Merging two pre-existing Blender projects of KTH and its surroundings

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1. Project specification

The goal with this project is to merge two pre-existing Blender projects. One of the project is several models of the entire KTH school and its surroundings created by N. Axelsson and R. Amino (*sthlmfacadegenerator.tumblr.com*). The other project is a more detailed model of the KTH courtyard which was created by P. Maffini, T. Nguyen and H. Ren (*kthcourtyard3d.blogspot.se*). To be able to achieve this I will first learn to use Blender since I have never worked with it before. The main KTH building from the first project will need to be merged together with the courtyard from the second project in Blender to create a coherent model as well as adding material to the finalized model to make it look consistent. The material will be reused from the projects since a lot of effort have already been put into creating them. Finally the merged model will need to be exported into Unity and integrated with the surroundings of KTH to create the full experience of the school.

2. Method and results

2.1 Merging the models

The first week I mainly focused on learning how to use Blender and most of its shortcuts and navigation by watching tutorials online and experimenting with the tool since I had no previous experience with it. After I had learned the basics I begun by importing the Courtyard scene into the bigger model scene in Blender.
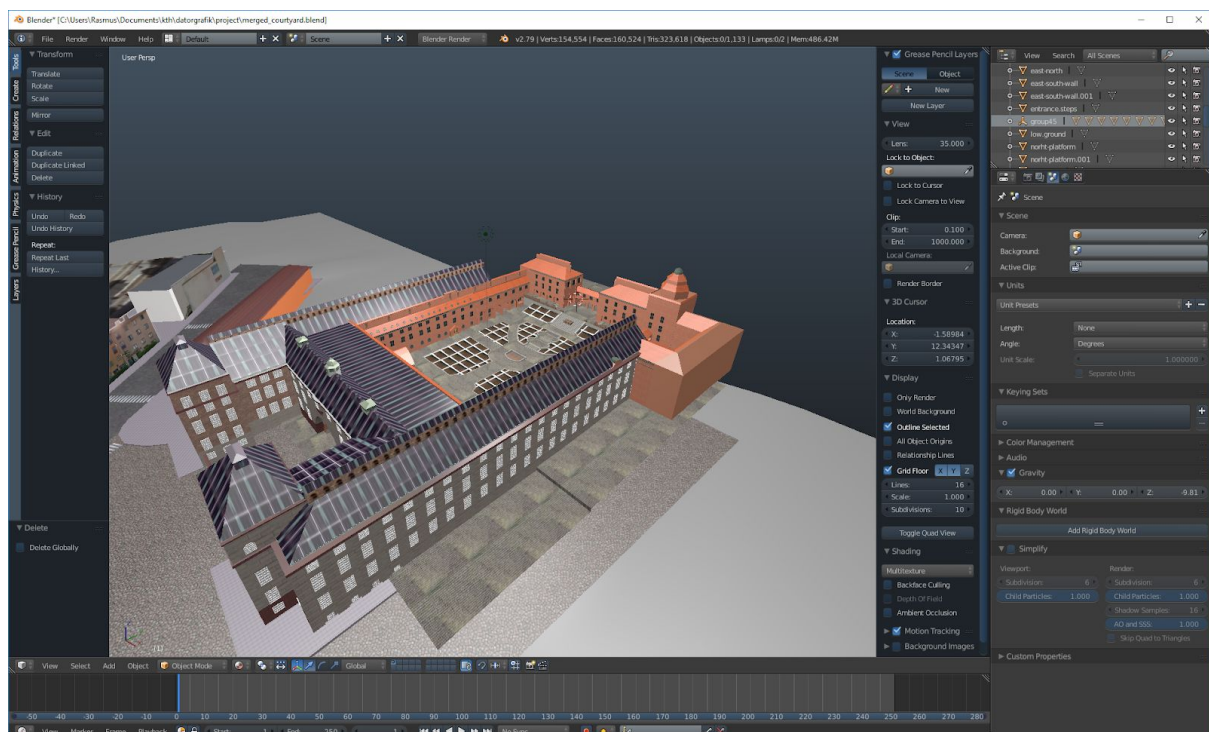

