EQUILIBRIUM VR

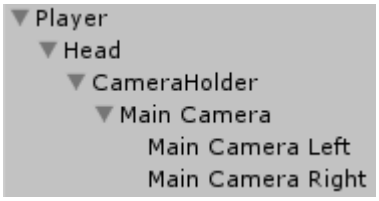
Version 1.3

Installation for Oculus Gear VR / Google Cardboard (Default)

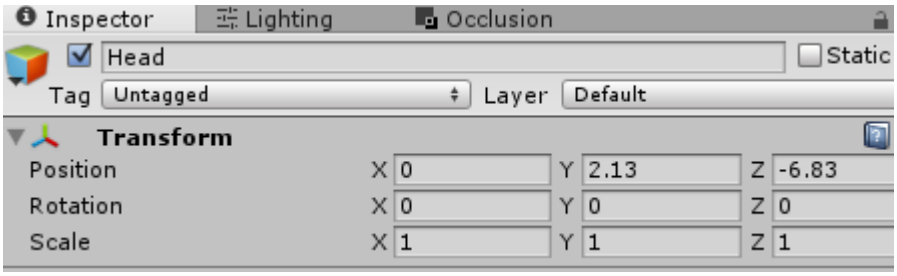
1. Switch to Android platform in the build settings.

2. For Google Cardboard you need to use Cardboard SDK and Google VR unity package in your project from Google developer

   2.1. After integration of Google Cardboard package you need to comply with the following structure in the hierarchy window

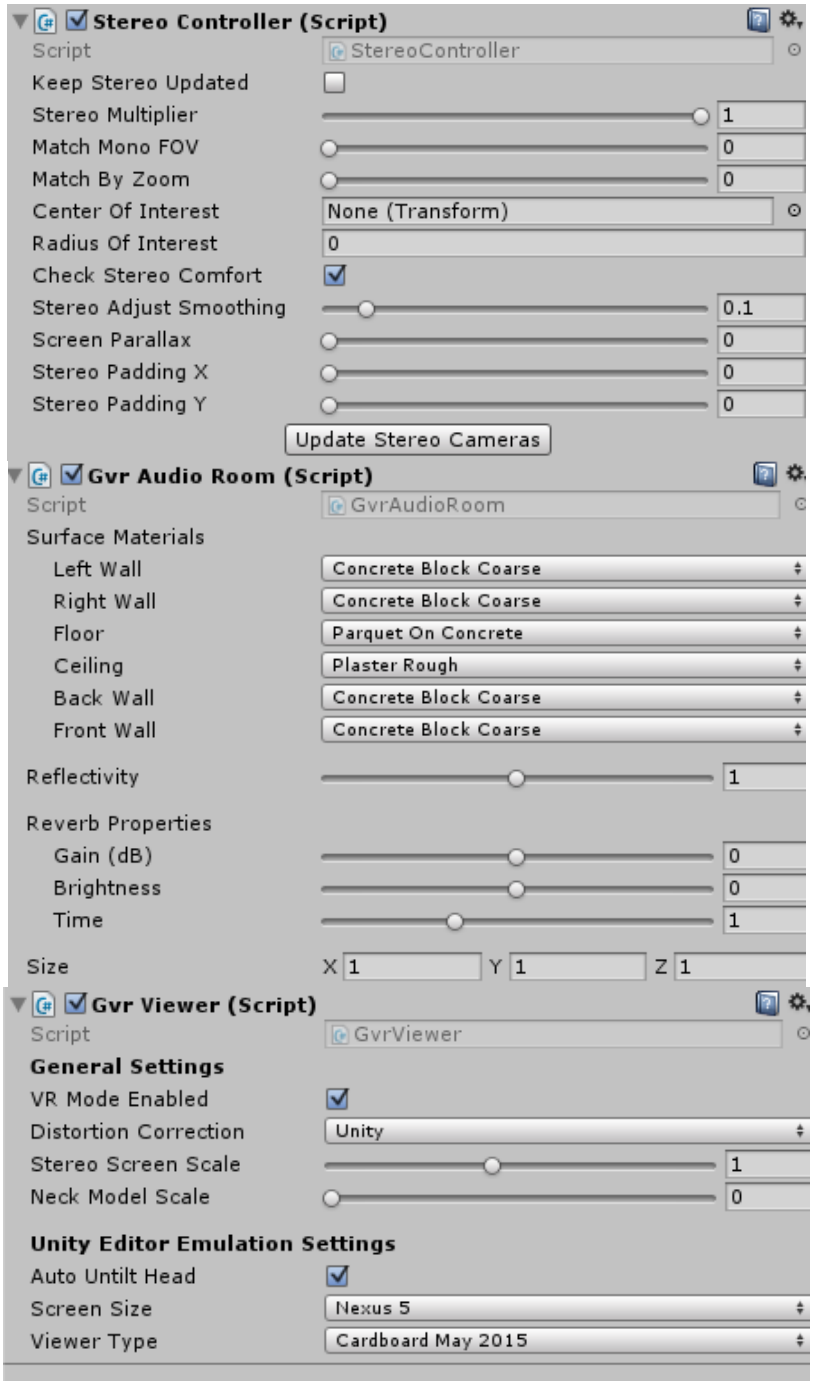


   Where:
   - Head is main holder as Empty object for correct pivots. Set up position of this object like on follow screenshot:



