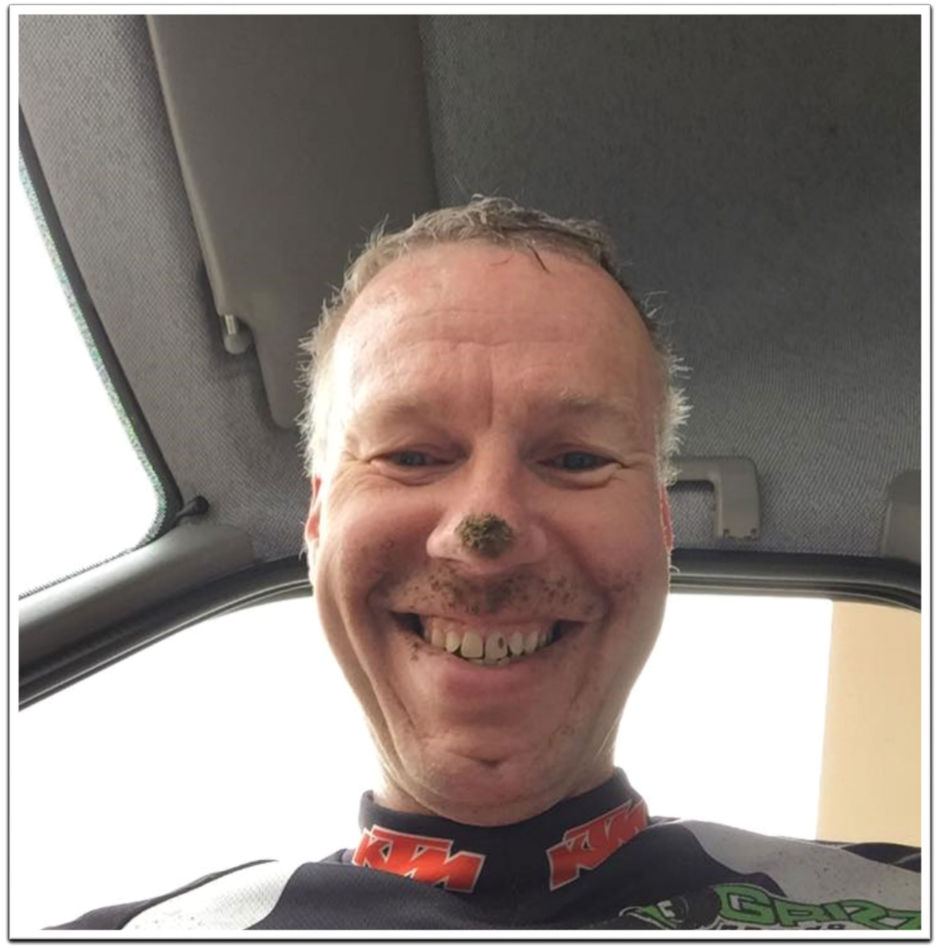
3ds Max is Revit Software's Best Friend

Jean-Pierre van Gastel

Autodesk Media & Entertainment Specialist

AUTODESK. UNIVERSITY



About the speaker

From CAM to CAD

I made the switch from CAM (CNC miller) to CAD in 1992. AutoCAD 12 kept me busy and I started working as an AutoCAD draftsman. 3D modeling was doable but rendering… 3D Studio DOS 3.0 became my new friend in 1993. Since 1995 I’m part of Autodesk distribution.

