

COSC 3P98 Final Project

Animation - "Highway Over The Cliffs of Dover"

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Link to Video: <https://www.youtube.com/watch?v=lkaGWPUrOoQ>

Video Concept:

Growing up, I was an avid gamer. One of the games that has contributed to my fondest memories was Guitar Hero and Rock Band. I loved rhythm games of the sort and they were a huge part of my love for music. In the games Guitar Hero and Rock Band, you would use these plastic instruments and press/strum the correct buttons.



In-game there would be 5 columns that notes would go down and those determined the buttons you had to click. Each column had notes with a different colour that represented each column.



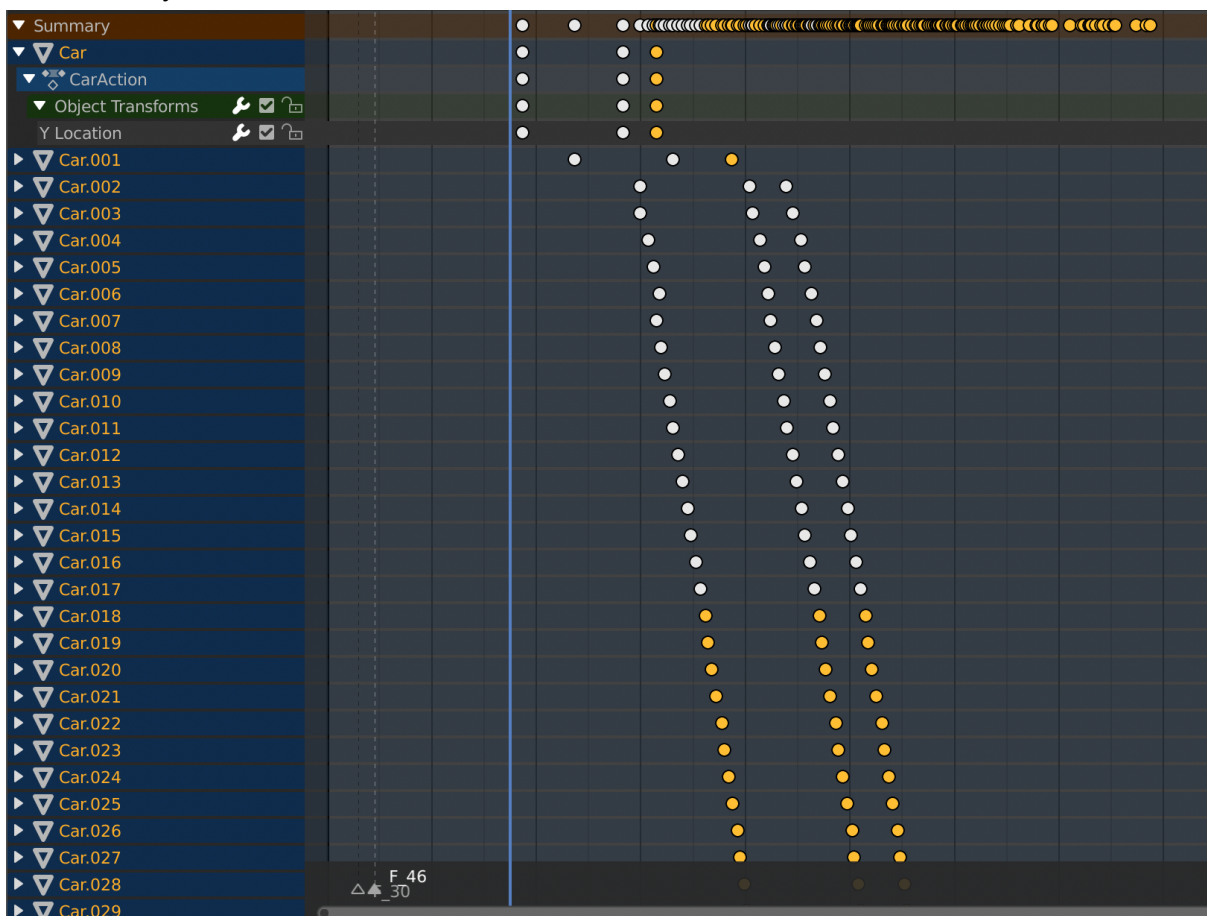
Growing up, I would look over a bridge over the highway and I would imagine the cars being the 'notes' and the highway being the Guitar Hero screen. This animation idea comes from that whole concept of the cars being the notes that I would play.