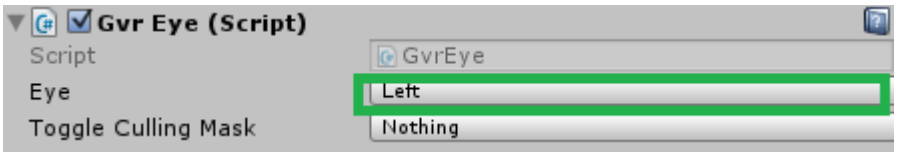
- CameraHolder as Empty object as child holds the MainCamera for correct rotations. This object need to set up on zero positions and rotations in the local coordinates. Attach follow script on this object:

- Main Camera using for main view and need to attach follow scripts:

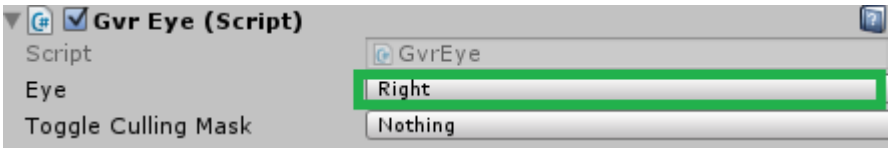


- Main Camera Left and Main Camera Right it's a Camera objects and using for drawing screen in two eyes and need to attach this script on two this cameras:

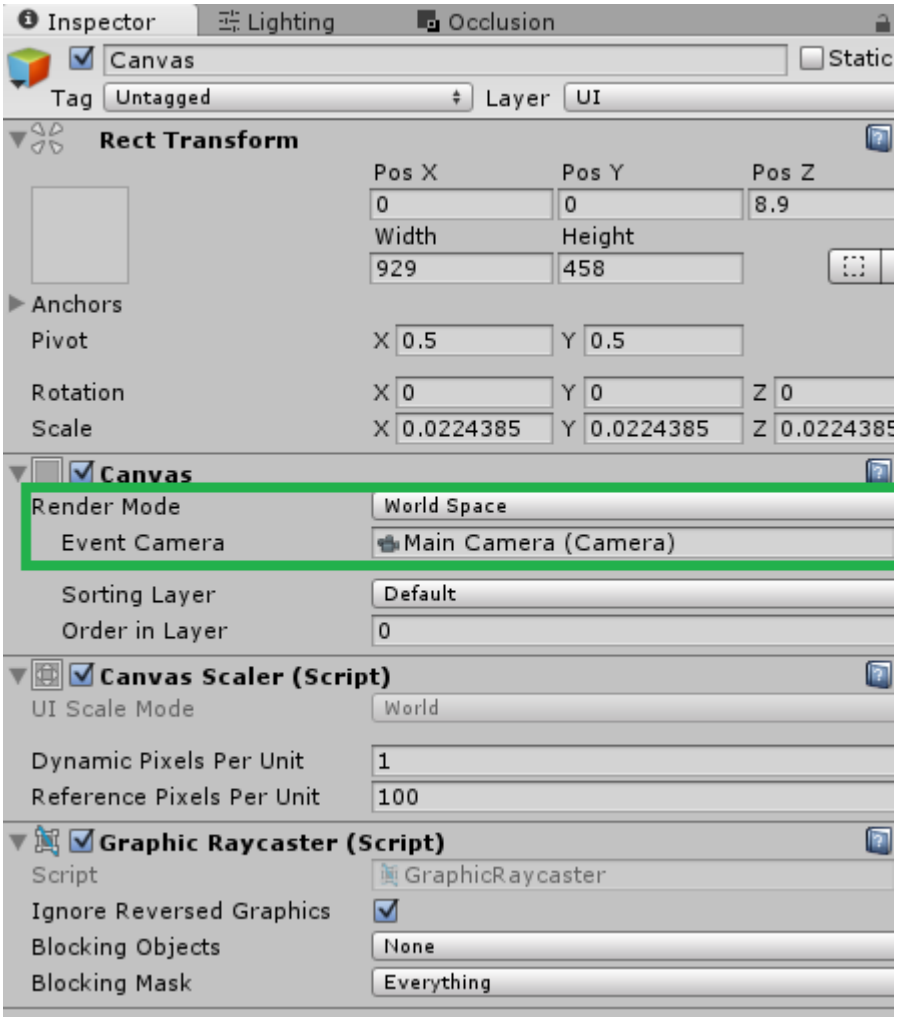
Just set Eye mode to Left option for Main Camera Left



And set Eye mode to Right option for Main Camera Right



Note! All Canvases need to be in world space:



3. For Gear VR you will need signing your application generating and adding into project your osig file and put it into folder:

Assets\Plugins\Android\assets\<your osig file>

4. Apply checkbox “Virtual Reality supported” in player settings:

5. Turn off CameraRotation.cs script on main camera for VR mode but turning on without VR mode support for testing or using gyroscope on mobile

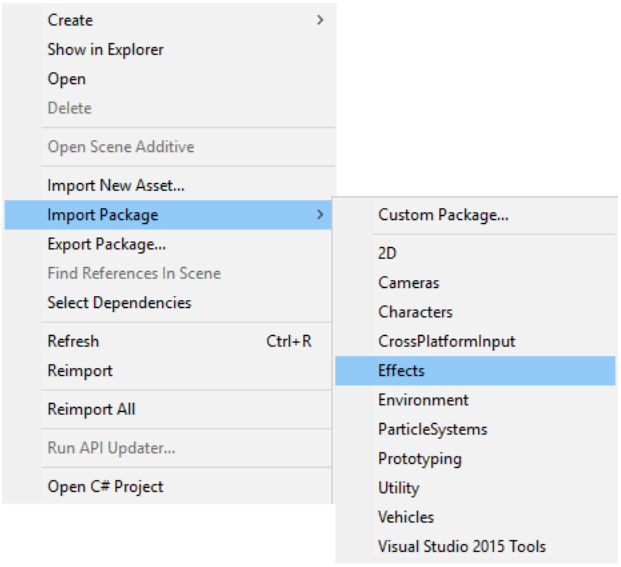
6. Be careful with adjustment graphics shaders for mobile VR or turning it off for best FPS increasing

7. Setting up materials:
   Smoke material need to contain follow shader or more optimized
   Mobile\Particles\VertexLitBlended
   Other particles shaders need to set for mobile
   Directive called ANDROID, WINDOWS, EDITOR indicates the desired method will be used on any platform.

