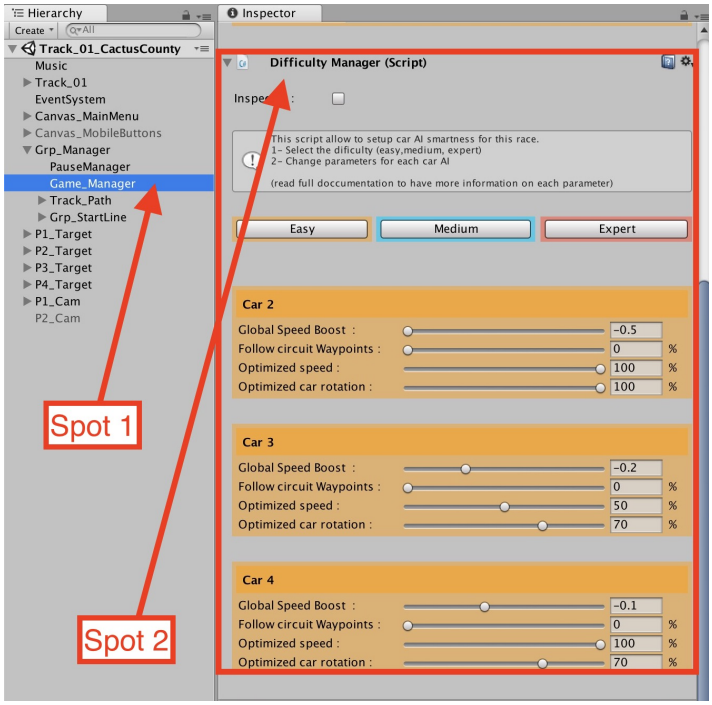
4.1 AI parameters :

It is possible to modify the AI behavior for each track scene.

1- Open a track scene (for example StarterKit scene)
Project tab : MCR Creator → Assets → Scenes → StarterKit

2- In the Hierarchy select Game_Manager (spot 1)
Hierarchy tab : Grp_Manager → Game_Manager

3- In the Inspector go to Difficulty Manager section (spot 2)



It is possible to setup AI for difficulty mode.

4- Press Button Easy, Medium or Expert to see parameters for each difficulty.

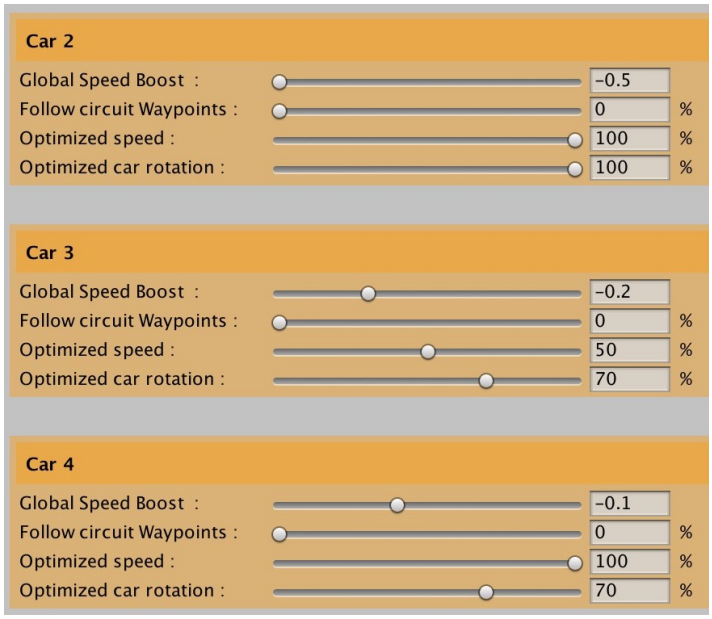
You could modify AI for Car 2,3 and 4.

Global Speed Boost : add a speed offset (negative or positive)

Follow Circuit Waypoints :
0 = the car do not follow the path very well.
100 = the car follow the path very well.

Optimized speed :
0 = car do not always reach the max speed.
100 = the car always reach the max speed.

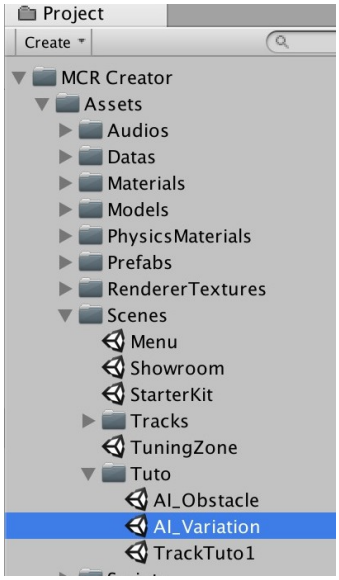
Optimized car rotation :
0 = car do not always reach the best car rotation.
100 = the car always reach the best car rotation.



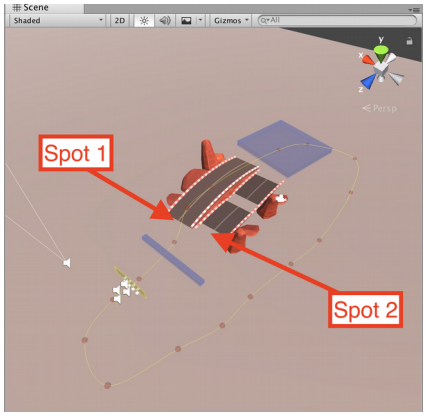
4.2- Tweak AI reaction

In this section we are going to show how to force car AI reaction.

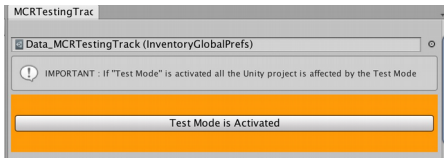
1- Open scene AI_Variation on Project tab
Project tab : MCR Creator → Assets → Scenes → Tuto → AI_Variation



In this example we are going to show how to force car AI to choose between :
Left road (spot 1)
or
Right road (spot 2).



2- Activate Test Mode



3- Press play button.
You should see the car AI choose between left road and right road.

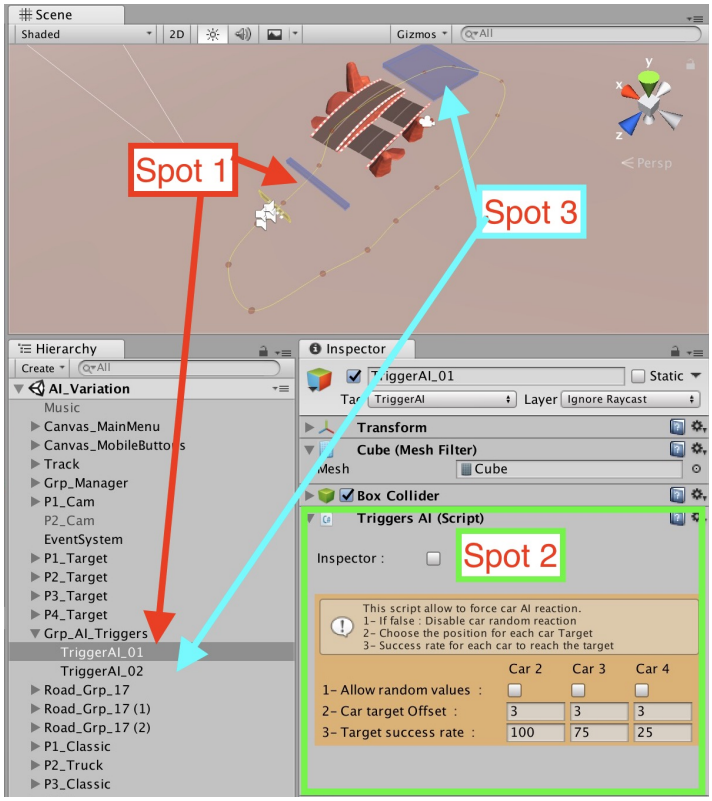
How it works :

Part 1 : When a Car AI enter in the trigger_AI_01 (spot 1)
the car take a decision using the value setup on script TriggerAI (spot 2)

In this case : Car AI choose between left road and right road

Part 2 : When a Car AI enter in the trigger_AI_02 (spot 3) the car take a decision using the value setup on script TriggerAI

In this case : Car AI go back to his initial position to follow the track path

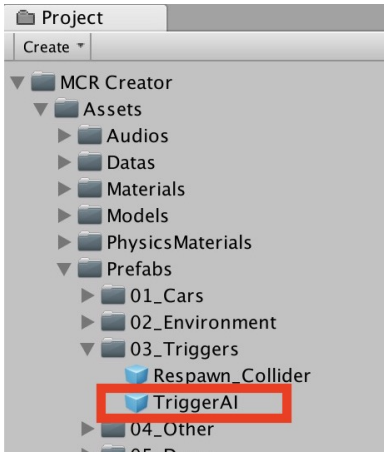


How to setup a trigger :

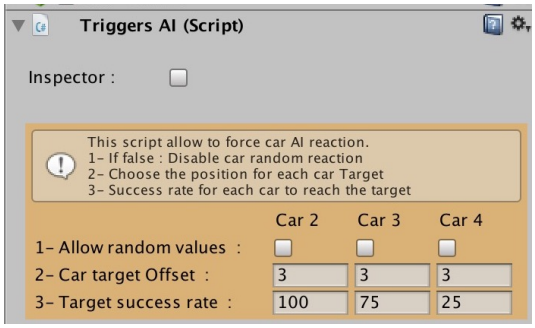
You find default prefab trigger on Project tab named :
TriggerAI
Project Tab : MCR Creator → Assets → Prefab → 03_Triggers → TriggerAI

1- Drag and drop the prefab on your scene to use it.

2- Move the trigger where you want on scene to use it



Info : It is possible to setup AI reaction separately for car 2 car 3 and car 4



4.2.2 TriggersAI script parameters :

1-Allow random values :
False : random car AI reaction are deactivated
True : random car AI reaction are activated

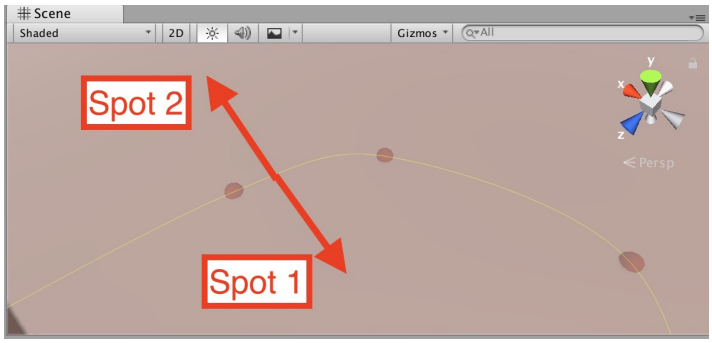
Info :
Random car AI reaction are set when the car hit object over a certain force. It is manage on CarAI.cs.

So it is useful to deactivate random reaction when you want your cars cross a small bridge for example.
When the bridge is ended you could reactivate the Random car AI reaction using a Trigger_AI prefab

2- Car Target Offset

If **positive** value : car is shifting on the right of the path (spot 1)

If **Negative** value : car is shifting on the left of the path

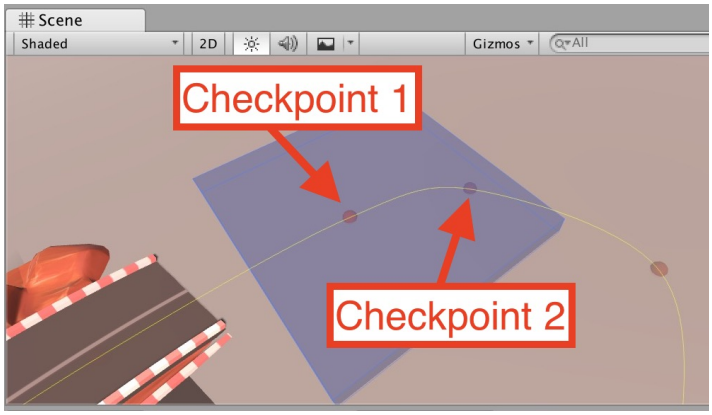


3-Target success rate :
Success rate to reach the car target offset
0 = car never goes to this target offset position
100 = car always goes to his target offset position

IMPORTANT : Tips :
If you create a trigger that force the car to come back to his initial position on track path :

Scale your trigger to cover at least two checkpoints (see picture)

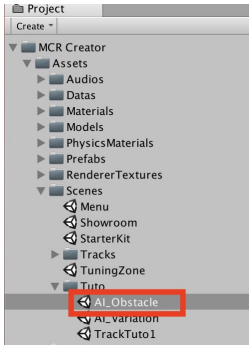
It will avoid some respawn bug.



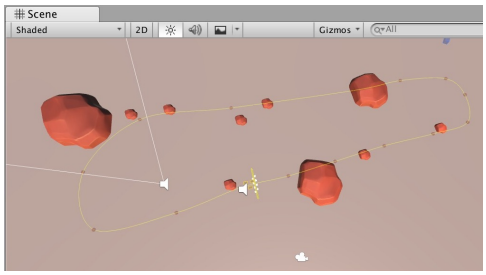
4.3- AI Obstacle

In this section we are going to show how to setup a gameObject to be avoided by a car with AI.

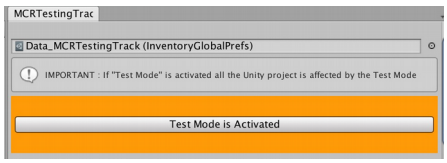
1- Open scene AI_Obstacle on Project tab
Project tab : MCR Creator → Assets → Scenes → Tuto → AI_Obstacle



This example show how car AI could avoid an obstacle.



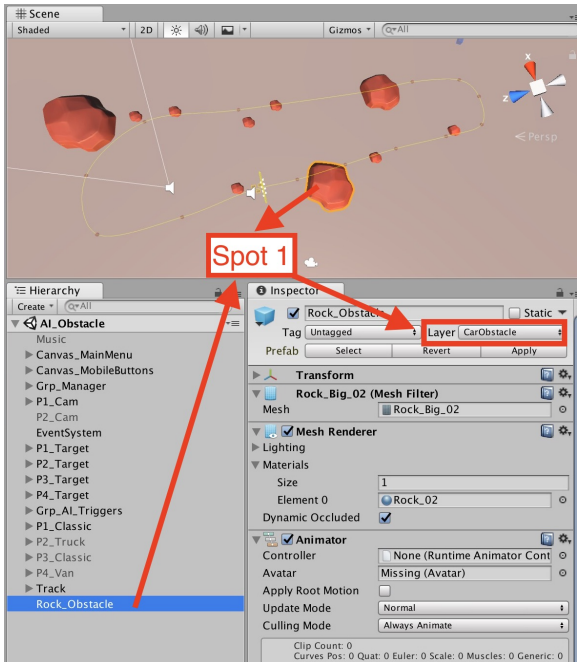
2- Activate Test Mode



3- Press play button.
You could see that car AI avoid rocks

How to setup a gameObject to be avoided by car AI :

The gameObject need to be on Layer CarObstacle



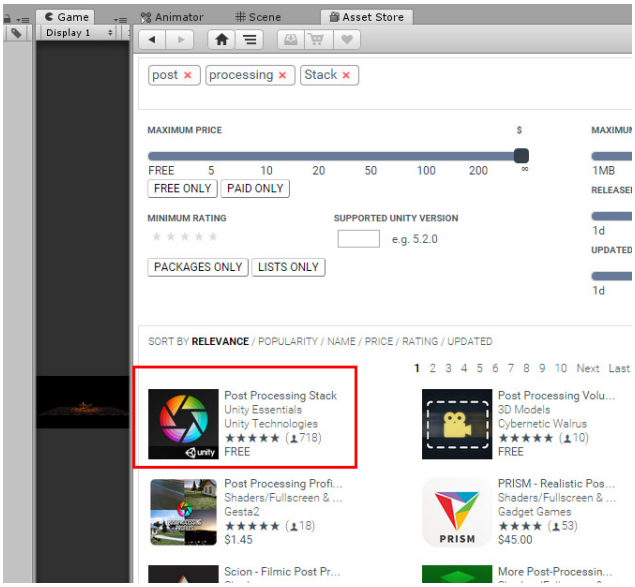
Notes :
If the gameObject is too small cars could have difficulties to avoid the obstacle

