Personal Portfolio 4

Tools Developed During Project Show-Off – Report

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Introduction

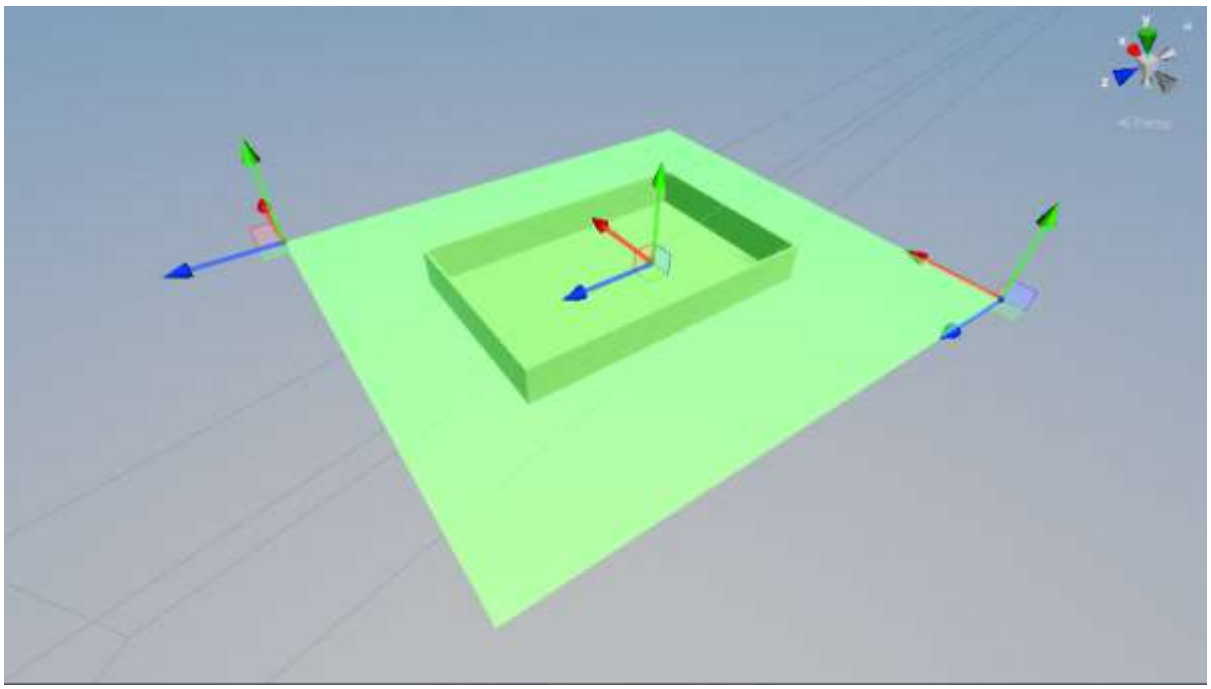
In this report I will showcase the tools I developed during Project Show-Off as part of my learning goal to improve my tool-making skills by applying them to a real project. In addition to showcasing the tools I will also explain some of the reasoning behind why I made these tools.

The most important thing I focused on while making them was making them user-friendly to the point where not much explanation from me was needed for my team members to be able to use them. I tried to achieve this by making settings obvious and controls easy to understand, as well as keeping each tool simple and focused on achieving only one thing. As such, most of the tools I made work directly in the scene and provide the designers and artists with a visual way to tweak settings.

For tools that wouldn't work very well as in-scene visual tools, and a simpler interface was better suited, I opted to make the interface clean and added information and help 'boxes' to help guide the user into using it. (This can be seen in the dynamic pollution system tool).

