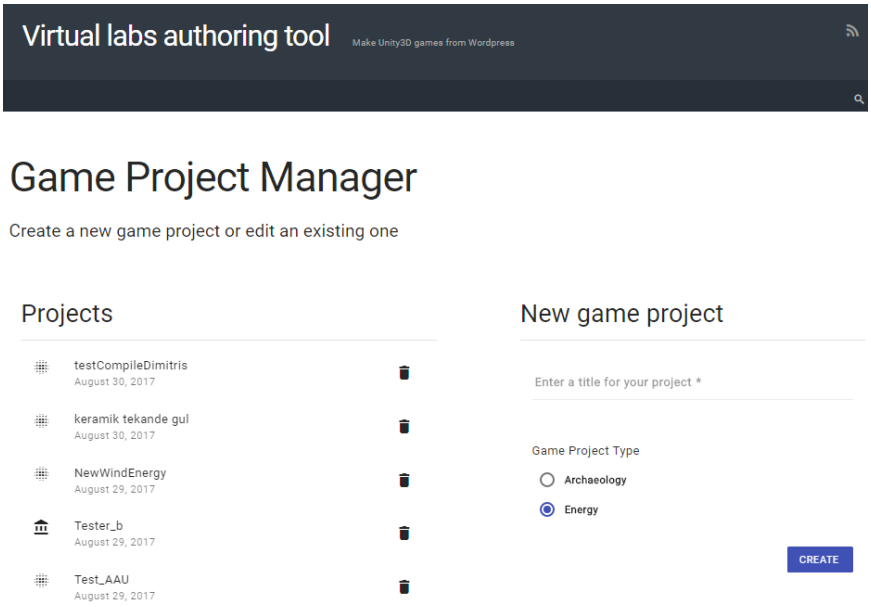
Usage scenario 1

Description:
This usage scenario aims to demonstrate the functionalities offered by the authoring tool and in the most minimal, simple and understandable manner possible. The scenario describes how a user can create a project with a single scene, which contains the minimum amount of actors in the scene, i.e., a power producer (wind turbine) and a power consumer (building).