Installation for Oculus Rift DK2 / CV1 for best graphics (Advance)

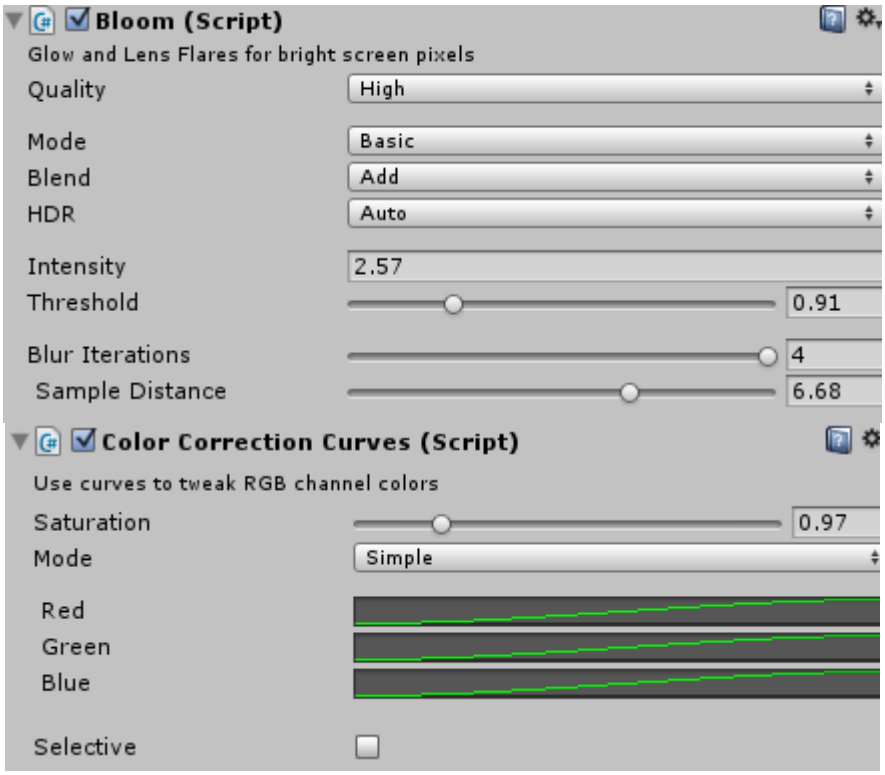
- Switch to Windows platform in the build settings

- Import Standard Post Process Effects in to your project:



MainMenu Map Configuration

1. Attach follow post-process effects to main camera like on next screenshot:



Scripts

MMLogic.cs

Describes main menu functions and it's a main script for Main menu game logic.
`Scenemanager` it's not a **`SceneManager`** method using for loading levels.
`Scenemanager` it's gameobject (prefab) in Hierarchy window for control game modes for example player want return to main menu or restart the level and using for non destroyed sounds (include AudioSource component) or any paremeters if level was re –loaded and this gameobject must be never destroying.

