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Elements

Graphics card based particle system(GPU Particles)
Animated FBX model
Static FBX models
Per pixel lighting
Tessellated heightmap
Texture blending
Bitmap fonts

Use

GPU Particles are being used to create ambient rain, fire and smoke. There is three total emitters, one for each effect. In total there is 65000 particles.

Only one animated model is used, but multiple times throughout the scene. Using an ambient butterfly floating its way through the scene.

Static FBX models are being used for all the building to create the small town. They are all simple low poly textured models, The only downside is the lack of a singled UV texture, as loading times are massive.

Per pixel lighting is using a wrapper I wrote for all the objects in the scene. You can add spot, point, directional and set the ambient and speculars. This has a max size to help with frames per second and also to make it easier to push to the shaders arrays.

The tessellated heightmap is using a simple 2D plane to generate the terrain through the use of a grayscale texture, this texture has blurring to smoothen out the transitions.

Texture blending will be used to generate paths for the buildings, walls and walkways. by using the heightmap texture we can blend between the grass and dirt textures.

Bitmap fonts are being used to display the debug information while its open (F12) and to display the loading text, This information is basic position, player mode(fly/gravity) and deltatime.

Controls

WSAD to move the camera,
~(Tilda) is to toggle fly mode on or off (On by default),
Shift to move faster,
While in Fly mode **Space** = up, **Left Control** = down,
While in Grav mode, **Space** = jump,
Hold **F1** to use wireframe,
Press **F12** to toggle Debug mode.