

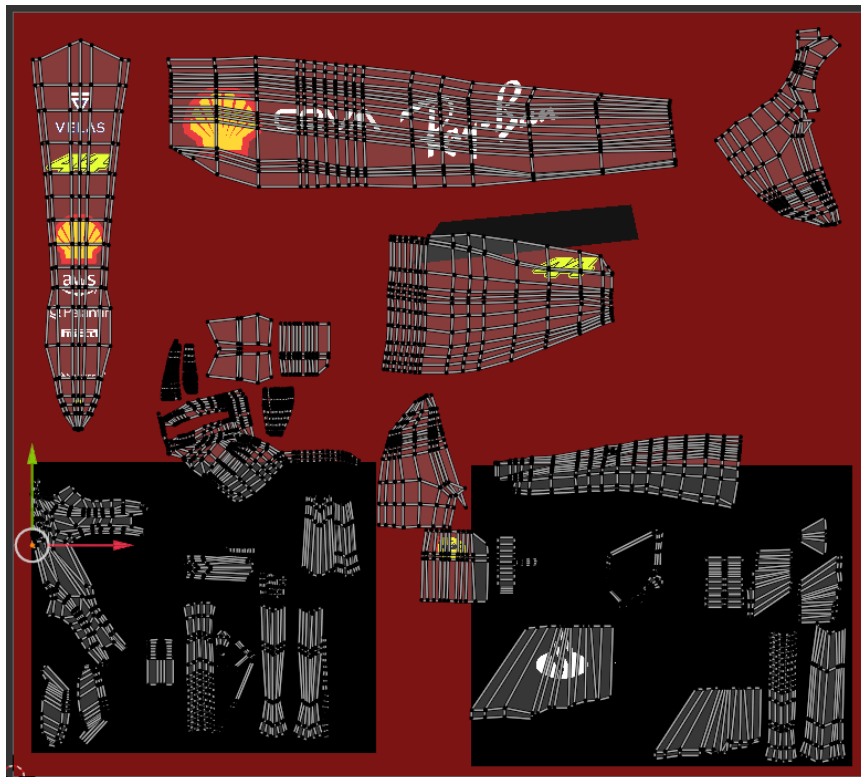
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CS148 Final Project
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For my CS148 final project I designed a recreation of the [Ferrari F1-75](#) F1 car from 2022 in a showroom environment. I completed the project alone.

The main geometry of the car was created entirely by myself. To start out, I began by looking at [this time lapse of someone modeling a similar car in blender](#), which isn't really a tutorial, but I used it to vaguely get started. The car I designed is a little different from the one designed in the video, so I ended up diverging from it in the way I modeled things quite early on. I created all of the geometry in the scene myself, except for the [trusses above the light in the scene](#), which I found online.

To show off the power of ray tracing, I wanted to have a glossy floor that could reflect some of the colors from the car. I was going for a kind of polished concrete floor that has some imperfections, resulting in a bit of a wavy texture, which I think looks pretty good. The rubber from the tires is quite shiny, as well as the paint on the car, making the scene look nice when ray-traced.

For the UV map of the car itself, the paint scheme is quite simple, with the main colors being red and black. I used Microsoft Paint to create the two colors and place the logos, and unwrapped the geometry of the car to fit everything in place. Here is the UV map for the chassis of the car:



For the Blender advanced feature, I used volumetrics to help highlight the car in the scene by creating a large cube over the scene and using a Volume Scatter node to get the desired effect.

Here's the render preview without volumetric lighting:



And here's the preview with volumetric lighting:



I believe it makes the lighting look a bit more natural and puts the car completely in focus.

Citations:

Video of modeling an F1 car: <https://www.youtube.com/watch?v=fxg7OfQq9FE>

Trusses used above the light:

<https://sketchfab.com/3d-models/square-truss-straight-segment-21-f43719b6267645a587a9d3959b5f2d2b>