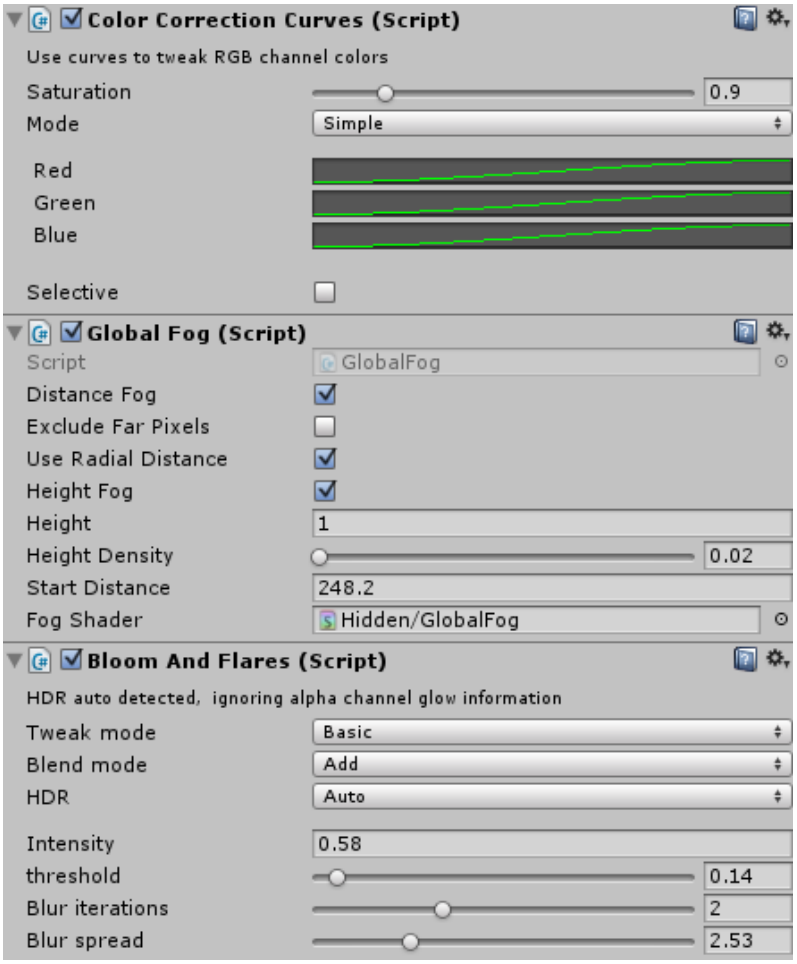
SCENEMANAGER

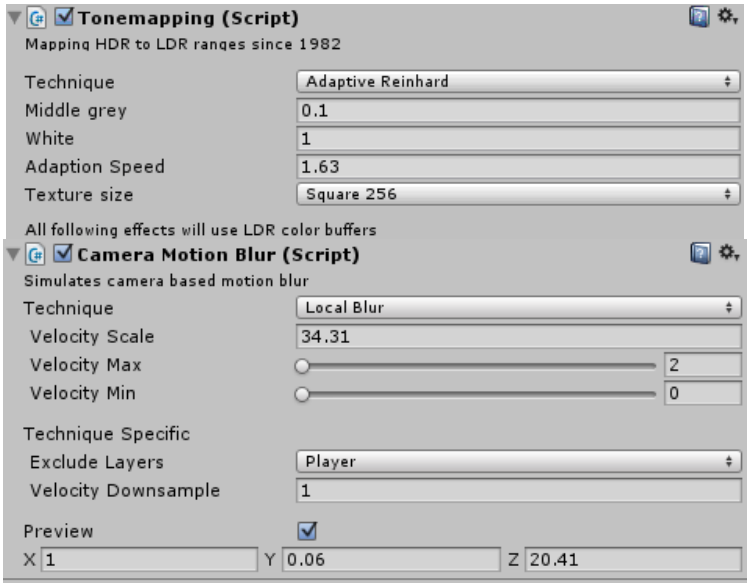
SceneGM.cs

Using for Scenemanager object for exchanging data between the main scripts during gameplay.

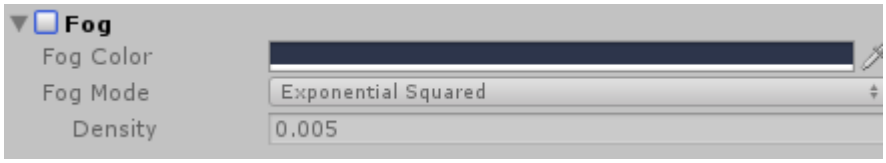
Level 1 Map Configuration

2. Attach follow post-process effects to main camera like on next screenshot:



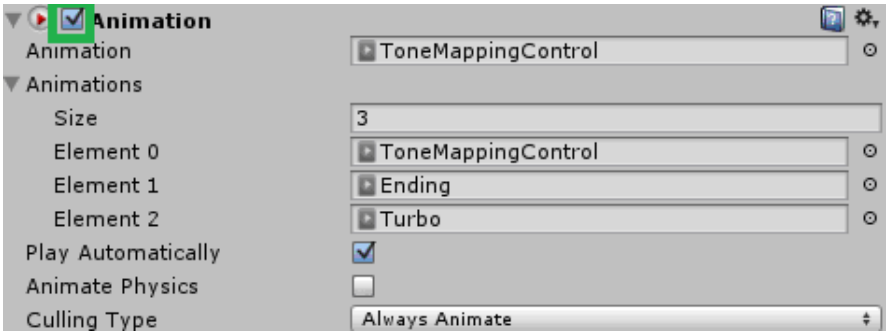


3. Set up fog color in Lighting settings and Density like next screenshot u can turn it on for more misty:



2.1. In Lighting setting turn off Auto baking lightmap and click on bake button for calculating only reflection probes if all objects aren't set up as static. It needs when level was reset the realtime scene may be darker.

4. Attach follow animations to Main camera in Animation component for control postprocesses and interface. Set true state in the checkbox. Samples are in the Animations folder.



5. Uncomment next lines in follow scripts:

Points.cs on line 55
GameLogic.cs:
On line 111

On line 189
On line 282
On line 413
On line 537
On line 549
On line 575

5. Turn off CameraRotation.cs script on main camera for VR mode but turning on without VR mode support.

For now you ready to play!!! Just build for platform as you want.

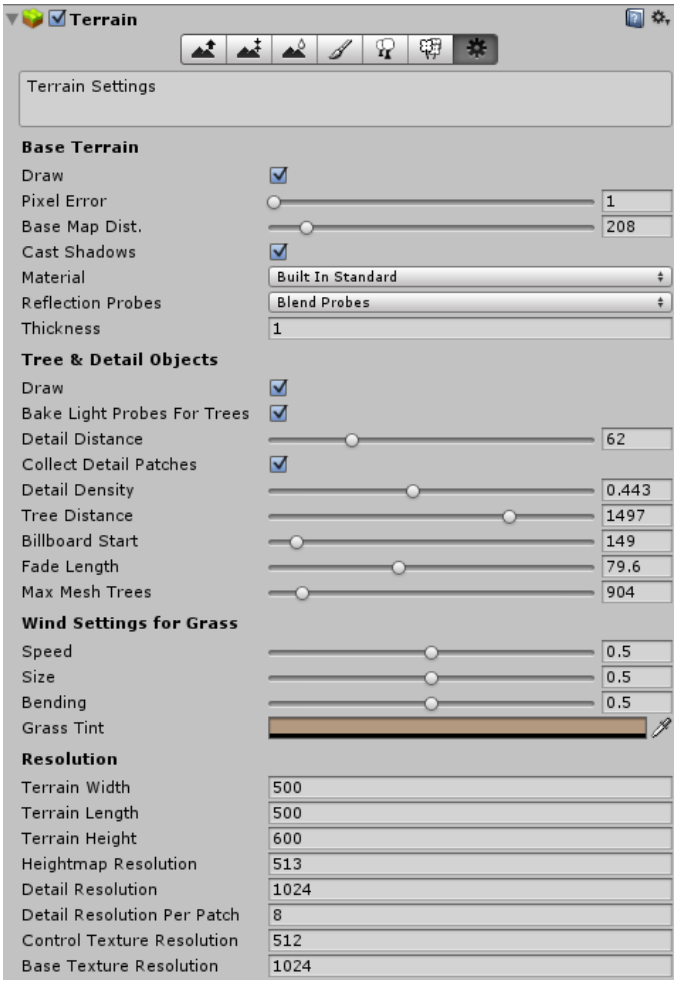
How to play

Use VR Headset and when the game will running you need control rotations of the head.

