

Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

<http://aucache.autodesk.com/social/visualization.html>

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.

From BIM to Beautiful: Utilizing Autodesk Revit Models for Architectural Visualization

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Project Coordinator

@coffeecup3d

About the Speaker

- Project Coordinator, The Beck Group (Atlanta, GA)
 - BIM Modeling/Documentation
 - Consultant Coordination
 - Visualization
- Master of Science in Architecture, Georgia Institute of Technology (2012)
 - Graduate Research Assistant, Gaming/Arch Projects
 - Parametric Design and Digital Fabrication
- Bachelor of Arts in Architecture, Florida International University (2009)



About the Audience

Live Poll

Use the AU 2014 app on our smartphone or tablet to answer a couple of questions.

Class summary

Learn to combine logical modeling practices with the powerful FBX file interface, and discover the potential of your Revit software models in 3ds Max software and real-time environments. In this class we will explore the benefits of the Revit software feature set to create visualizations in external applications using the FBX file format as our main pipeline.

Key learning objectives

At the end of this class, you will be able to:

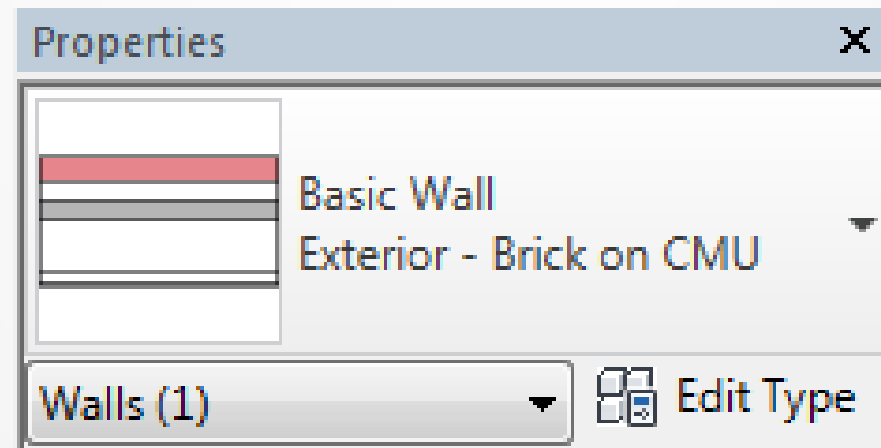
- Establish logical strategies for structuring model information.
- Learn how to use the FBX format to export models to external applications.
- Navigate the model structure to modify materials and elements.
- Learn how to update design changes on demand for static and/or real-time rendering.

Part 1: The Revit Model

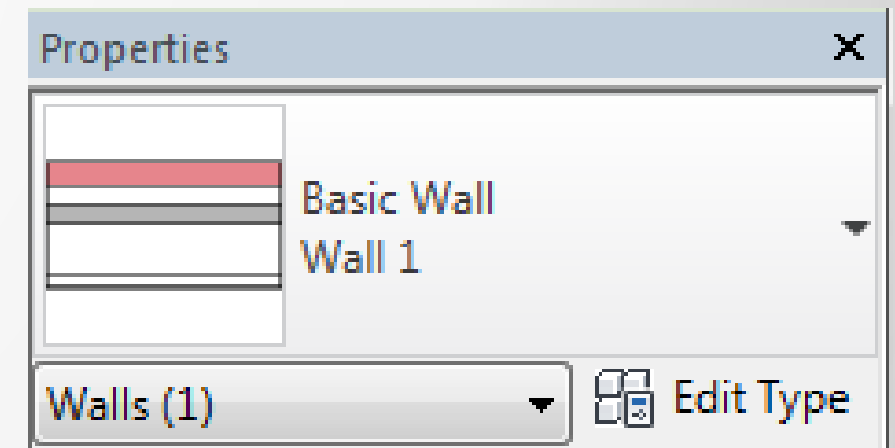
Part 1: The Revit Model

Develop Good Naming Conventions

- Helps organize model content library.
- Makes objects easier to track in large projects.
- Include max info possible in object names.
- Family Name
 - Type 1
 - Type 2
 - Etc....



