

I think that interoperability is a very effective tool for designing. My efficiency in transferring between programs like Rhino and Blender seamlessly to edit different aspects of the models has significantly improved since completing this assignment. The amount of subdivisions also made a significant impact on the interoperability of designs. If a model was subdivided too many times it would crash the program or cause it to lag. As such careful consideration must be made when determining how to export a model. When converting imported files from meshes or SubDs to NURBS the integrity of the original model is very important because if the original model has small errors in placements of points or overlaps, aspects of the design will be lost in the conversion. NURBS objects are polysurfaces and can therefore be manipulated in many ways, including being exploded or unrolled. The number of meshed components however can impact whether or not your NURB conversion can be executed without crashing the program. With this in mind reducing the number of meshes was an interesting modifying component. Reducing meshes by planar meshes would preserve the geometry of the object the most while reducing to a specific number of meshes would alter the geometry the most, because of this it was important to be intentional about how much I would reduce the mesh to make it easier for the program to process without losing too much of the geometry of the design. SubD objects are surfaces and can therefore be manipulated in many similar ways as NURBS. One difference that I noted between NURBS and SubDs was the geometry that formed in their conversions. NURBS were mostly quads and triangles while SubDs could have very rounded geometries.

I now understand that in Rhino, meshes can make very complex designs, but when it comes to begin to fabricate, it can be very difficult. Mesh designs cannot be unrolled into a flat surface so in order to be able to make the model of Eve out of paper the design needed to be converted to a different format. I found it best to reduce the meshes and then convert to NURBS when going to unroll because it made the geometries more simple for when cutting would be necessary. These processes could be very effective for future projects that will require assembly planning, or even simply and more intimate knowledge of how the geometric components of the design interact.