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CHECK YOUR DEFAULT SETTINGS

Customize -> Custom UI and Defaults Switcher

3DS MAX WORKSPACES

3ds Max Design Standard workspace

UNITS SETUP

System Unit = Feet (hardcoded in Revit)

Display Unit Scale can be anything and may be changed if you want to



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3DS MAX PROJECT STRUCTURE

Create or set a 3ds Max Project by using the Projects Toolbar (new in 3ds Max 2019.2)



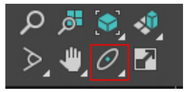
3DS MAX VIEWPORT NAVIGATION

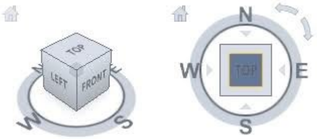
MMB = PAN

CTRL + ALT + MMB = Zoom

ALT + MMB = Orbit (Set this to Orbit Point of Interest)

Z = Zoom Extents (Selected)

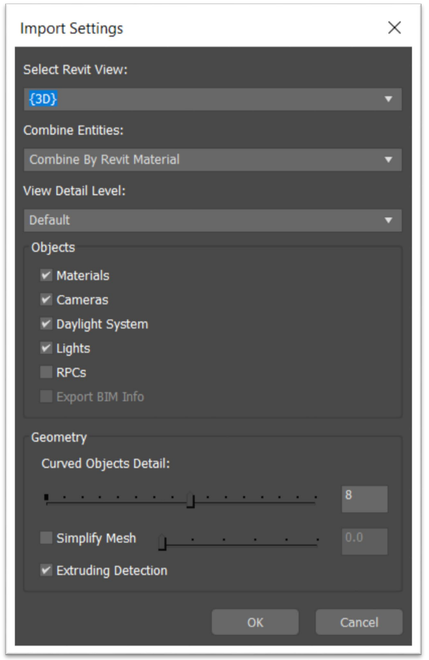




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IMPORT OR LINK YOUR REVIT DESIGN

- Select Revit View will respect Visibility Graphics and or a Section Box
- Combine Entities By Revit Material is in many cases a best practice
- RPC objects doesn’t make any sense



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3DS MAX VIEWPORT LABELS

- + Viewport label – Maximize Viewport (Alt+W) – Grid - Viewcube
- View Viewport label – Current view
- Shading Viewport label – High Quality – Standard - Textures
- Default Shading Viewport label – Wireframe – Color Pencil

Learn how to use the best render engine for photorealistic and non-photorealistic rendering



Learn how to use the best render engine for photorealistic and non-photorealistic rendering

RENDER SETUP – F10

- Quicksilver Hardware Render engine – NPR rendering
- ART Render engine – High quality rendering
  - Easy to Use
  - DB based quality = time
  - CPU based
- Arnold Render engine – Super high quality rendering
  - Bit more complicated to setup
  - Needs samples and Ray Depth
  - Adaptive Sampling will help
  - Denoising on CPU or GPU
  - https://docs.arnoldrenderer.com/display/A5AF3DSUG/Arnold+for+3ds+Max+User+Guide
- Print Size Assistant

Learn how to use the best render engine for photorealistic and non-photorealistic rendering