1. Create a project and name it

Click on “CREATE” button after entering a name, e.g., UsageScenario1

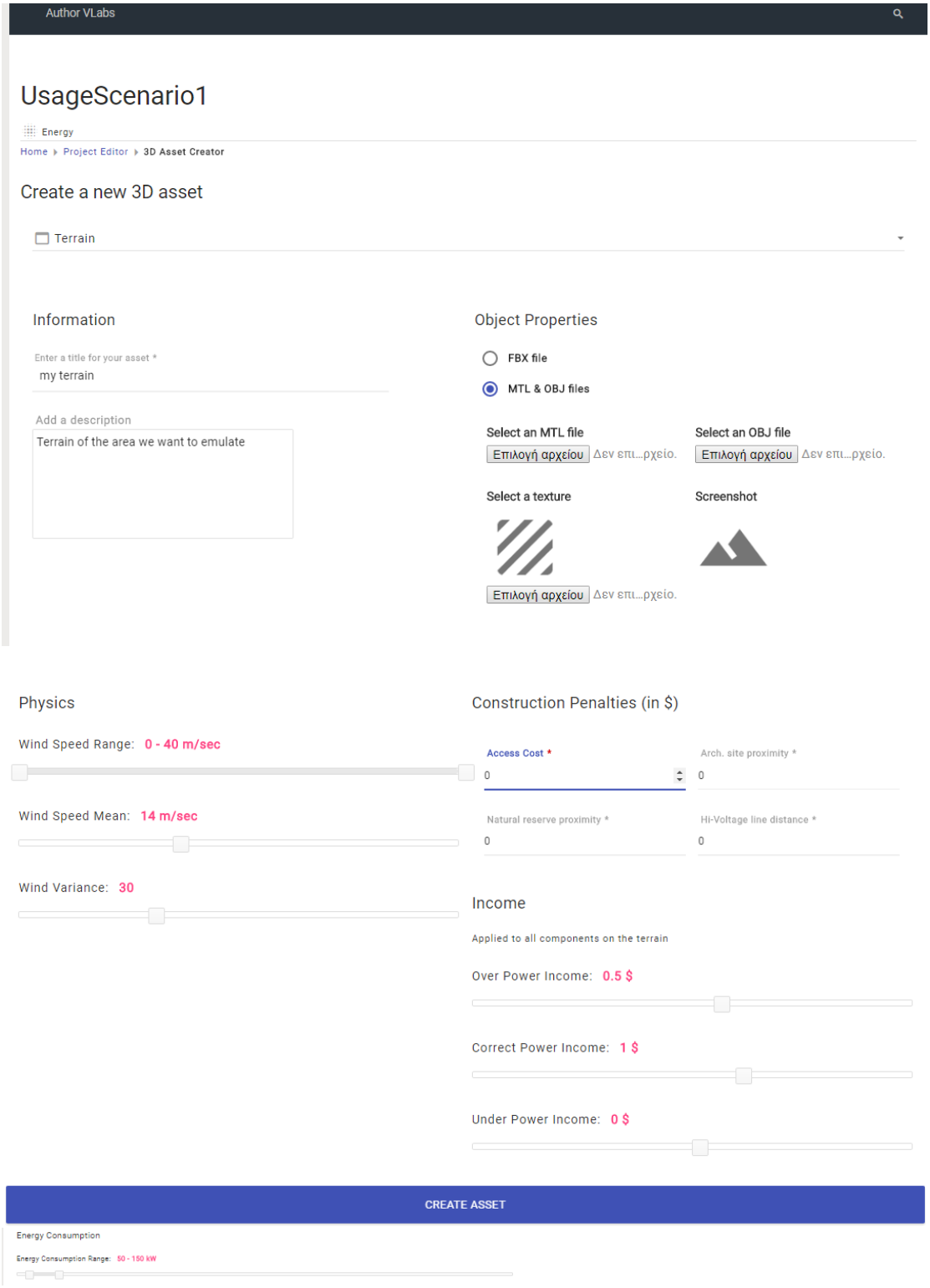


2. Create and add 3 new assets

What we need for our first simple virtual lab are three assets, a terrain, a wind turbine that produces energy and a building that consumes the produced energy. The latter two are placed on the terrain. The properties of the terrain are the range, mean and variance of the wind speed. The turbine produces energy depending on the wind speed, i.e., the more the wind the greater the produced energy.