Additionally:

Terrain

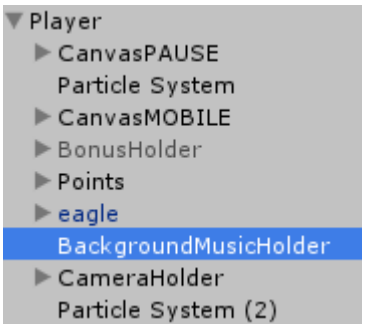
As you wish terrain can be most detailed and graphics can be drawn away. For Example you can set some parameters like on the next screenshot for PC VR mode:



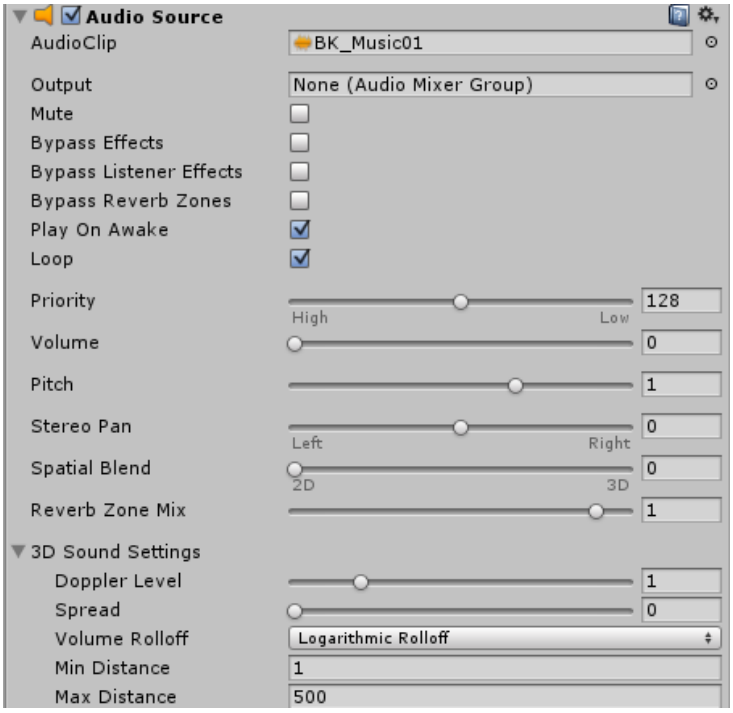
Or you can use default parameters in this asset for mobile VR.

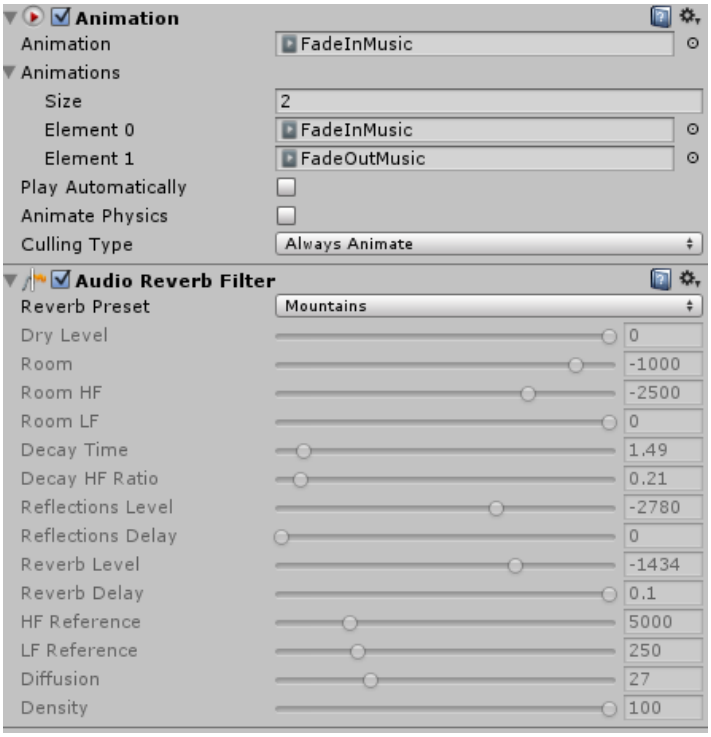
Background Music

There are 3 background music in this package as an example of one track corresponds to one game mode.