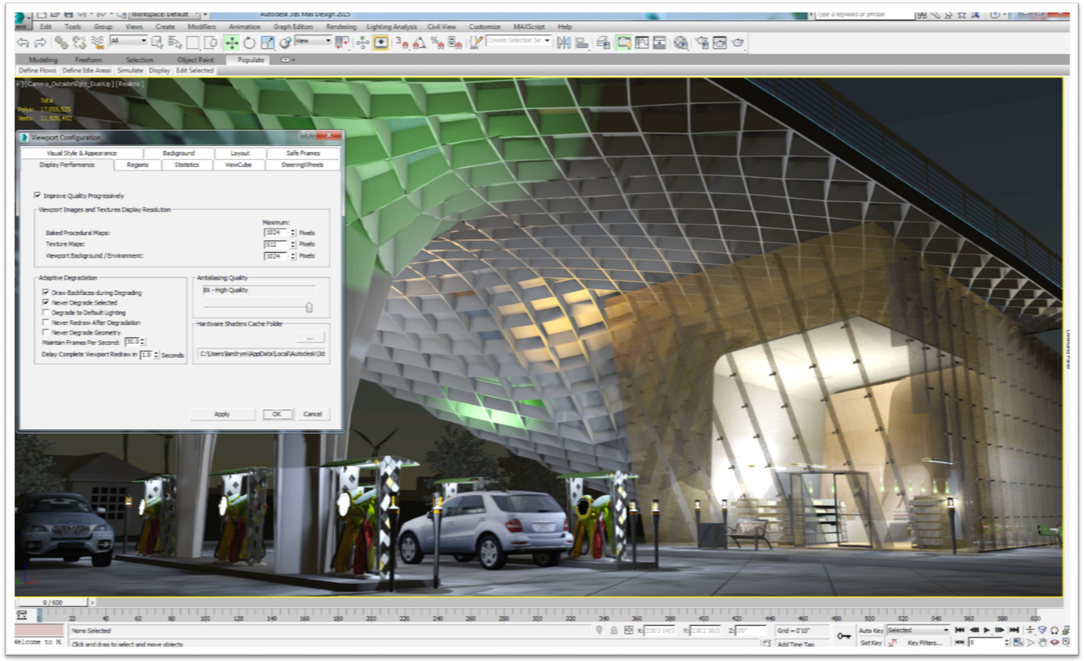
RENDERING

- Render Frame Window
- .PNG – 16 bit color/channel - Alpha

Understand the different and best lighting techniques

RENDERING

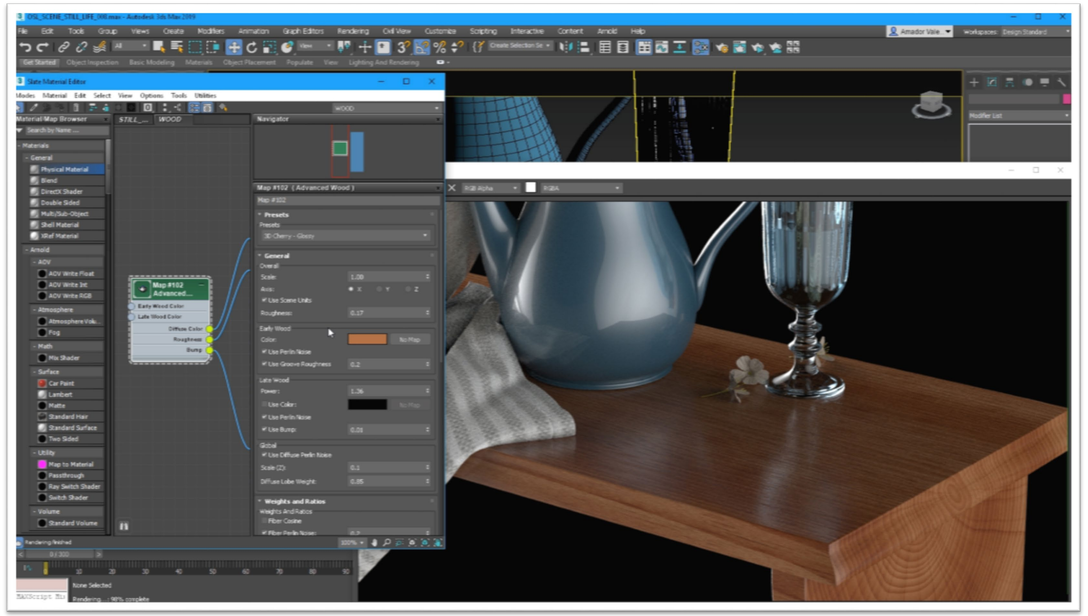
- Daylight System
- Physical Exposure Control
- Image Based Lighting - https://hdrihaven.com/
- ART renderer .HDR in Environment - 8
- Arnold renderer .HDR in skydome light for better quality
  - .HDR in texture
  - Format = LatLong
  - Resolutions = resolution of .HDR
  - Light Shape Visible = Active