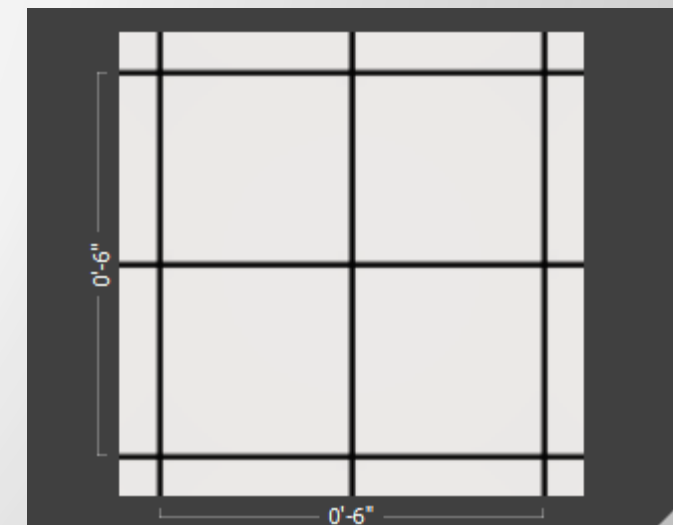
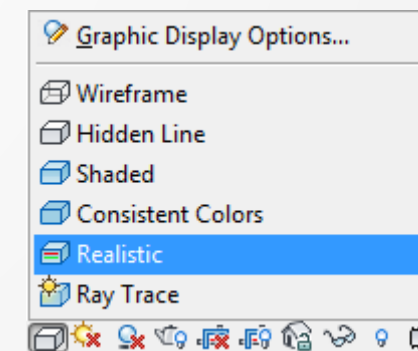
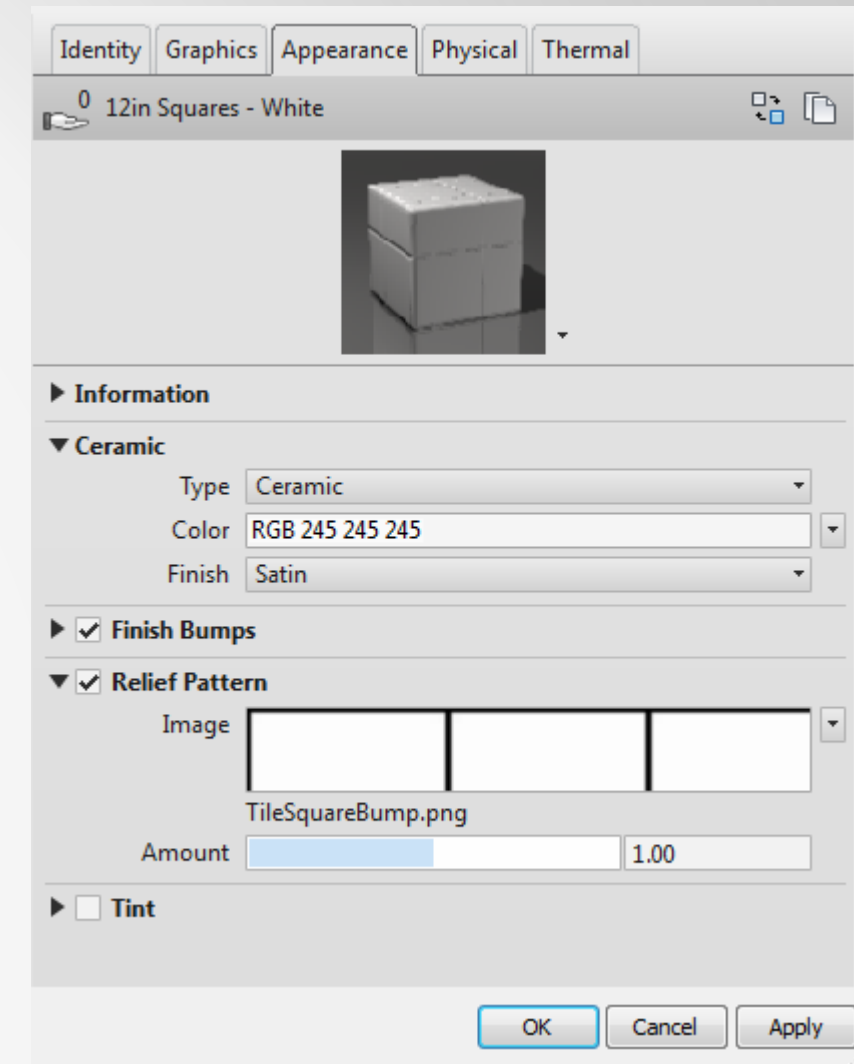
VS



Part 1: The Revit Model

Focus on Appearance Settings

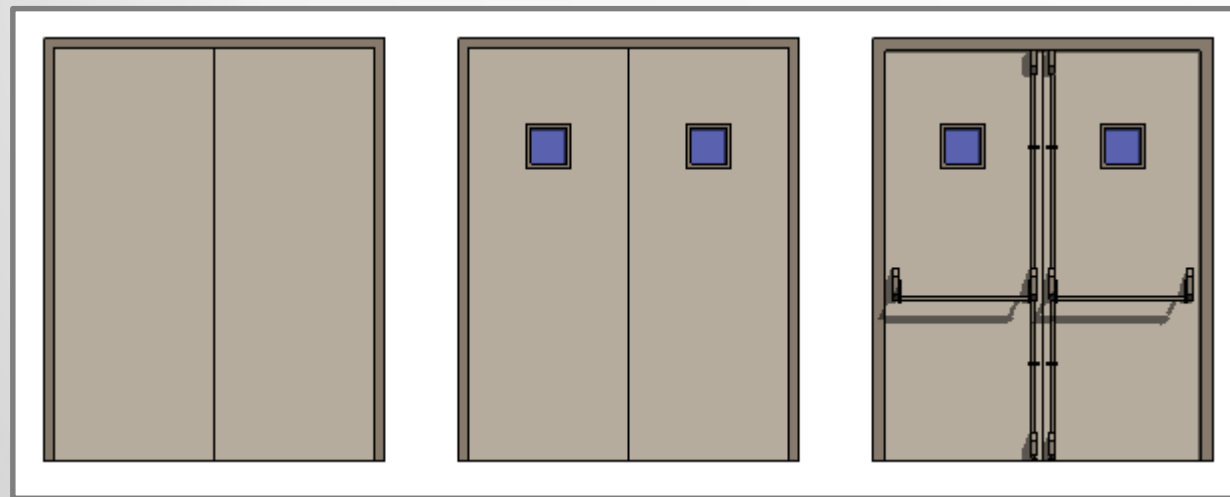
- Graphics settings do not get exported.
 - Line weights
 - Hatch patterns
 - Graphic Overrides
- Appearance Settings will be exported.
 - Base color
 - Textures & mapping coords.
 - Glossy & Transparency Settings, etc.
- Have textured sized correctly.
- Set 3d view to “Realistic” mode for preview.



