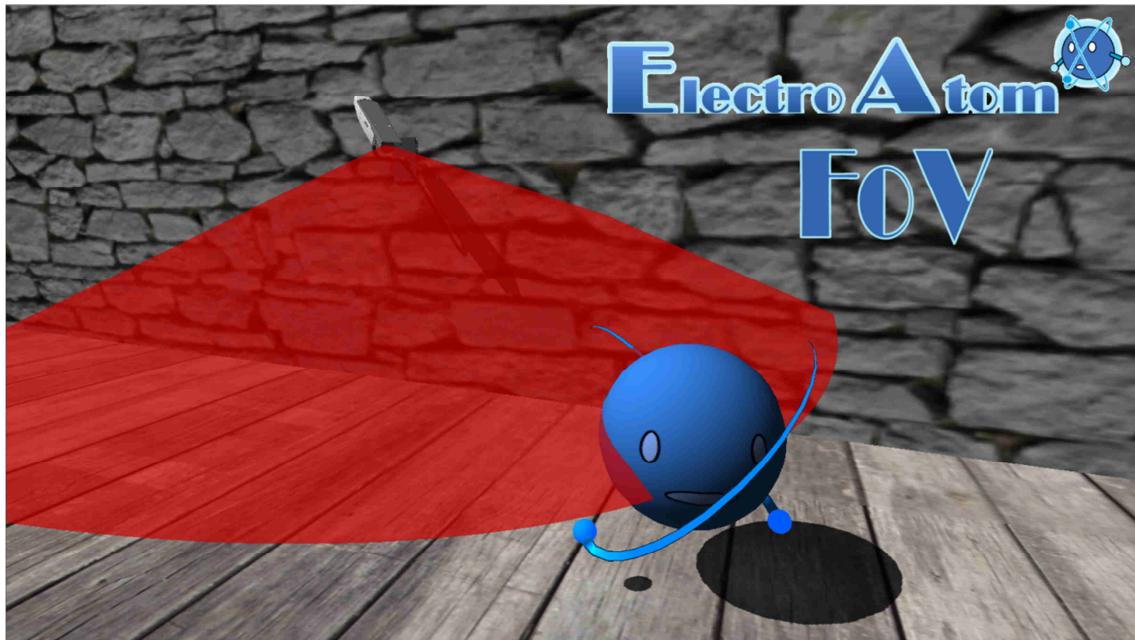


# Field of View Editor

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## How to Configure the Field of View

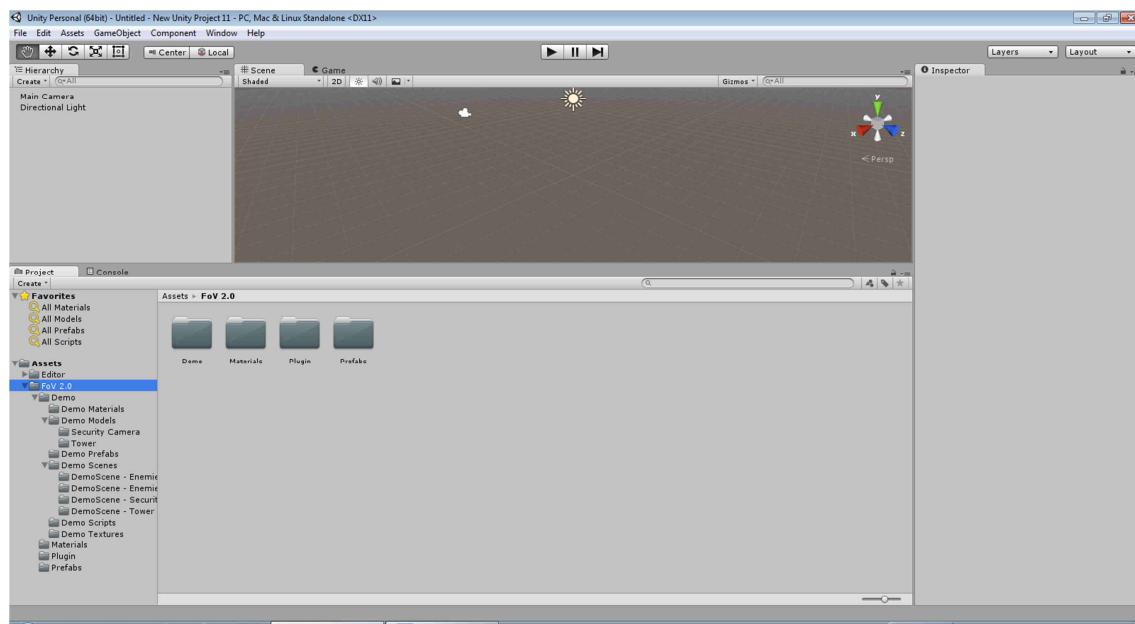
To start using the field of view it should be imported into Unity.

# Field of View

Once imported the folders FoV 2.0 and Editor will appear.

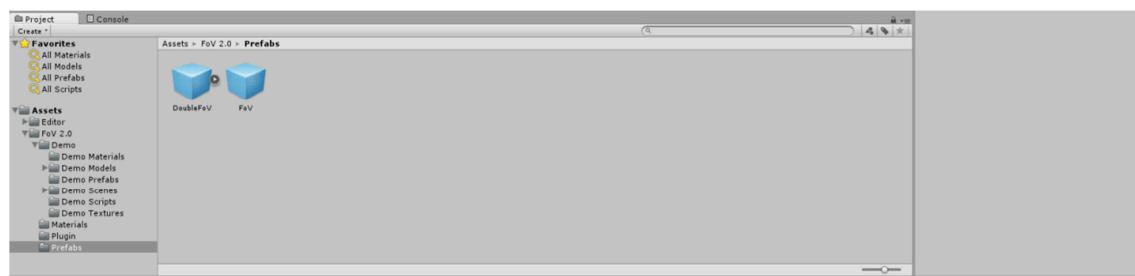
In the Editor folder is the FoV\_2.0\_Editor dll which manages the Inspector.

In the FoV folder there are demonstration scenes, models used in them, the two types of FoV prefabs, materials, textures, documentation and the FoV\_2.0 dlls. The demo scripts can be found in the Demo Scripts folder.



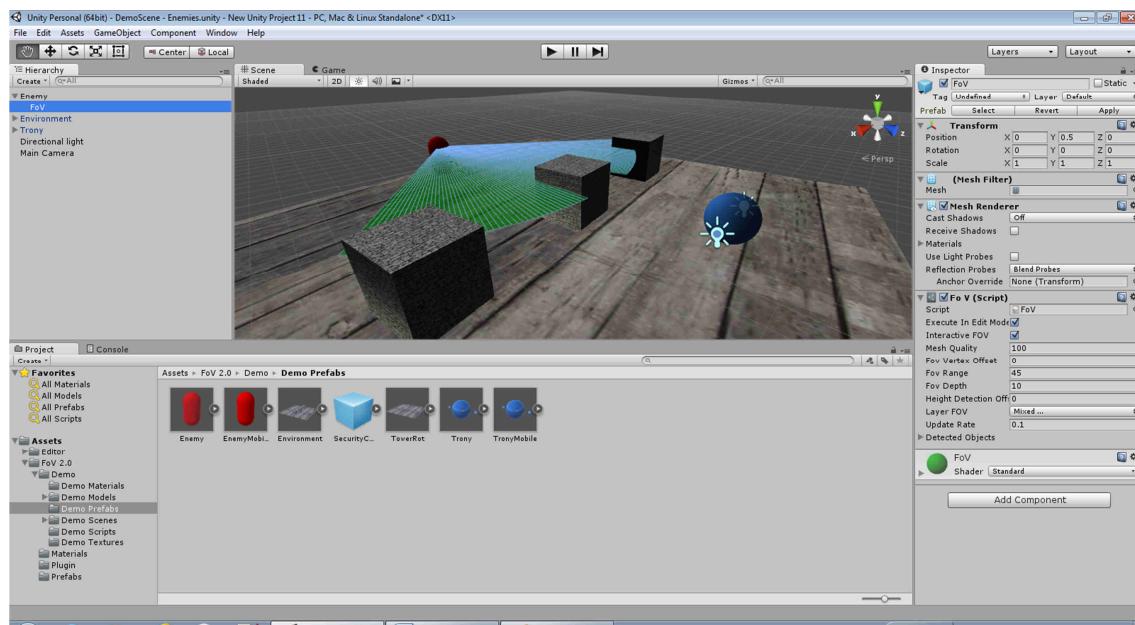
If you just want to import the FoV without the demonstration scenes, you just have to mantain the FoV\_2.0\_Editor dll ( in the Editor folder) and FoV\_2.0 dll (in any folder, but it is recomendend to put it in the Plugins folder). The rest of the package is not neccesary for its use.