Learn how to create extremely photorealistic materials

MATERIALS

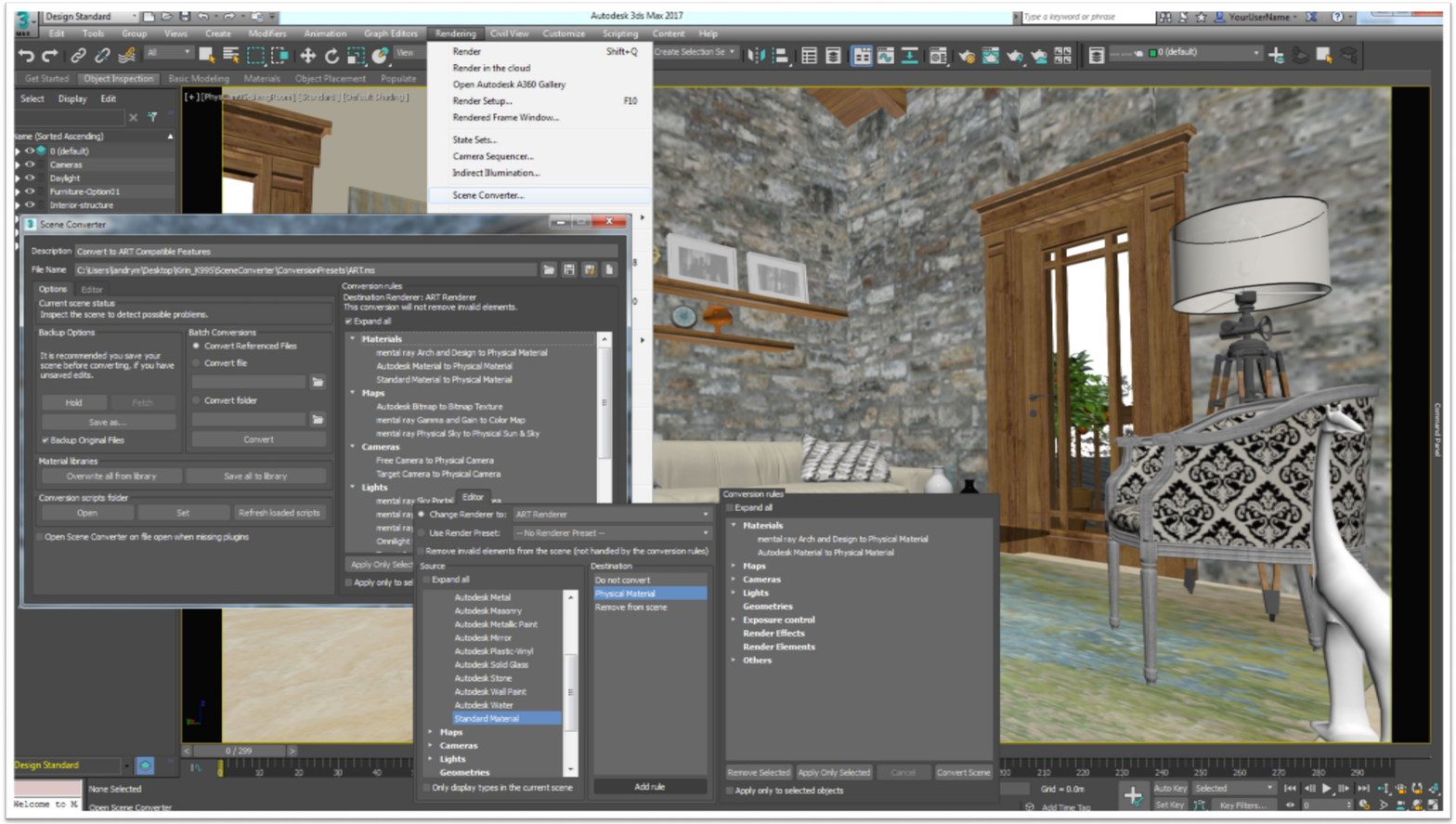
- Autodesk materials vs Physical materials
- How to change your Autodesk Revit material into a Physical material
- Slate Material Editor - M
- https://www.textures.com/browse/pbr-materials/114558