BackgroundMusicHolder must be child in Player parent object and need to attach the following components to this object AudioSource and Animation component and Sound Filter (as you want):

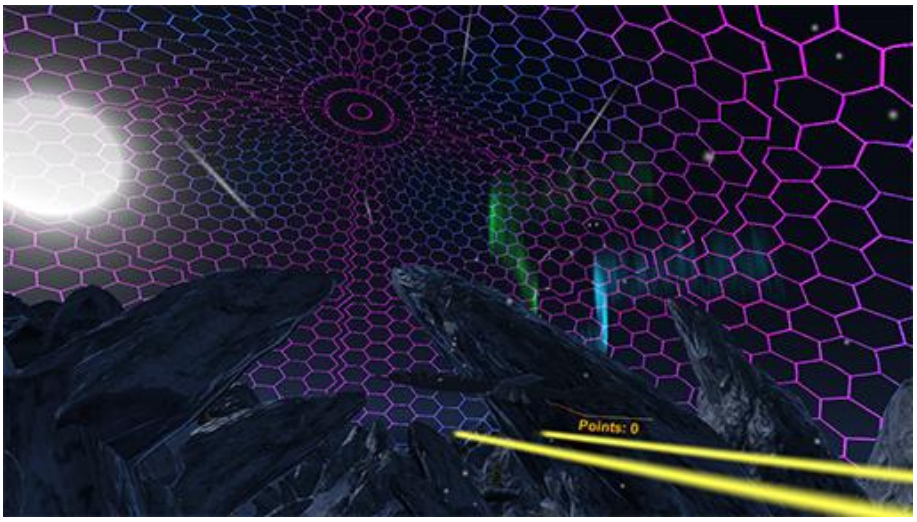




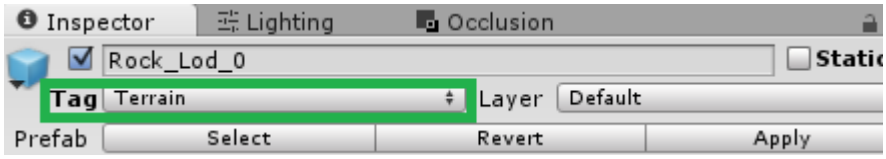
FadeInMusic and FadeOutMusic animations control background music volume of BackgroundMusicHolder when level or gamemode re -loaded.

Area limits and collisions control

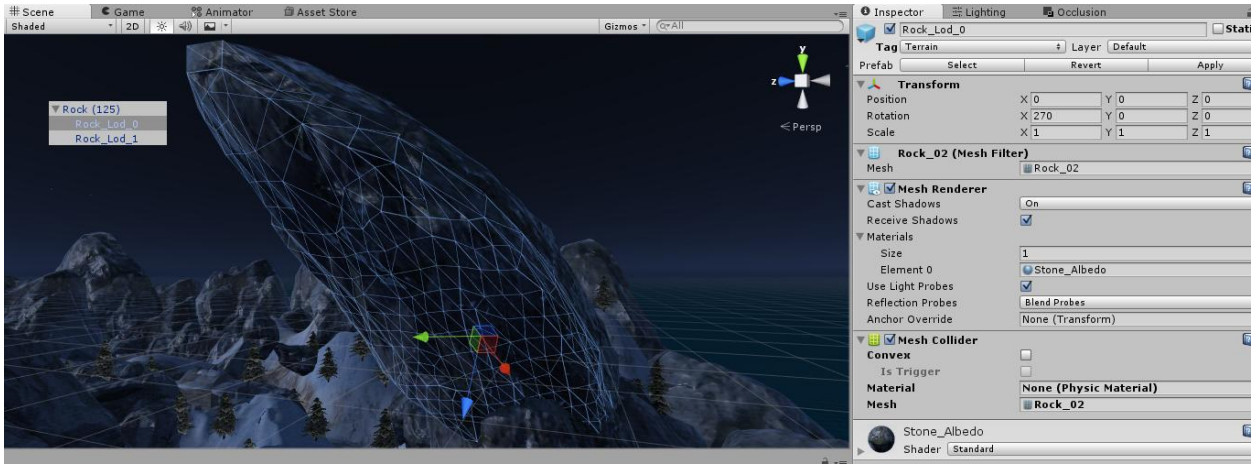
Play area in the Hierarchy window is designed for the player to control the out of the map. Otherwise eagle dies and the game map will be reloaded with the current game mode. Here LevelLimits are colliders with trigger mode and AreaLimits it's graphical display in the playing area as a grid.



Any collided objects must be set Terrain tag and include collider form like a box, sphere, mesh or any other graphic collider form.



For example this rock has mesh collider and if player has collided with this rock then his eagle will die:



Scripts

Following scripts controlling game mechanics interface and sounds.

GameLogic.cs

It's a main script for the gameplay and placed on Main Camera. Contains 3 game modes. First game mode it's for exploring and guide for new players. At the second game mode you will need find eight feathers. And at the third game mode you will need to finally end the game competing with rivals.
For add new game mode you need to adhere to the following structure like in the following screenshots:

