ARCHITECTURE
VISUALIZATION VR
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For many architects, the biggest challenge is often giving the client a clear understanding of how the design will look in real life. The idea behind the project is to visualize the Interior and the Exterior design of an architecture model in VR, so that clients could gain an understanding of how a design will look to scale in a fully 3D environment.
ENVIRONMENT

- HTC Vive
- Unity, C# scripting
- Visual Studio 2017
IMPORTING ARCHITECTURAL MODELS INTO UNITY
SKETCHUP TO UNITY
IMPROVING PERFORMANCE

• Reducing the complexity of the imported geometry’s hierarchy.

• Remove every detail that is not contributing to the real time project, especially for models that tend to include excessive geometry for every part of the building.
IMPROVING PERFORMANCE

- Replacing equal meshes with instances of one mesh
ADDING FURNITURE

• Adding furniture imported from Unity Asset Store as they are in a better quality than the SketchUp imported furniture.
ADDING LIGHTS

- Adding Lights for convincing and realistic scene.
  - Adding Ambient Light
ADDING LIGHTS

- Adding Lights for convincing and realistic scene.
  - Adding Directional and Point Lights

- Lightmapping instead of relying on real-time lights.
FEATURES

• Two scenes:
  - Exterior View – The model from the outside.
  - Interior View – The model from the inside.
• Rotation: Hold the Grip button and move your hand along the vertical and horizontal axis.

• Auto-Rotation: Hold the Grip button and move your hand to the sides of the horizontal axis for auto-rotation.
**EXTERIOR VIEW**

- **Reset:** Use the trigger button to Reset to initial rotation

- **Scale:** Hold the Grip button and move your hand along the depth or the Z axis to scale the model.
EXTERIOR VIEW

- Pointer for hovering over a floor, touchpad press.
- Selecting a floor to get into it’s interior view, trigger press.
• **Teleport**: Provides the user with an ability to move in building’s interior without actually moving in the real world. Enabled with Touchpad press.
INTEIOR VIEW

- **Menu:** Can be enabled or disabled using the menu button on the controller. Containing the floor map and a Back button to the exterior view of the building.
Hold the controller’s grip button to move the menu away or towards the eye.
INTERIOR VIEW

- Floor map: Allows user to navigate the building’s floor and keep tracking of his/her location.