Learn how to create extremely photorealistic materials

MATERIALS

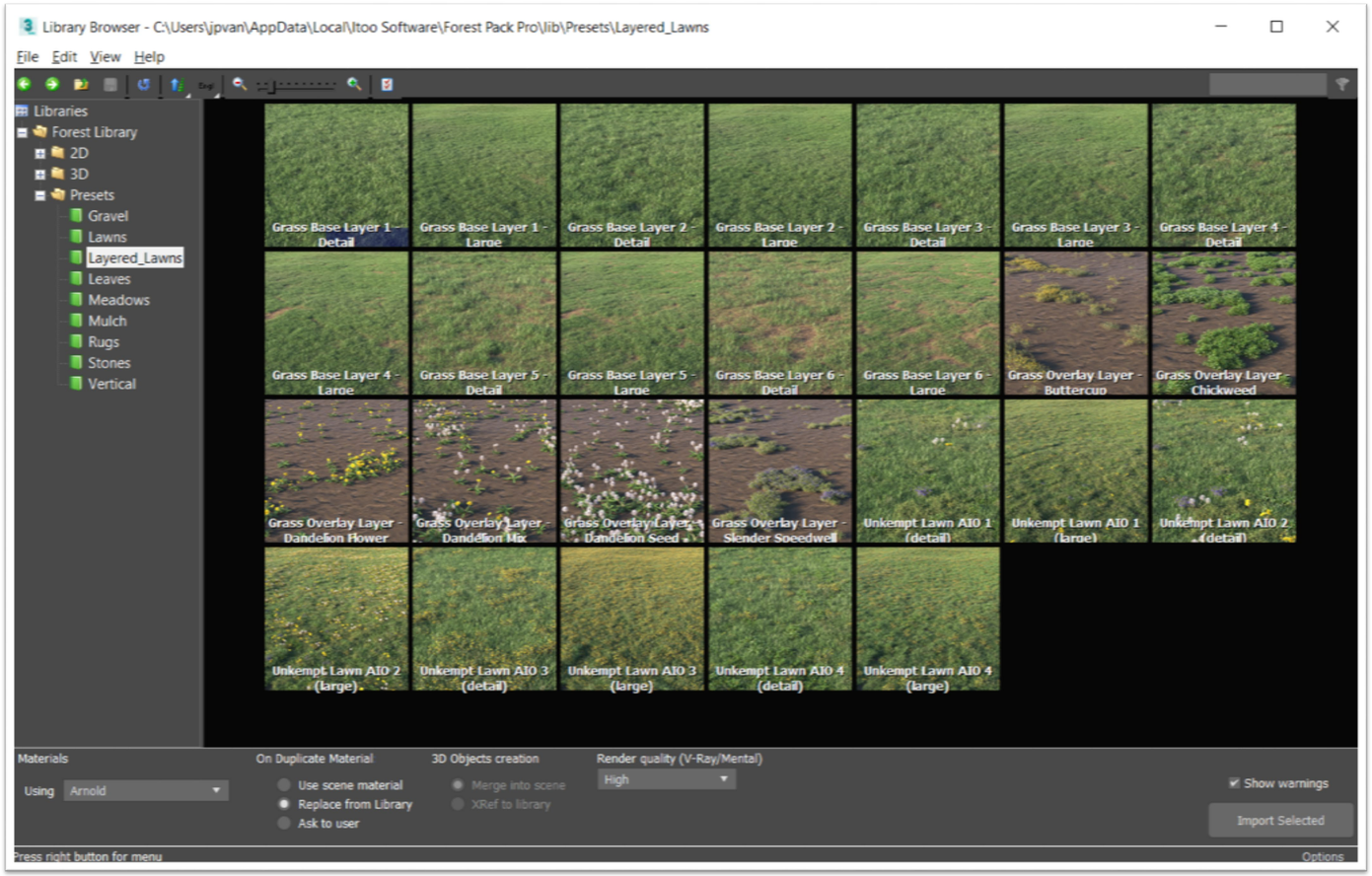
- Physical material Presets
- Physical material Parameters
- 3ds Max Scene converter