5-Effects

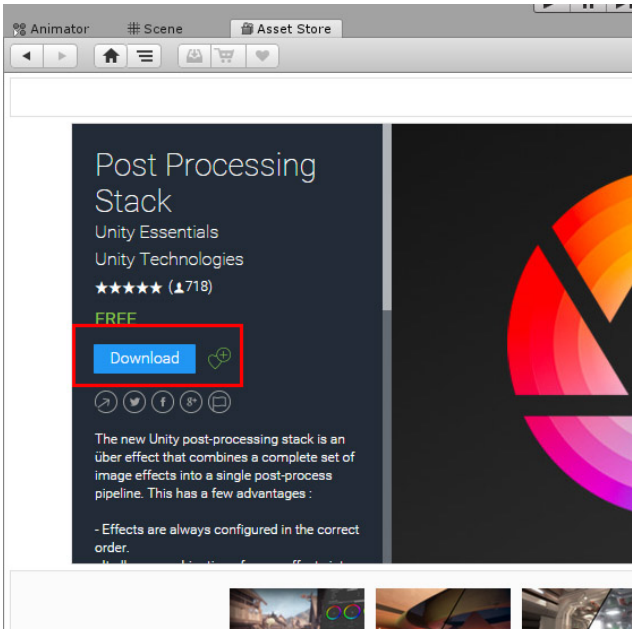
You need to download a free asset on asset store

1 First you must log in.

2 In Unity open asset store and search **Post Processing Stack**

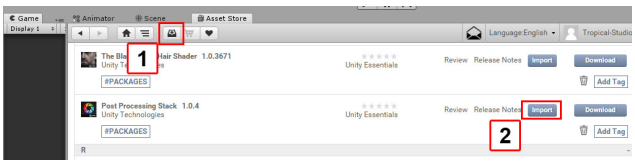


3 Press button **Download**

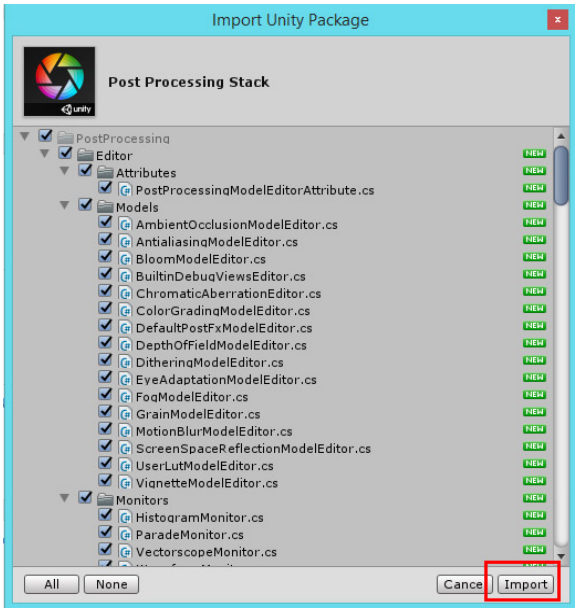


4 Click on **Toggle Download Manager** button
(spot 1)

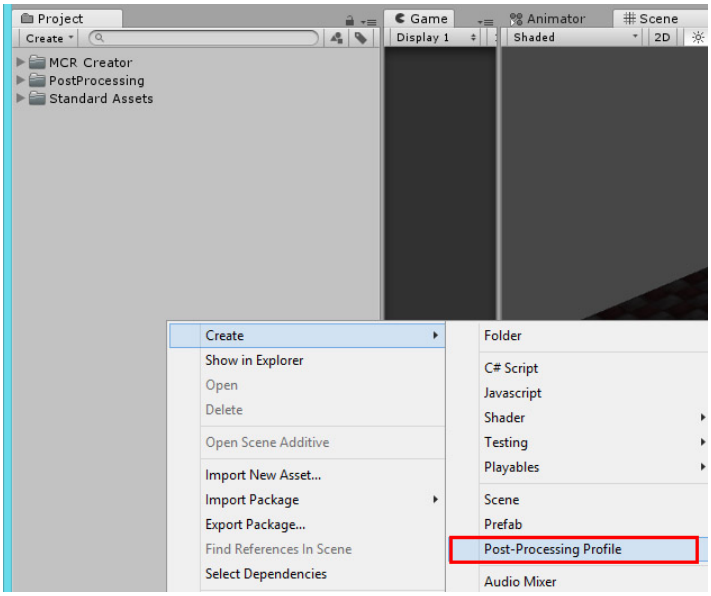
5 Press button **Import**
(spot 2)



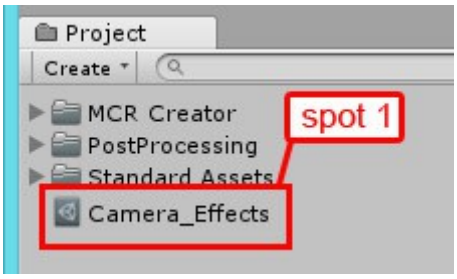
6 Press button **Import**



7 **Mouse right click** in project tab
Then select **Create** → **Post-Processing Profile**



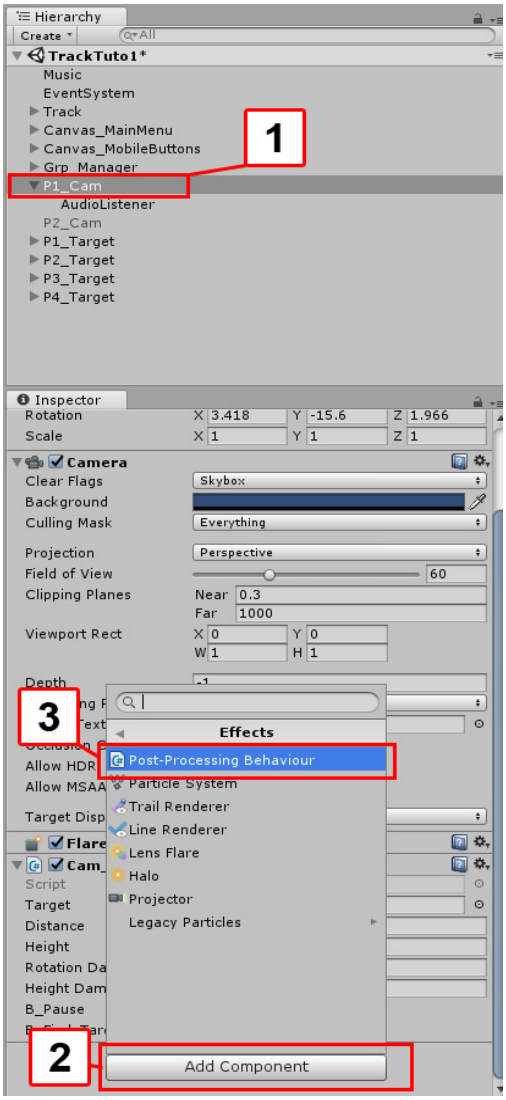
8 Rename it (for example **Camera_Effects**) (spot1)



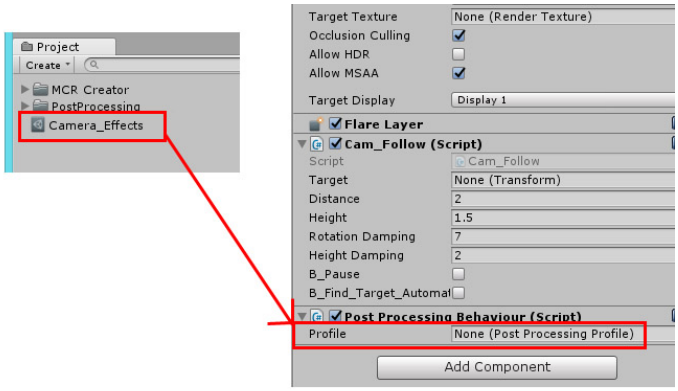
9 In hierarchy tab select **P1_Cam** (spot 1)

10 Press button **Add Component** (spot 2)

11 Select Effects → Post-Processing Behaviour (spot 3)



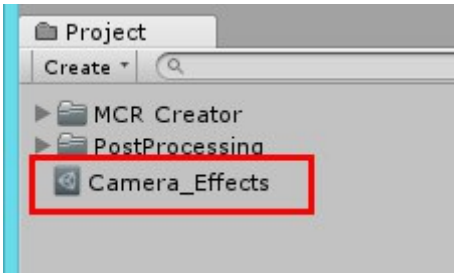
12 Drag and drop **Camera_Effects** **in Profile slot**



13 In hierarchy tab select **P2_Cam**

Do again the steps **9 to 12**

14 In Project tab select **Camera_Effects**

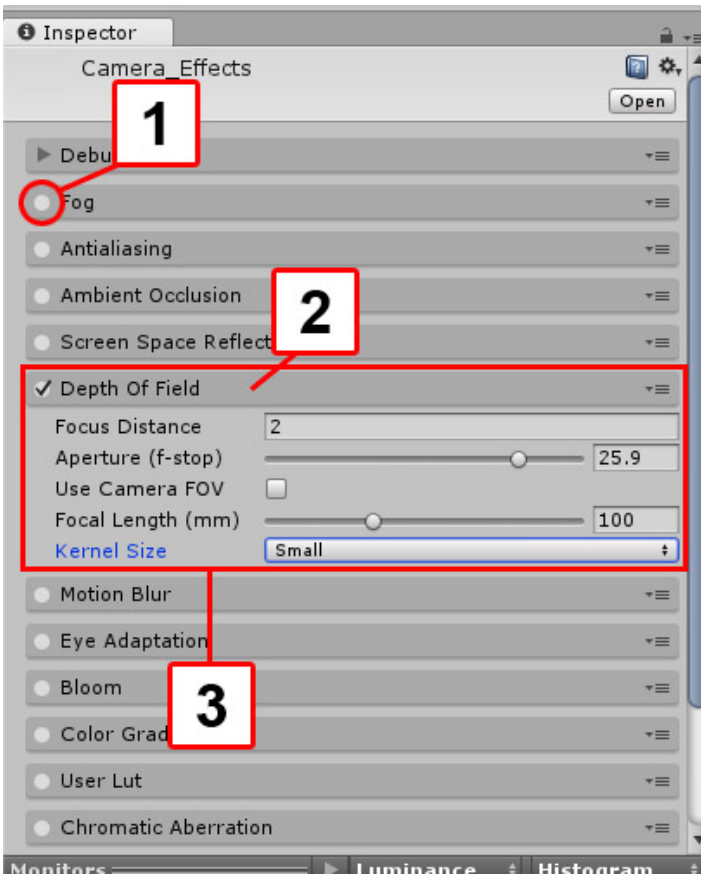


15 In Inspector tab :

- Uncheck Fog (spot 1)
- Check **Depth Of Field** Box (spot 2)

Click on grey bar to open Depth Of Field tab

16 Use the values shown in the image below
(spot 3)



6-Export : Lighting and Optimization

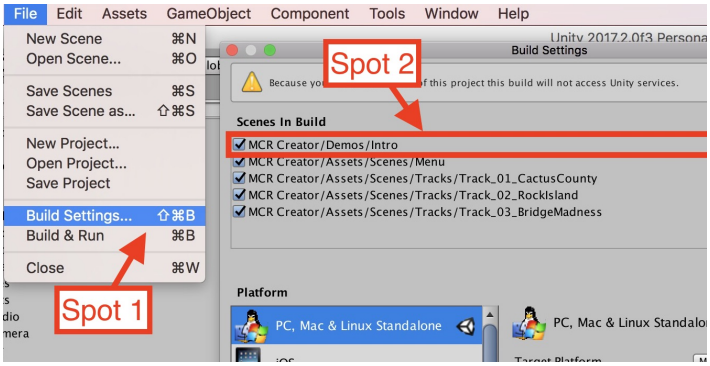
6.0 Intro Scene

IMPORTANT : When you export your build you need to keep the Intro in the Scenes in Build section.

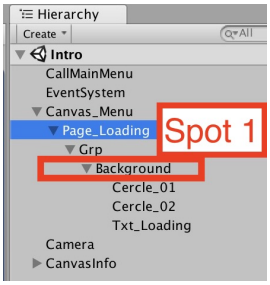
1- Open File → Build settings (spot1).

You need to have the Intro on the top of the list (spot 2).

Intro scene allow to initialize the Menu scene when the game is launched.



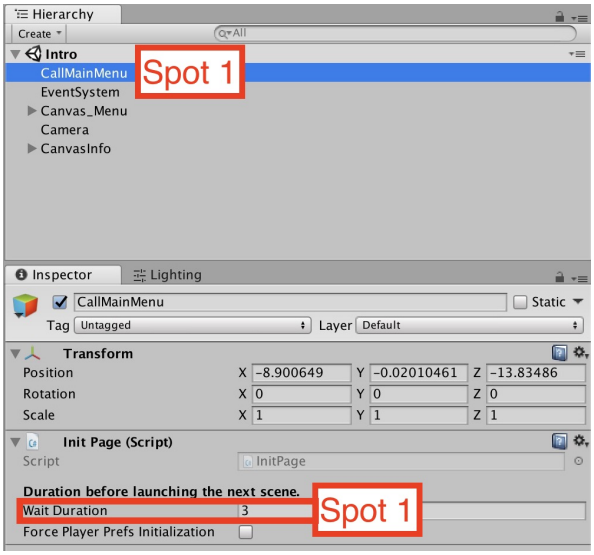
Info 1 : You could use this scene to add your Logo.
Change Background (spot 1)
Hierarchy tab : Canvas_Menu → Page_Loading → Grp → Background



Info 2 : It is possible to change the duration of the screen.

1- Select CallMainMenu on the Hierarchy (spot 1)
Hierarchy tab : CallMainMenu

2- Change value Wait Duration on the Inspector (spot 2).
It is possible to use 0 if you want.



6.1 Calculate Lightmaps

Calculate lightmap is the very useful to optimize game.

For the mobile it is essential to calculate the lightmaps to conserve steady FPS .

For the desktop, it is not obligatory but it is advised because it improves the visual result (and optimize FPS too).

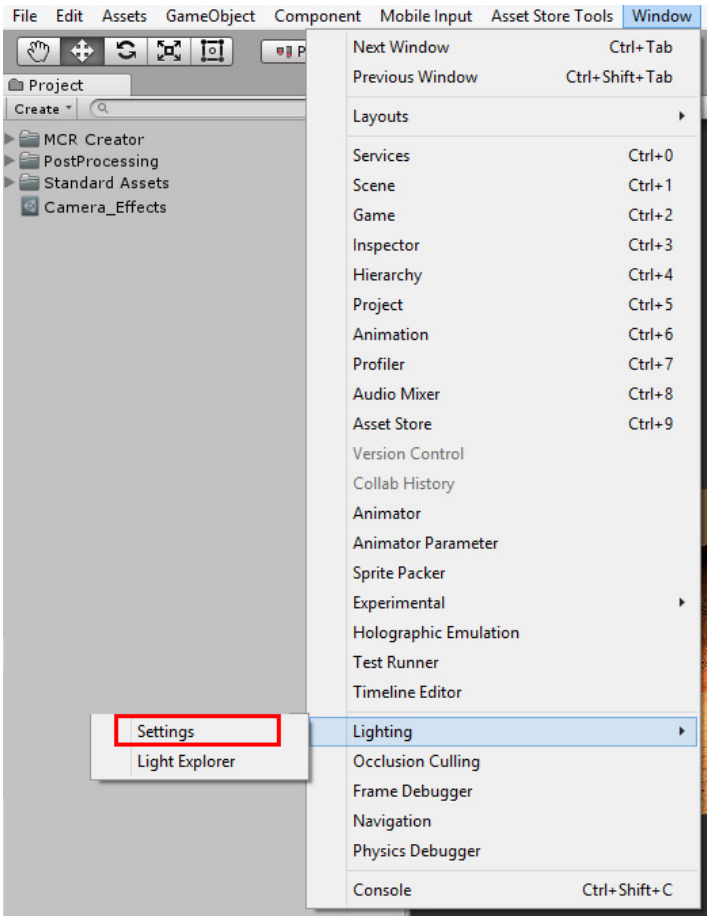
Follow this instructions to learn how to calculate Lightmaps.

Important :

You need to calculate lightmaps for **menu** scene and for each track scene included in your build.

