Virtualna okruženja

Laboratorijske vježbe 2

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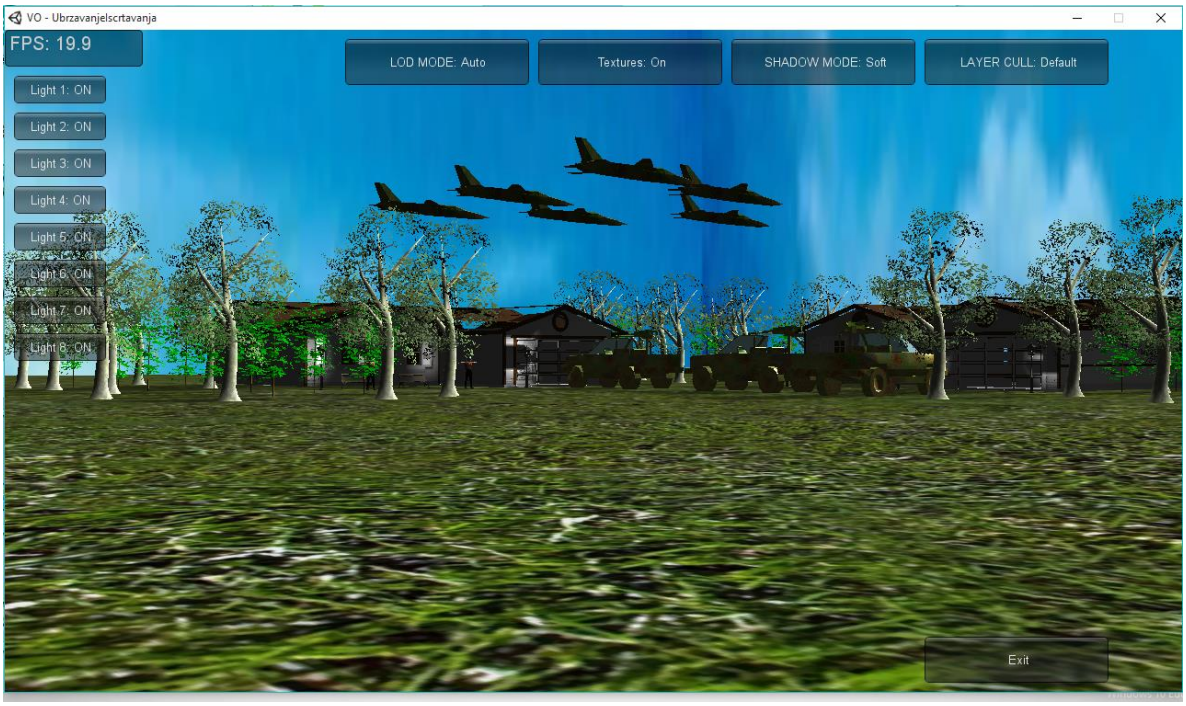
Let’s see what we have in this program. As we can see we have in this scenario a house with a garden plenty of trees and with some planes flying above the house.

We have a FPS indicator which changes one we move through the textures and of course it changes also when we turn on or turn off the buttons.

We have a list of buttons on the left side with whom we can turn on or off the lights. For example button is the button which is on charge of the streetlight in front of the garage.

Finally we have some buttons on the top of the screen and this with buttons we can turn on or off the Textures, load some modes, activate or deactivate shadows and also decide if we want to have the trees on the scenario or not.



The exercises of this lab are focused on see how changes all this factors, buttons, the fps ratio. Let’s start making the table.

Frame Rate	Without acceleration methods	Texture OFF	Layers: Trees	Dynamic shadows: hard/none	Number of lights		
					0	4	8
LOD0	34.15	36	37.7	34.05/**37**	37.6	34.15	34.1
LOD1	37.45	39.95	40	36.4/**39.9**	40.2	37.15	35.9
LOD2	38.2	40.05	40.15	37.5/**40**	40.6	39.5	37.6
LOD Auto	36.4	40	40.1	38.15/**40.1**	40	39.15	38

As a result we see not to many differences between the different configurations. This could be because of my laptop, but it's a strange behavior.

Nevertheless we can see when we have the best FPS rate, when dynamic shadows are off and also lights OFF. Shadows are our bottle neck and if we turn it off we get an increase of the FPS. This is due to the fact there are large number of potential occluders in the scene and the occlusion must be determined in each point, therefore this is an expensive thing. Besides multiples lights ON it leads us to multiple shadows and this to a more complex scenario.

Level of detail it's also a remarkable thing, of course as much detail we want more rendering time as easily seen in the table.