Part 1: The Revit Model

Use Detail Levels:

- Multiple versions of geometry in one family.
- Can be preserved in fbx exports.
- More detail = more polygons = increased render times.
- Medium LOD optimal for most applications.
- Use your judgment 😊



Part 1: The Revit Model

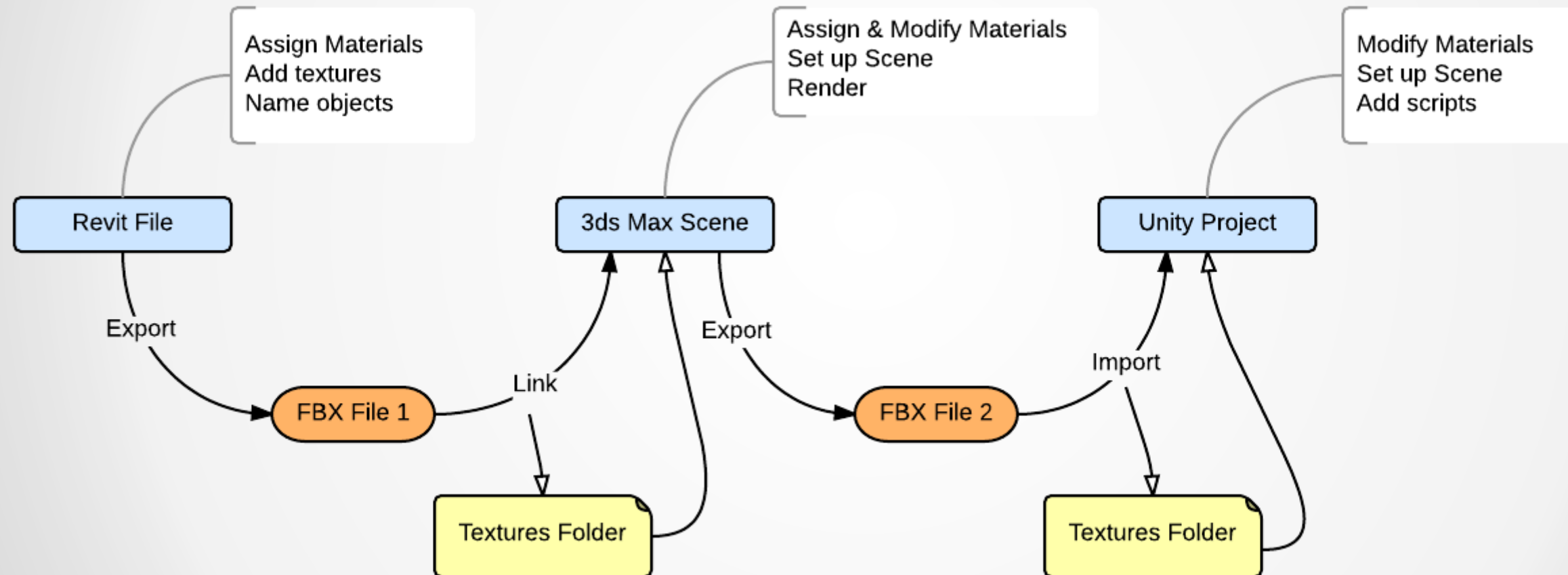
Good content is everything.

- Paid content (furniture, lights, etc) is usually better quality.
- Avoid manufacturer families when possible.
 - Tend to have high poly counts, large bitmaps.
- Focus on architectural model development.
 - Props, etc often can be added later if needed.
- Know what your content includes.
 - Texture, LOD are a huge plus.