In the Prefabs folder, we can see two types of fields of view, FoV (simple field of view) and DoubleFoV (double field of view). The main difference between both is that the FoV is rendered just for the upper side while the DoubleFoV can be renderized both on the upper side or in both sides.

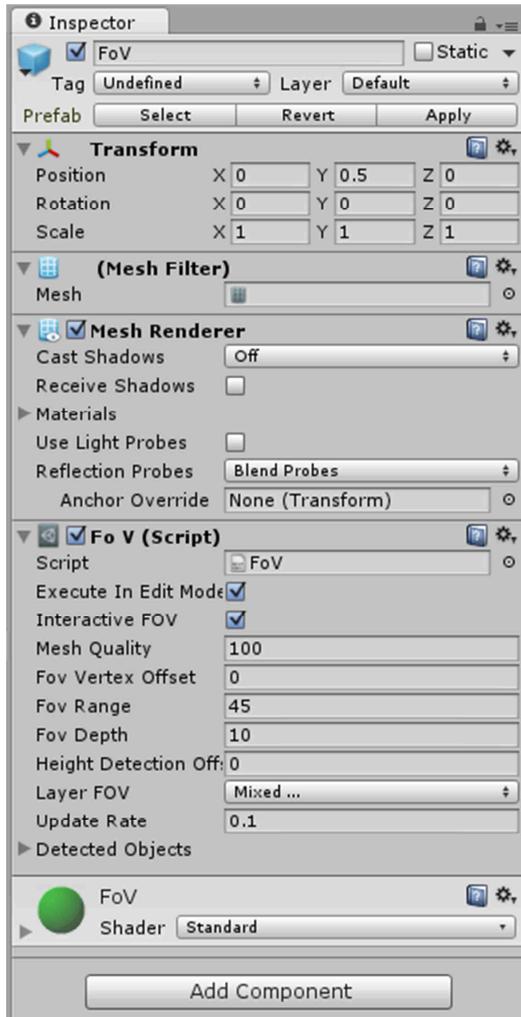


## Simple Field of View

To use the simple field of view we have to drag the FoV prefab to the scene or put it as the child of the object we want to have the field of view on. It can also be created a blank object and add the FoV object to it (the other neccesary components will be added automatically).



## Opciones del campo de visión Simple



**Mesh Filter:** Componente que almacena la maya del FoV. Es un componente requerido para añadir el componente FoV.

**Mesh Renderer:** Componente que renderiza la maya del FoV y contiene el material utilizado. Es un componente requerido para añadir el componente FoV.

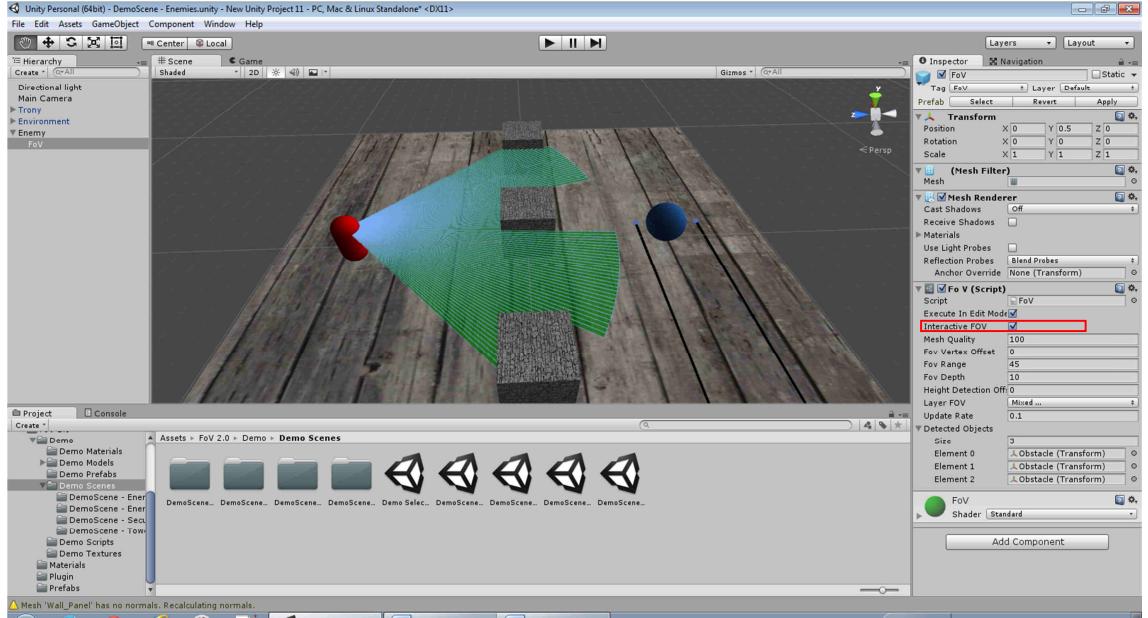
### FoV:

- **Execute In Edit Mode**
- **Interactive FOV**
- **MeshQuality**
- **Fov Vertex Offset**
- **Fov Range**
- **Fov Depth**
- **Height Detection Offset**
- **Layer FOV**
- **Update Rate**
- **Detected Objects**

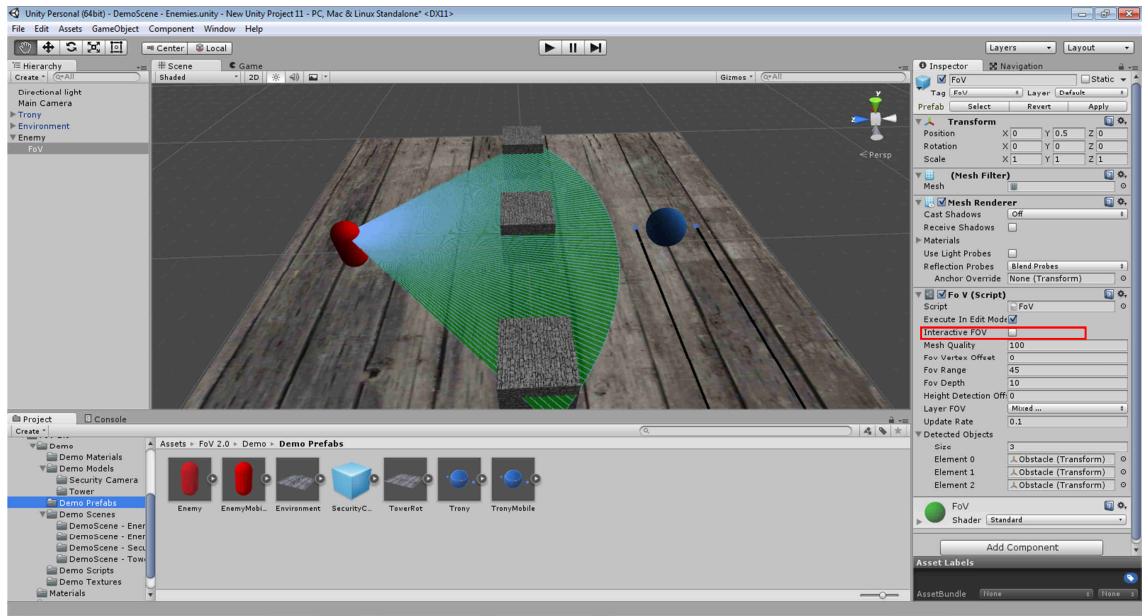
### FoV:

- **Execute In Edit Mode :** If it is active the Fov will be executed in edition mode, reacting visually to the changes realized in the inspector, with the object detection included. This way the Fov can be configured from the inspector without the need to execute the application, since this is reacting on real time to the changes made in the inspector, and once configured, its execution can be deactivated in edition mode. If this field is deactivated, the Fov would not react visually in edition mode to the changes in the inspector, but it will do it in execution mode.