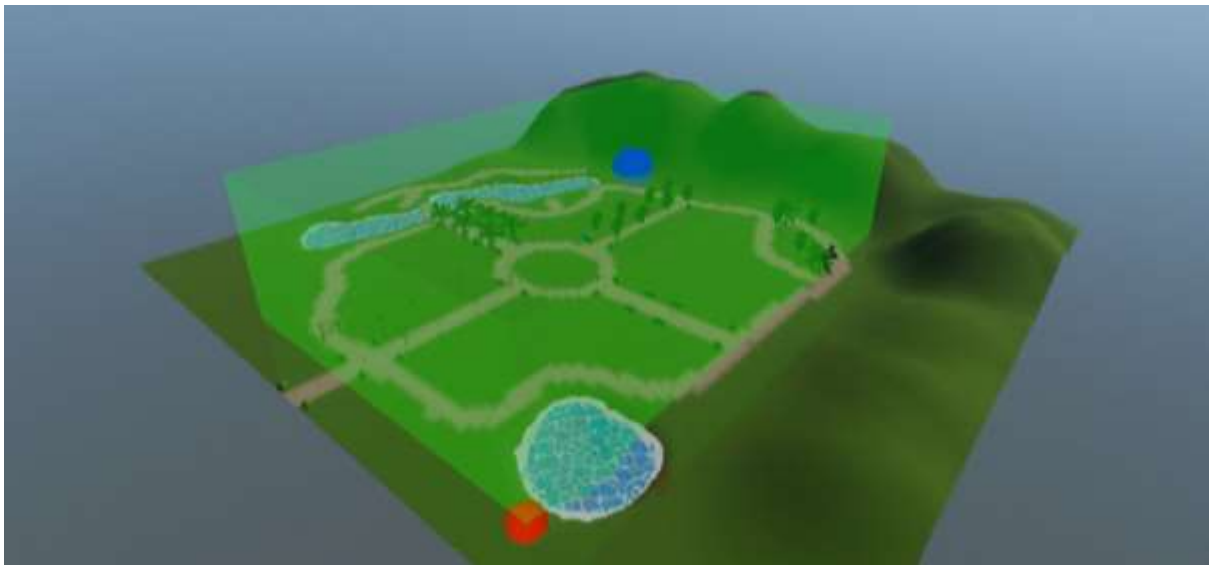
Tools

Camera Bounds/Limits



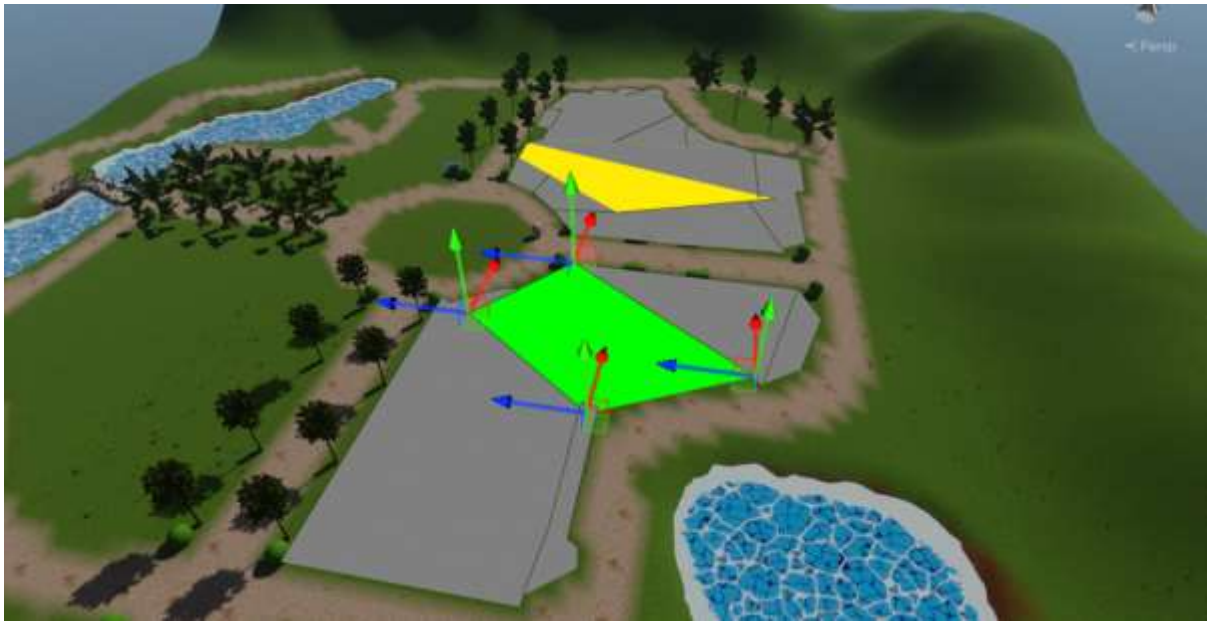
The first tool I made, and probably the simplest, was a tool for controlling where the camera is allowed to move during the build-mode phase of our game (where we used a top-down camera instead of the first-person camera used on the player). The level designer could easily tweak the bounds of the camera while making the level to ensure that the player doesn't go outside the map. They can do this by dragging around the two extremities of a rectangle.

Trash Spawning Area



Another tool I made was quite similar to the first one, but in three dimensions. This controlled where trash would spawn on our level in a similar fashion, by dragging the extremities of a cube. This was useful in the earlier stages of our game when we still didn't have NPCs to throw trash, and trash would appear out of thin air.

