GUI DOCCUMENTATION

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With this documentation, it will give a depth explanation of how the in-game User interface (U.I) works with the terrain program produced.

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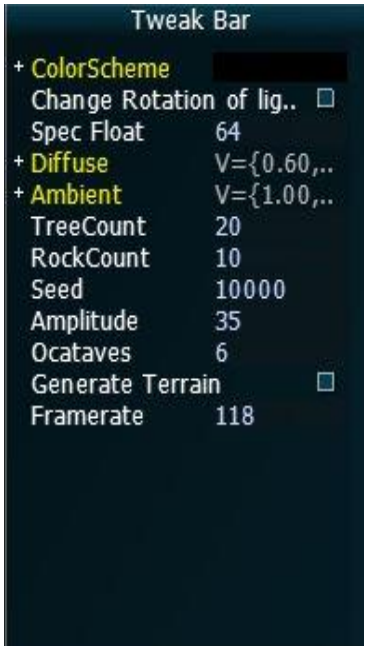
Contents of the GUI



What the actual GUI Looks like

Colour Scheme

Colour Scheme in the environment will change the current background colour to what you desire or to see how it would look in different colours.
Each value can be adjusted separately for either a pure colour or a mix.
Works based off RGBA Values.

Change Rotation of Light

This will change in the game how the light rotates around the world.
Currently it will circle around the world from left to right, in which using this feature shows the light in reverse from right to left.
Works based of time itself.

Specular Float

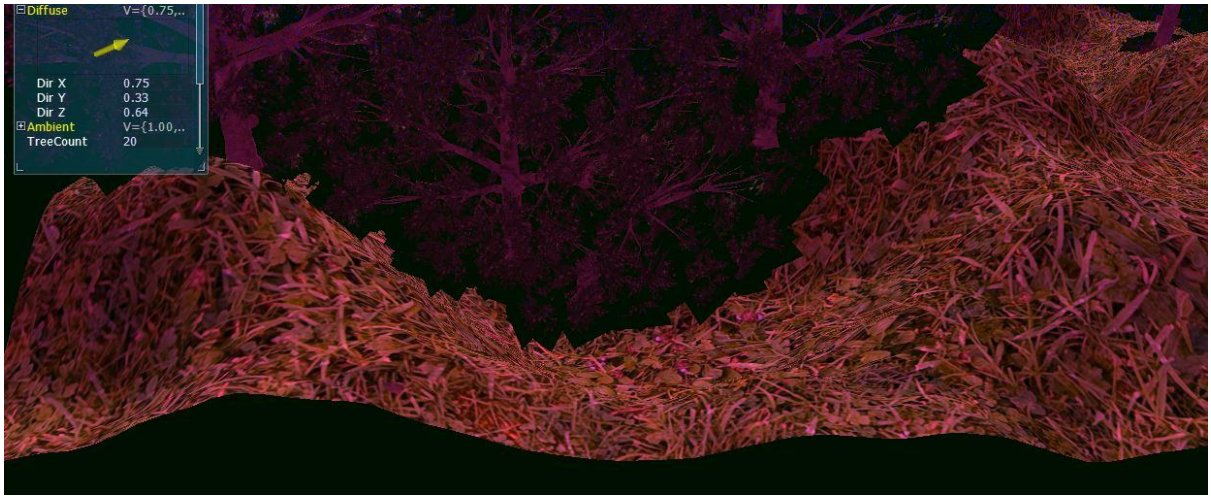
Specular Float works by adding on to the World's current light; in which as the rays cast down from the light add sweet spots into the Terrain to indicate that there is clear light affecting that spot on the world.
Changing this effect either how powerful the spots are or weaker.

Diffuse

Diffuse is another part of the lighting of the world except acts as the distance from the source, in the way as the further away (Lower Values) you are the weaker the light effect is.
Diffuse works on the GUI by being able to affect the Terrain colours as a vector 3 in the same sense of working in RGBA without the Alpha.