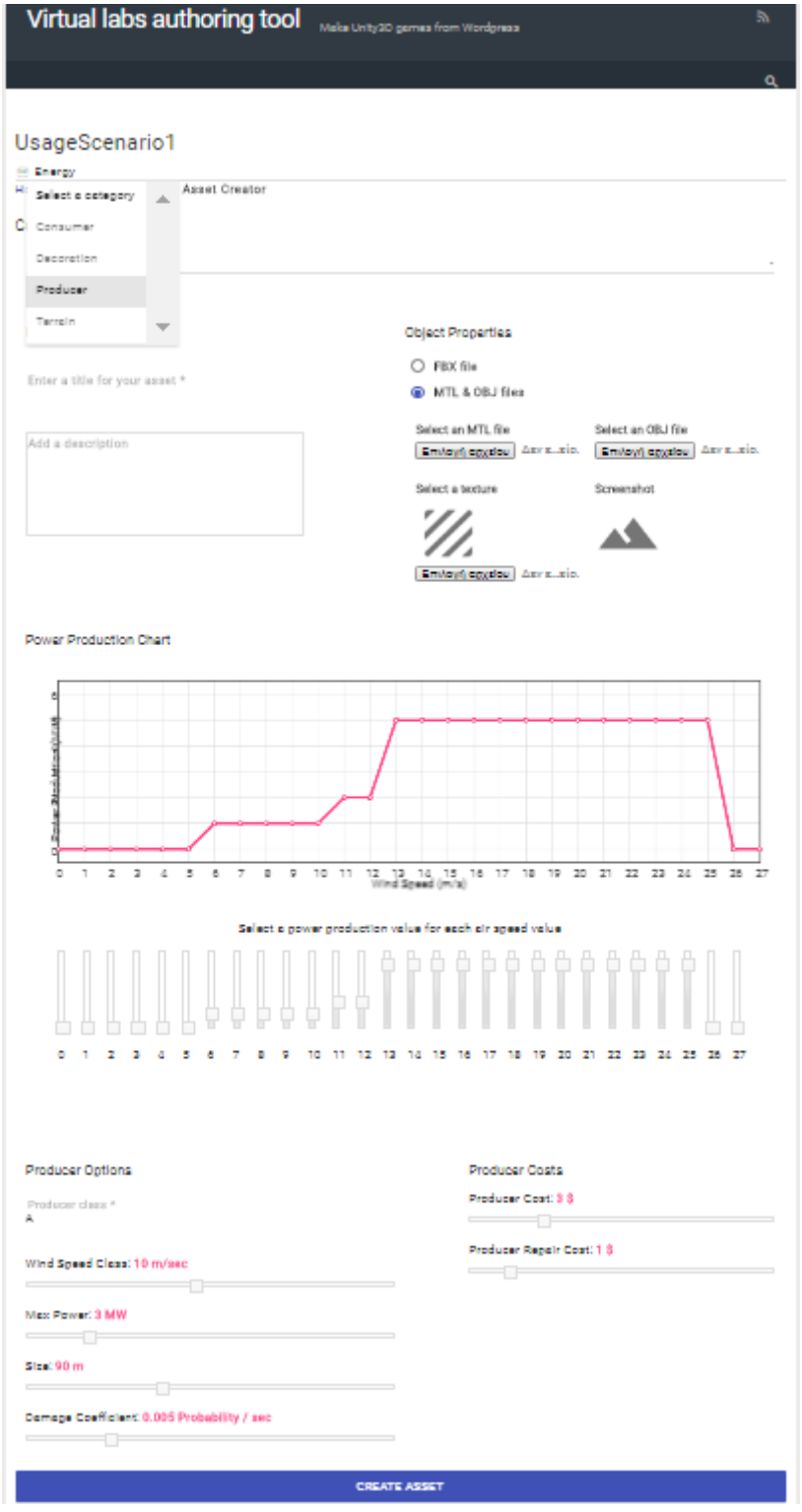
a. Add a terrain

Adding a terrain consists of the actions of adding an .mtl and an .obj file and an image specified for texture. You can locate these files in the designated folder that has been communicated to you. Then, choose the range, mean and variance of the speed wind. Mean should be in the selected range. Leave the construction penalties and the income to the default values.