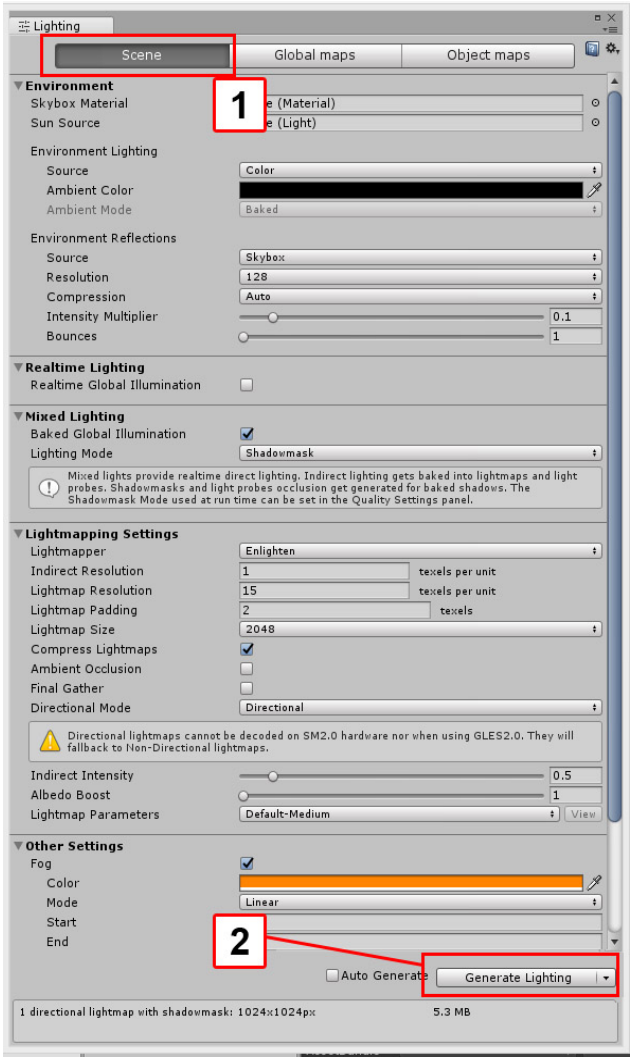
16 Open lighting panel.

Window > Lighting > Settings

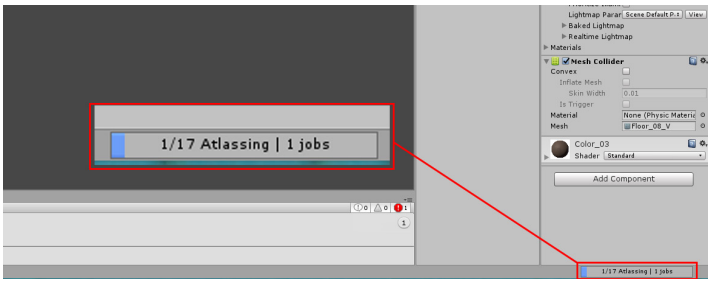


17 Select **Scene tab** in lighting panel (spot 1)

18 Check box ***Generate Lighting*** at the bottom of lighting tab (spot 2)



Precompute lightmap process is starting. When the precompute process is running, a blue progress bar will appear in the bottom right of the Editor.



Tips :
Calculing lightmaps on a large scene can take time.
A first it is better to test lightmaps on small part.

When precomputed process is finished **run your scene.**

You can see that **cars are not lit by the light**.
It is because light in scene is baked light.
Baked light only lit static object .

Cars are not a static object.

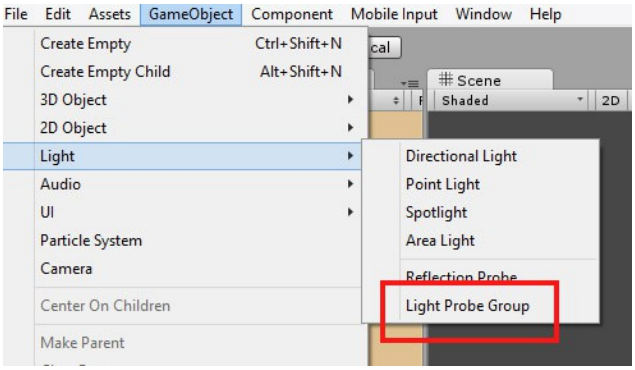
To add light to cars you need to create **Lightprobe.**

6.2 Light Probes

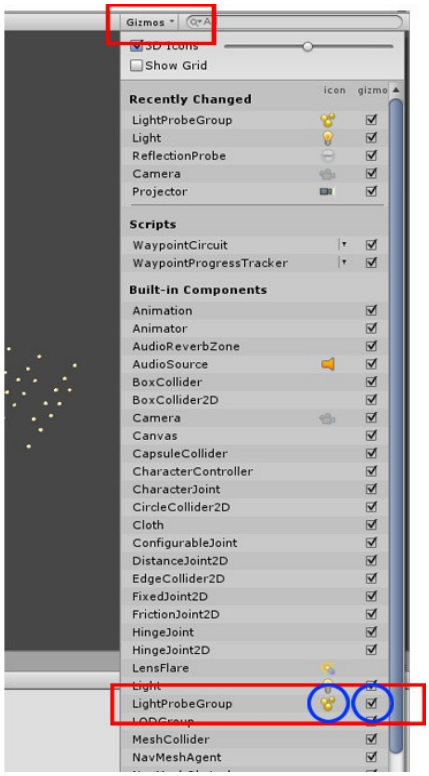
1 Open scene **LightProbTuto1**

MCR Creator → Assets → Scenes → Tuto → LightProbTuto1

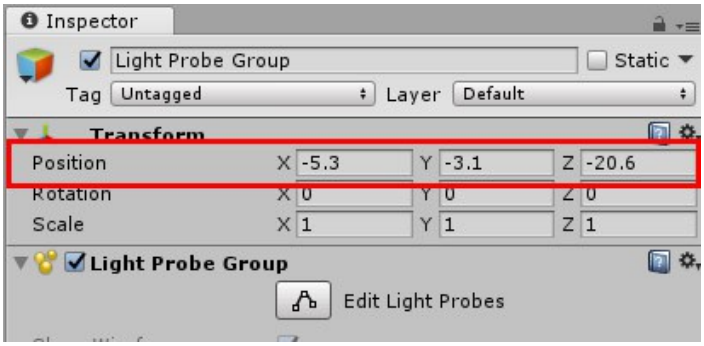
1** Go to **GameObject → Light → Light Prob Group.



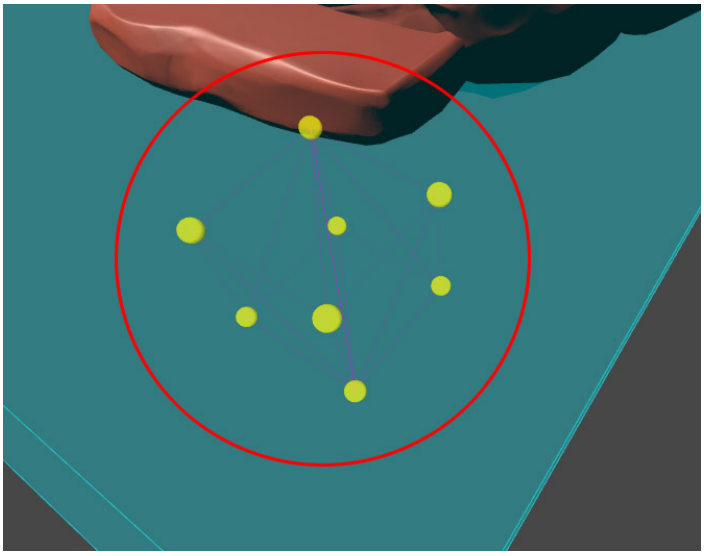
If the light prob doesn't appear check that the lightprobGroup option is selected in Gizmos window.



2 Select **Light Probe Group** in hierarchy. In Inspector change the X,Y, and Z coordinates :
X: -5.3
Y: -3,1
Z: -20.6



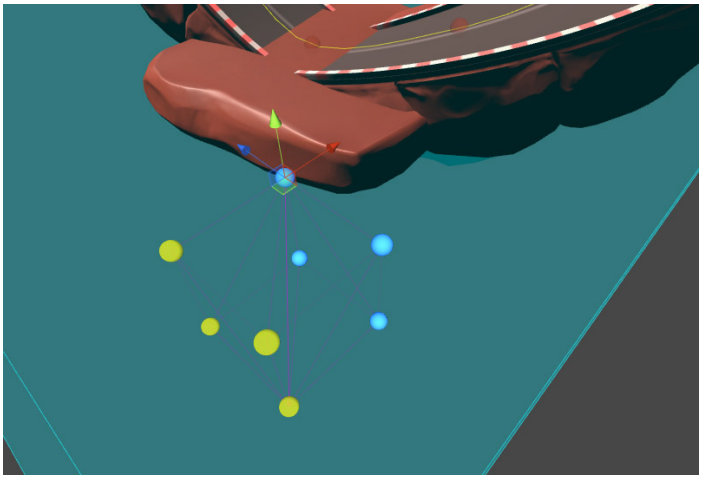
Light prob is in the form of a cube formed by 8 yellow balls.



3 Select Light Probe Group in hierarchy tab.

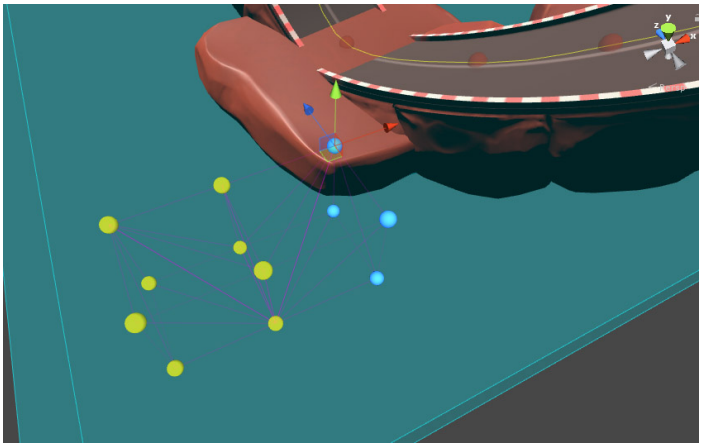
4 In Scene tab select 4 balls (yellow balls become blue).

*Tips:To select several balls use the **MAJ keys**.*



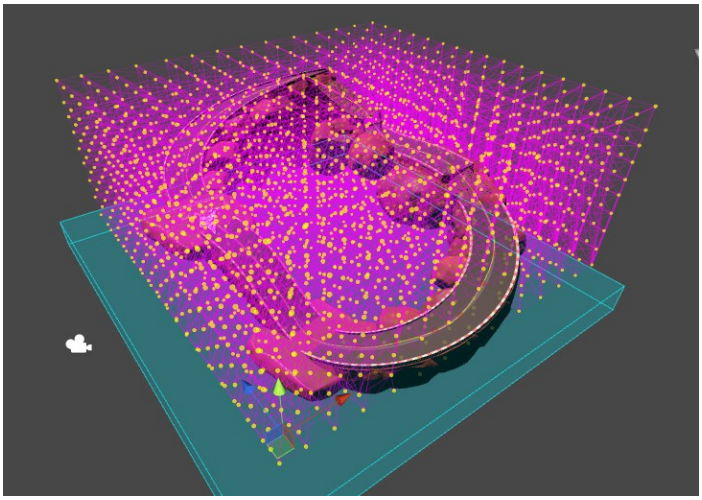
5 Duplicate object by pressing **CTRL + D**

6 Move the blue balls on the X-axis for creating a new cube.



7 Repeat the process until the entire area covered by the cars is filled.

Each cube (represented by 8 blue balls) corresponds to a specific lighting area. The smaller the cubes the more precise the light.



8 Open **Lighting** Tab

Window → **Lighting** → **Settings**

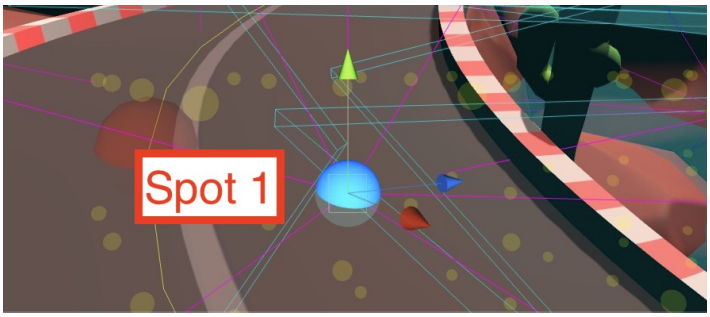
Calculate the lighmaps by pressing « **generate lighting** » in lighting tab

9 Run the scene

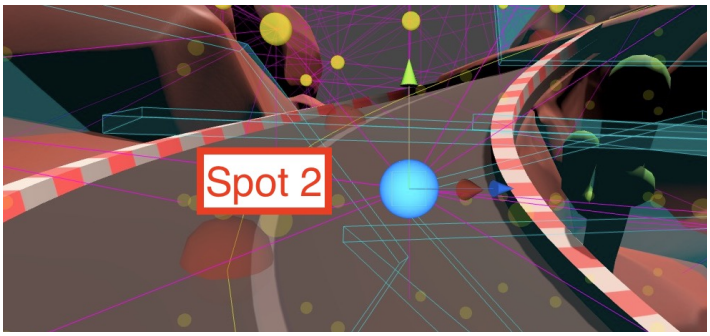
Now you can see that the cars are lit by the light.

INFO :
If your car become black in the circuit you need to modify the position of the light Probes balls in this zone.

1- Check if their is a ball inside a wall or floor (spot 1).



In this case move the ball outside this object (spot 2)



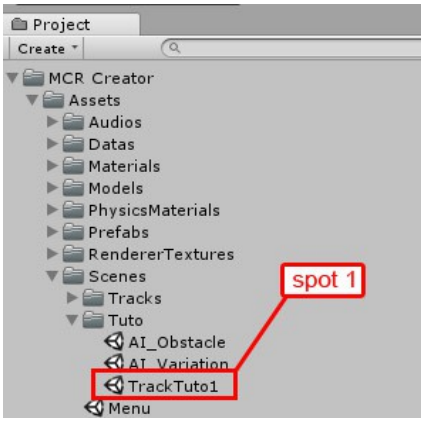
2- Check if the ball are not to far from the road.

6.3 Combiner Mesh

A combiner mesh script is included in this asset.
MCR Creator → Assets → Scripts → MeshCombiner → Meshcombinervtwo

Combiner mesh script combine all the mesh that have the same material on a single new mesh. This a good solution to **drastically reduce drawcalls and reduce lighmap precomputed time**.