By changing the vectors to the values of zero the light will never effect the terrain

Example Below(By adjusting from base adds light colour)



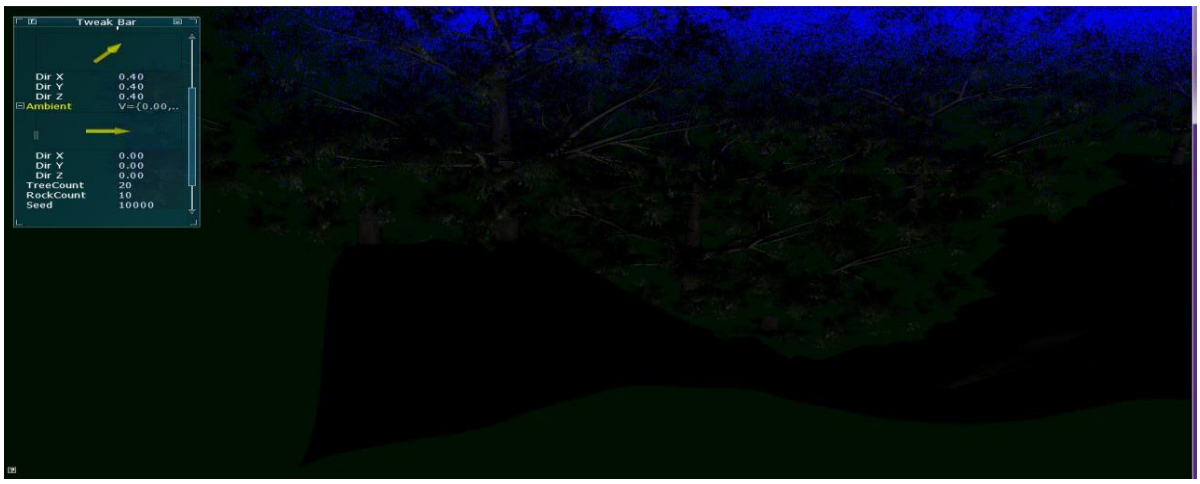
Ambient Light Setting

Ambient is another part of the lighting of the world except acts as a shadow for when the light ray is currently not affecting the terrain, Ambient allows the terrain to still be seen if the light is not currently casting on to the terrain.

This is also stored in a Vector3 in which works the exact same as diffuse values. (In which it can change colours and no light will show).

By Changing the Ambient to values of zero, it will affect the current light on the terrain in which when there is no light in how it looks

E.g. Ambient light reduced to zero and light is not current on the world



Tree Count

Tree count is a simple integer value that control's how many trees are rendered to the screen at one given time, The limit on the trees however is 50 (Sorry Spoiler)
If there is a need for more tree's they can be Introduced through the GUI.

Rock Count

Rock count is a simple integer value that control's how many Rock are rendered to the screen at one given time, The limit on the trees however is 100 (Sorry Spoiler)
If there is a need for more Rock's they can be Introduced through the GUI.

Works exactly the same as Tree count, but controls the rocks instead.

Seed Value

The seed value in the terrain program affects how the terrain is produced in which it affects how more realistic the terrain comes out from being generated.

Instead of having a hilly Terrain or either certain hotspots on the terrain, by using the seed value can spread out the terrain.

Terrain is a float value that can adjusted to any value in which changing the value once can bring a new terrain.

Amplitude

The amplitude in the application allows for height generation on the terrain and in which allows for a mountain's or hills to be shown on the terrain.
By adjusting the value can either decrease or increase how height the map goes and the actual terrain height.
E.G. Amplitude at a value of Zero

Octaves

Octaves in the terrain effect how smooth the terrain looks in which of the rate of the hills and how either more or less hilly the terrain will be, not like the height or that just how much the hill frequency is.

Works like a float counter in which how many hills you want or either smooth terrain.

Generate Terrain

This feature itself is the core reason the bar even exists, what this function does is generate a new terrain itself.
How the feature works is by grabbing the Seed, Amplitude and the Octaves which either are default or adjusted values and recalculating the new terrain looks, spitting that out onto the terrain and then show the new generated land.

Frame Rate

No real explanation is required is it?

This value cannot be adjusted as it is the current framerate of the application, saves time finding a program to figure it out for you. ☺