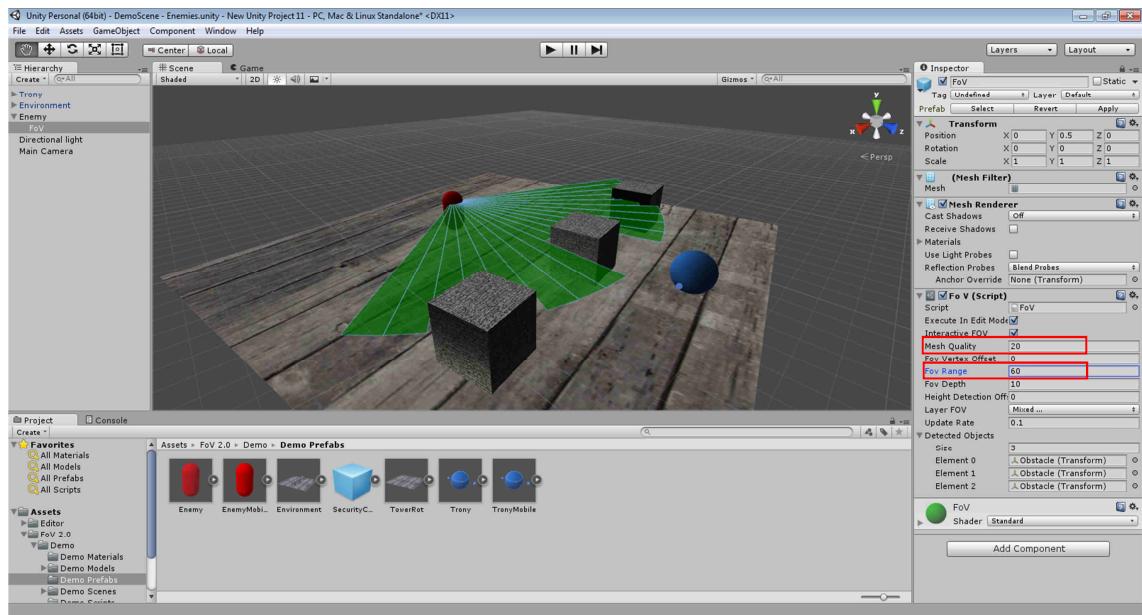
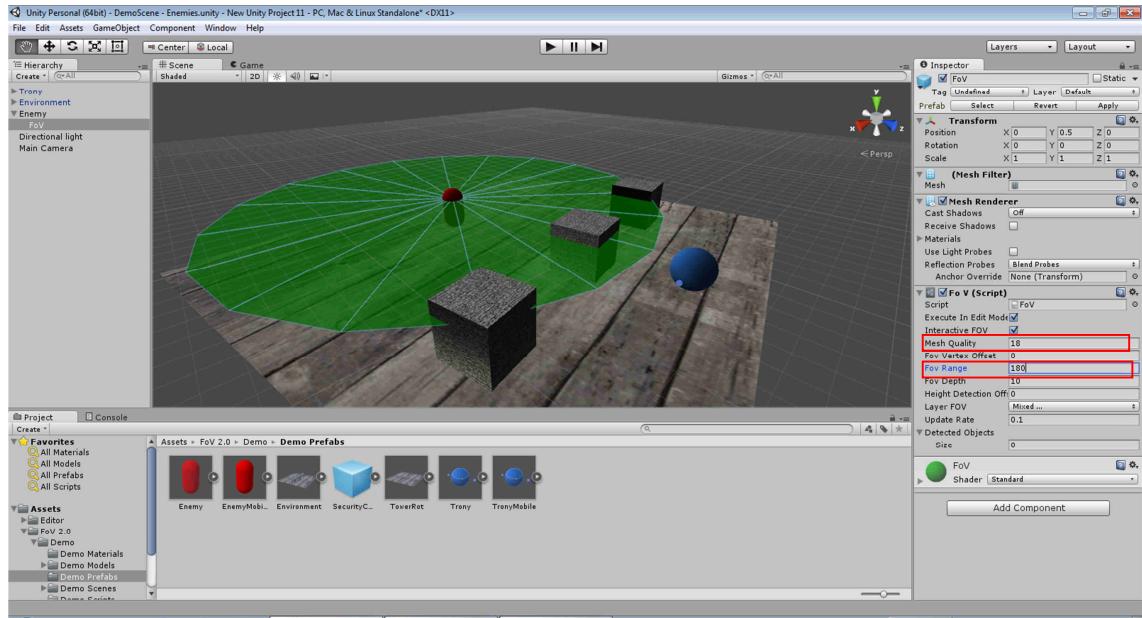
- **Interactive FOV** : This field indicates if the FoV will react visually with the detected collisions. If it is active, the FoV adapts itself to the collisions.

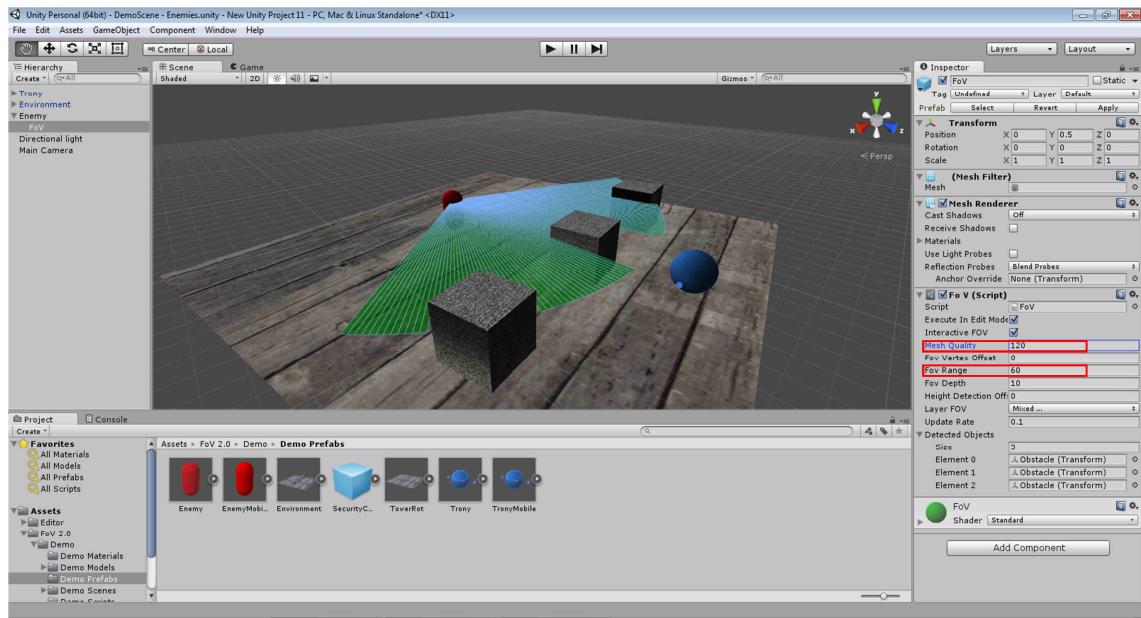


In the case this field is deactivated, the FoV will not be adapted visually to the collisions, but it will continue detecting the objects.