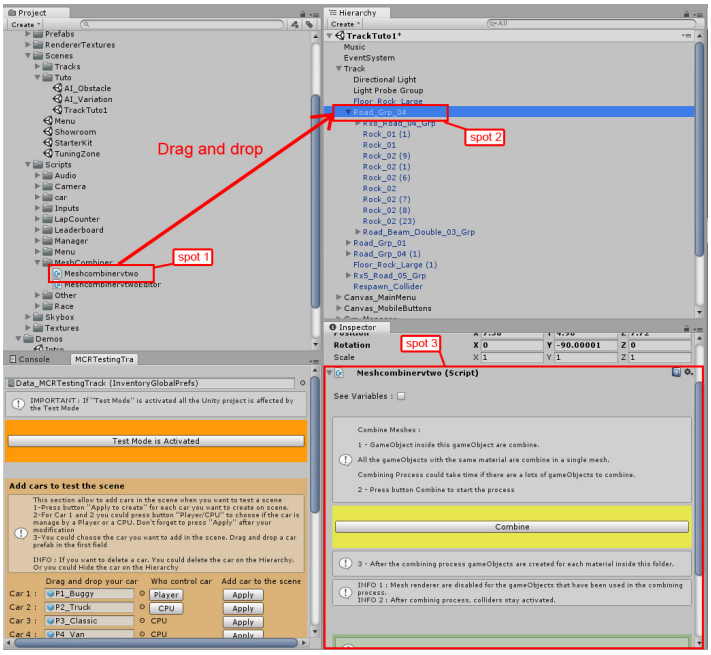
1 Open scene **TrackTuto1**
MCR Creator → Assets → Scenes → Tuto → TrackTuto1



2 From project tab drag and drop **Meshcombinervtwo** (spot 1) on **Road_Grp_04** in hierarchy tab (spot 2)

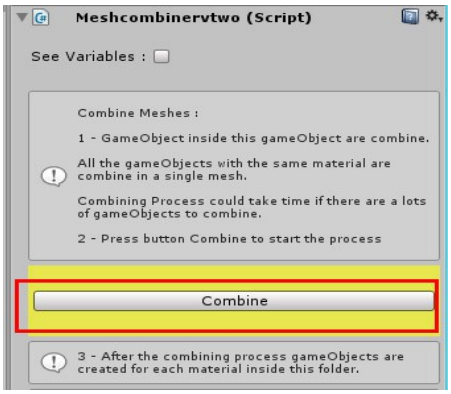
Track → **Road_Grp_04**

Meshcombinerscript is added to **Road_Grp_04** (spot 3)



3 Select **Road_Grp_04** on the Hierarchy

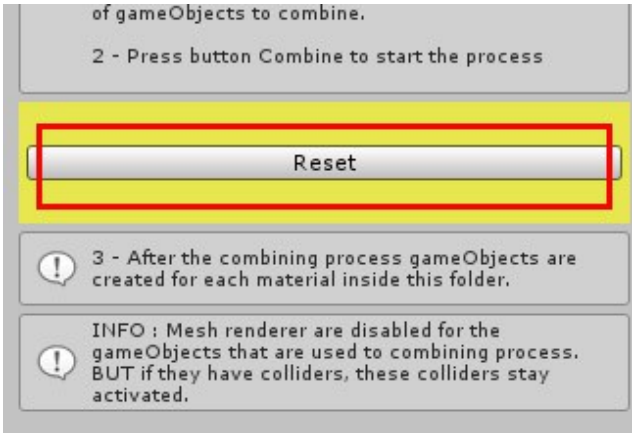
4 Click on **Combine** Button



After the process new Combine gameObjects are created inside **Road_Grp_04** group. (spot 1)

All other objects in the group are hide.

If you want to reverse the process press **Reset** button or **CTRL+Z**



Tips 1: If you have a lot of objects (or large objects) in group we recommande to separate into several pieces to avoid poor quality lightmaps.

Tips 2: It is better not to combine the prefabs contained in the folder Prefabs / floor : **Floor_Rock_Large** and **Floor_Sand_Large**

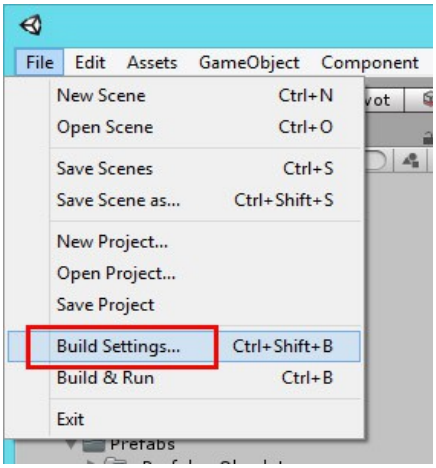
MCR Creator → **Assets** → **Prefabs** → **02_Environment** → **Floor**

If you combine them you may having unsightly black lines after lightmaps precomputed process.

7-Export to mobile

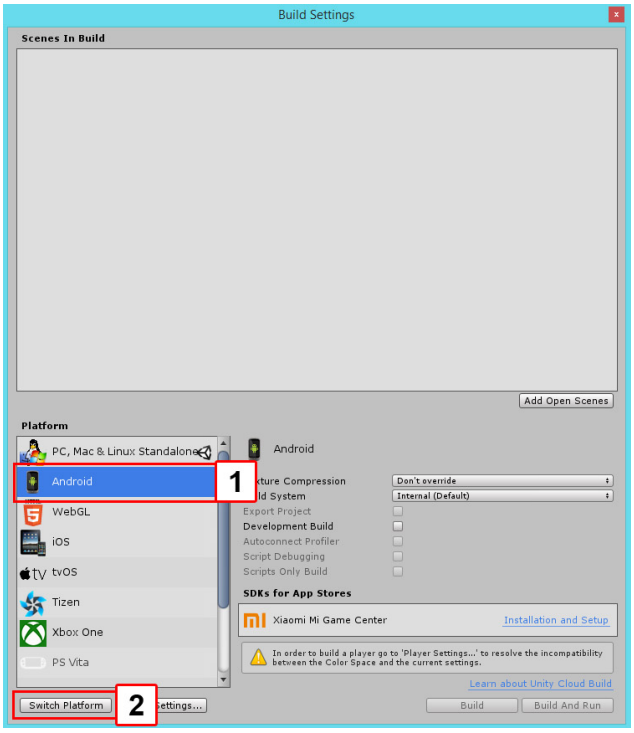
Follow this step to export your project to mobile (example for Android)

1 Go to **File** → **Build_Settings**.

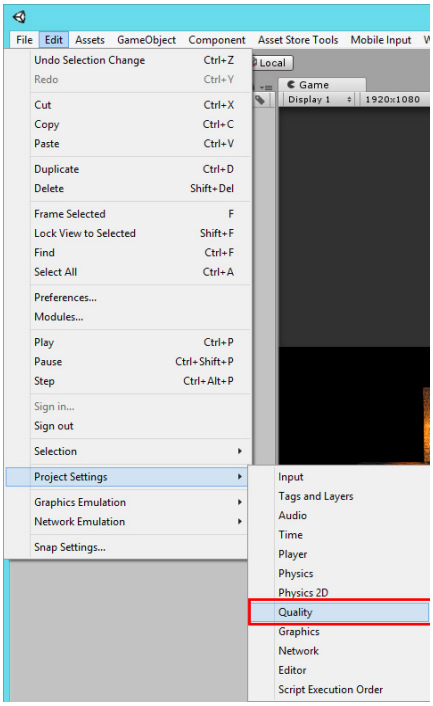


1 Select **Android** (spot 1)

2 Press button **Switch Platform** (spot 2)



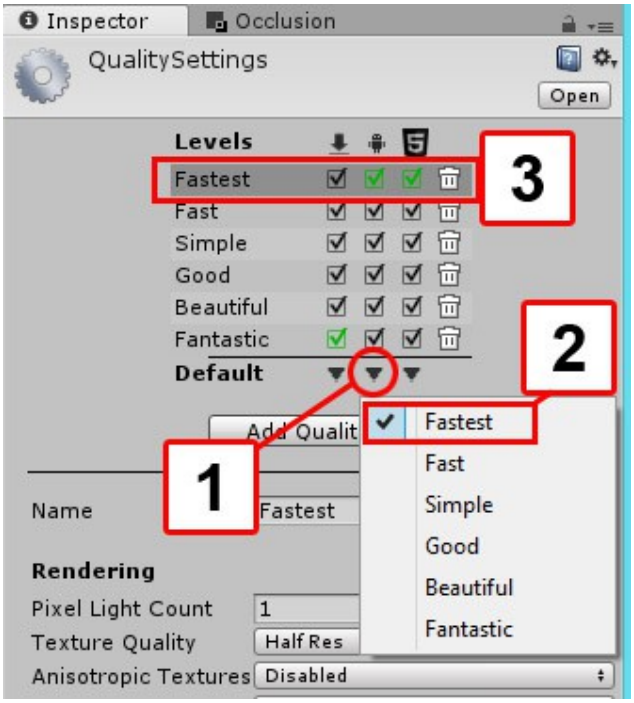
3 Go to **Edit** → **Project Settings** → **Quality**



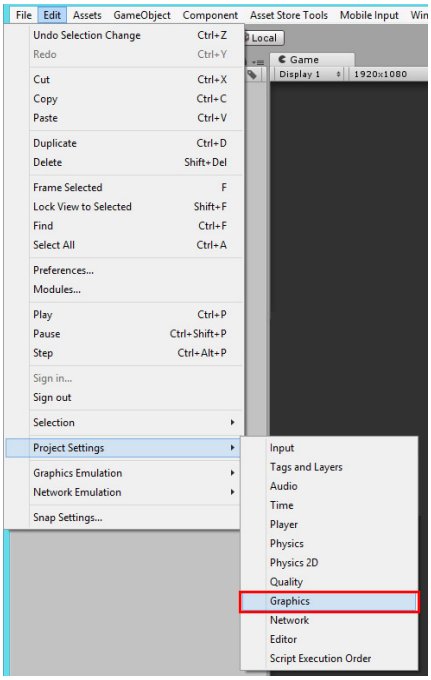
4 Press the triangle (spot 1)

5 Select **Fastest** to choose fastest when build
(spot 2)

6 Press **Fastest** to choose fastest visualization in unity viewport (spot 3)



7 Go to **Edit** → **Project_Settings** → **Graphics**

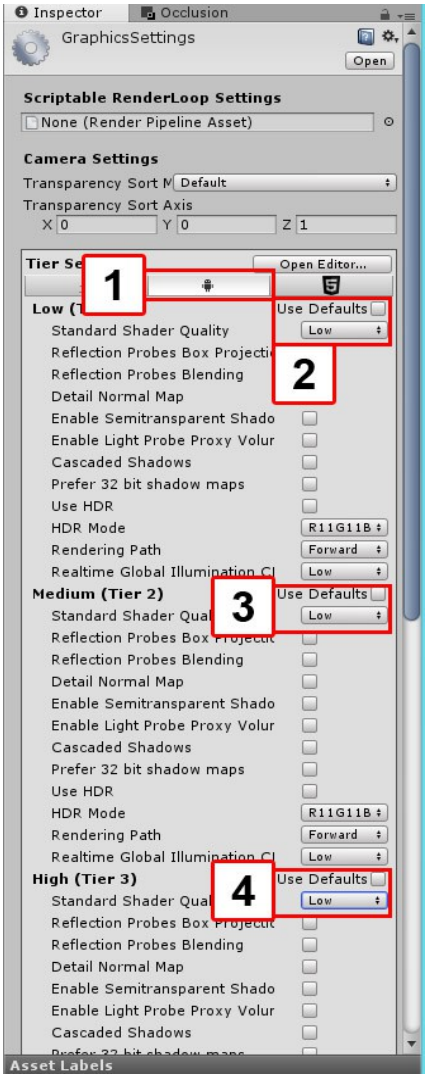


8 Choose Android (press android small icon)
(spot 1)

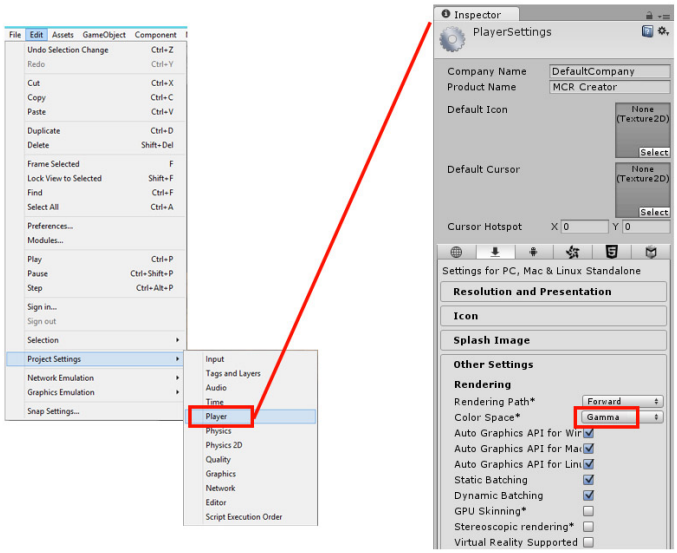
9 Uncheck **Use Default** checkbox
Then choose **Low** (spot 2)

10 Uncheck **Use Default** checkbox
Then choose **Low** (spot 3)

11 Uncheck **Use Default** checkbox
Then choose **Low** (spot 4)



12 Open **Edit** → **Project Settings** → **Player**
In Inspector window change **Color Space** to **Gamma**



13 Now we want to use optimize materials for mobile

- First Quit Unity (close software)

On your Pc/ Mac Desktop :

- Open folder yourProject / MCR Creator / Assets / _Materials / Material_Mobile

- Select all files in folder

- Copy

- Open folder yourProject / MCR Creator / Assets / _Materials / Material_Grp

- Paste

- Restart Unity and open you project

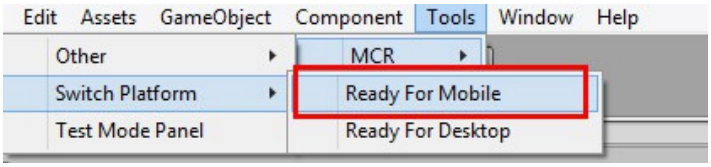
Tips :

If you want to reverse the process copy materials from yourProject / MCR Creator / Assets / _Materials / Material_Desktop

Paste in yourProject / MCR Creator / Assets / _Materials / Material_Grp

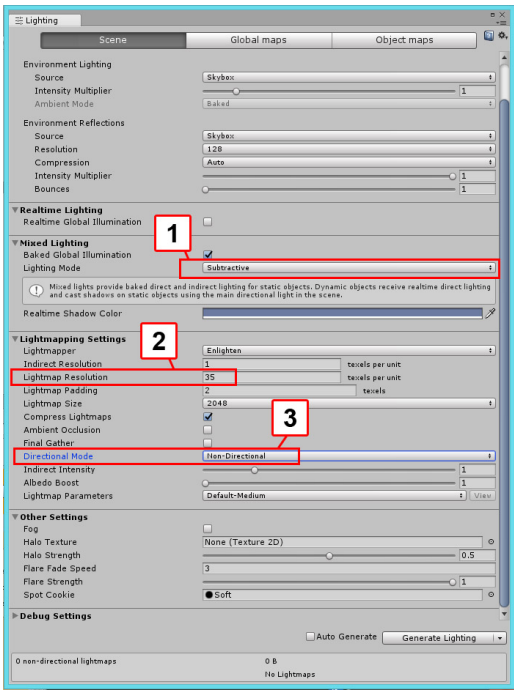
14 A Open scene **Menu**

MCR Creator → Assets → Scenes → Menu



B Go to **Tools → MCR → Switch Platform → Ready For Mobile**

It allow to automatically :
- Setup UI for Mobile (display needed Mobiles buttons)(more info here)



C Open Lighting Tab

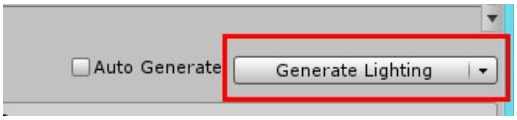
Window → Lighting → Settings

Set **Lighting Mode** to **Substractive** (spot 1)

Set **lightmap resolution** to **35** (spot 2)

Set **Directional Mode** to **Non Directional** (spot 3)

D Calculate the lighmaps by pressing « **generate lighting** » in lighting tab



E Save your scene

Important :

You need to do steps 15 to 24 for each track scene.

