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. This does also cause the wireframe mode to glitch out and render more lines and edges than it has.

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.

Deep understanding

Models using cinema 4d.

Models were made via the volume builder and mesher method. (Example in image above)

Most data on the site are saved in a database in different models and get loaded up with PDO to the view.

JQuerry’s $.Load() was used to load up each page.

More control API calls were created to allow the view to load more data from the models (database).

More controls on the Light source. Moving it around and changing colour and intensity.

Use of Typescript over Javascript.

Use of SCSS and SASS over CSS to override the colours of Bootstrap’s SCSS.

Used fancy box on cards.

Made Cinema4d Renders including a gif animation of falling bottles.

Statement of Originality

The statement of originality should be worded as follows: "These web pages are submitted as part requirement for the degree of BSc Games and Multimedia Environments at the University of Sussex.  They are the product of my own labour except where indicated in the web page content. These web pages or contents may be freely copied and distributed provided the source is acknowledged".

Libraries

Bootstrap 4

X3dom

jQuerry

fancyBox

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