Buildable Areas

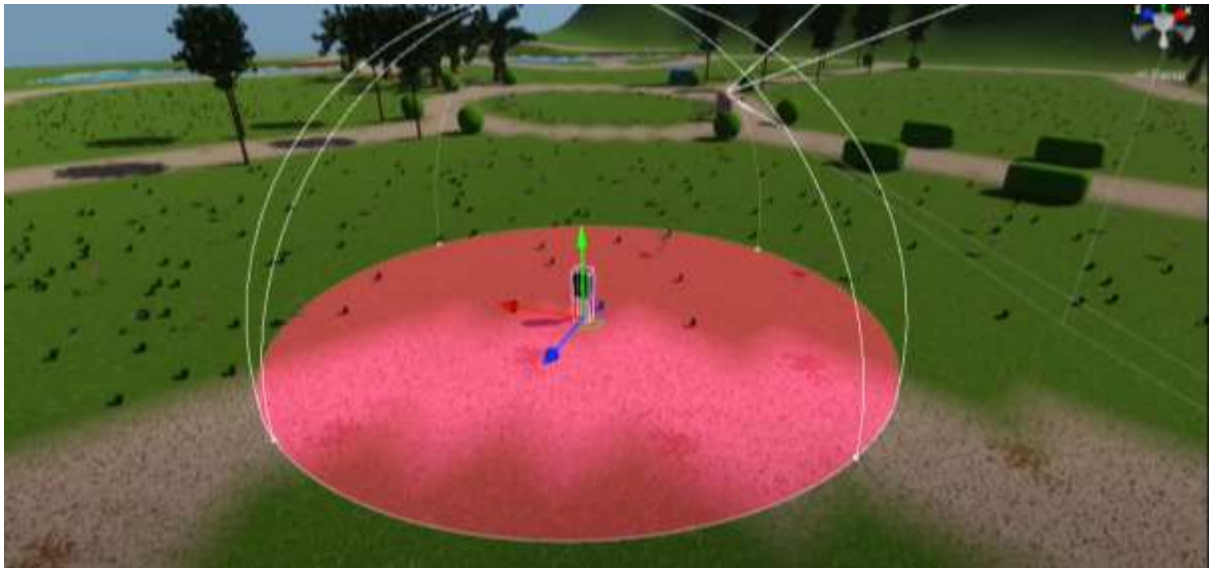


An essential part of our game was the ability to build up your park by crafting and placing down different objects. Pretty early into development we realized it isn't such a great idea to allow the player to place objects in any place they wanted, and we needed finer control.

This tool allows our level designers to designate the areas in which players can build by dragging around quads and forming a mesh-like structure with them.

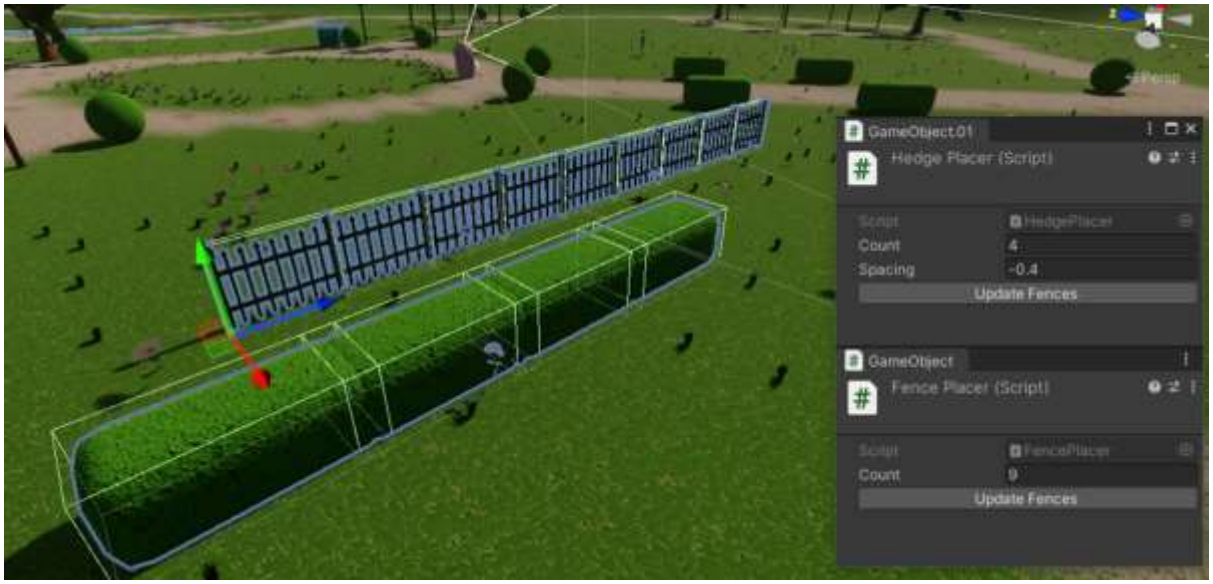
I put extra work into this tool to make it feel as if it were part of Unity itself, by adding features such as copy/pasting, undo/redo, deleting objects, as well as being able to select quads by clicking on them with your mouse like you do with usual Unity objects.