For example for the complete demo project you need to do steps 15 to 24 for this three scenes :

Track_01_CactusCounty
Track_02_RockIsland
Track_03_BridgeMadness

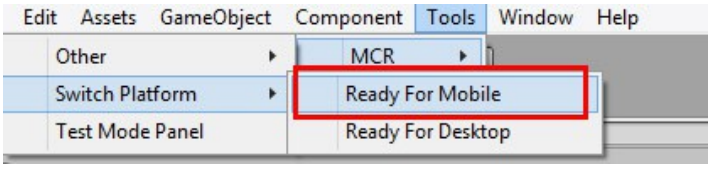
MCR Creator / Assets / Scenes / Tracks

15** If you use Effects on camera delete **Post-Processing Behaviour script

More informations about Effects here

16 Open your first track scene

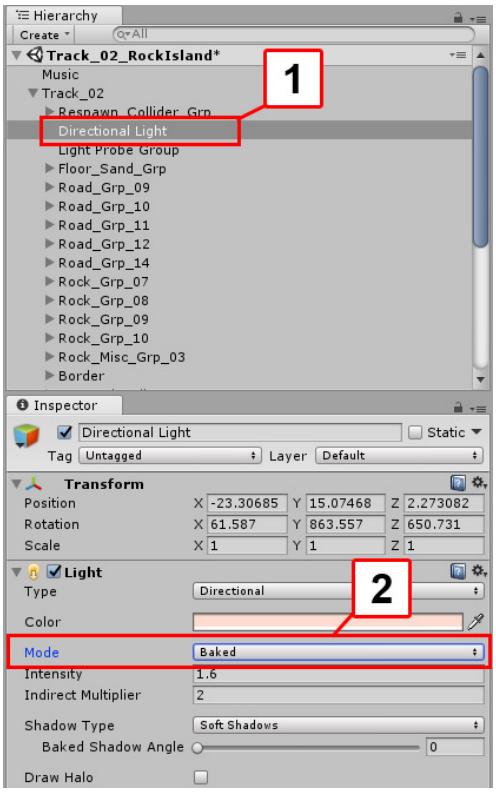
17 Go to Tools → **MCR** → **Switch Platform** → **Ready For Mobile**



It allow to automatically :
- Setup UI for Mobile (display needed Mobiles buttons and Mobile Input Interface) (more here)
- Setup default car settings for Mobile (These car options could be find on Hierarchy tab : Grp_Manager)

18 In hierarchy tab select **Directionnal_Light** (spot_01)

Set **Mode** to **Baked** (spot_02)

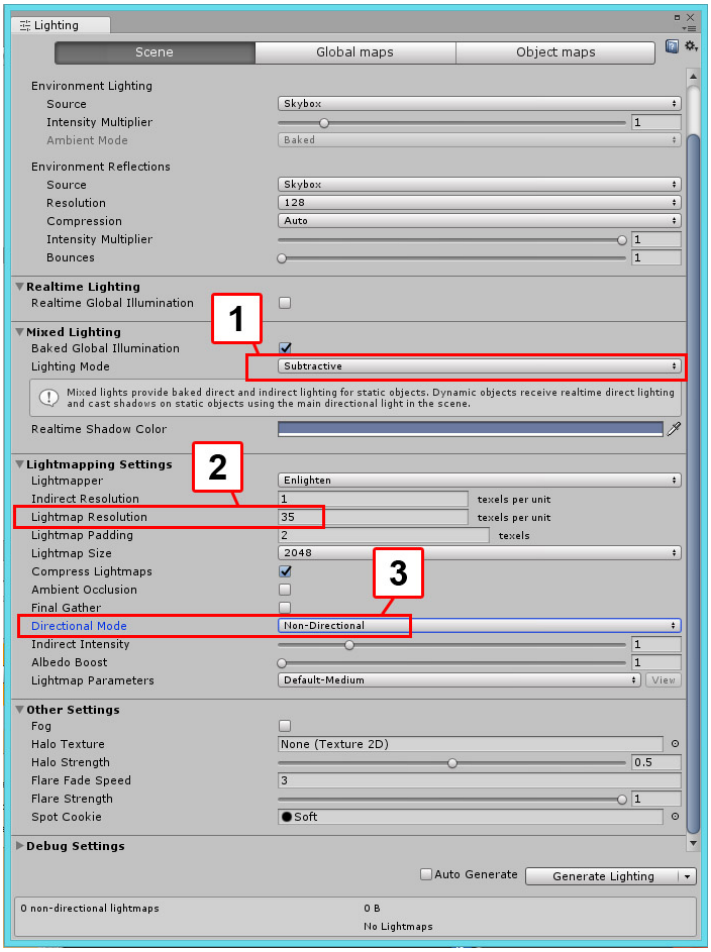


19 Open Lighting Tab

Window → Lighting → Settings

We only change some parameters assuming that you use StarterKit scene as the starting point

***20** Set **Lighting Mode** to **Substractive** (spot 1)*



21 Set **lightmap resolution** to **35** (spot 2)

Tips :
The higher the number, the higher the quality of the lighmaps.
In return the size of the lightmaps will be larger.
Lightmaps precomputed time will be longer too.

22 Set **Directional Mode** to **Non Directional** (spot 3)

23 Open Lighting Tab

Window → Lighting → Settings

Calculate the lighmaps by pressing « **generate lighting** » in lighting tab

24 Save your scene.

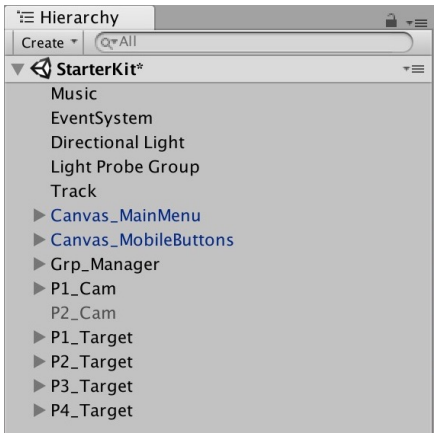
***Important :** If you have more than one track scene in your build restart at step 15*

You project is ready to export to Mobile platform

8- Scene : Starterkit : Quick overview

This section give you a short description of gameObjects that could be find on StarterKit scene Hierarchy.
Project tab : MCR Creator → Assets → Scenes → StarterKit

Important : Do not rename gameObject on StarterKit scene hierarchy tab because some gameObjects are call by their name on some scripts



Music : Play the music. You could deactivate or delete it.

EventSystem : Use for UI.

Directional Light :
Ready to use direction light for the scene

Light Probe Group :
Ready to use light probe Group

Track :
A folder to put your track elements

Canvas_mainMenu : Use to display Menu buttons.

Canvas_MobileButtons : Use to display mobile buttons.

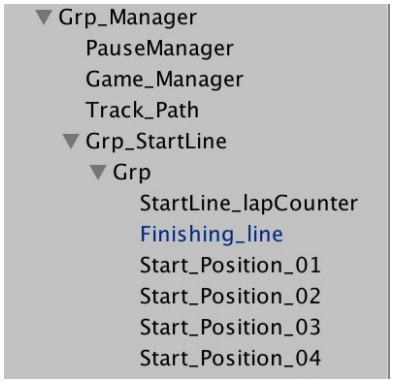
PauseManager : Use to pause and unpause the game.

Game_Manager :
- Manage the game rules.
- Countdown
- AI behavior

Track_Path : Use to create AI Path and respawn points.

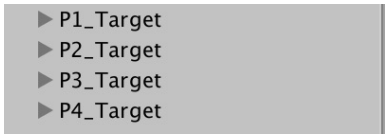
StartLine_LapCounter : Manage lap counter.

Start_Position_01 02 03 04 : Car are spawned on these positions when game starts.



P1_Cam and P2_Cam : Camera for Player 1 and Player 2 if needed.

Player 1,2,3 and 4 look at these targets if needed.
Use for AI path.

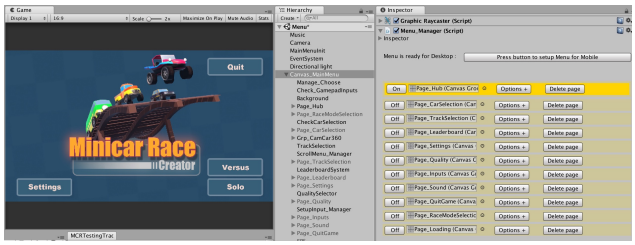


9- UI Menu

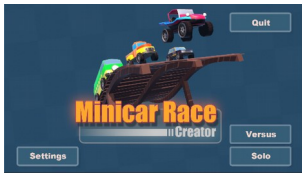
9.1 Menus : short description.

Project tab : MCR Creator → Assets → Scenes → Menu

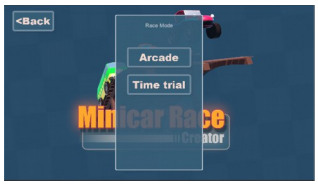
All the menu page are on Canvas_MainMenu on the hierarchy



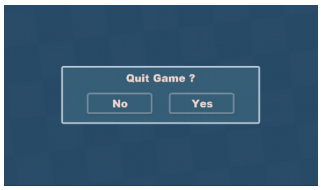
Page Hub :



Page Race Mode :

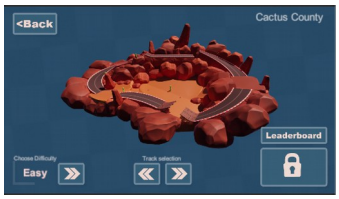


Page Quit Game :

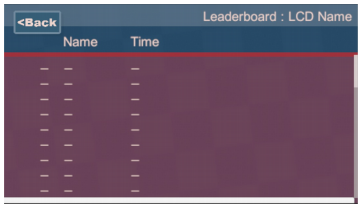


Page Car Selection :

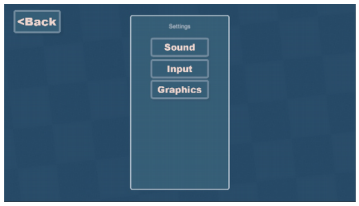
Page Track Selection :



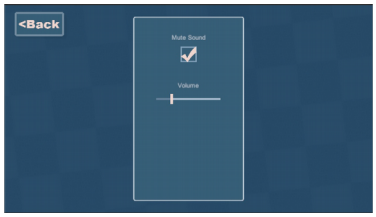
Page Leaderboard :



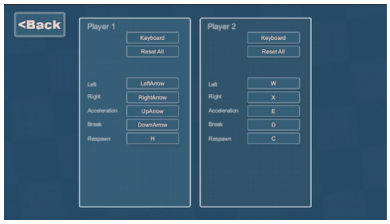
Page Settings :



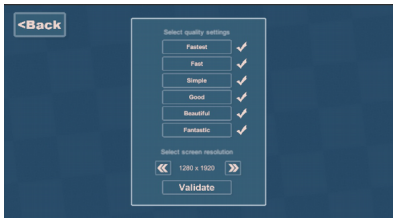
Page Sound :



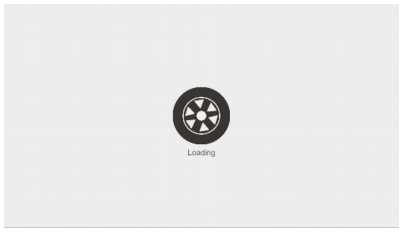
Page Inputs :



Page Graphics :



Page Loading :



Mobile Inputs :

Important : Mobile Input are on Canvas_MobileButtons on the Hierarchy.

You find Canvas_MobileButtons on StarterKit scene or any race track scene
Project tab : MCR Creator → Assets → Scenes → StarterKit

IMPORTANT :

Some page need to be managed on Menu Scene
Project tab : MCR Creator → Assets → Scenes → Menu
and other on race track scene or StarterKit scene
Project tab : MCR Creator → Assets → Scenes → StarterKit

List of pages for Menu Scene :
Page Hub
Page Race Mode
Page Quit Game
Page Car Selection
Page Track Selection
Page Leaderboard
Page Setting
Page Sound
Page Inputs
Page Graphics
Page Loading

List of pages for race track :
(StartKit is default race track scene)
Page Quit Game
Page Pause
Page Sound
Page Inputs
Page Graphics
Page Loading
Mobile Inputs

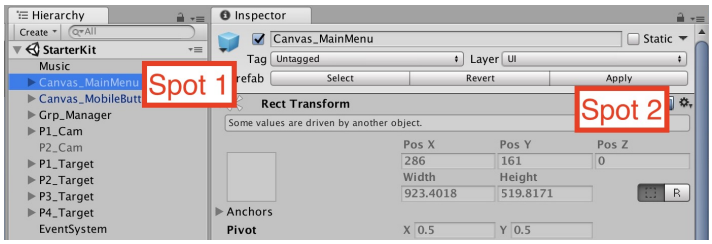
9.2 How to save race track UI modifications for all the circuits

Example with StarterKit scene :
Project tab : MCR Creator → Assets → Scenes → StarterKit

1- Open the scene StarterKit.
Project tab : MCR Creator → Assets → Scenes → StarterKit

2- Select Canvas_MainMenu on the Hierarchy (spot 1)

3- Press button Apply on the Inspector to save the modification.
Canvas_MainMenu is a prefab so the modification will be apply in every scene using this prefab.

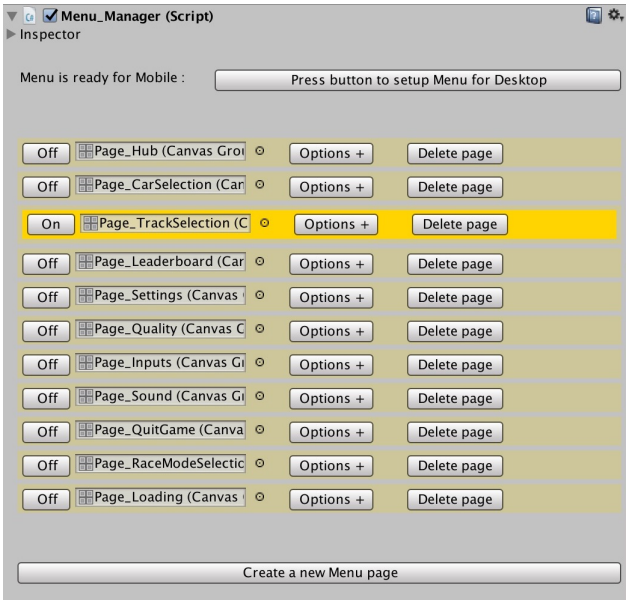


9.3 Menu_Manager Overview

Menu Manager allow to easily manage Menus.

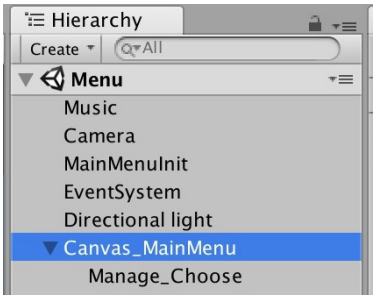
It is possible :
- To create new menu page.
- Setup a mobile version and a desktop version for the Menu.
- To switch from one menu version to other version with one button

To access Menu_Manager select Canvas_MainMenu on the Hierarchy tab
Hierarchy tab : Canvas_MainMenu



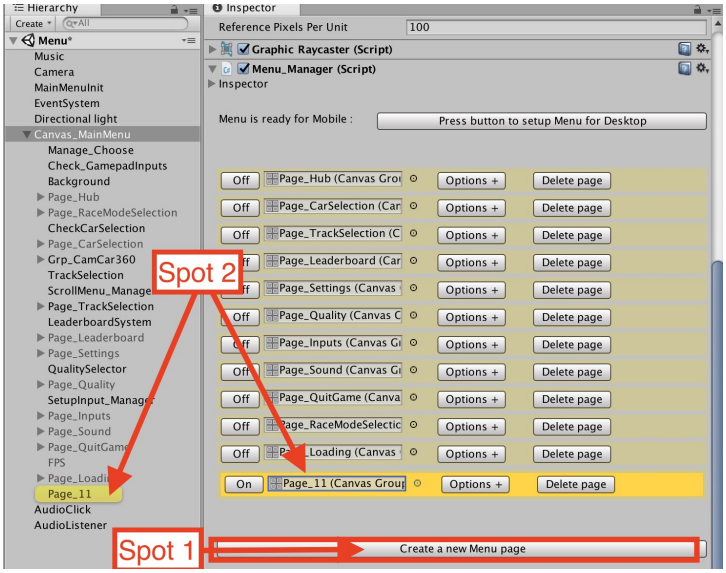
9.4 Create a new Menu page

1- Select Canvas_MainMenu on the Hierarchy



2- On the Inspector press button ‘’Create a new page’’ (spot 1)

A new page is created (spot 2)
Now you could add buttons, images in this page.