Part 2: The FBX Pipeline

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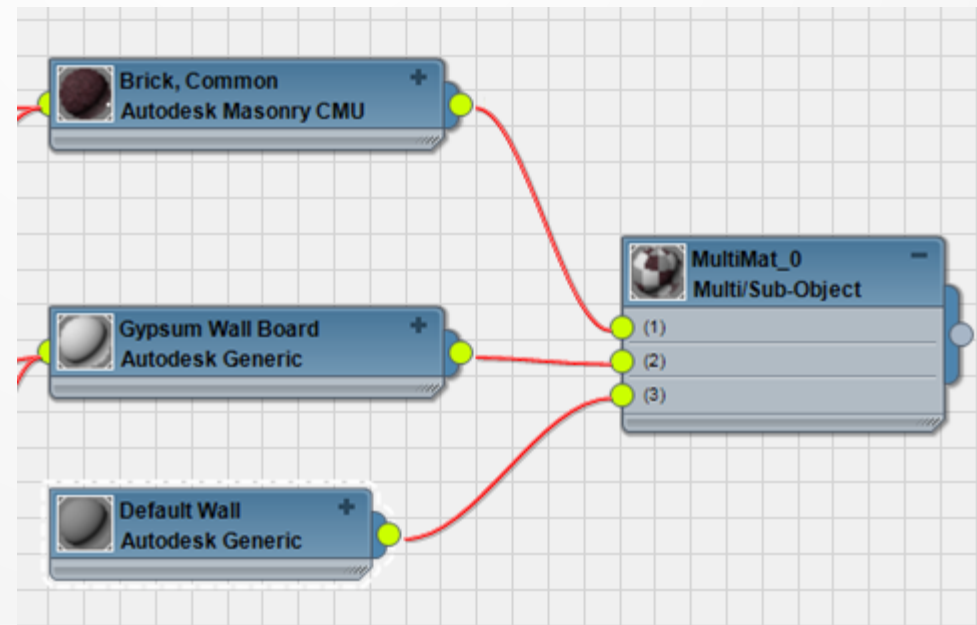
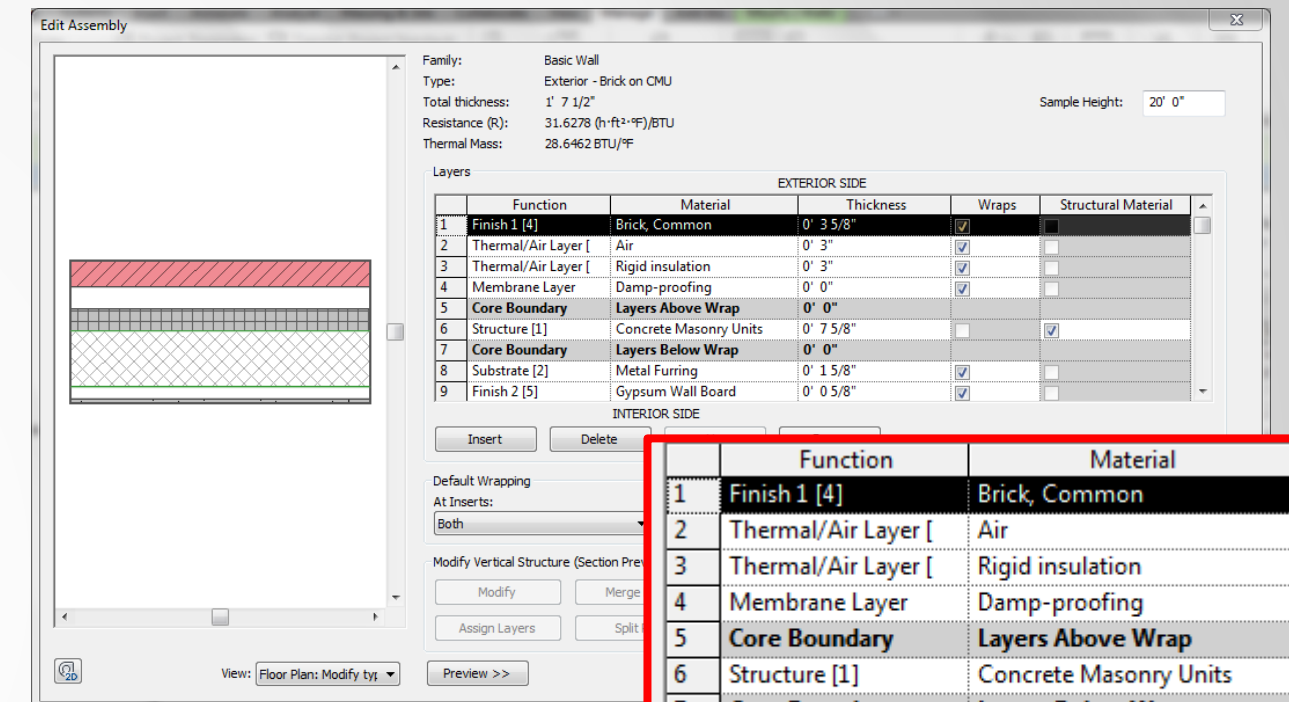
Workflow



Part 2: The FBX Pipeline

Linked FBX Information

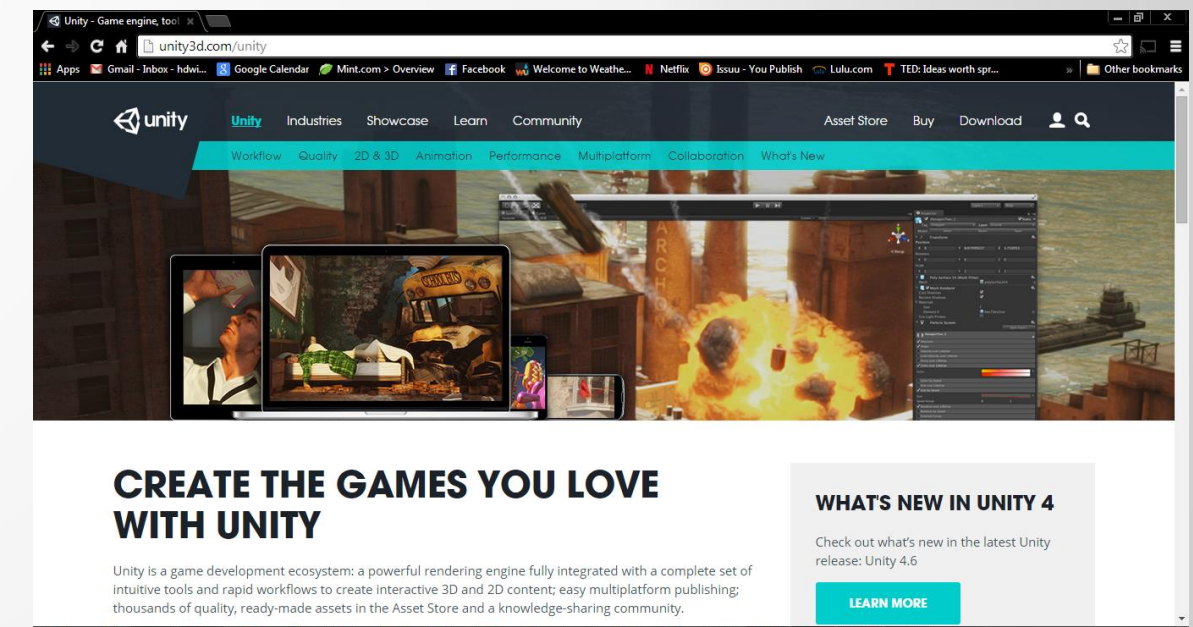
- Materials (and daylight system) from Revit
 - Compatible Mental Ray.
 - Can be modified.
 - Multi/subs created by default.
 - Can be replaced by new materials.
- Textures
- Mapping Coordinates