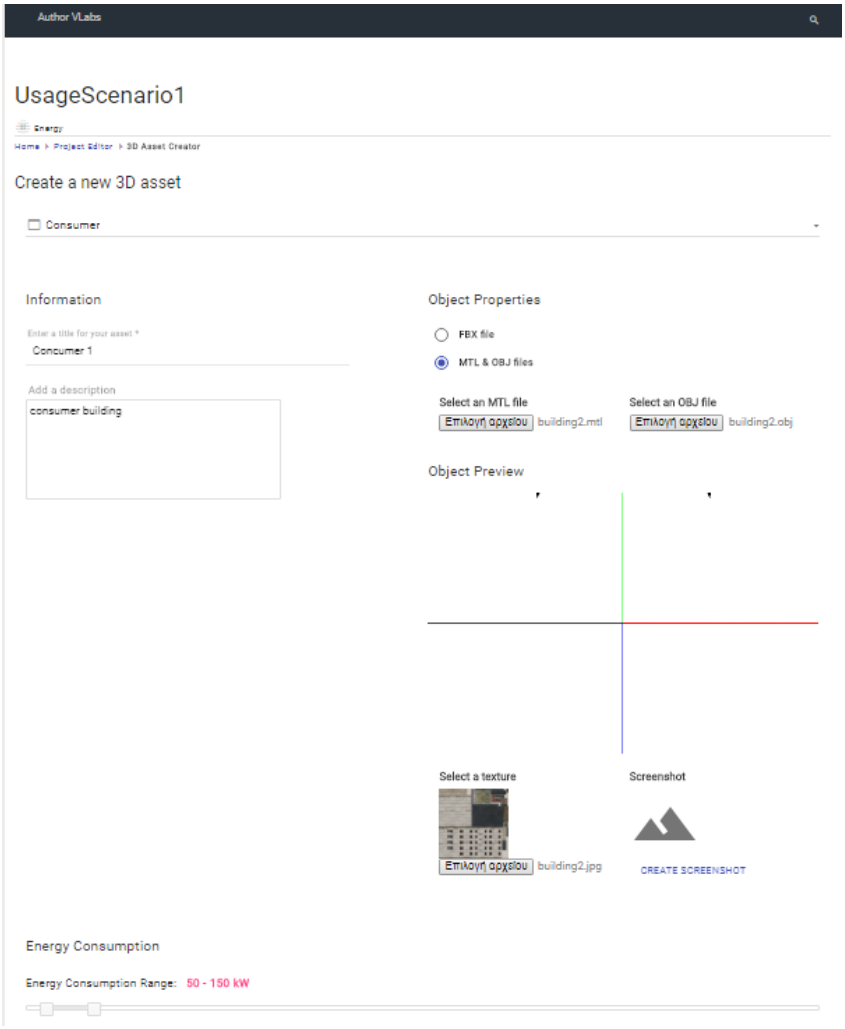
b. adds a turbine

To add the turbine, choose an .mtl and an .obj file for the turbine and an image specified for texture. You can locate these files in the designated folder that has been communicated to you. Leave the turbine's properties, i.e., the production efficiency depending on the wind speed, as it is.



c. adds a power consumption building

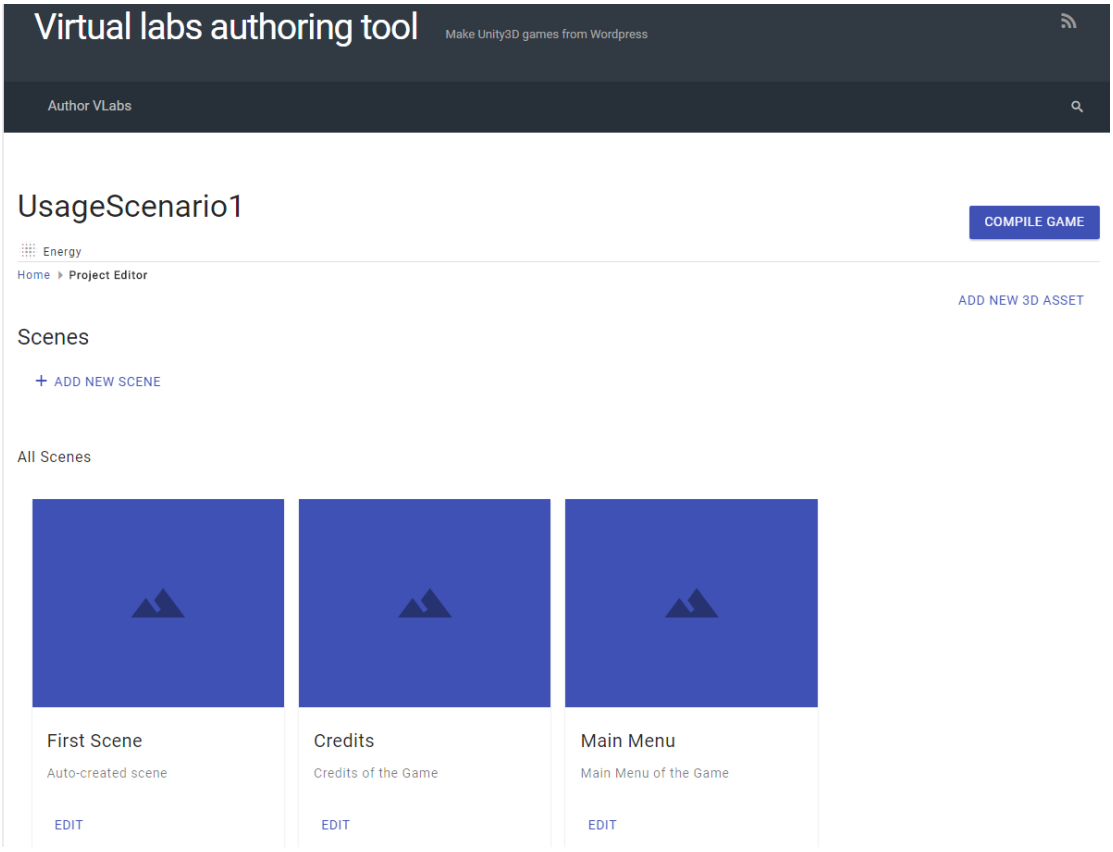
To add the building, choose an .mtl and an .obj file for the building and an image specified for texture. You can locate these files in the designated folder that has been communicated to you. Leave the building's properties, i.e., the energy consumption range, mean and variance, to the default values.