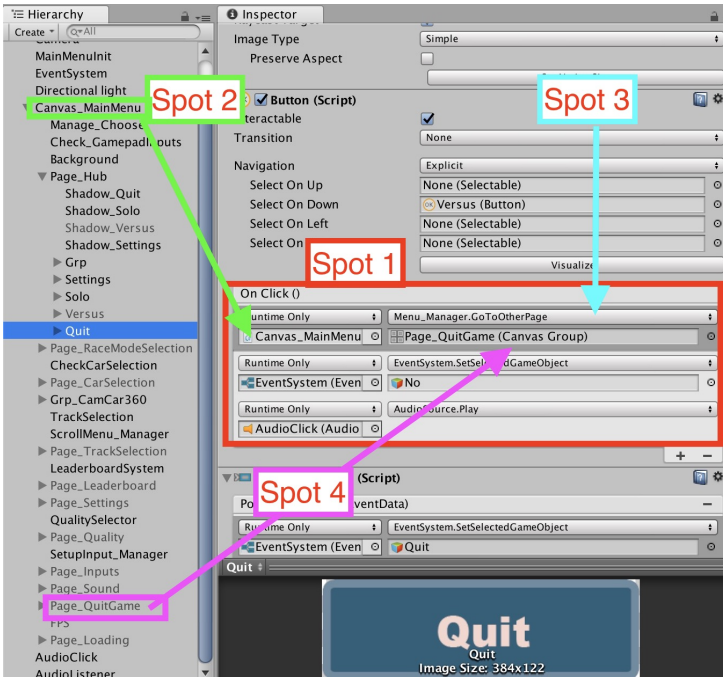


9.5 How to switch between two pages when player press a UI button

Example with Button Quit on Page Hub :
We are going to switch between Page_Hub to Page_QuitGame

Step 1 : How to Change Page

1- Select Quit button on the Hierarchy.
Hierarchy Tab : Canvas_MainMenu → Page_Hub → Quit



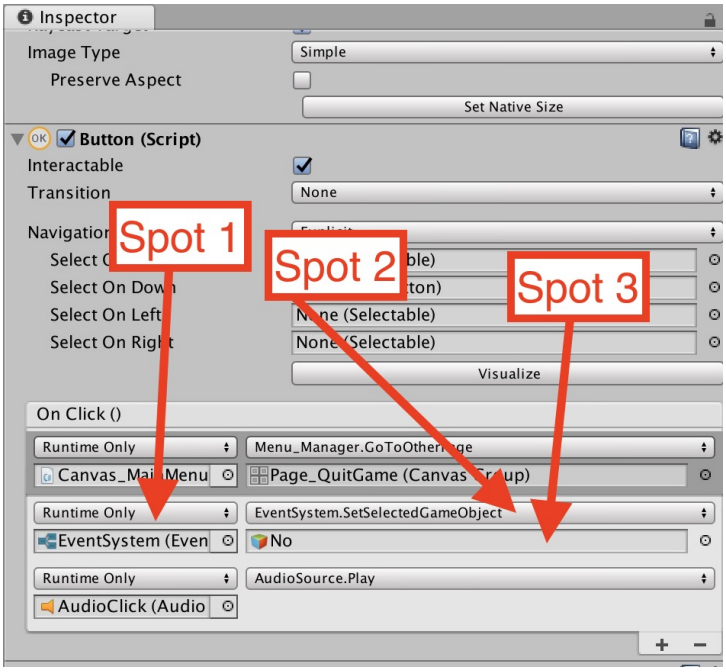
Inside the OnCLick() section (spot 1) :

2- Drag and drop Canvas_MainMenu inside the first slot (spot 2).
Note :
1- Canvas_MainMenu contains a function that allow to close the current menu page and open an other menu page.
2- If OnClick() is empty click on ‘’+” button on the bottom right corner to create a new slot

3- Select the function Menu_Manager → GoToOtherPage (spot 3)

4- Drag and drop the page you want to open (spot 4)

Step 2 : How to Select a new button when the new page is opened



Inside the OnCLick() section :

1- Drag and drop EvenSystem from Hierarchy tab inside the first slot (spot 1).
Hierarchy tab : EventSystem

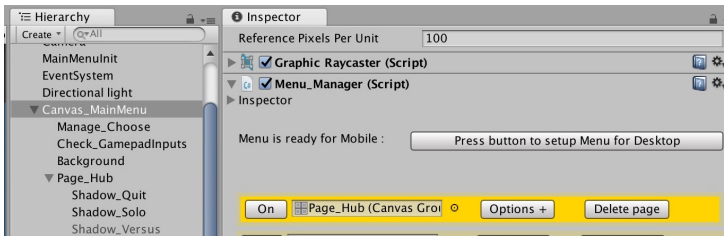
Note :
1- Canvas_MainMenu contains a function that allow to select a UI button when the new page is opened
2- If OnClick() is empty click on ‘’+” button on the bottom right corner to create a new slot

2- Select the function EventSystem → SetSelectedGameObject (spot 2)

3- Drag and drop the button you want from the Hierarchy tab to be selected when the new page is activated (spot 3)

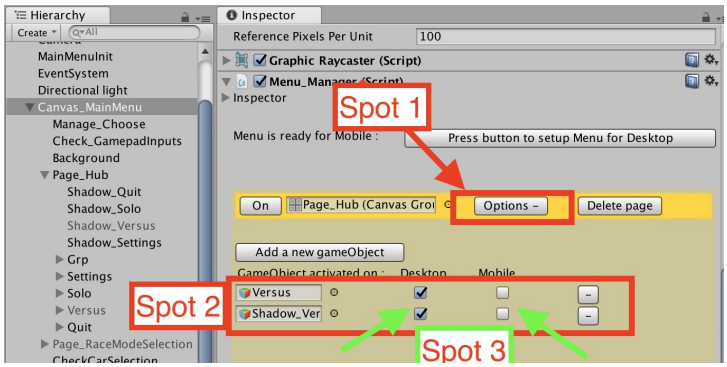
9.6 Setup Custom Menu page for Mobile or Desktop

1- Select Canvas_MainMenu on the Hierarchy



Example with Page Hub :

2- Press button Option (spot 1)



On spot 2 :
A gameObject could be activated or deactivated if game menu is setup for mobile or desktop.

On spot 3 :
Box are validate for Desktop and deactivate for mobile.

So gameObjects will be visible on Desktop Mode and not visible on Mobile mode

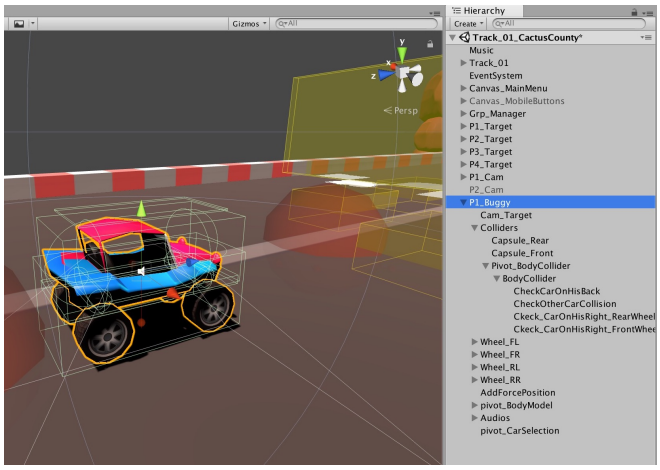
IMPORTANT :
To see modification you need to Press button ''Press button to setup Menu for ...'' to switch between menu setup for Mobile and menu setup for desktop

It is possible to add new gameObject by pressing ''Add a new gameObject'' button

It is possible to remove a gameObject by pressing button ''-''

10- Car Overview

This section show the differents parts of the car.



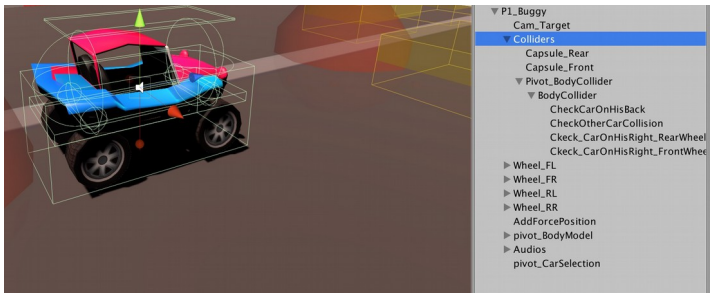
The car contains some scripts :

Car Controller :
Manage the car behavior
(more information on Tuto 3)

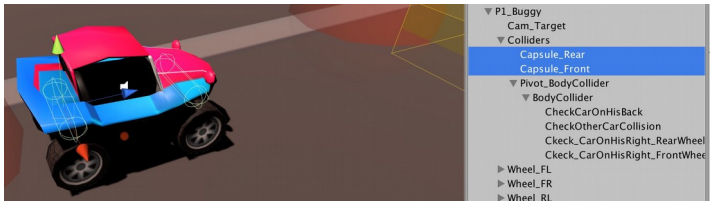
CarPathFollow : Manage car position on the track path.

CarAI : Manage car AI

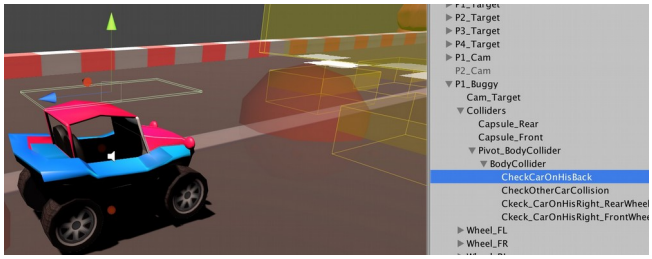
Colliders Group :



Capsule_Rear and Capsule_Front :
These two colliders are used to avoid bug with wheels raycasts.



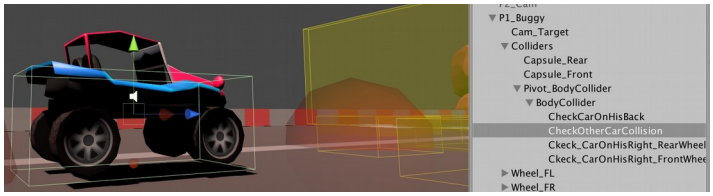
CheckCarOnHisBack :
This trigger is used to know if the car is on his back.



CheckOtherCarCollision :
This collider create collision only with gameObject with the tag ‘’CarColliderBox’’.

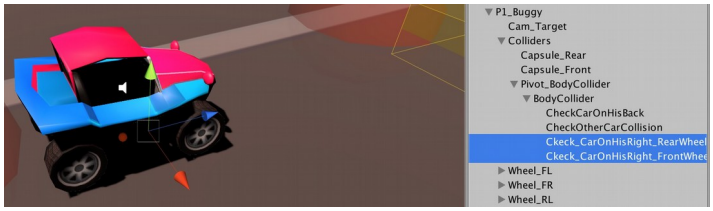
It is only used on car.
It allow to create better collision between cars.

You have better collision result if you put the collider a little bit under the wheel(see picture).



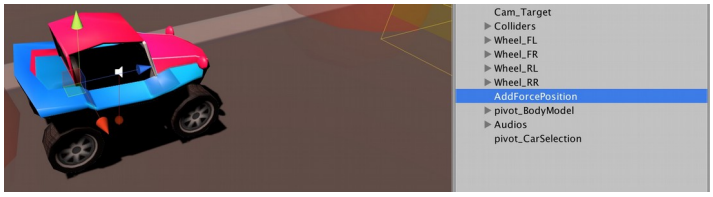
Ckeck_CarOnHisRight_RearWheel and Ckeck_CarOnHisRight_FrontWheel :

Used to know if an other car is on the right of this car (Call by script CarAI.cs)

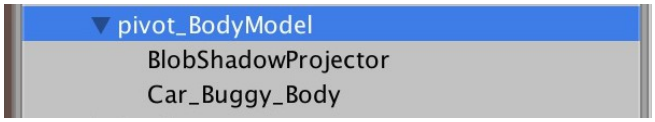


Groups that contains Wheels

AddForcePosition :
Force manage by carController is apply at this position.



pivot_BodyModel :
This group contains the 3D models for the car body



Audios :
Contains audio used by this car

pivot_CarSelection :
This position is used to know where to spawn the car in the menu car selection.

11-Demo Mode

11.1- How it works :

Test Mode Panel is used to test a track.

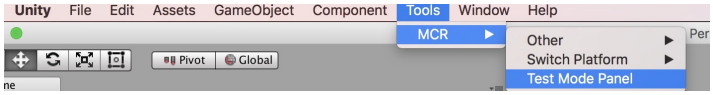
IMPORTANT : If Test Mode is activated all the scene are affected by the Test Mode.

When a scene is launched and :
Case 1 : Test Mode is activated :
The scene is initialized using the Test Mode Panel parameters.

Case 2 : Test Mode is deactivated :
The scene is initialized using the parameters setup on scene Menu :
Project tab → MCR Creator → Assets → Scenes → Menu

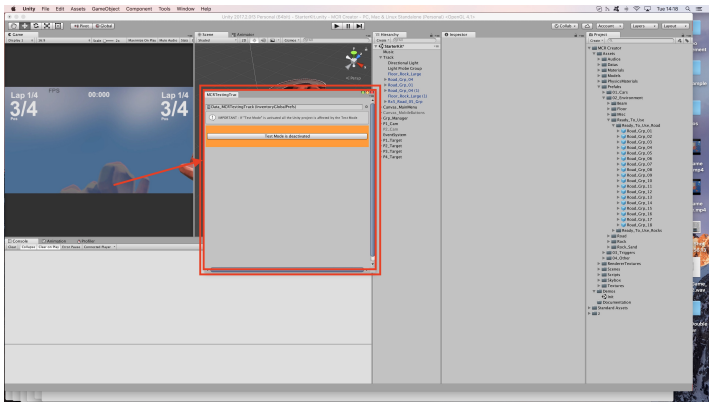
11.2-How to open the Test Mode Panel

Open Menu : Tools → MCR → Test Mode Panel

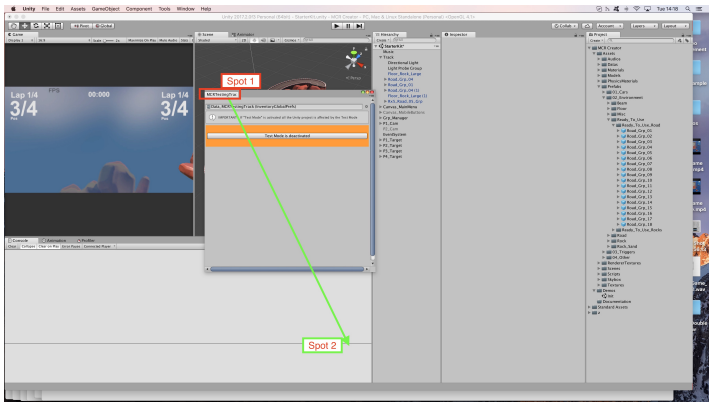


A new window appears.

It could be great to have this window always visible on your Layout.

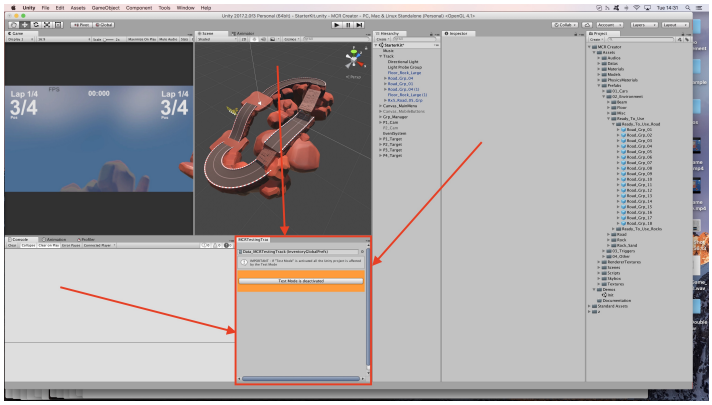


- Click on the name of the tab (Spot 1)
- Then drag the window on spot 2.
- Then release the mouse button.



The tab is now attached to the layout

More info here : https://docs.unity3d.com/Manual/CustomizingYourWorkspace.html

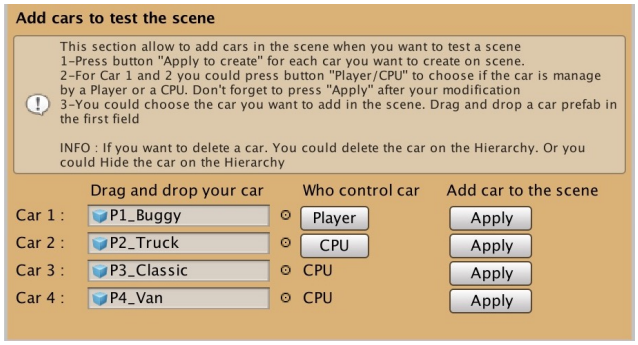


11.3- Panel Overview :

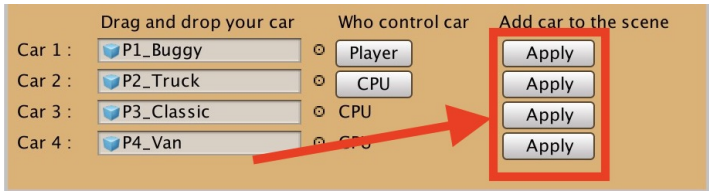
The first button has two states that allow to activate or deactivate Test Mode.