Part 2: The FBX Pipeline

Overview of Unity3D

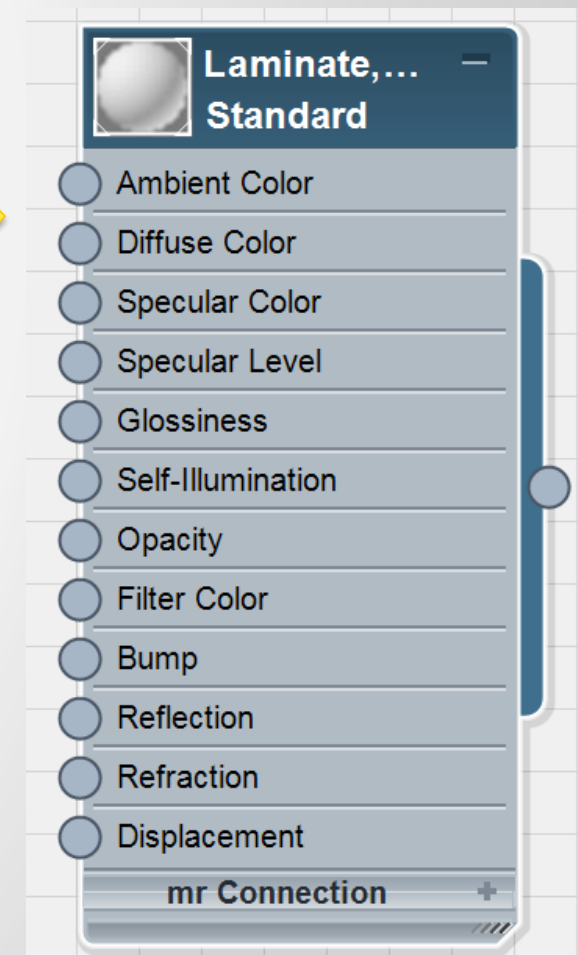
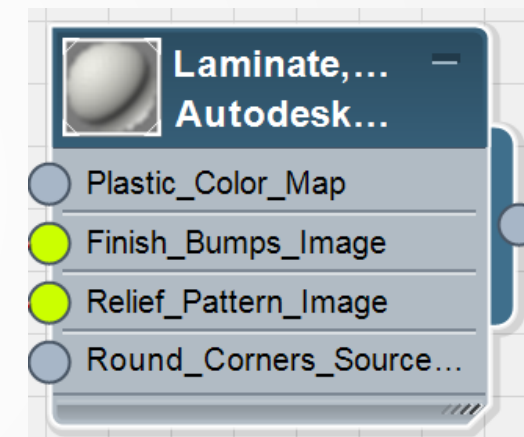
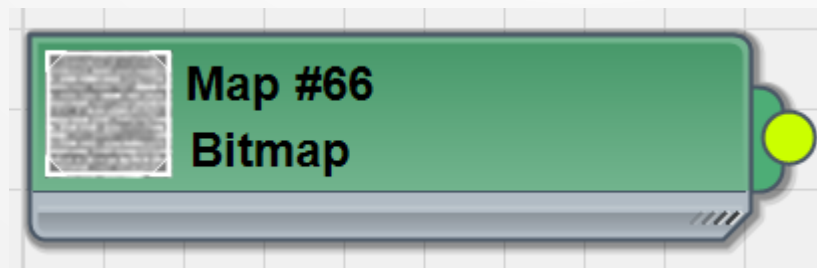
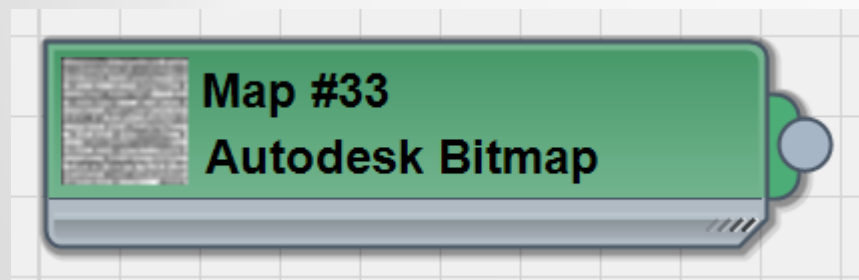
- Basic version is free.
- Easy to learn compared to other game software.
 - Drag/drop interface.
 - Runs on PC and Mac.
 - Works very well with fbx files.
- Deploys to many formats.
 - Web, standalone PC/Mac are free.
 - iOS, Android, console, etc also possible.
- Uses C# and Java script languages.
- Lots of learning material online.



Part 2: The FBX Pipeline

Exporting to Unity (from 3ds Max)

- Convert parametric Autodesk materials to “Standard”.
- Convert bitmaps to standard.
 - Be sure to match tiling scale.
- Assign any new materials as desired.
- Export to FBX file.