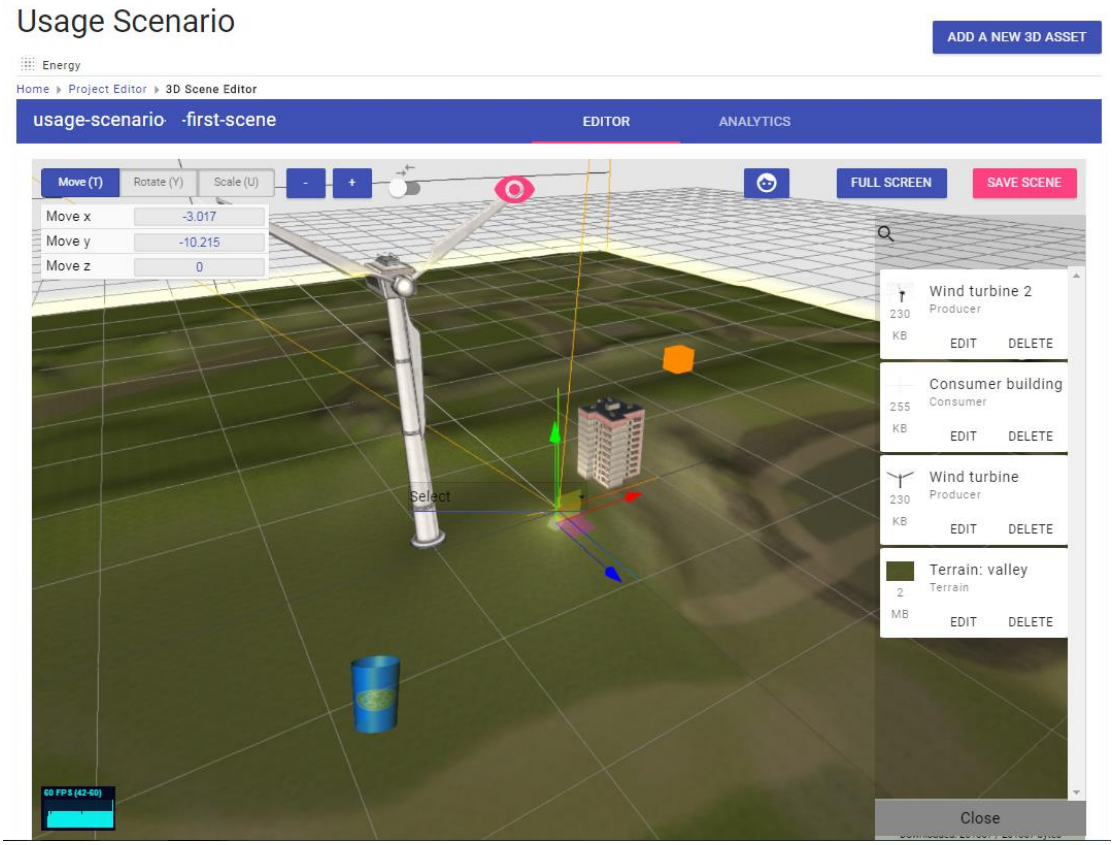
3. Edit a scene (the “FIRST SCENE”)

Click on the “edit” button of the first scene in order to edit it. In the editor, choose a terrain, a consumer and a producer and place them on the 3D scene by drag and drop.

a. Initially, three “scenes” are available by default i) a 3D scene where the game takes place, ii) the main menu and iii) the credits.