If Test Mode is activated you could access more parameters :

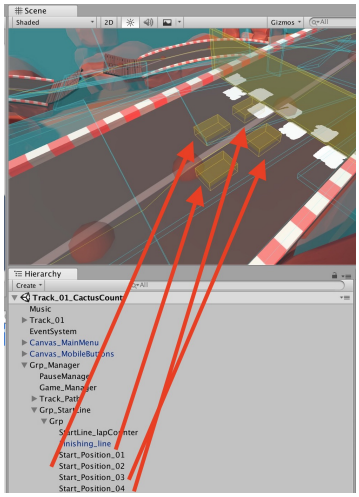
This section allow to add Test cars in the scene.



1-Press button Apply for each car you want to create on scene.

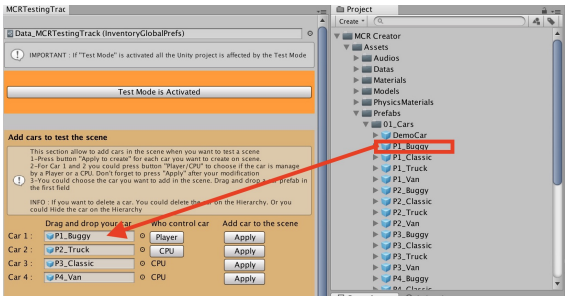


Car spawns on scene using Start_Position_ on scene view



2-For Car 1 and 2 you could press button Player/CPU to choose if the car is manage by a Player or a CPU. Don't forget to press Apply after your modification

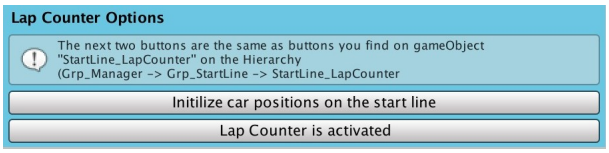
3-You could choose the car you want to add in the scene.
Drag and drop a car prefab in the first field



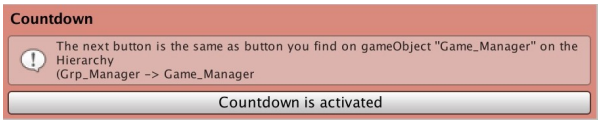
IMPORTANT : If you want to delete a car.
You **NEED** to delete the car on the Hierarchy. Or you could Hide the car on the Hierarchy

Initialize car position on the start line :
Move the car to their init position.

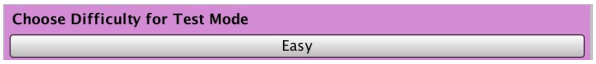
Lap Counter is activated :
Allow to activate or deactivate lap counter when the scene starts.



Countdown is activated :
Activate or deactivate countdown when the scene starts.

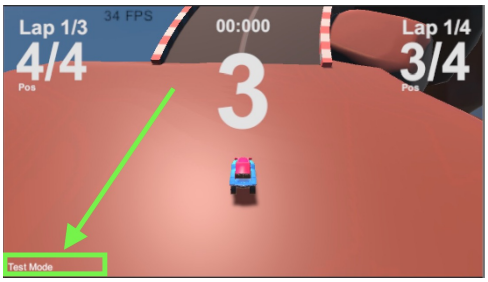


Choose the difficulty mode for this race



11.4- How to know if Test Mode is activated:

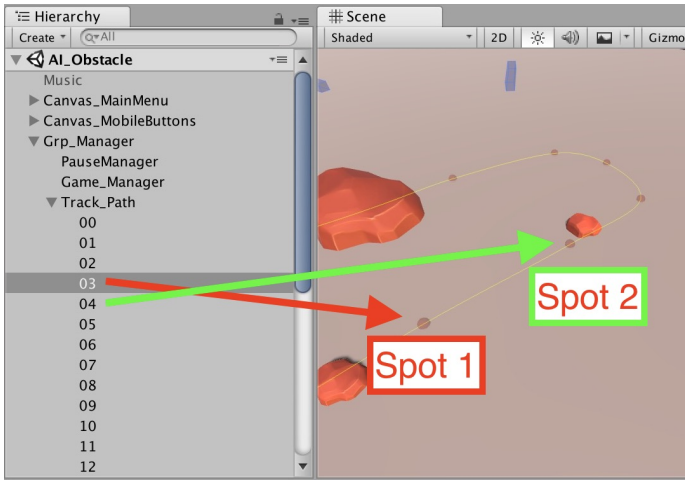
As you could see when the scene start on the bottom left ‘’Test Mode” is displayed on screen.
If test Mode is not activated text is not displayed



12-Path Tips

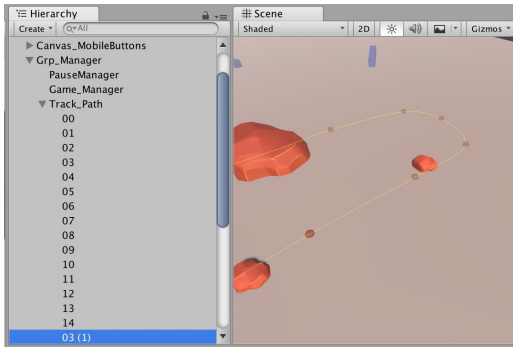
12.1 Add a point between two points that had been already created :

We use AI_Obstacle for the next example.
Project tab : MCR Creator → Assets → Scenes → Tuto → AI_Obstacle



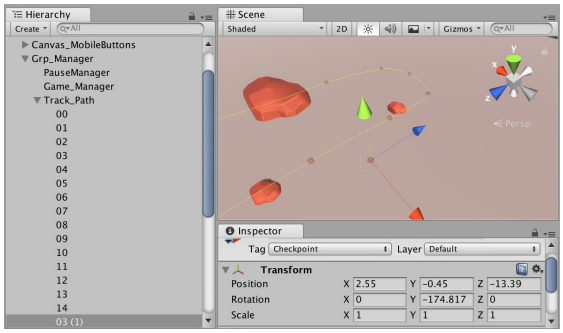
Example : create a point between point 03 (spot 1) and point 04 (spot 2)

1- Duplicate gameObject 03.
A new gameObject is created named 03 (1)



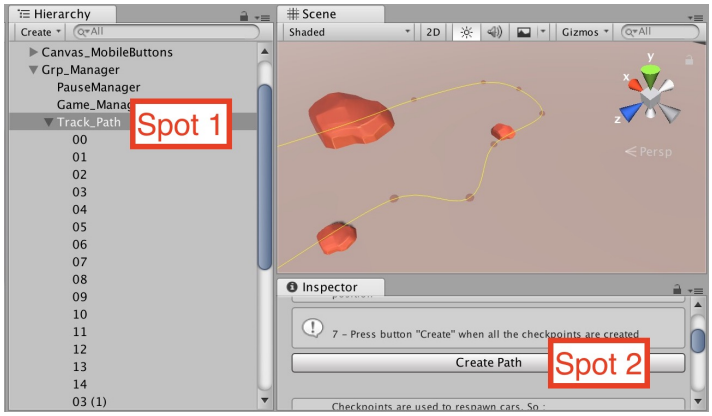
2- Move 03 (1) to this position

Position X = 2.55 Y = -0.45 Z = -13.39
Rotation X = 0 Y = -174.8 Z = 0
Scale X = 1 Y = 1 Z = 1



3- Select Track_Path on the hierarchy (spot1).
Hierarchy tab : Grp_Manager → Track_Path

4- Press button Create Path on the Inspector (spot 2).



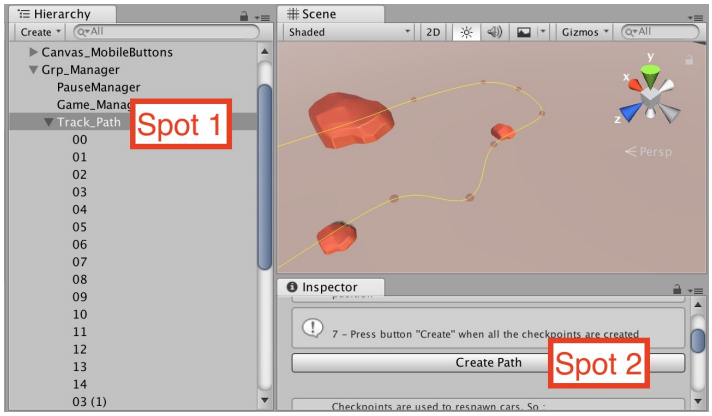
12.2 Delete a point :

1- Select the point you want to delete.

2-delete the point from the Hierarchy

3- Select Track_Path on the hierarchy (spot1).
Hierarchy tab : Grp_Manager → Track_Path

4- Press button Create Path on the Inspector (spot 2).

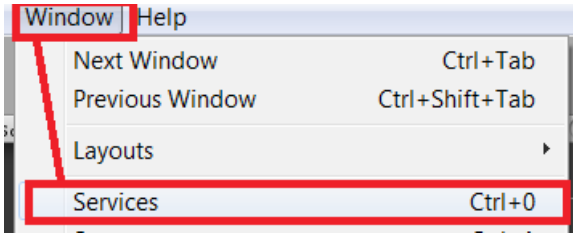


13-Unity Ads : How to setup

13.1- Unity Ads : How to setup

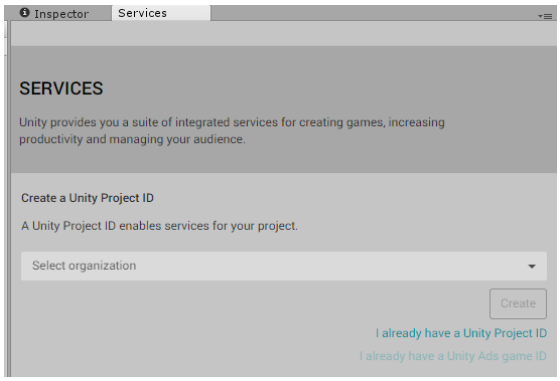
INFO : It is possible to have some little variations depending your unity version

1 - Select Menu→ Window → Services



2 – Select your Organization on the list.

If you don't have a Unity ID go to : https://id.unity.com/en/conversations/7c02d4ab-c395-4ea0-bae3-4ea84cd36dff006f?view=register



3 – Press button create

4 – Enable Ads by pressing the button Off (spot 1)

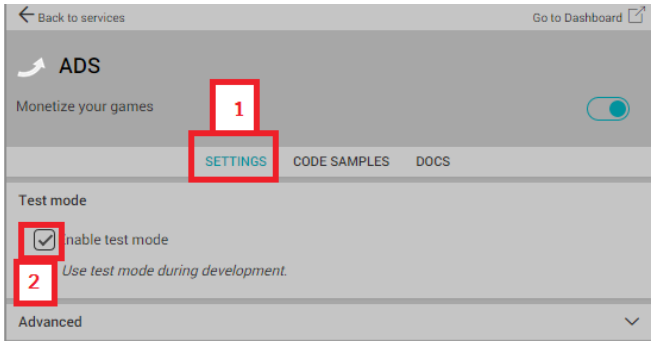
5 – Press the switch (spot 1)

6 – Press button continue.

7 – Next screen appear. Press switch (spot 1)

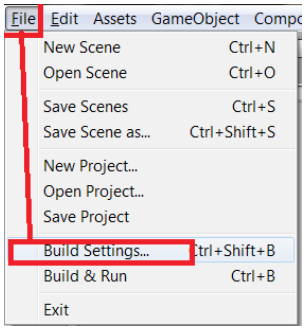
8 – Go to Settings section (spot 1)

- Enable test Mode.(Don't forget to disable it when you released your game) (spot 2)



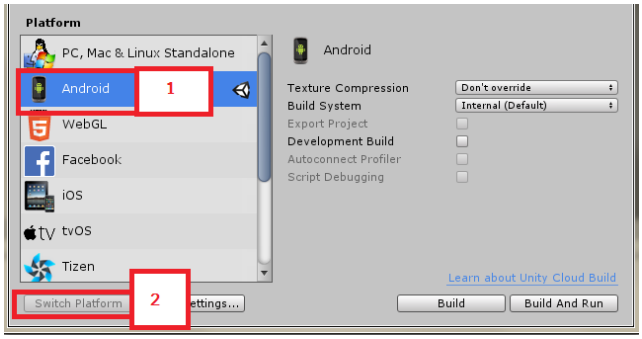
9 - IMPORTANT :
Ads Test Mode only works if you've choose a mobile platform in the build settings tab.

Menu → Build Settings



10- If you are not on mobile platform.

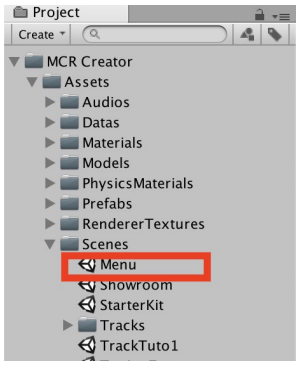
Select
Android or iOS (spot 1)
Then press switch Platform (spot 2).



13.2 Unity Ads : Launch Ads when player pressed a button

Example : Add Ads on button Solo.
Before doing these steps you need to setup Unity Ads (more info here)

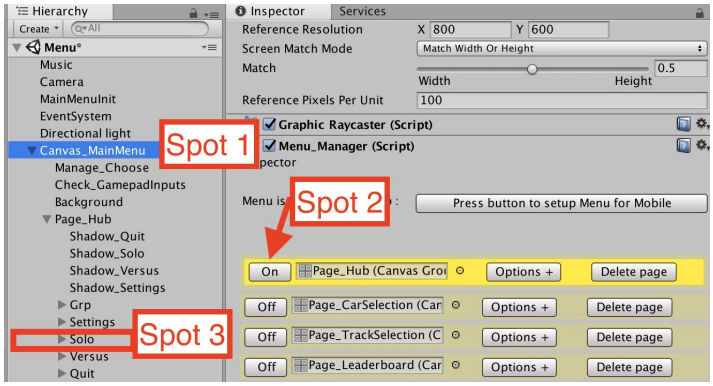
1– Open scene Menu
Project Tab → MCR Creator → Assets → Scenes → Menu



2- On the Hierarchy select Canvas_MainMenu (spot 1)
Hierarchy tab : Canvas_MainMenu

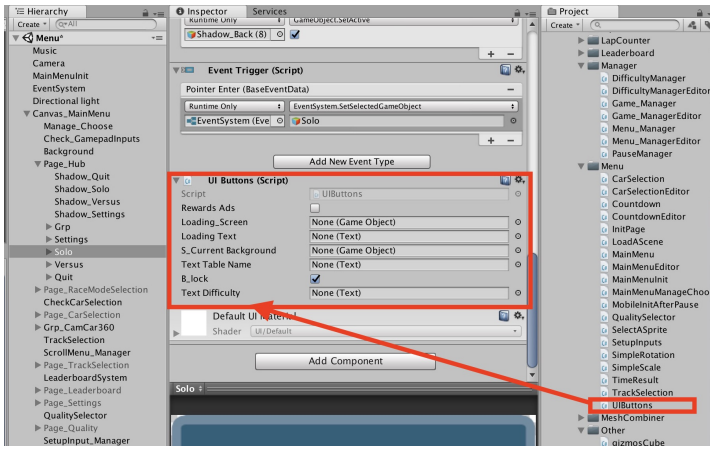
3- Press the first button ‘’On” on the Inspector (Spot 2)

4- Select Solo on the Hierarchy (spot 3)