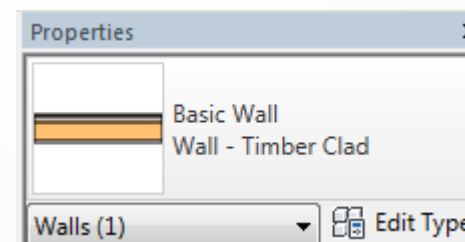
Part 3: Navigating & Modifying the Model

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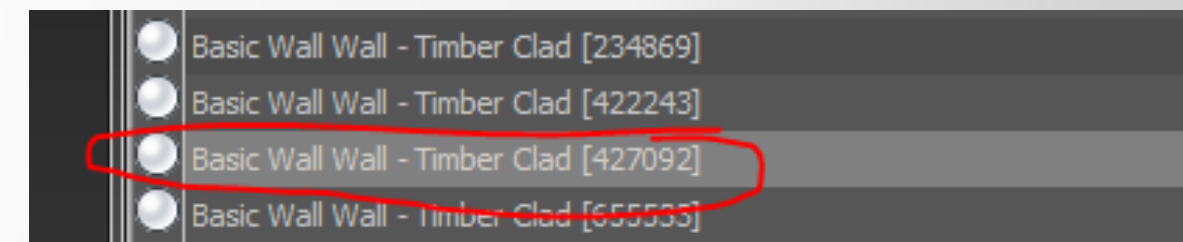
Finding Specific Objects in 3ds Max

- Use “Do Not” Combine” in link settings.
- Object Name includes
 - Family Category
 - Family Name
 - Family Type
 - Element ID
- Use custom search filters

An object in Revit



Same object in 3ds Max

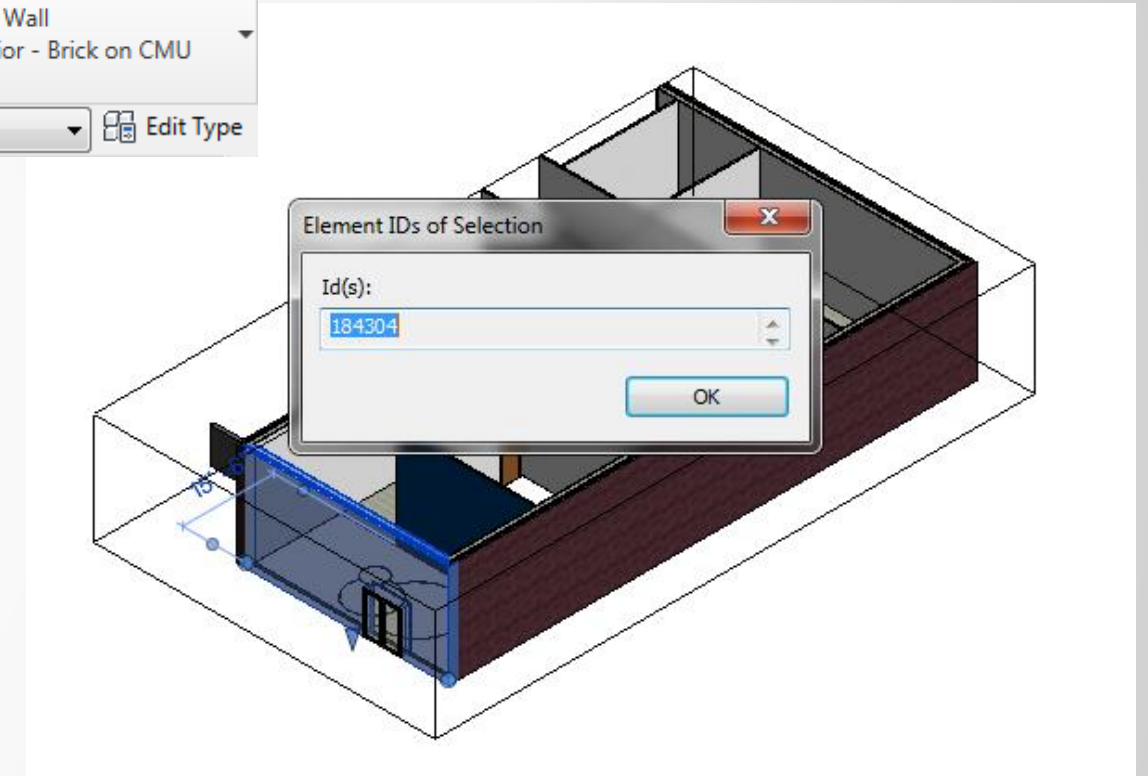
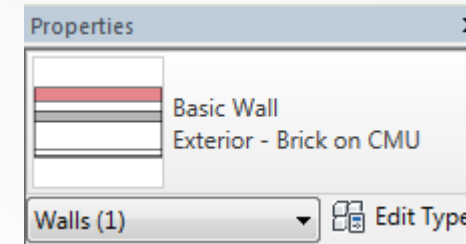


Part 3: Navigating & Modifying the Model

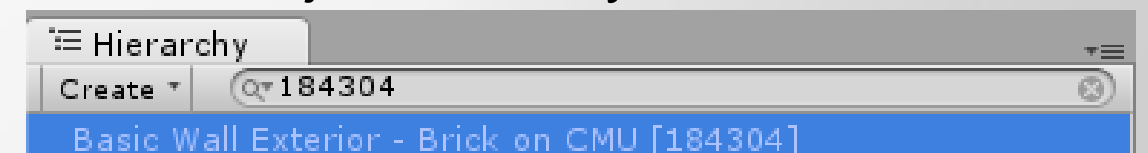
Finding Specific Objects in Unity

- Object names match 3ds Max
- Use scene search bar
 - Indexed results
 - Search for any part of the object name
- Material names and assignments match 3ds Max
- Textures and mapping coordinates are retained
- Click any object to view properties and assigned materials.