Planning and Creating:

First I had to decide what song I would be doing. I had created a list of my favourite songs to play. I ended up having to decide between Through The Fire and Flames by Dragonforce and Cliffs of Dover by Eric Johnson. I ended up going with Cliffs of Dover because the intro to Through The Fire and Flames would be too complicated to animate. Also, Cliffs of Dover made the title of the animation rhyme.

I then went straight into blender and began creating a 'whitebox' of my environment that I wanted. A whitebox is a term used when creating a non detailed model of something. So for me this meant creating a simple road and buildings with no textures or models just to lay out the scene.

After that, I had begun searching for models I could use and started putting those to use. Once the car model was found I began the animation. This was the bulk of the work. I decided to go keyframe each and every car to go with the notes. To time the cars, I would cross reference the actual gameplay from Guitar Hero and use that to position the cars and time their keyframes to the audio.



There were 74 cars in total all keyframed by hand.

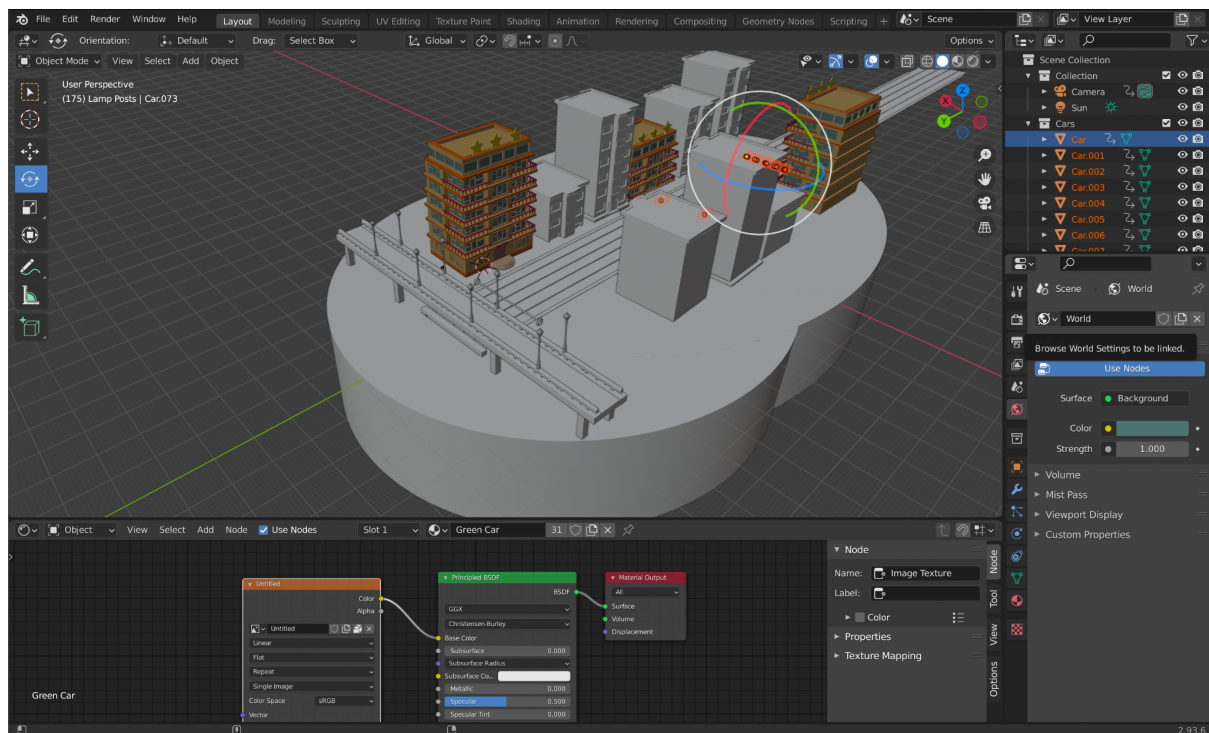
After that was done, I made textures for the different colour cars. One for all five of the columns of cars. I then modelled and textured my own bridge to look over the cars. I gave

more life to the scene by adding in the real building models and fixing up some textures to match the theme/colour pallet of the environment. I scrapped the original idea for the ground which was just a simple plane, but then made a guitar island, which I felt had a better feel to the animation. Once the visuals were pretty much set in stone, I had begun animating the camera also using keyframes, to better show the environment and also create a loop for the animation.