Trash Bin Pickup Radius



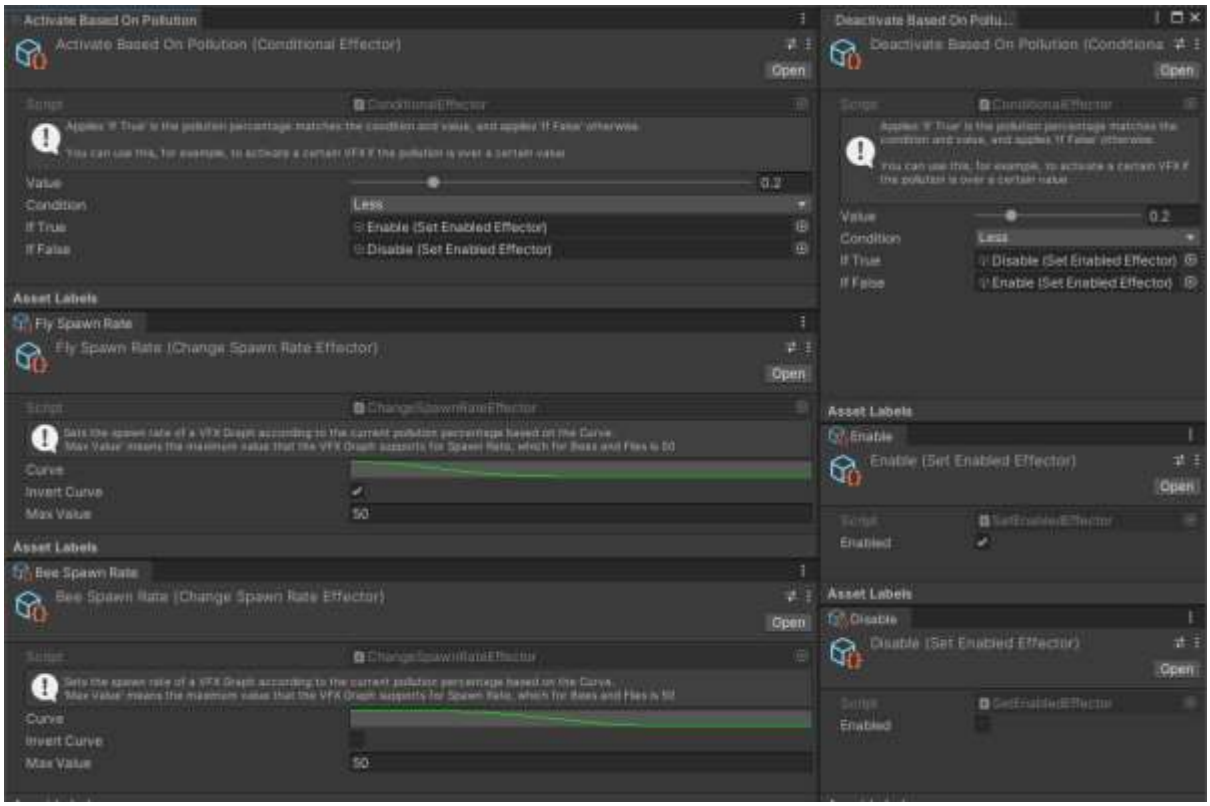
The final in-scene tool I made was one for controlling the pickup radius of trash bins in our game. Trash bins are one of the objects players can place around the park and their purpose is helping clean up the park by picking up trash around them. Using the controls in the image, designers could immediately see the radius of trash bins.

Fence/Hedge Placer



I made this tool at the request of our level designer. They wanted an easier way to place a row of fences or hedges on our level without having to manually place each object. So, to address that I made a script that would place a number of fences/hedges in a row, and for hedges it could even control the spacing between them for that extra finer level of control.

Pollution System



Another big feature of our game was the environment that changes based on how polluted the environment is from trash. I built a system where a designer or artist could build complex behaviour using simple blocks such as “if this then do that” and others that can control materials or visual effects based on the pollution level. This is the tool where I also added info ‘boxes’ to most blocks to explain their behaviour. In the end this allowed our game to feel complex as all the environment changed around the player, from the ground getting dry, to trees losing their leaves and rats appearing in the park.