Object in Revit



Same object in Unity

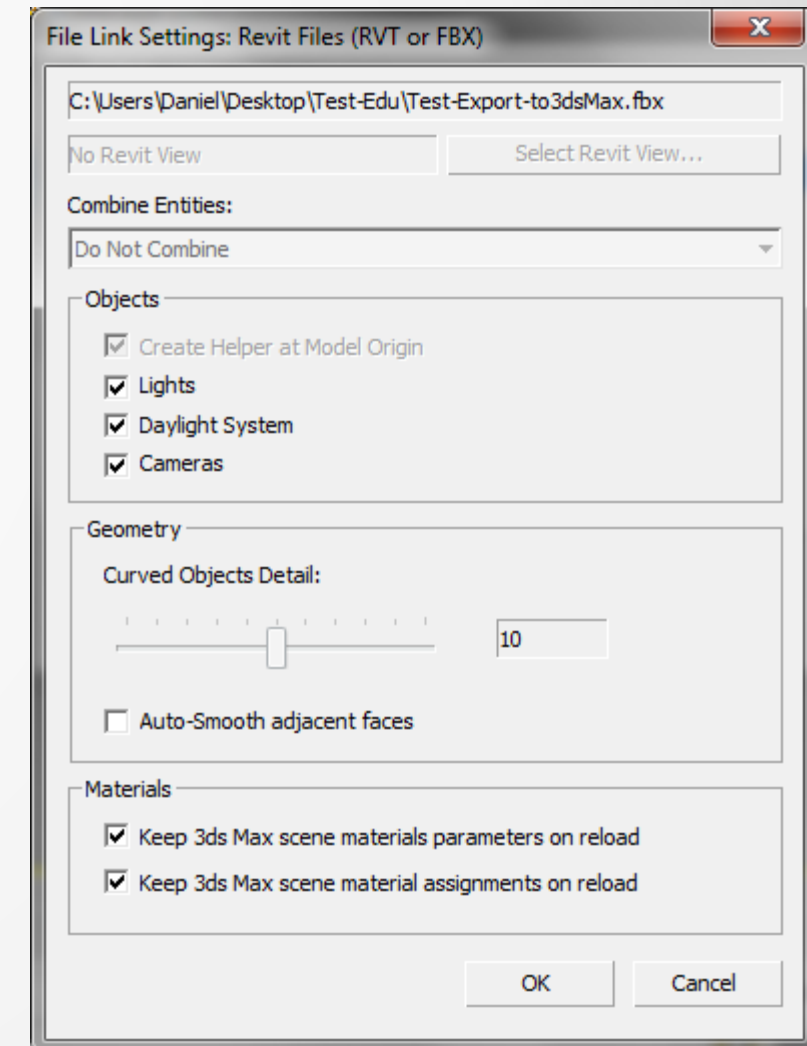
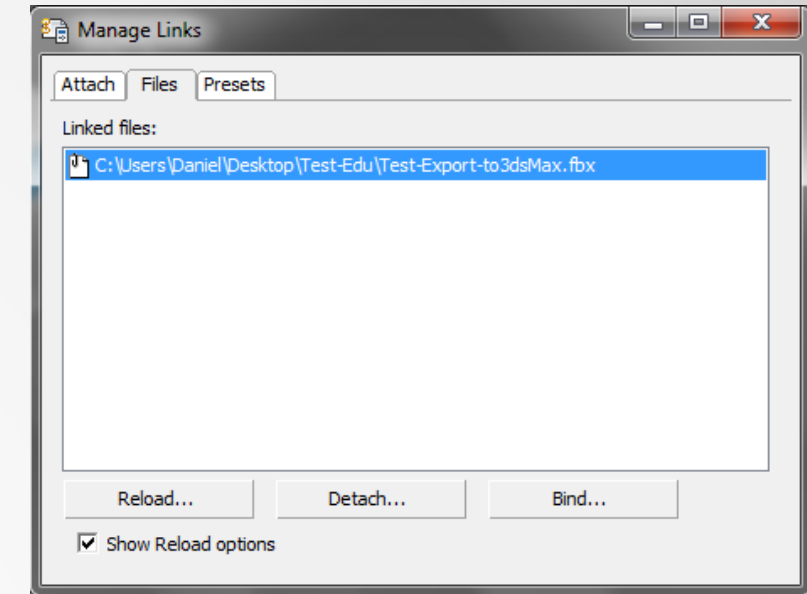


