About Model

The Model Viewer is used to view the models. Bottle and Glass mesh options involve transparency in their materials. The models were made in Cinema 4D and each model involves multiple Boolean operations to create indents for details. To avoid glitches and tears in the mesh, instead of the usual Boolean modifier, a volume builder and mesher were used. With the volume builder, it allows the booleans between meshes, but are then populated with voxels instead. The volume mesher can then take the voxels and rebuild the mesh from scratch, smoothening the details and indents, and also removing invalid faces. This does come at a higher cost of polygon count though.

Reason for the transparency button

The volume mesher resulted in creating a lot of polygons, mainly triangles. When X3Dom renders the meshed object with a transparent material, it causes each triangle to have a different shade of the material, resulting in a checkers like pattern. To combat that, a toggle transparency button was implemented to disable the triangles appearing.