With the help of a modifier called boolean operator in Blender I was able to cut out part of the models where they did not align to make it look like a single entity. This was especially difficult with the vault since both the radius and the circle length were

different, however with some effort I made it look more or less coherent.
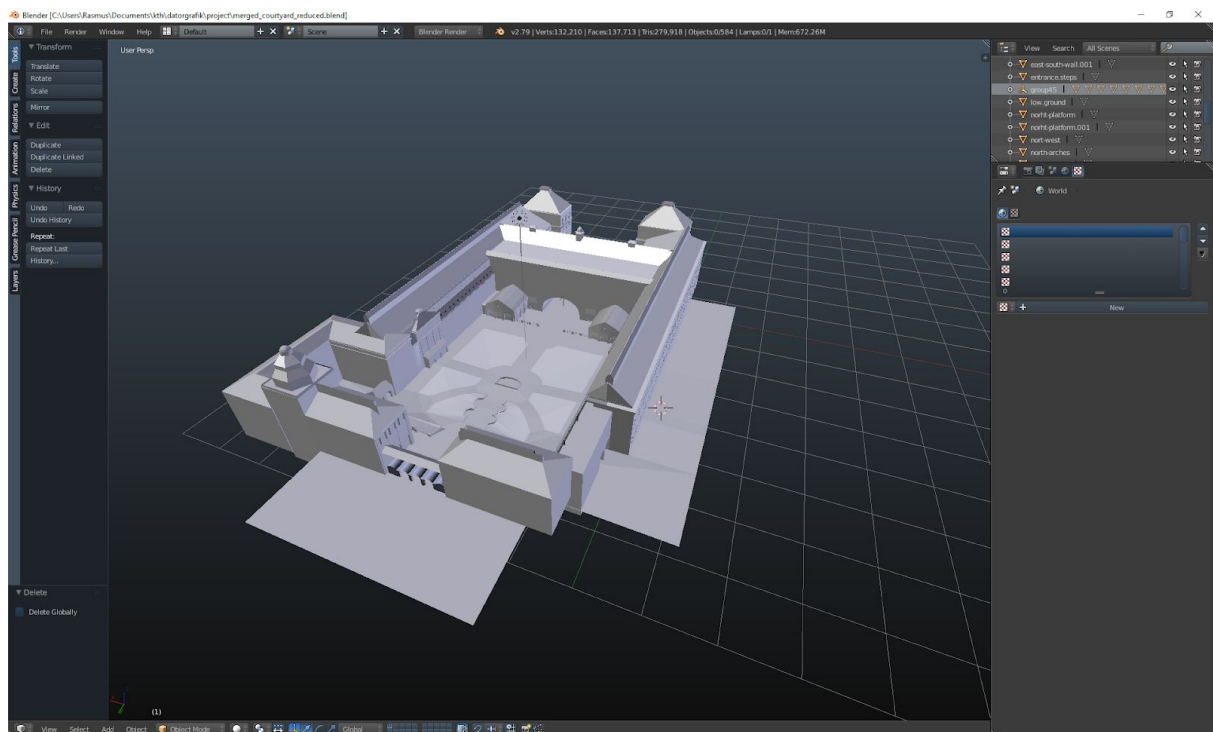