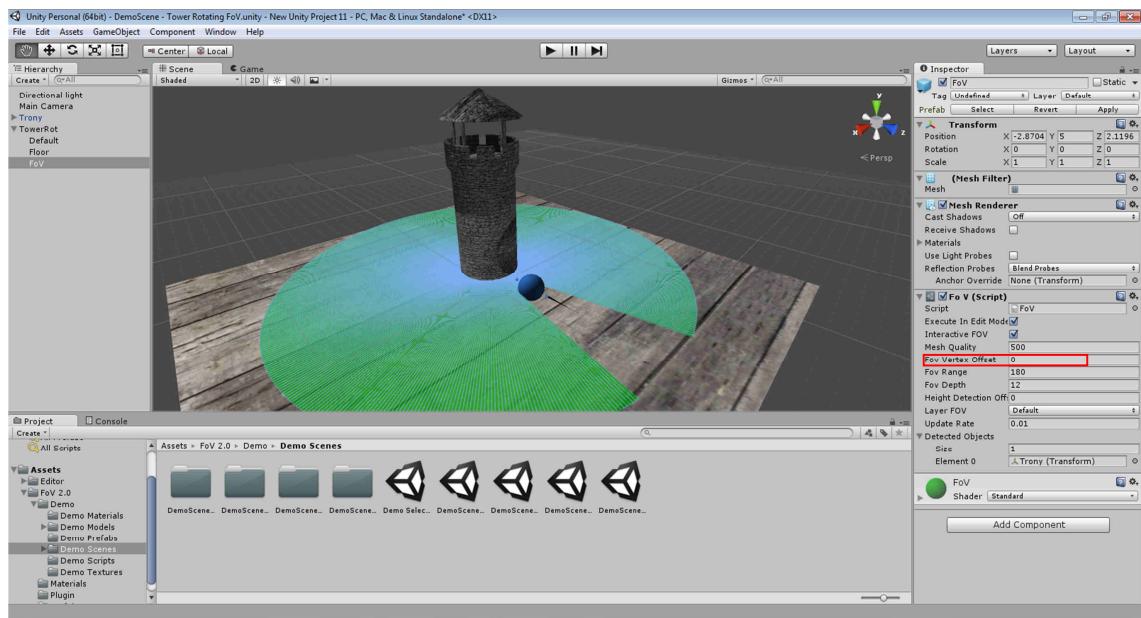


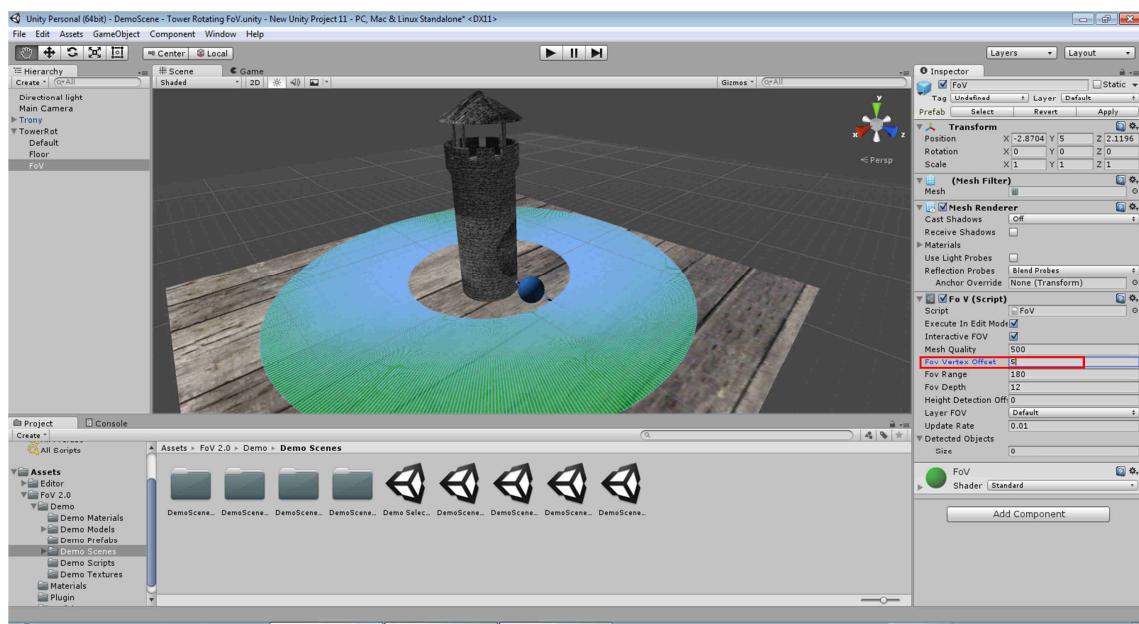
- **MeshQuality** : Indites the polygon number (triangles) that will form the mesh. It is recommended to at least have one polygon for each 10 grades, so the minimum value of this property is 18 ( in case that the FoV Range is configured to 180 degrees ).



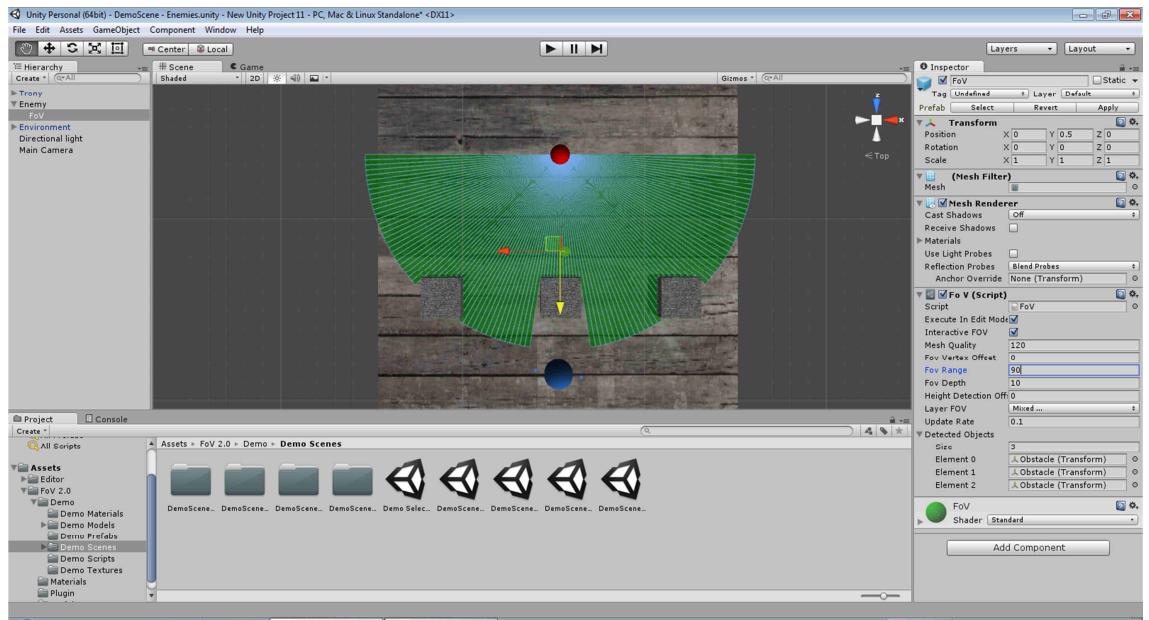
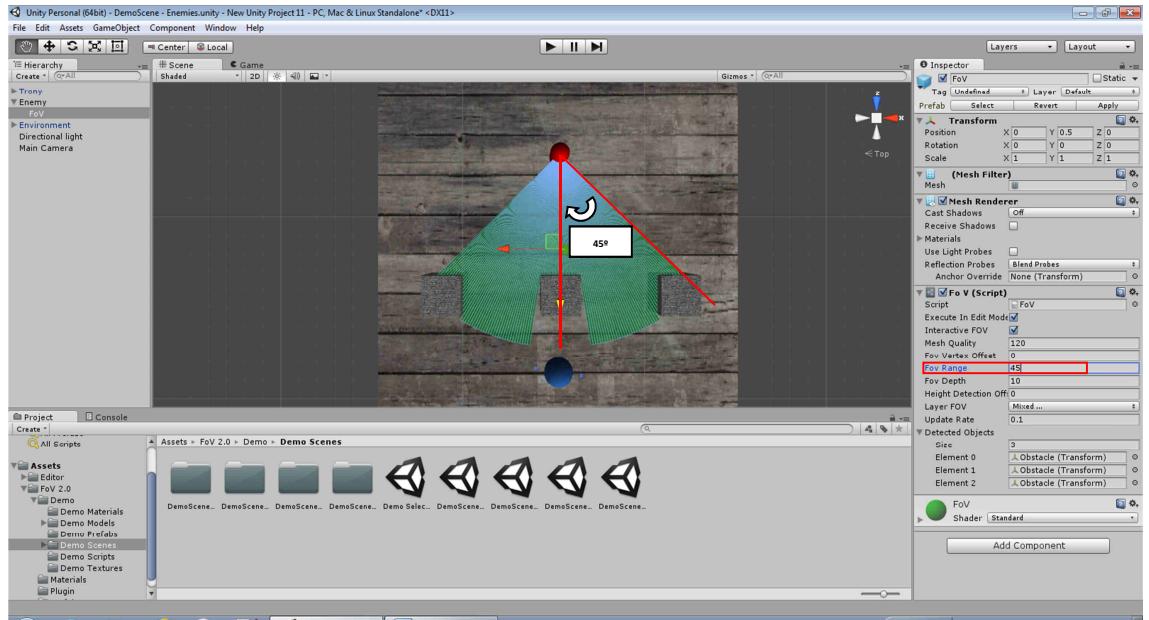