Software:

Blender:

Blender has always been something that I wanted to learn and when I heard about this project at the beginning of the year, I was very excited as it gave me a reason to try and learn/use Blender for the first time. Blender is a free software that I had heard many great things about over the years on the internet and more so in my co-op last winter where the art team had all been using blender for work. It was very different from what I was used to. I am very comfortable editing videos on a video editing software but navigating and environment in 3D space was something very foreign to me. As I continued to work more and more in blender I became more comfortable in using the software.



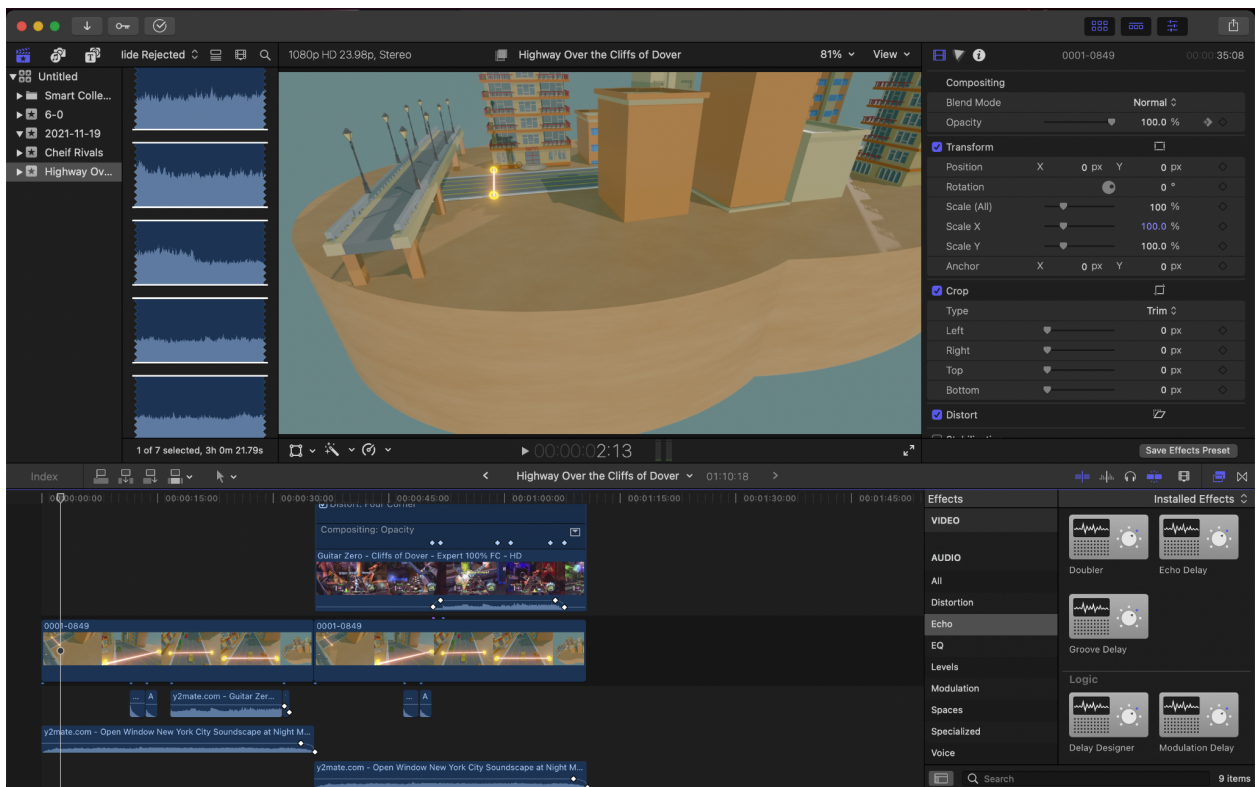
For a free, open-source software, I was very surprised on how much you can do with this program. The possibilities are endless and I feel like I haven't even scratched the surface with what is possible with this software. I did not use any gravity or physics simulations but that could make these animations so much better.

