Virtual History - NYC

Created by Ethan Printz

Concept

This project was first imagined as a midterm project. I created a non-VR 'viewmaster' in Unity that toured the user through three different time periods of Collect Pond in downtown Manhattan through the click of a mouse. It had no 3D movement, no audio, and most of the time periods were just white blocks but it proved the viability of and widespread interest in a virtual historical tour. For the class final, I wanted to take this same concept but make it better, with more content, proper 3D movement/audio, and native VR features such as teleportation control and hand tracking.

Research

For this new incarnation, I wanted to move the experience to a new location in the city. After quite a bit of poking and prodding around historical databases and archives, the abundance of reference photos and drawings of the old Washington Square Campus in the NYU Historical Archives led me to pick a spot on Washington Square East at the Northeast corner of the park. I looked through topographic maps, drawings, floor plans, old photos, and historical writings to build the most accurate

depictions of the past I could. I supplemented Unity assets with my own, using historical references to model buildings like the old University Building that were critical to get right. Below is a small subset of the research material used to recreate the spaces.

Technical Details

This experience was created in Unity using the SteamVR plugin as a base to extend using custom scripts. I initially tried to create the project using the HD Render Pipeline to make it as realistic as possible, but after spotty performance and lackluster VR support I defaulted back to the Universal Render Pipeline (which came with its own set of challenges but still turned out well). Assets were imported from the asset store or created using the ProBuilder/ProGrids toolkit. Teleportation through time is controlled in three different custom scripts, which detect when a user teleports to one of the spots on the pedestal, then activates GameObjects with their own scripts that enable/disable scenes and conditionally swap the Player prefab.
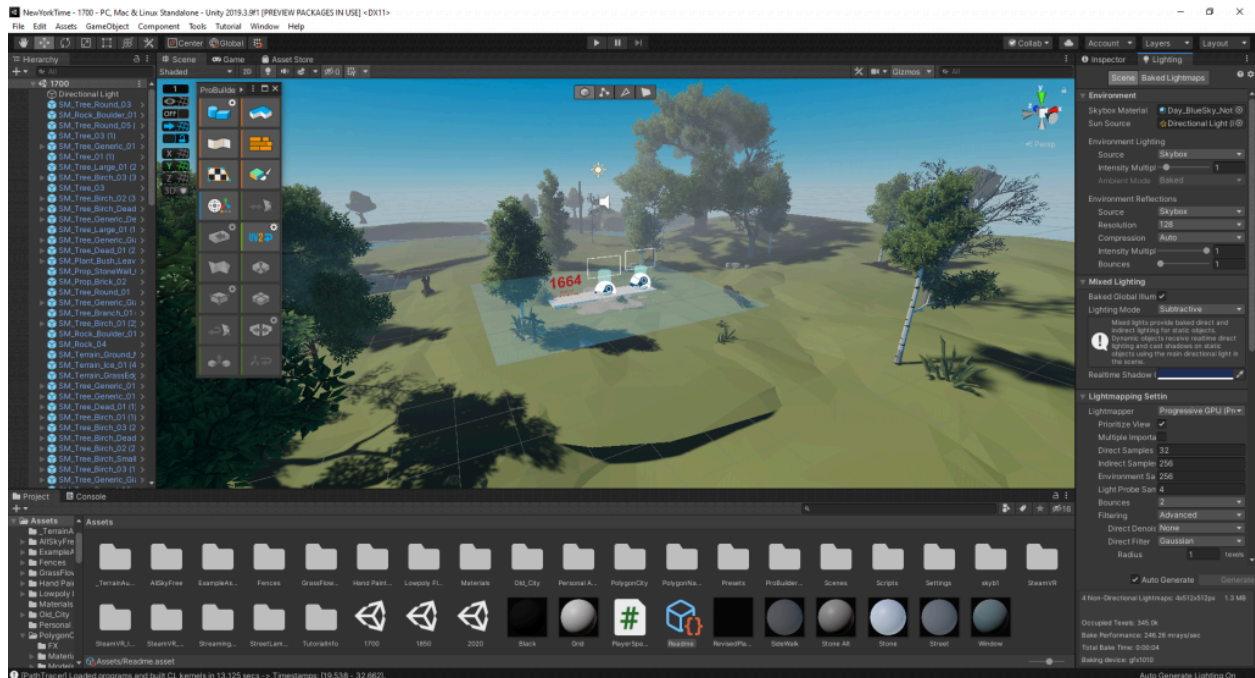
Future Additions

In the near future (hopefully next couple of weeks before the show), I will be adding a few changes to improve the experience. First would be adding more spatial soundscape to improve audio fidelity and immersion. I'll also be spreading some 2D reference materials throughout the scene to provide further information and historical grounding to the viewer when scene through the show's more historical tour-like paradigm. In that vein, I'd love to figure out a third person output to the viewers different from my first person view that provides a more realistic toured experience.