if (gamemode == <Number of gamemode>){

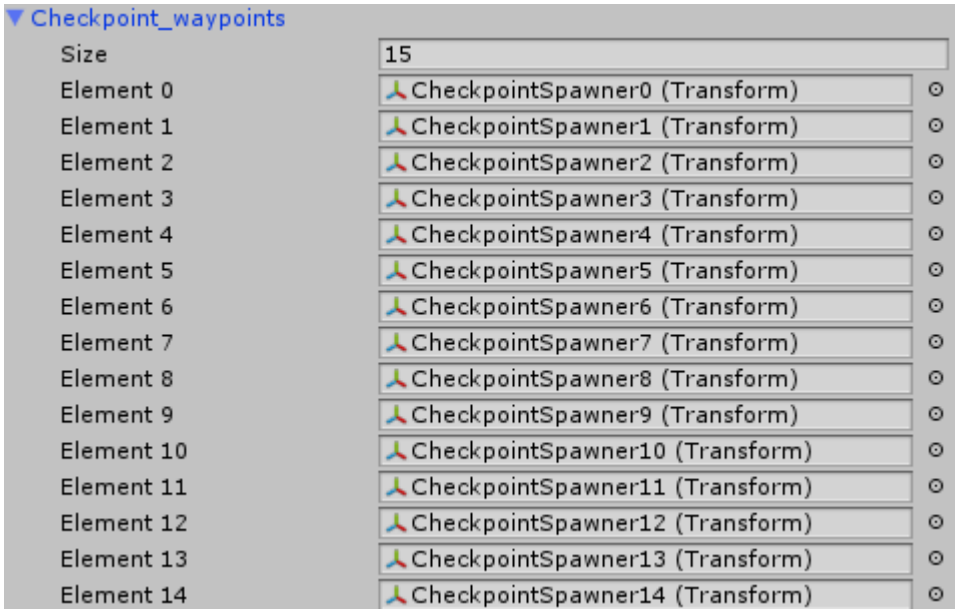
  //Do something

}

```
if (gameMode == 0)
{

    if (Spawn_time_checkpoint < 5)
    {
        Spawn_time_checkpoint += Time.deltaTime;
    } else

    if (Spawn_time_checkpoint >= 5 && Checkpoint_spawn && ch_idx < Checkpoint_waypoints.Length-1)
    {
        ch_idx += 1;
        Instantiate(Checkpoint_prefab, Checkpoint_waypoints[ch_idx].transform.position, Checkpoint_waypoints[ch_idx].transform.rotation);
        Checkpoint_spawn = false; //stop timer for first checkpoint spawner
    }

    Points_Text.text = "Points: " + Equ_Points.ToString();

}
```

Spawn_time_checkpoint variable used for waiting 5 seconds before the first checkpoint will be spawn.

Checkpoint_waypoints it's array and must be placed in the hierarchy waypoints will be starting points for spwning checkpoint graphic pointers. For demo used 14 checkpoints.



The next game mode 1 reset player position to the next point on map and reset the rotation of main camera and showing global message about current quest like this

```
Global_Messages.text = "Let's find 8 blue feathers";
```

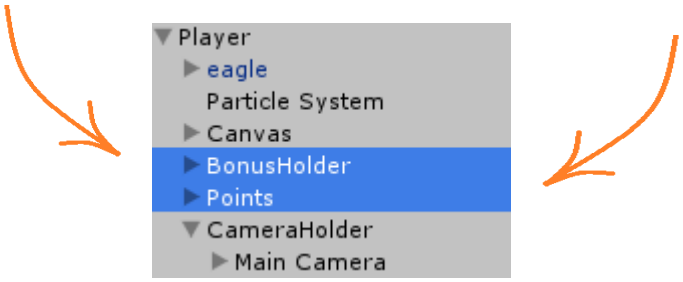
- Platform definition:
  For mobile used fade in\out animation of **UI panel**;
  For PC used fade animation of postprocess **Tonemapping**
- **TrailRenderers** need to be cleared before your character will be teleported to the next position
- Waiting some time set the new position of player (**SpawnZone1** in hierarchy) and screen will opened again
- Show quest message

In this game mode for example used activation of invisible objects placed in the hierarchy.

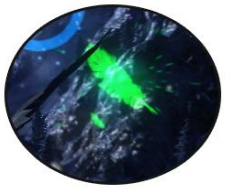
```
CheckPoint_Finding_Feathers[ch_idx].gameObject.SetActive(true);
```

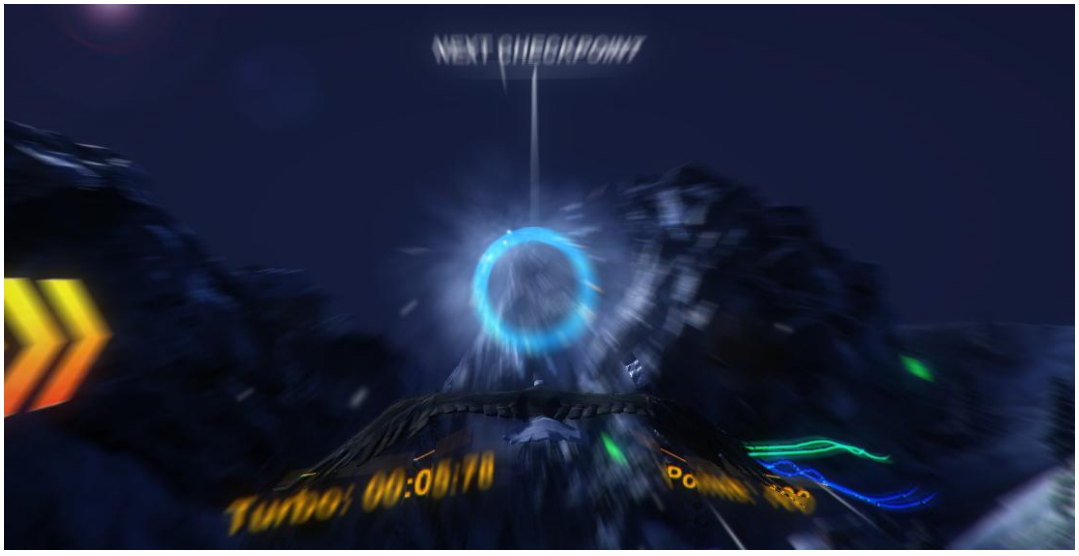
You need to attach blue feather gameObjects (from hierarchy) into array in the Inspector on Main Camera called **CheckPoint_Finding_Feathers**

For showing animation of bonuses or quest time used the value called `BonusHolder` and `Points (as holder)` in the hierarchy as child of the player parent holder. You can use `BonusHolder` for extended gameplay.



