CMPM 163 HW 3 Part C

The topic my team has chosen for this assignment is interior mapping. Interior mapping is a real-time shader technique that renders the interior of a building when viewed from the outside through any number of windows. However, there is no need to model this interior.

Raycasting is used to calculate the locations of the floors, ceilings, and walls behind the windows. The 3d space is considered to have ceilings/floors/walls at regular intervals, each represented by a plane which is intersected with a ray.

The interior mapping textures are usually combined with an exterior texture, using the alpha channel to store where the windows are.

Windows with reflections only

Windows with Interior Mapping

Wireframe model: note how Interior Mapping does not add any actual polygons.