Part 4: Updating Design Changes

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In 3ds Max

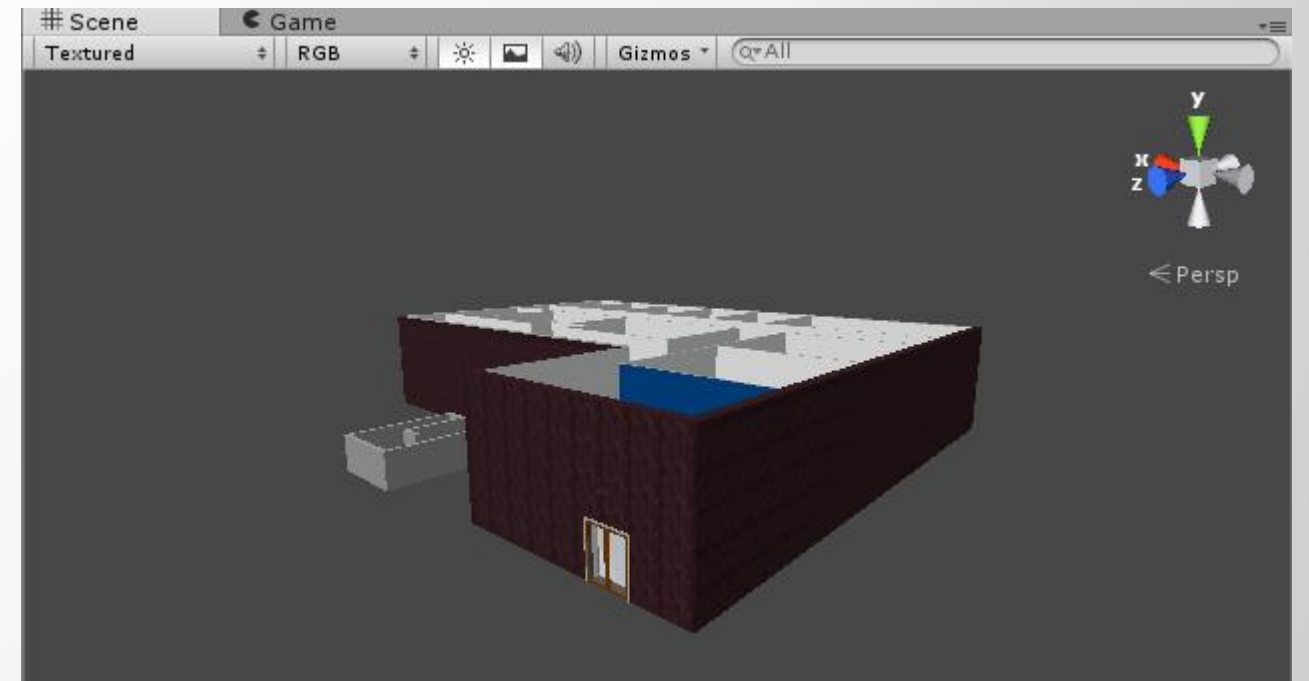
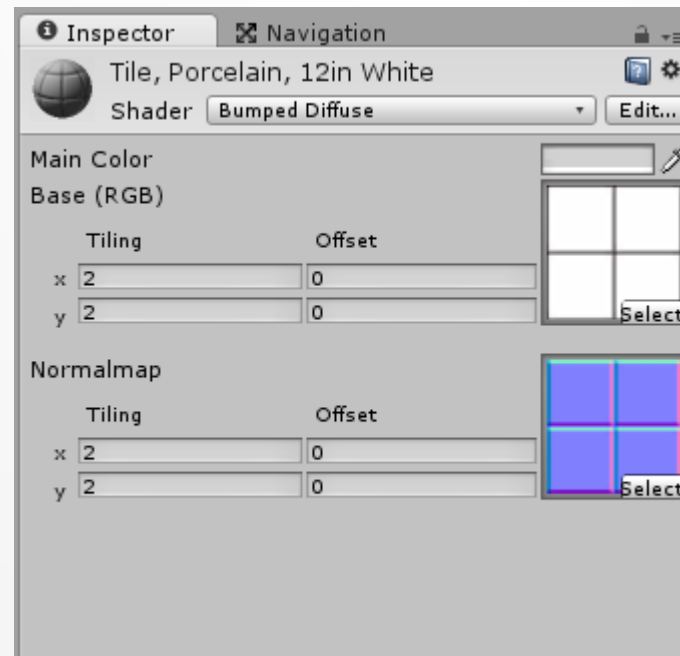
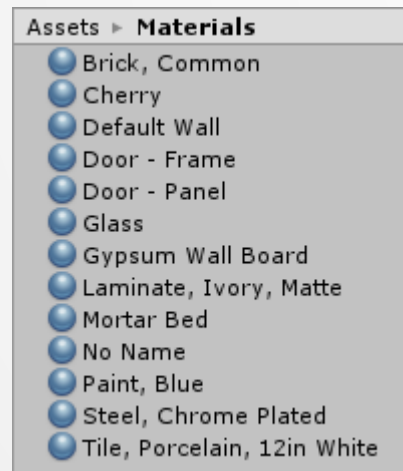
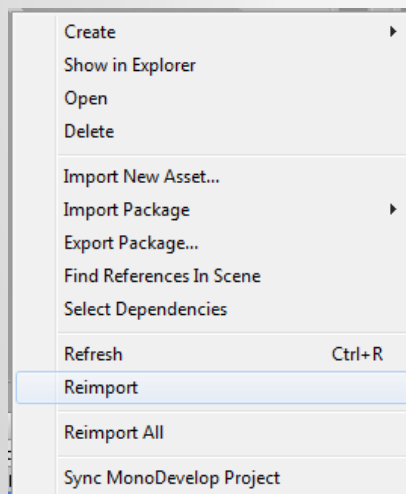
- Use “Manage Links” Dialogue
- Settings
 - Grouping cannot be changed without un-linking the fbx file.
 - Lights, Daylight System, Cameras Optional
 - Keep materials and assignments.



Part 4: Updating Design Changes

Unity

- Re-export fbx from 3ds Max
- In Unity, re-import the fbx asset.
- Design will update and add any new materials to the scene.
- No need to revise import settings.



Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time







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