And finally the last game mode 2. This game mode shows chase game between 3 players for single player mode.
Other bots follow the animated point and this package show simple “fake” AI with animations.
Other bots called EagleBotHolder_1 and EagleBotHolder_2 in the hierarchy.
After placing player to position called ZoneSpawn2 for this game mode show the global message for quest again and spawn checkpoints. Green feathers use for turbo boost.





Passing all the points the game ends logo.

Pause Menu placed on 349 line n this script and use follow methods:
Restart and MainMenu on lines 481 and 492.
Pause Menu panel placed in CanvasPause object.

And if player clicked on Escape button or Return button on HMD like on Gear VR then pause menu will be show:

Points.cs

This script describes the 3 types of feathers and control points.
If you want add a new feather or a control point don't forget to apply to the script **GameLogic.cs**
This trigger system for the exchange with **GameLogic** script variables.
For adding new feathers or something new you need to make prefab with feather and use some of spawn system from game modes of **GameLogic** script.

BotSpeed.cs

Sets the speed of other eagles and randomize flying animations.

CameraRotation.cs

Using for Main Camera rotation in the editor or windows\android platform if you will not use it for VR mode.

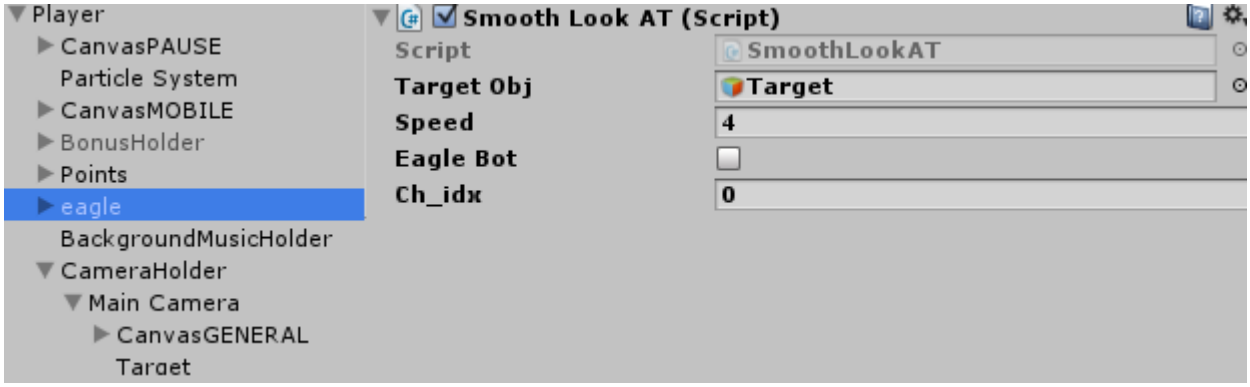
ScalingObjectByDistance.cs

Using for Text meshes above checkpoints. For Example: Next Checkpoint will be scaled if the player is close or farther away from the checkpoint.

SmoothLookAT.cs

```
void Start () {

    if (EagleBot)
    {
        RandomDirectionX = Random.Range(-20,5);
        RandomDirectionY = Random.Range(-20, 10);
    }
    }

// Update is called once per frame
void Update () {

    if (EagleBot)
    {
        TimeDirection += Time.deltaTime;
        if (TimeDirection >= 1)
        {
            RandomDirectionX = Random.Range(-20, 15);
            RandomDirectionY = Random.Range(-20, 10);
            TimeDirection = 0;
        }
        var targetRotation = Quaternion.LookRotation(targetObj.transform.position - transform.position) * Quaternion.Euler(RandomDirectionX, RandomDirectionY, 0);
        transform.rotation = Quaternion.Slerp(transform.rotation, targetRotation, speed * Time.deltaTime);
    }
    else
    {
        var targetRotation_1 = Quaternion.LookRotation(targetObj.transform.position - transform.position);
        transform.rotation = Quaternion.Slerp(transform.rotation, targetRotation_1, speed * Time.deltaTime);
    }
```

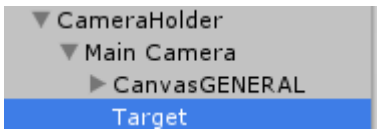
Describes the player or other players behavior. The player character will be always follow to target object placed in the hierarchy as child of the Main Camera parent
TargetObj need attach to eagle of this script for player character

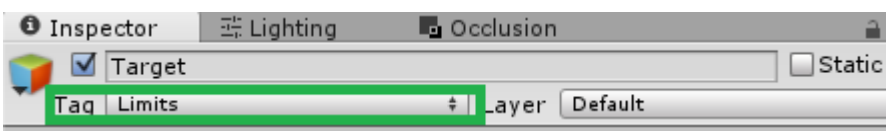


and need attach to other EagleBots in that scripts called TargetBots object in the hierarchy.

LevelLimits.cs

Use for checking if player out of map. The Target object gets information about collisions and need to be set Limits tag on it.





LifeControl.cs

Using for checking if eagle was collided. For the future updates it can be using for contain health point of eagle and other game mechanics.

Visibility.cs

Using for show or hide object placed in the hierarchy at realtime.

Note! Turn off CameraRotation.cs script on main camera for VR mode but turning on without VR mode support for testing or using gyroscope on mobile.

Frequently Asked Questions

For better understanding see comments in scripts.

Q. Why this asset doesn't contain Image Effects package?
A. The reason for the lack of standard assets package:
Due to possible compatibility issues between Unity versions.

Q. Why this asset doesn't contain Google Cardboard package?
A. Because this package is constantly updated and its implementation can not conform to the description in this documentation in case you need to refer to the official documentation for the implementation of Google cardboard components in your project.

Maybe you interesting more assets for virtual reality by Sergey Shushunov in the Asset Store:

Glow VR

LIAVIS

Music player