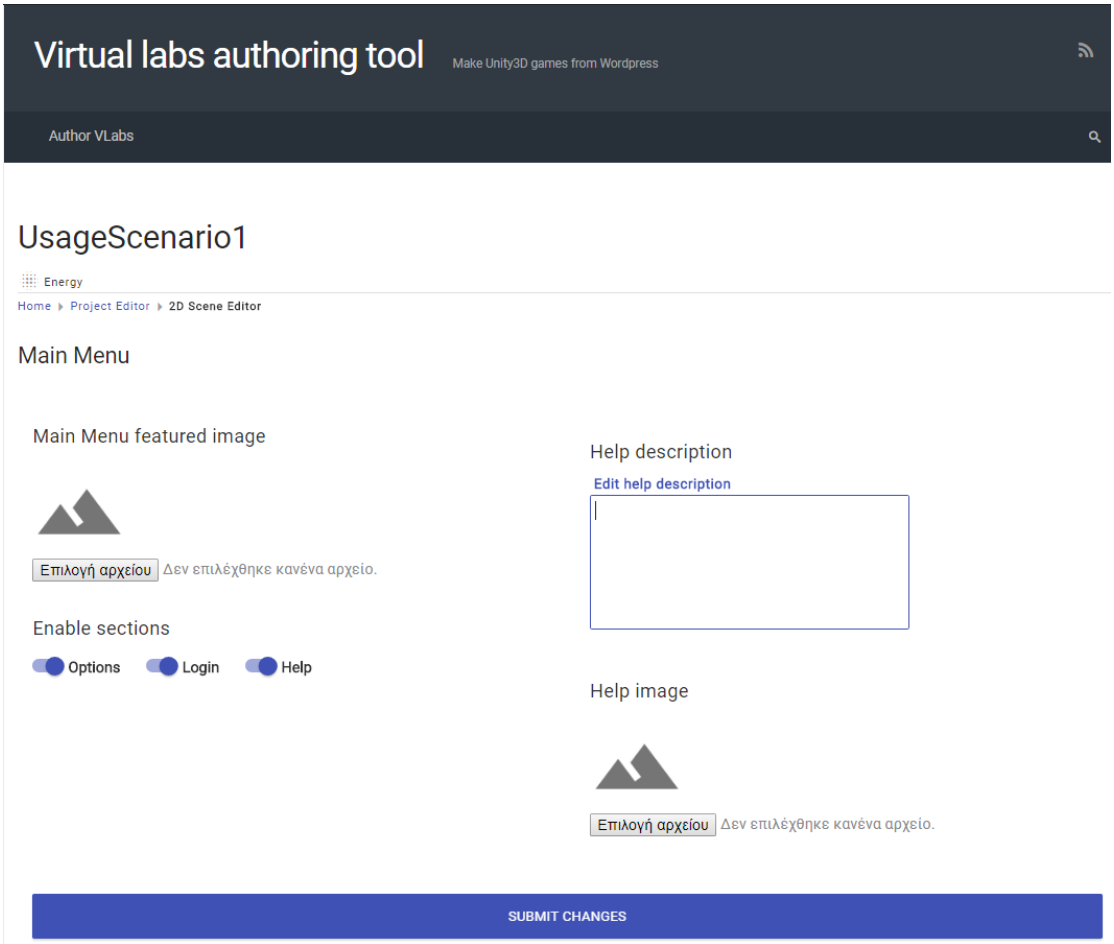


b. Drag and drop one wind turbine and one building after creating the terrain. Adjust the above assets: place them accordingly so as they seem naturally placed on a terrain's spot by moving and rotating them.



4. User specifies the main menu design

In this part of the tool appears when the edit button of the “MAIN MENU” scene is clicked. Also, in this form the user can choose whether the main menu would provide the options of the game regarding the wind speed and other parameters, whether the user is asked to provide credentials in order to login and use the virtual lab, and whether the help form will be available to the user (see the relevant toggle buttons). By default, all these three options are enabled.



5. Write the credits

Credits are about the persons that contributed to the specific project and the creation and design of the virtual lab, as well the design of the 2D and 3D assets.