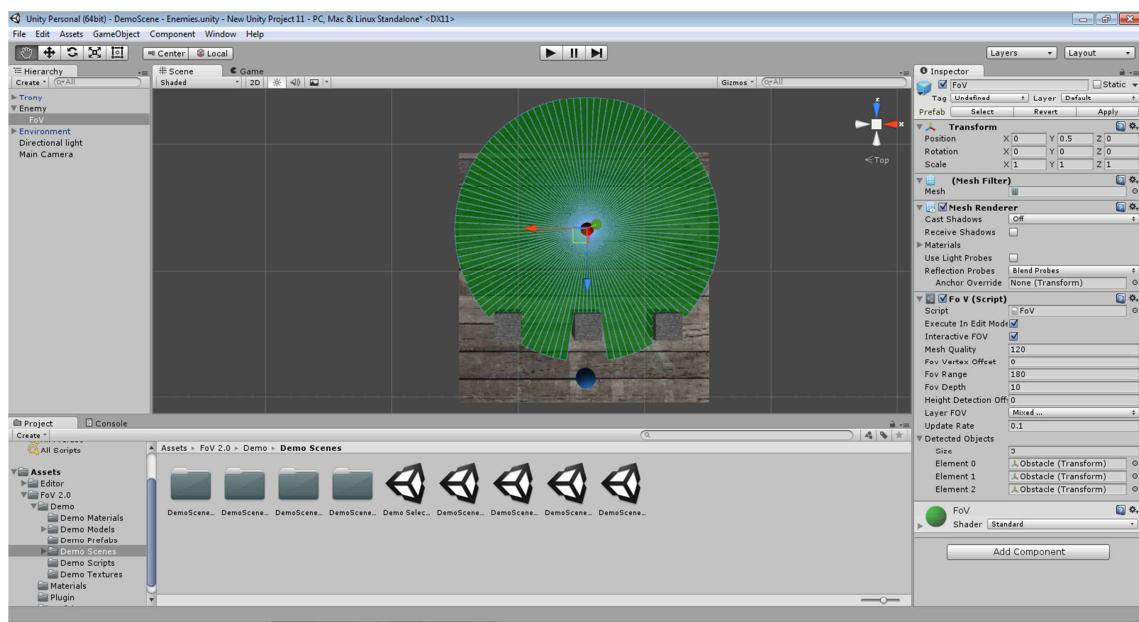
- **Fov Vertex Offset :** Indicates if the FoV has to leave an offset from its start were the objects are not detected. For example, an enemy in the top of a tower or wall.



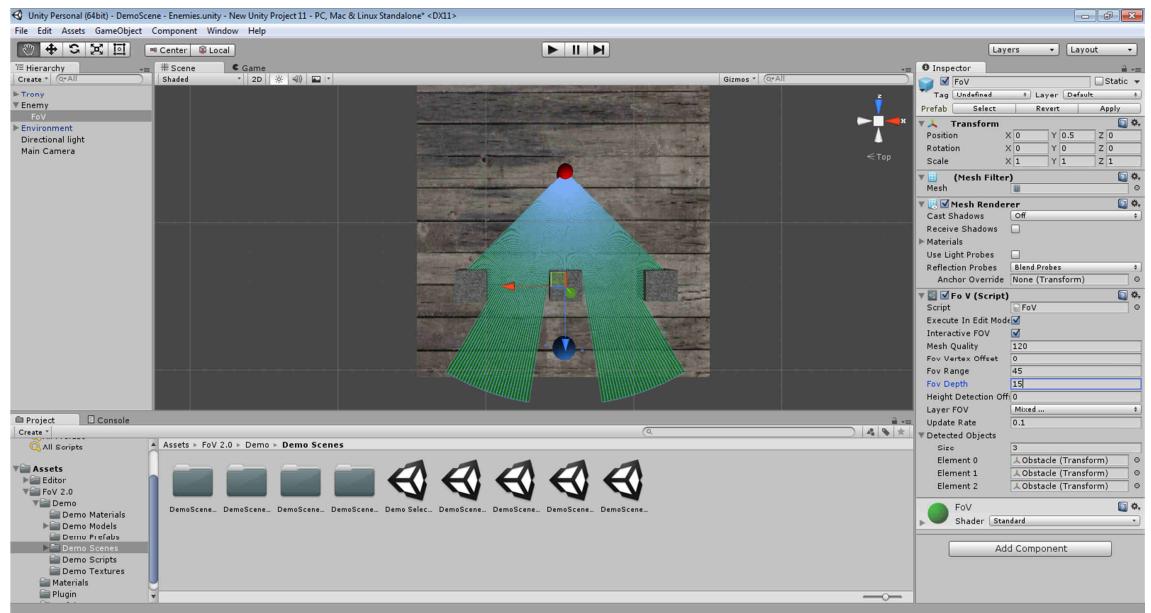
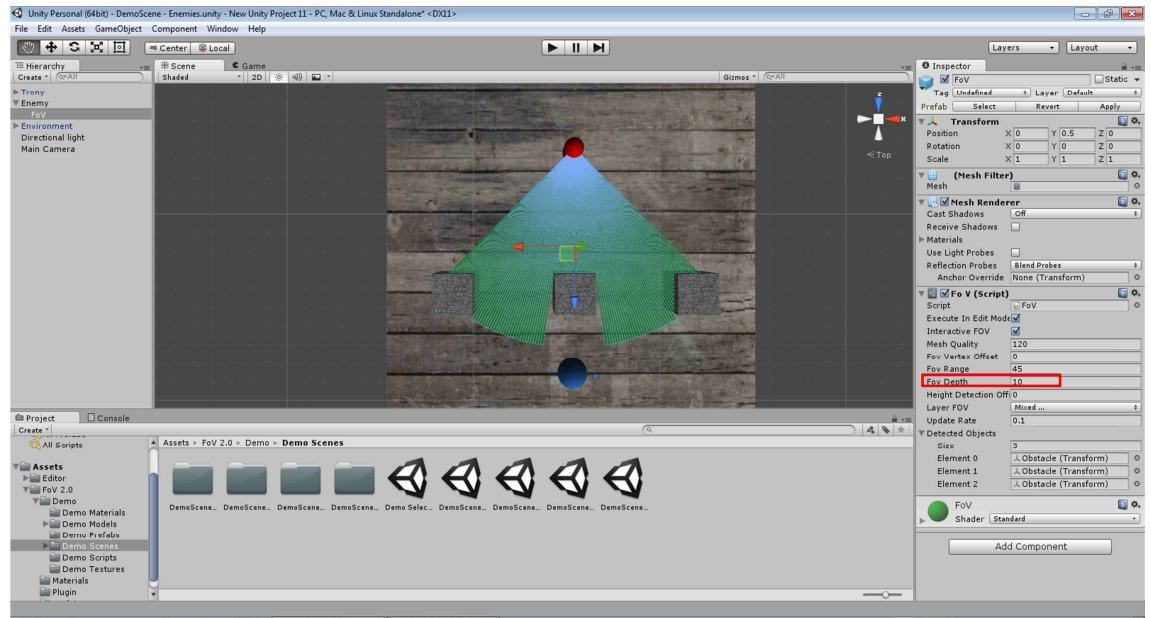