2.2 Adding Material

When I was satisfied with the look of the merged model I started investigating the adding of materials. I learned how to use UV unwrapping to make the applied textures look more realistic and applied it were it was deemed necessary, however the creators of these models had already applied the UV unwrapping to most objects so in most cases I only had to apply the material to make it look good.
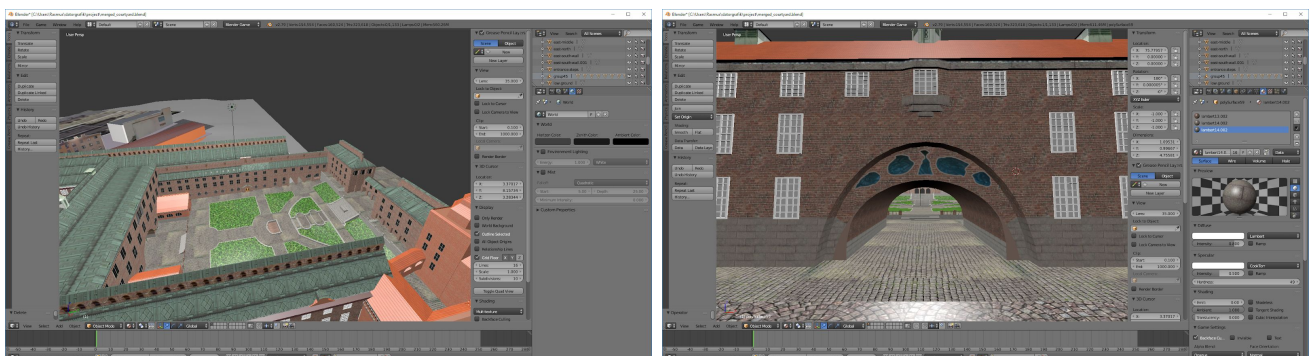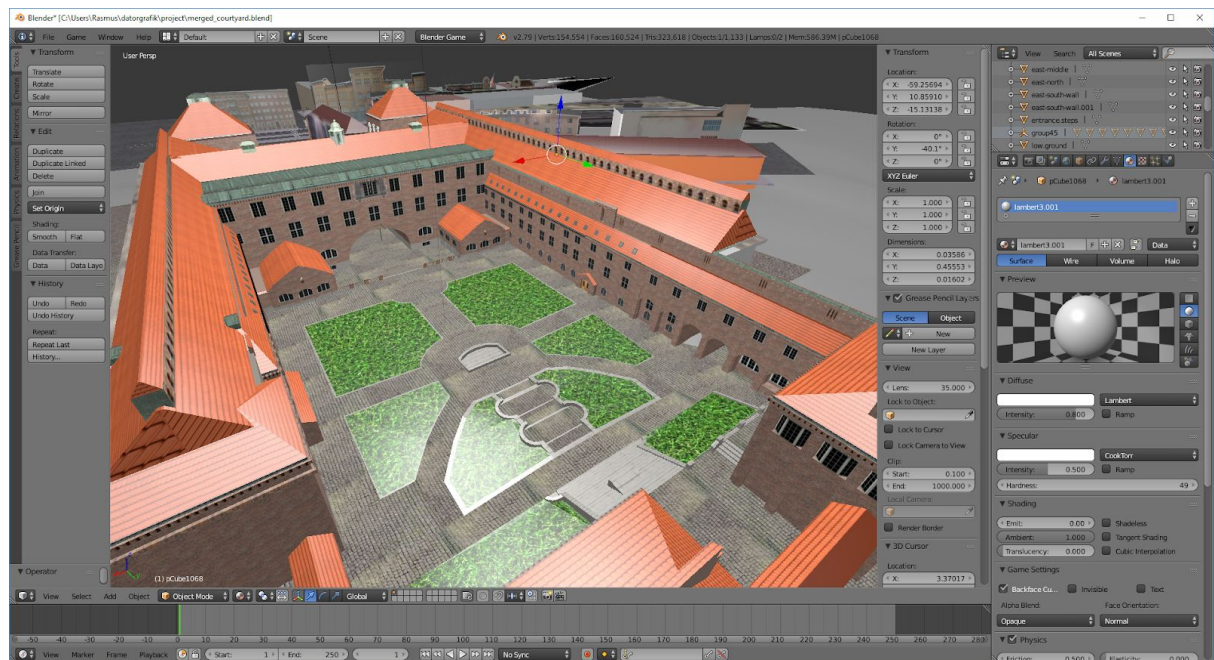
2.3 Importing into Unity

