

3D Printing Plugin Documentation

Setup

To set up the plugin, import the Unity package or download the folder from the GitHub repo and import it into the project. From there add the 3D printing manager prefab to your scene, this will be your main way of using the plugin and will be where you can edit variables to control the plugin's behavior. This prefab can be activated or instantiated as and when it is needed.

Each tool is separated into different sets of variables, these will now be explained:

Object Selection

- Selectable Layers – The layers that can be chosen while the tool is active, this layer can be set up by the designer to avoid players selecting terrain or other unsuitable meshes.
- Outline Mat – The material used for highlighting the selected object, this can be changed to work with the visuals of the project if needs be. This can be done in the outline shader graph.

Overhang Detection

- Vertex Mat – This material will be used to show what parts of the mesh are pointing down and therefore may need supports to keep it from falling in the print process.

Center of Mass

- Center of Mass Sprite – This sprite can be changed to work with the visuals of the project.

Base Detection

- Base Tolerance – This controls how far up the mesh from the lowest point will be considered as the base.
- Minimum Number of Base Points – This controls the number of points that will be needed to consider the mesh has a good enough base for printing.
- Floor Height – This controls the height from which a mesh will be considered “floating”
- Is Floating – Can be toggled manually so that a mesh will not generate a base.

Base Settings

- Base Size – The radius of the base when generated
- Base Height – The height of the base when generated

Mesh Cutting

- Minimum Mesh Width – The minimum radius a mesh can be before it is considered a weak point
- Slicing Mat – The material used for the slicing plane, can be changed to fit the projects visuals
- Cross Section Renderer – The line renderer that is attached to the prefab to highlight the intersection of the mesh with the slicing plane
- Is Slicing – Showing if a slice is in progress
- Slice Step – The step that will be taken each time up the mesh, a smaller value will give you a more accurate check, but will be slower
- Slice Timer – The time between each slice step, this can be made 0 to avoid waiting for the process to finish

As of now these options are limited as the mesh cutting has not been completed.