- **Fov Range :** Indicates the angle to represent from the direction of vision to one side. With a minimum of 0 and a maximum of 180 degrees. So, to represent a 90 degrees angle, it will be configured as 45.

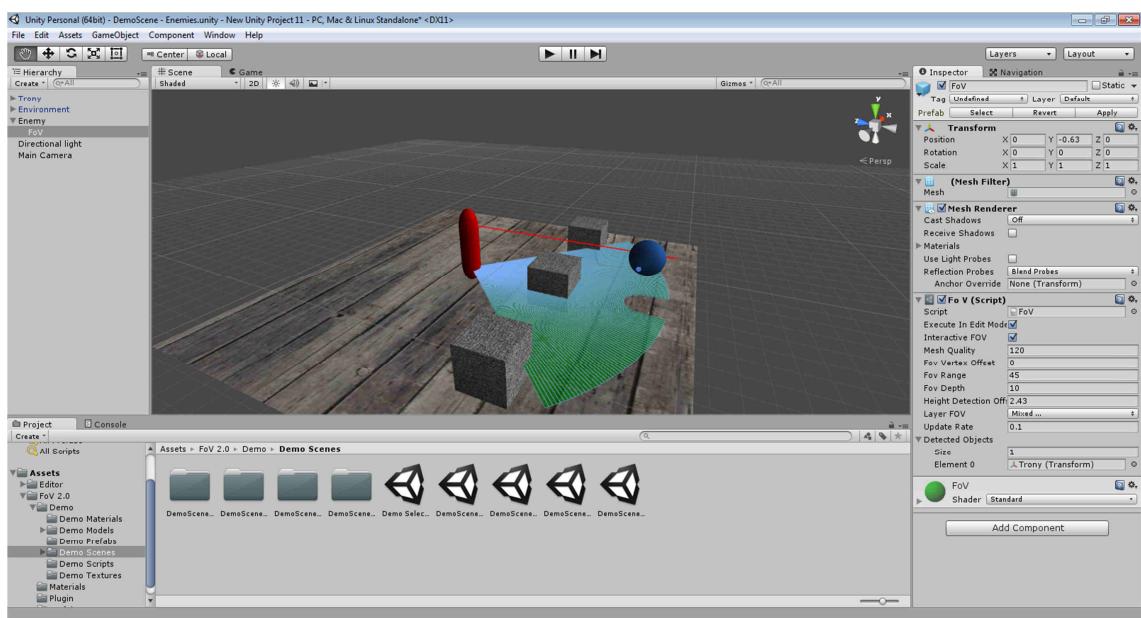
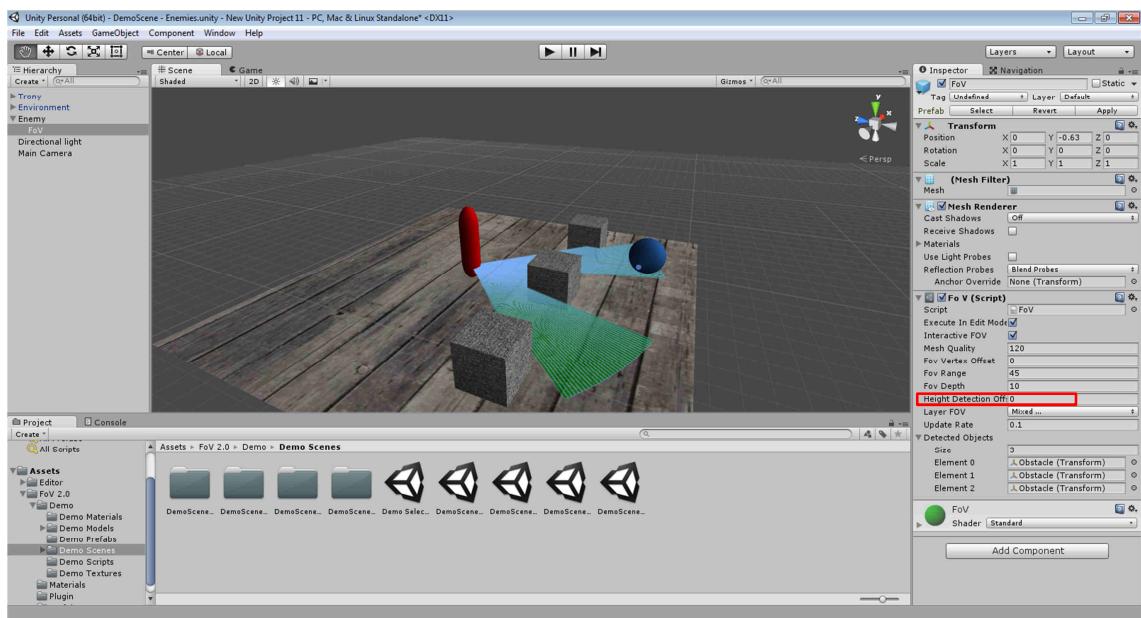




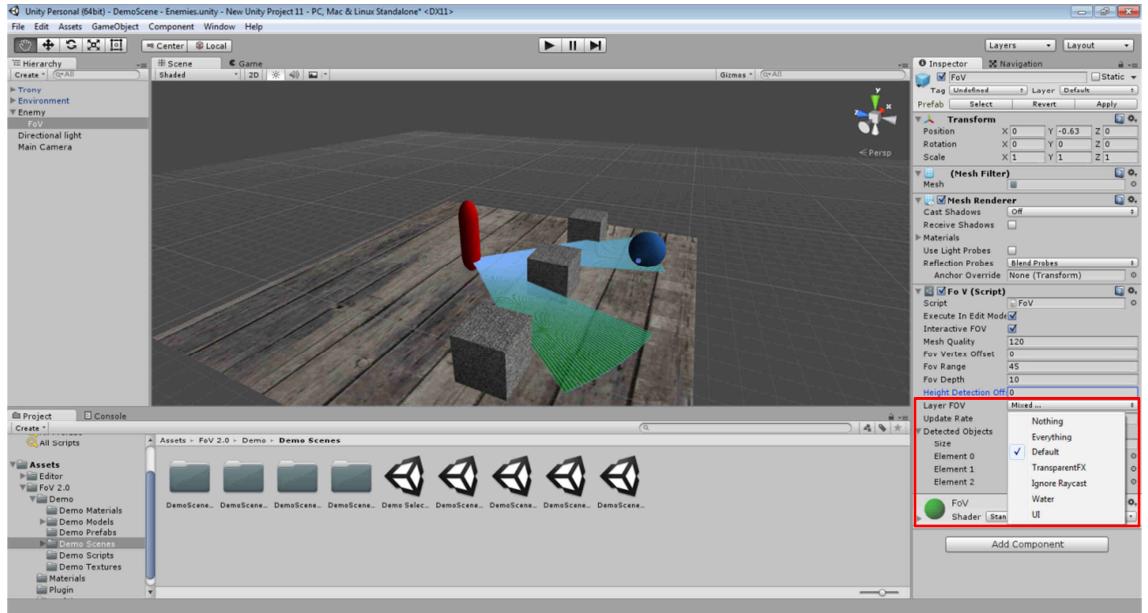
- **Fov Depth** : Indicates the profundity or distance of the FoV.