The render was done for 1920 x 1080 screens at 24 fps.
It took 48 minutes and 9 seconds to render 849 frames



Final Cut Pro:

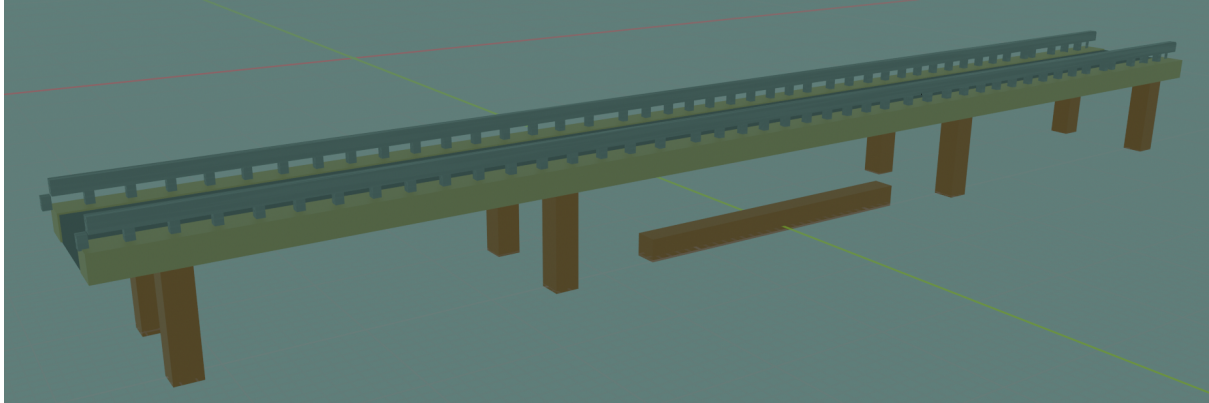
Final Cut Pro is a video editing software that I have been using for the past 6 years. I have always loved making videos and I will take any opportunity in making videos whenever I can. This was simply used for putting the animation and audio together into one.



Models:

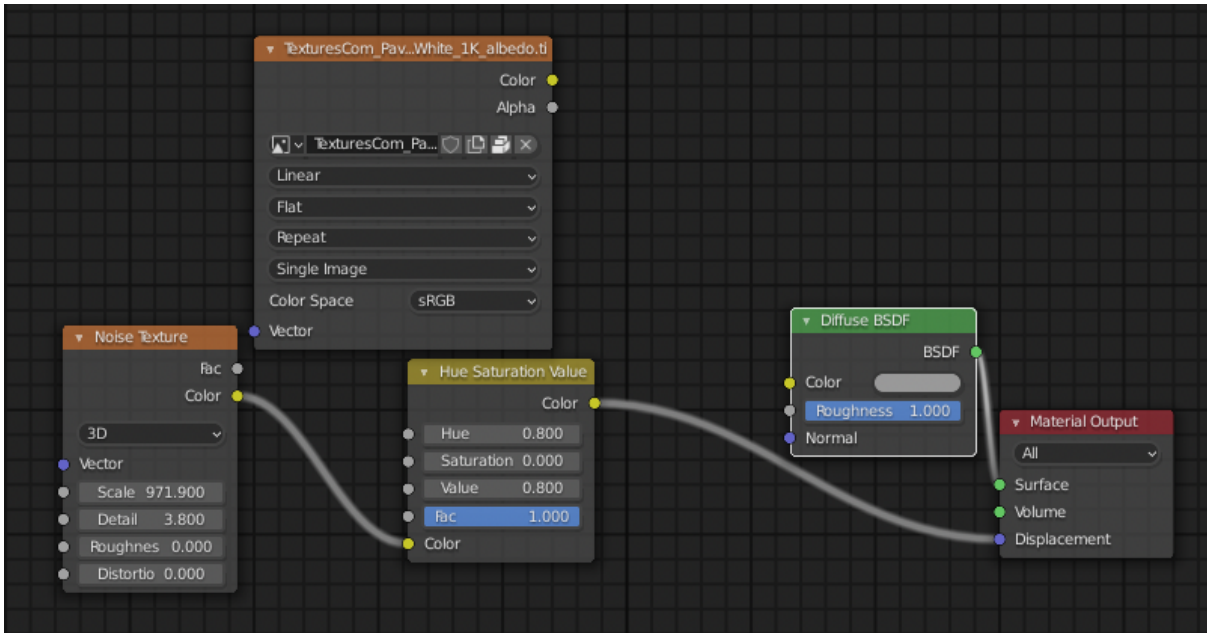
There are two main models that were created fully by me, the Guitar Island and the Bridge. The other models were all found on Turbosquid and Sketchfab as free to use models. I had already had a low-poly theme in mind so I wanted to create a couple models