When all of the materials had been added it was time to import the model into Unity. This was simply done by exporting the model as an .fbx-file and then adding it to the assets in Unity and to the scene. Some scaling, rotation and transformation had to be applied as well to integrate it nicely into the scene.
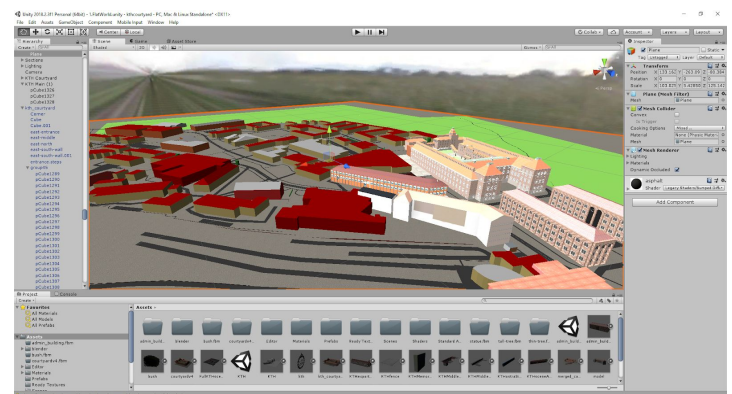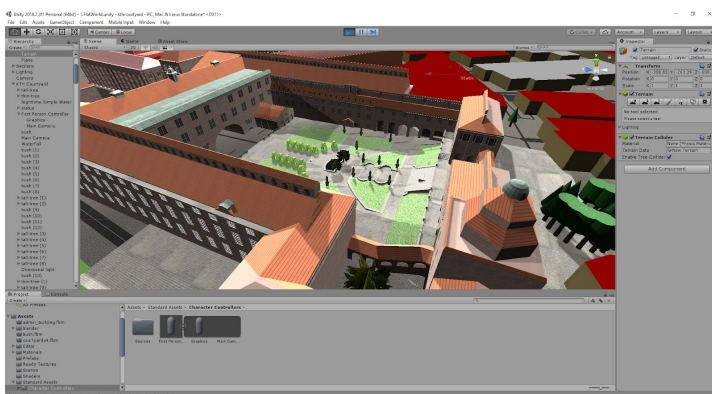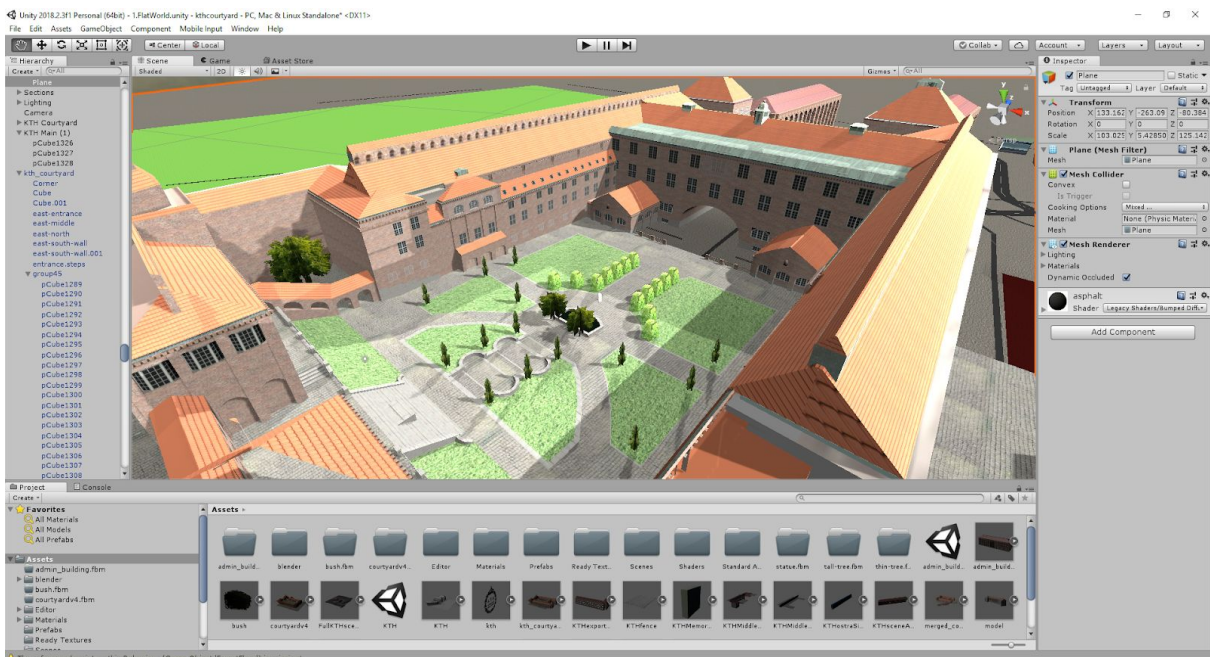
3. Challenges

I had a lab partner at the beginning of this project who sadly had to skip this course due to lack of time. This was one of the bigger challenges that I faced during this project since I had planned on doing it together with someone else. However in the end it worked out okay, I was forced to learn every aspect of this project and am now more comfortable using Blender than I might have been otherwise. The fact that I had no previous experience with the tool also created a huge challenge since there are so many functions that you need to know to even grasp the basics and tons of shortcuts to learn to be at least a bit efficient. I did try Blender without watching any tutorials at first and that turned out to be a nightmare since all functions pretty much overwhelmed me. However after watching just a few hours of tutorials I quickly became more and more efficient using the tool. I have used a bit of Maya before and I do think it is a better tool in general, especially since Blender sometimes crashes for no reason and lots of work could go lost if you forget to save often. This happened a lot in the beginning, but later on I was able to set up auto-save every two minutes so the crashes did not ruin too much of the work. I do think that this project could be improved even further by improving the models of the other KTH buildings. As of now some are only blocks, but if some effort is put into it, the entire Unity project could look really amazing.