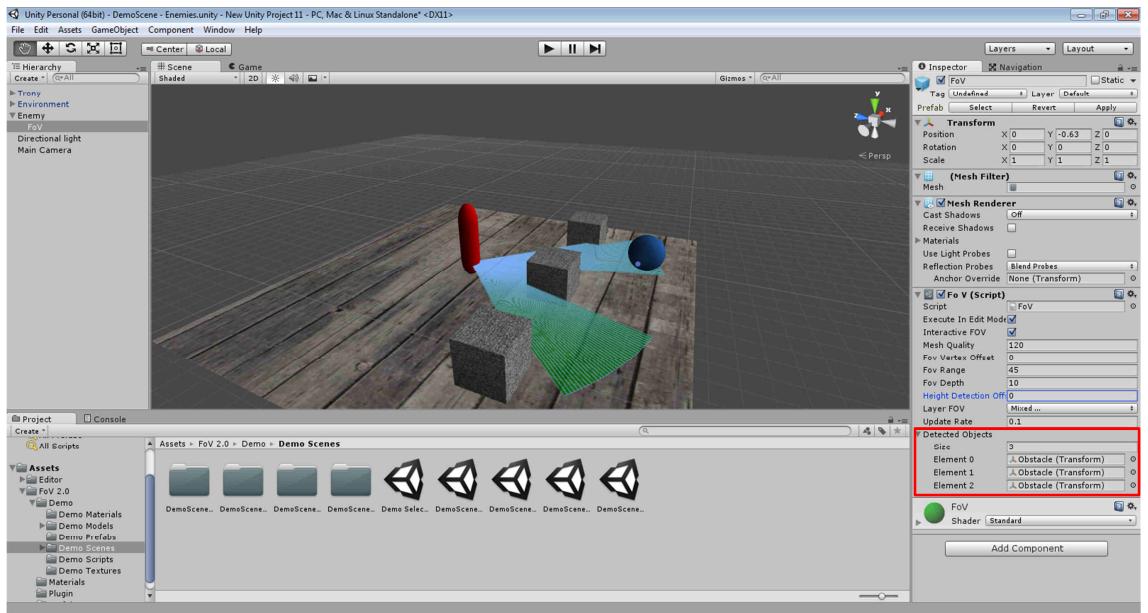
- **Height Detection Offset :** Indicates the offset from the FoV to the detection real height. Its functionality resides in letting have the FoV in a position and detect in other, inferior or superior. For example, if we want a character to show FoV in the floor but reacting in the eye vision line. In case it has a value different to zero, a Gizmo will show the height of real detection.



- **Layer FOV** : Indicates the layers that can be detected for the FoV.



- **Update Rate**: This value indicates in seconds how much it takes for the field of view to be updated.
- **Detected Objects** : This list can not be modified and contains the objects detected by the FoV. While editing it will only be updated if the field **Execute In Edit Mode** is active. The detected object list can be accessed by script with the method `GetDetectedObject()` that returns a list of `Transform` components of the detected objects

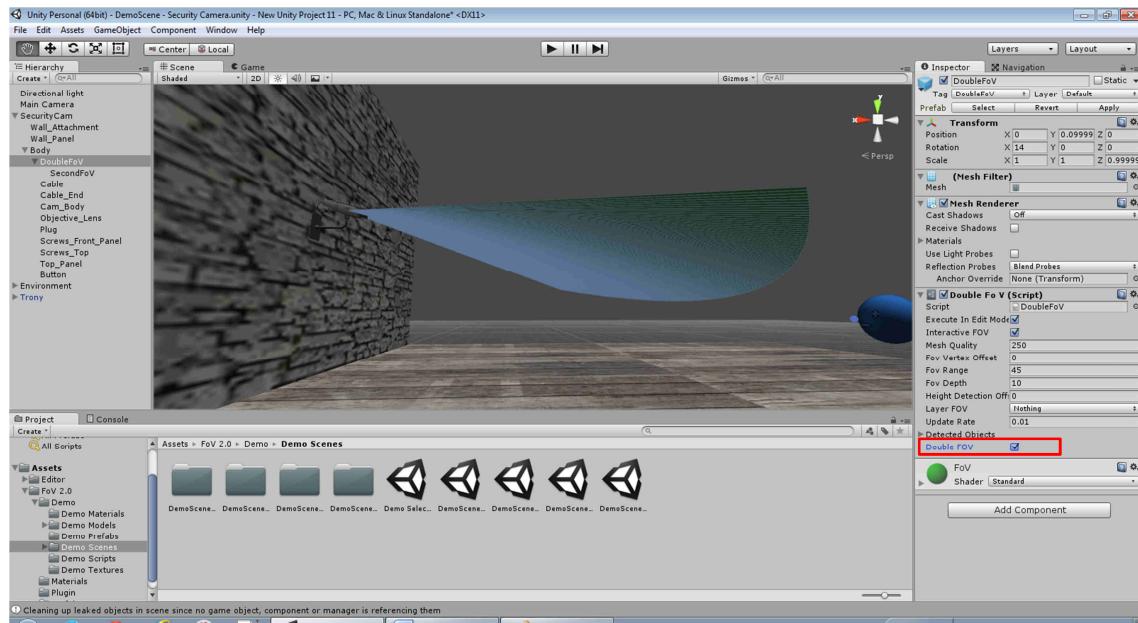


## Double Field of View

To use the double field of view we have to drag the FoV prefab to the scene or put it as the child of the object we want to have the field of view on. It can also be created a blank object and add the FoV object to it ( The FoV will be added automaticaly and a hierarchy will be generated with the second FoV as a child).

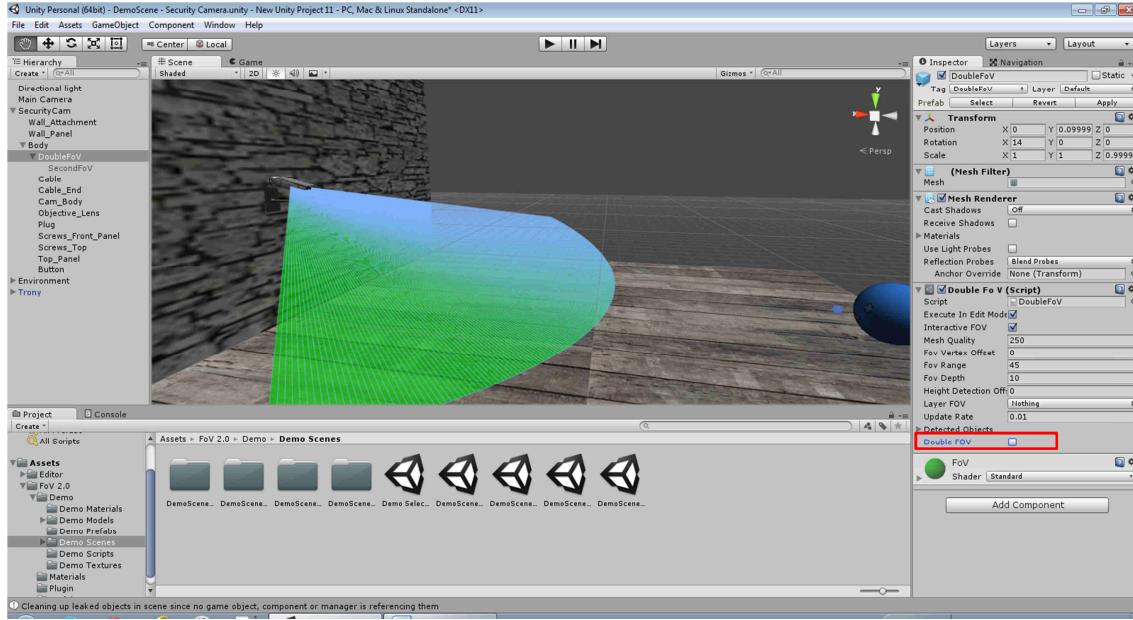
## Double Field of View Options

All the options of the Double field of view are the same as those of the simple field of view with the exception of the parameter Double FoV.