myself to learn blender. The bridge was simply made with only cube objects. The railing of the bridge had its corners rounded off but other than that, simple cubes were used. For the Guitar Island, it is simply two cylinders that were joined together to look like the base of a guitar and the road was where the strings would be. The other models were the buildings, cars and lamp post.



Textures:

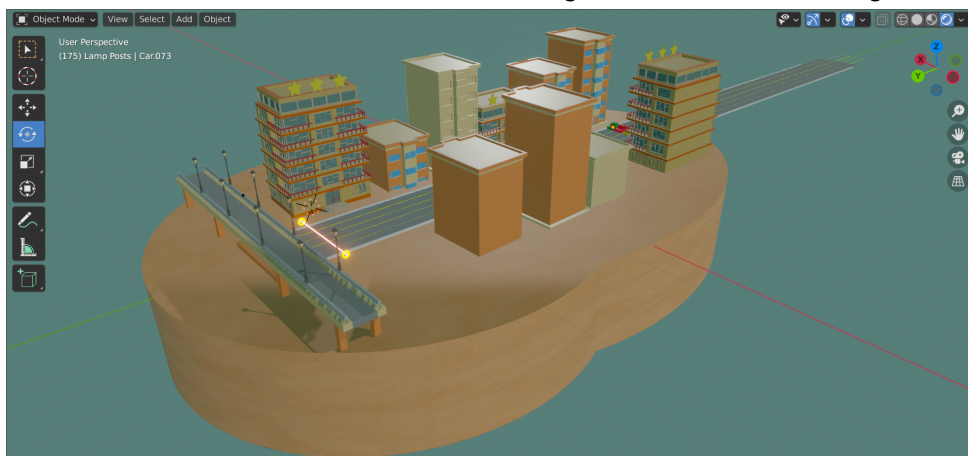
Some of the models came with textures that I had liked. Those being the Lamp and the Hotel buildings. All the other materials were made in Blender using their texture making tools. For the road, I wanted to create a material that had a sort of rough texture to it. I had searched up on how I should do this and it was recommended to use a noise texture for the displacement of the material and that worked out perfectly. Other textures/materials were made for the wood which also used a noise texture but used on the actual colour of the material to give it the wood look. It was very interesting to see how the different values of the materials would affect how it would look with the given lighting. It was cool to see things we had learned in class being used.



Textures for certain buildings were changed as well. For this I had used a different technique in creating the materials and that was using the texture drawing/creation tools they had in blender. You would draw onto these images that would be projected onto the models you give the images to. The models allowed for different images to be used on different parts of the model which is what I had used for one version of the building to the same colour as the hotel model that I had gotten from TurboSquid. The same technique was also used on the cars to give them the different colours for the notes

Environment:

My idea of the environment was sort of like a street with buildings on the top of the face of a guitar. The construction of it was fairly simple with the one road in mind, I had dropped in simple cubes with different heights and sizes to represent where I wanted the buildings to be and see how it affected the lighting as shadows would be casted onto the road. This allowed to work on the animation of the cars first before doing the rest of the detailing of the scene.



When I was looking for models for the buildings, I loved the colour palette used for the hotel model I had found. I then used that for inspiration for the whole palette of the scene.

Resources:

Models:

[Low Poly Building Free Download 3D](#) - By MujeerUllah

[Hotel3star 3D](#) - By Tykryk

[Low Poly Car 3D Model Free Download 3D model](#) - By MujeerUllah

[Stylistic Lamp Post](#) - By NienkeSt

Audio:

[Open Window New York City Soundscape at Night \(Midtown Manhattan City Sounds\) 4k](#) -

By Normandic Ambience

[Cliffs Of Dover - Eric Johnson \(Guitar Hero 3\)](#)

Video:

[Guitar Zero - Cliffs of Dover - Expert 100% FC - HD](#) - By Bah Dink