

Graphic User Interface Guide

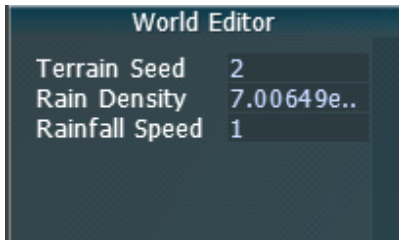
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Editing Values:

There are 3 items that appear in the in-app GUI which will have an effect on the 3D world, these are:

- a) Terrain Seed
- b) Rain Density
- c) Rainfall Speed

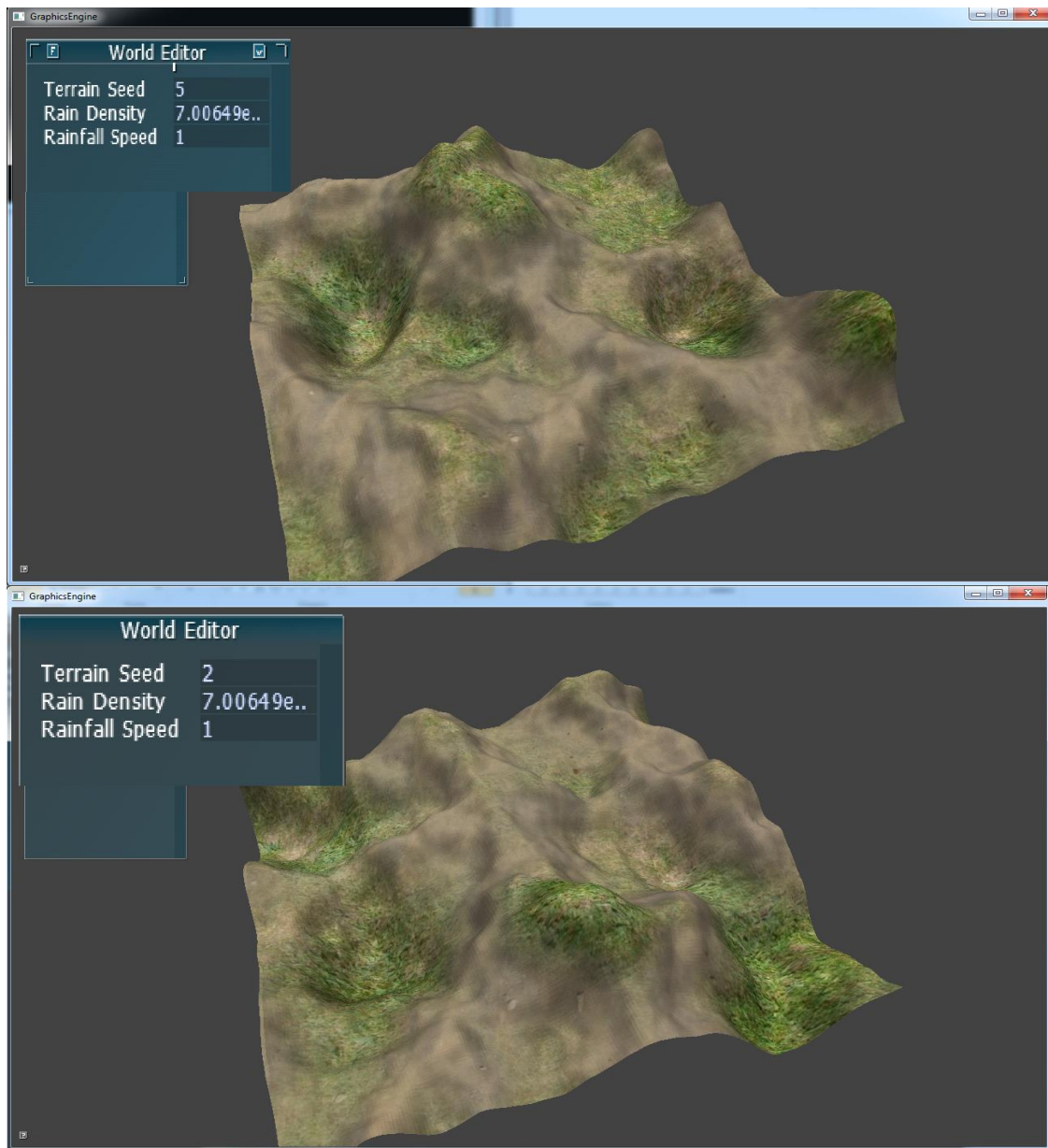
Each item has both its title and current value displayed next to it, on mouse-over the buttons to edit these values will appear.



In the above example 'Terrain Seed' is the title and 2 is the value of the first item.

Reacting to Edited Values:

Every frame the program will check to see if either of the items in the GUI have had their values edited. They do this by storing the value of the last frame and comparing it with the new value once the program loops back to the Update() method.



Above are two different photos of the program, highlighting the effect the GUI has. In the first image the 'Terrain Seed' is set to 5. This results in the terrain seen in this image. After simply changing the 5 to a 2 a completely different terrain is generated.

If an edit occurs the program will call a method which will re-initialize the related components of the program.

```

//seed changes
if (oldSeed != seed)
{
    seedChanged = true;
}
oldSeed = seed;
if (seedChanged == true)
{
    GenerateGrid(200, 200);
    GenerateTerrain(200);
    seedChanged = false;
}

```

Above is source code demonstrating this re-initialization in action, this code is contained within the programs Update() method.

First the seed from last frame is compared against the one from this frame, if different the boolean 'seedChanged' will be set to true.

Next the seed from this frame is stored in 'oldSeed' for use next frame.

Last there is a check to see if 'seedChanged' is true. If so it means a change from the GUI has occurred and the code block is executed, calling terrain initialization functions and finally setting the boolean back to false for the next frame.

All the editable fields use the same logic structure, changed only to account for the correct properties and methods.