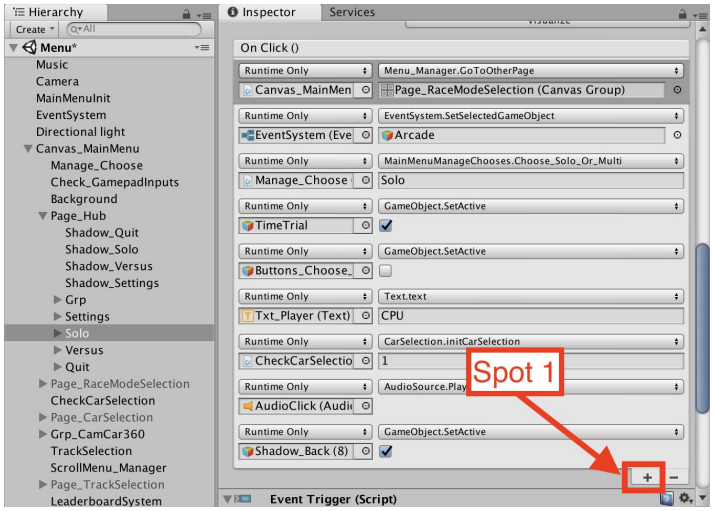


Info :The button need to have the script ‘’UIButtons” attached to it

5- Drag and drop the script in the inspector view.
Project tab : MCR Creator → Assets → Scripts → Menu → UIButtons
Or
Use the button ‘’add component” to add this script to the button



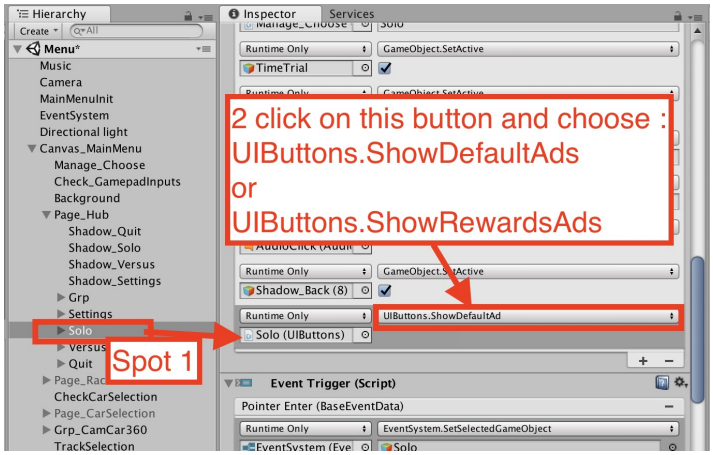
6- On the Inspector go to the section OnClick and press the button ‘’+” (Spot 1)



7- Drag and drop your button inside the new empty slot (spot 1)

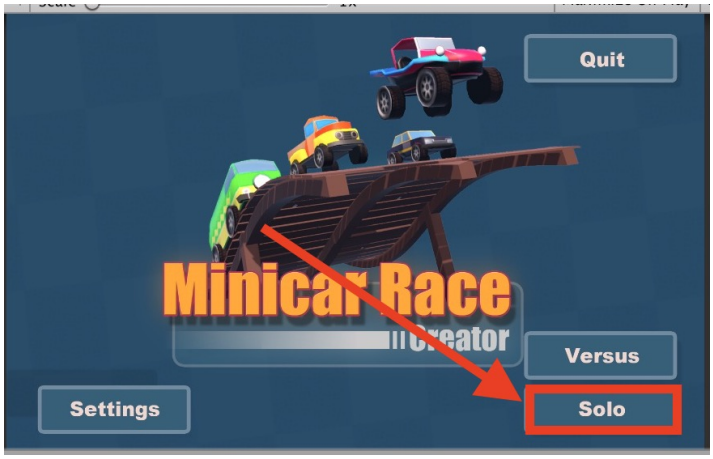
8- Choose on the list the function UIButtons.ShowDefaultAd (spot 2).

Info : You could choose the function UIButtons.ShowRewardedAds() if you want to use a reward Ads



9- Start your scene.

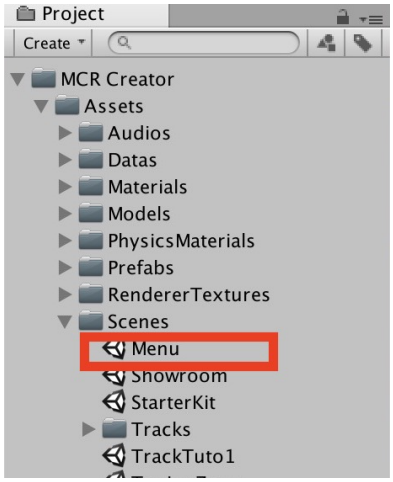
10- Press the button Solo on your scene. Add starts when you press Play button.



13.3 Unity Ads : Unlock track with an Ad or anything else

Example : Add Ads on button Play.
Before doing these steps you need to setup Unity Ads (more info here)

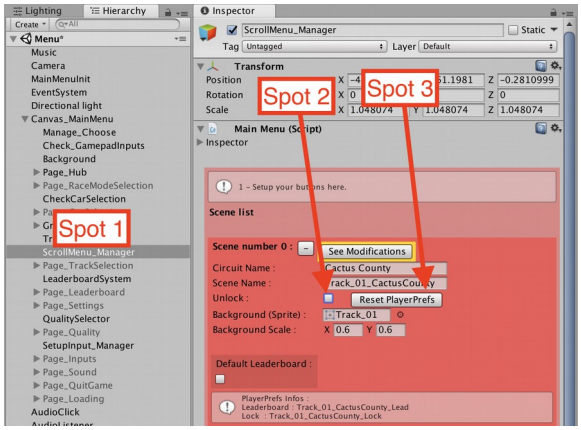
1– Open scene Menu
Project Tab → MCR Creator → Assets → Scenes → Menu



2- Select ScrollMenu_Manager in the Hierarchy Tab (spot 1).

3- Uncheck the box **unlock** (spot 2)

4- Press **Reset PlayerPrefs** for each lock to init the playerPrefs referring to this lock (spot 3)

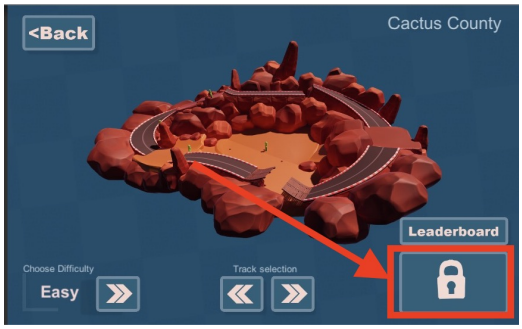


5 – Start your scene.

6 – Press the button Button_Play on your scene. An Ad Rewards starts.

When the ad is finished the lock is unlocked

Press again Button_Play to launch the track

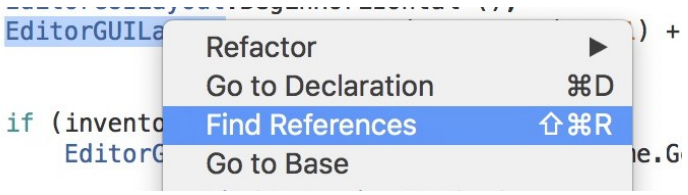


14-Scripting

14.1- Tips : Find references in MonoDevelop

If you want to know which script use a specific function :

Right Click and Choose **Find references** to see all the scripts that use this function.
It is very useful.



14.2- Some informations are saved when player make choices on Menu scene.

The next PlayerPrefs help recover these information on track scenes.

Access the current selected car for Player 1 and Player 2.

// Save the current Car Selection for the selected player
PlayerPrefs.SetInt ("Player_" + playerNumber + "_CarLastSelection", ListOfCars[playerNumber].CurrentCarSelection) ;

Use in :
CarSelection.cs
Game_Manager.cs

Access the current selected car for Player 1 and Player 2.

PlayerPrefs.SetInt ("HowManyPlayers", 2);

1 = One player
2 = Two players

Use in :
CarSelection.cs
Game_Manager.cs
TrackSelection.cs
MainMenuManager.cs

Access Game Mode.

PlayerPrefs.SetString ("Which_GameMode", "Arcade");
PlayerPrefs.SetString ("Which_GameMode", "TimeTrial");

Use in :
Game_Manager.cs
MainMenuManageChooses.cs
TrackSelection.cs

Access the difficulty Mode

PlayerPrefs.GetInt ("DifficultyChoise");
0 = easy
1 = Medium
2 = Expert

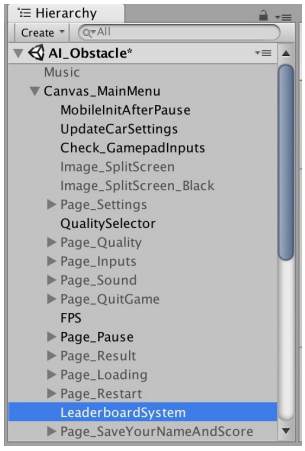
Use in :
Game_Manager.cs
MCRTestingTrack.cs
UIButtons.cs

14.3- Leaderboard : Access score and name when race is finished

When **the race is over** and the race is in **Trial Mode** it is possible to Access to the player score with :

PlayerPrefs.GetInt(‘’CurrentScore’’) ;
Or
call PlayerScore() from the script LeaderboardSystem.cs that could find on gameObject LeaderboardSystem
(this function return a integer)

If you want to convert the value in time / minutes / seconds use the function F_Timer() on LeaderboardSystem.cs



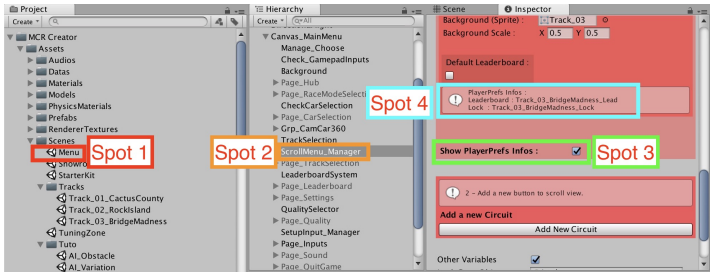
Access the player name with :

PlayerName() from the script LeaderboardSystem.cs that could find on gameObject LeaderboardSystem
(this function return a string)

```
string PlayerName(){                        // return the player name
    return txt_PlayerName.text;
}

int PlayerScore(){                          // return the player score
    return PlayerPrefs.GetInt ("CurrentScore");
}
```

14.4- Access race track leaderboard and Lock PlayerPrefs



1- Open Scene Menu (spot 1)
Project tab : MCR Creator → Assets → Scenes → Menu

2- Select ScrollMenu_Manager in the Hierarchy (spot 2)
Hierarchy tab : Canvas_MainMenu → ScrollMenu_Manager

3- To see PlayerPrefs Infos press the button Show Player Prefs Infos (spot 3)

Then you could see Leaderboard playerPrefs name and Lock playerPrefs for each table (spot 4)

Call the Leaderboard : PlayerPrefs.GetString(Name of your track scene + ‘’_Lead’’)

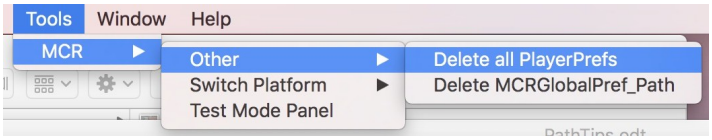
Call the PlayerPrefs to know if the table is locked : PlayerPrefs.GetString(Name of your track scene + ‘’_Lock’’)

The lock is unlocked if PlayerPrefs.GetString(Name of your track scene + ‘’_Lock’’) == ‘’Unlocked’’

Tips : Init PlayerPrefs

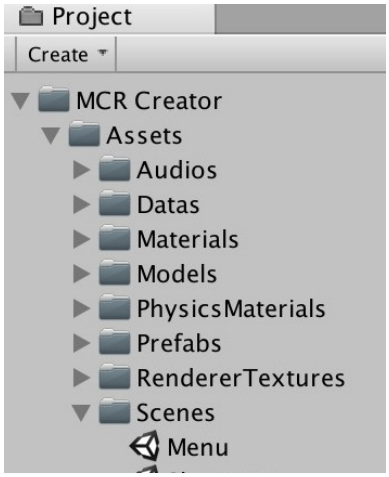
If you want to init your PlayerPrefs go to

Tools → MCR Creator → Other → Init PlayerPrefs



15-Inputs

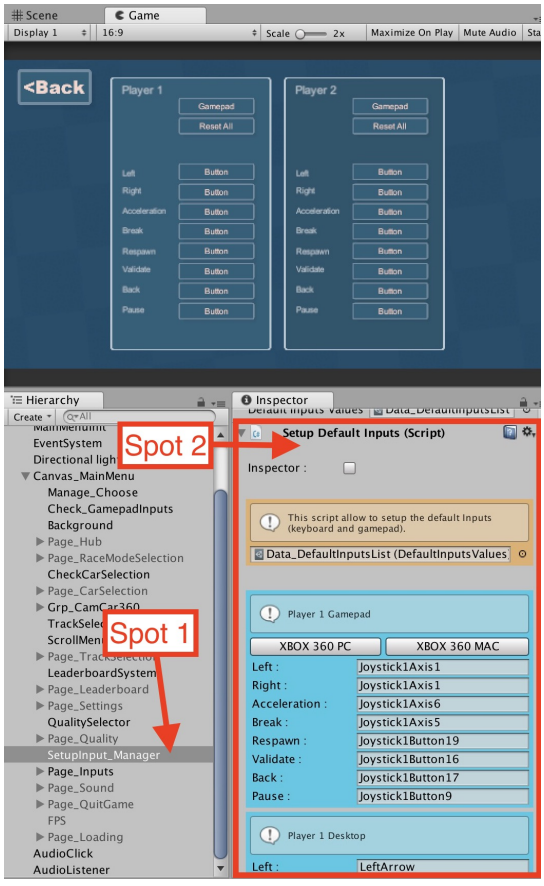
15.1 Setup default inputs :



1- Open scene Menu on Project tab
Project tab : MCR Creator → Assets → Scenes → Menu

2- Select SetupInput_Manager on the hierarchy tab (spot 1)

3- On the Inspector modify the default inputs on script Setup default inputs (spot 2)



Note :
Xbox 360 PC button allow to use default values for Xbox 360 gamepad on PC.

Xbox 360 MAC button allow to use default values for Xbox 360 gamepad on MAC.

For keyboard you could use any Keycode
https://docs.unity3d.com/ScriptReference/KeyCode.html

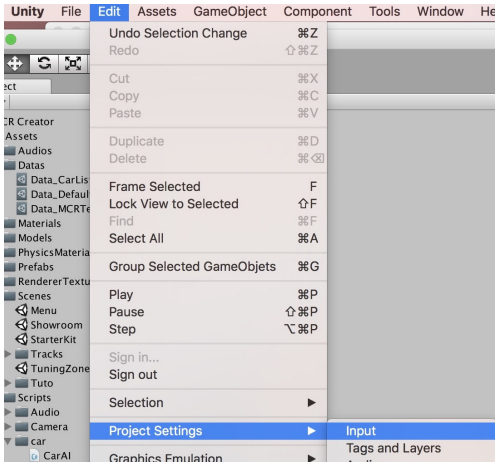
For gamepad you need to use the input name setup in the Input Manager.
Edit → Project Settings → Input

You find more information about xbox gamepad here : http://wiki.unity3d.com/index.php?title=Xbox360Controller

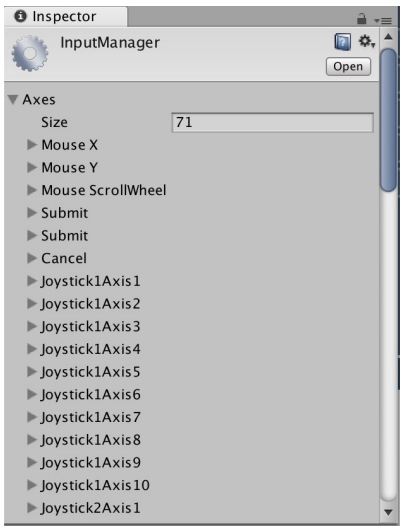
Example : Change Left gamepad 1 default input.

For gamepad 1 and 2 you need to choose an input setup in Unity Input Manager

Edit → Project Settings → Input



On the Inspector you could see the list of inputs you could use.

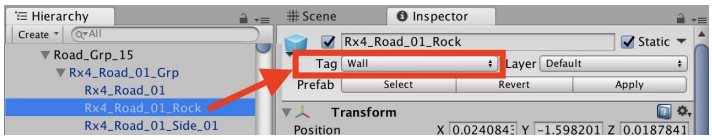


When you have chosen your Input replace the string field with the Input name.

16-Troubleshooting

Avoid car climbing an object :

Car could not climb an object if this gameObject use the tag ‘’Wall’’



Sometime car is black on mobile platform

More Info here