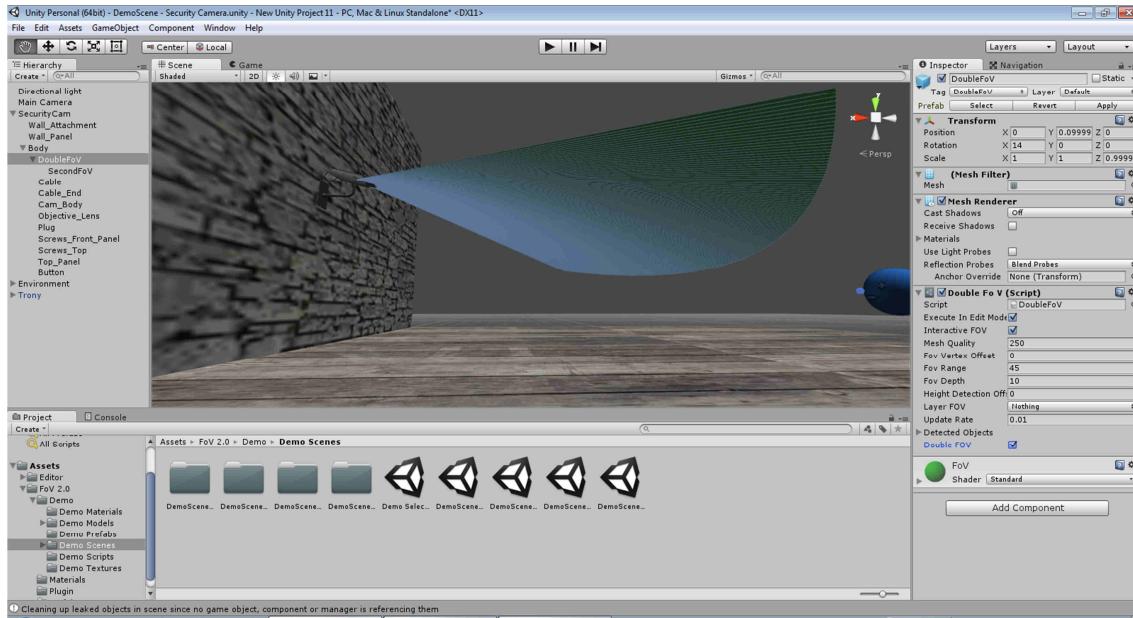


## Double FoV

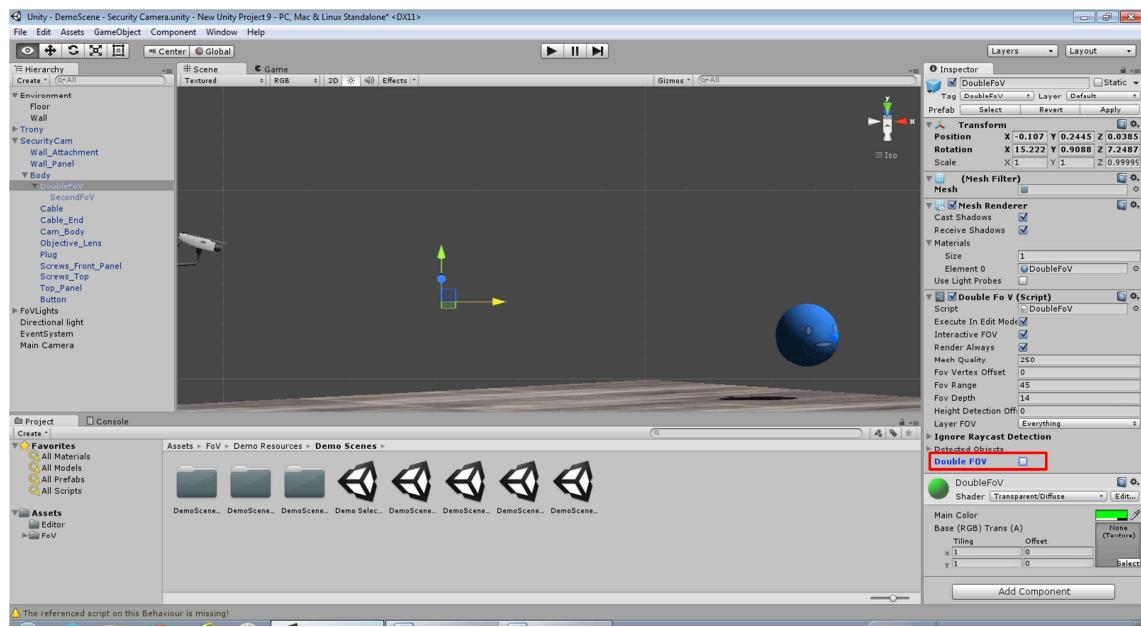
This will active/deactive the secondary FoV.



When active, the behaviour will be of a double field of view.



When deactivated it will act as a simple FoV



## Optimization hints

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In case you want to optimize the FoVs to the maximum we offer a serie of recomendations to obtain the maximum performance with the minimum consumption.

- Always try to use the mesh quality at the lowest possible level. Depending on the distance that the FOV is being rendered this can be greatly reduced without the mesh quality being visually affected . That is, the farther you are viewing the FoV from the camera, the lower quality will be required for a good viewing.
- Be especially careful with the Update Rate variable as it is indicating the time in seconds between the FoV actualizations with a minimum of 0.01 , which is almost an immediate actualization. If this value exceeds 0.25 you can begin to note the FoV to be affected visually , although higher values are allowed to put here in case the game logic requires them.
- The non interactive FoV is optimal because the interactive mesh is recalculated only when the visual parameters of the FoV are modified (Mesh quality, Vertex offset, Range y Depth).
- Once configured all FoVs in a scene, to avoid consuming at runtime , you must disable the "Execute in Edit Mode " box. This will make the FoV remain visually represented on the stage prior to disabling this option. This prevents the recalculation of the meshes and their detection, so if the parameters are changed, to represent them you will have to toggle the option again
- The FoV Layer attribute can be used to reduce the number of collisions of the FoV making it collide only with the selected layers , so a good layer configuration also is important to have some optimization
- With special attention to the mobile develop, the following is recommended:
  - It is better to use non interactive FoVs.
  - It is recommended that the material associated to the FoV has a mobile optimized shader
  - Keep the mesh quality at the minimum possible value.
  - Use occlusion culling
  - It is recommended to keep the update rate between 0,05 y 0,15. Below 0,05 the update will have too much weight, and over 0,15 the retard will be noticed too much. Obviously, this values depend on the use for the FoV so if required it can be setted to have an update date of 0,01 for an inmediate update or of seconds if required.

## **Value Range for the Variables**

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- Mesh Quality:
  - Minimum Value: 18
  - Maximum Value: 2500
- Vertex Offset :
  - Minimum Value: 0
  - Maximum Value: Depth Value
- Range:
  - Minimum Value: 0.1
  - Maximum Value: 180
- Depth :
  - Minimum Value: 0
  - Maximum Value: NA
- Height detection offset :
  - Minimum Value: NA
  - Maximum Value: NA
- Update Rate :
  - Minimum Value: 0.01
  - Maximum Value: NA