Set dressing your 3ds Max scene

3D GRASS WITH FOREST PACK

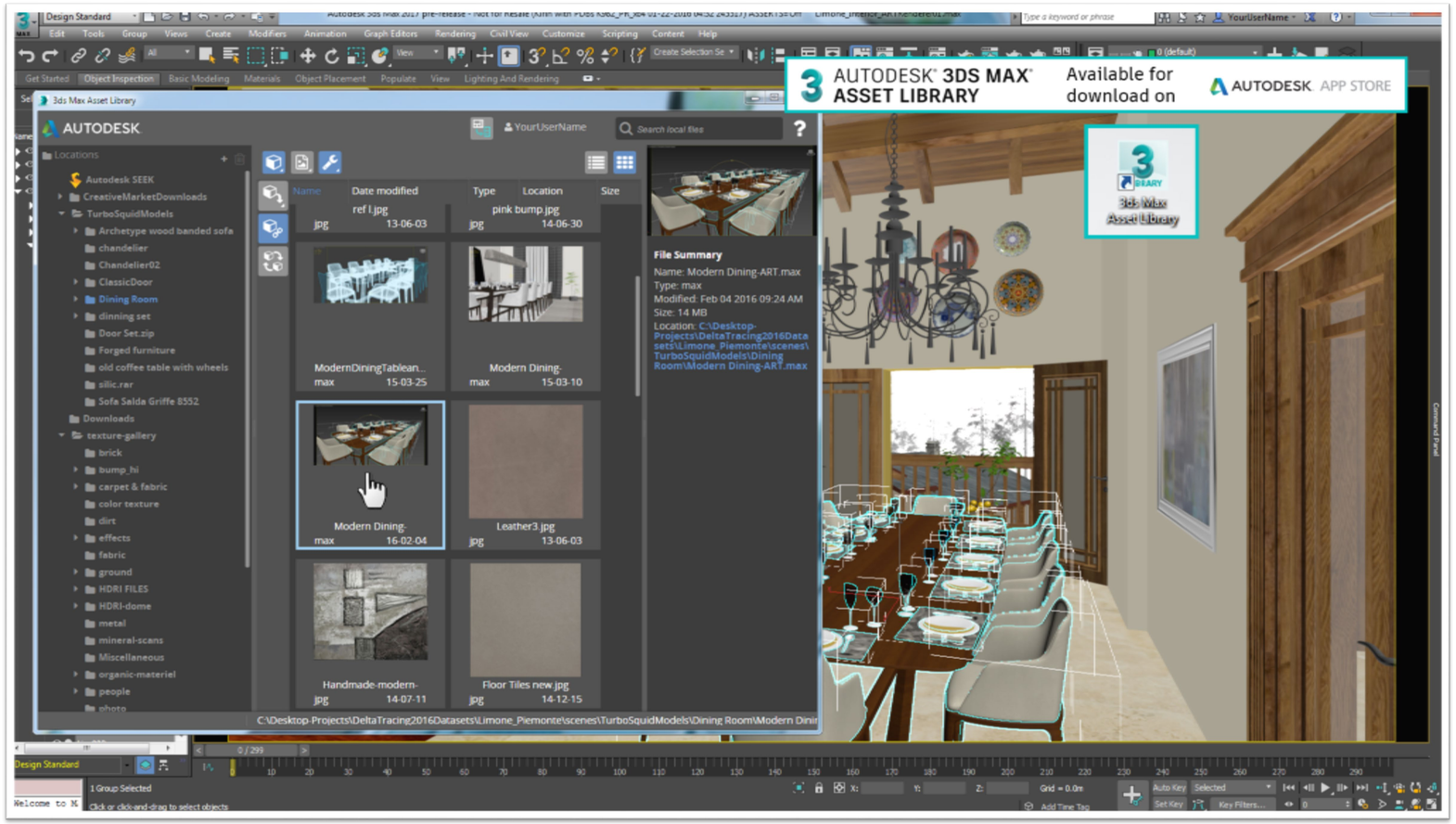
- Number 1 plug-in for 3ds Max
- Free version available
- Must be rendered with Arnold
- https://www.itoosoft.com/



Set dressing your 3ds Max scene

ASSET LIBRARY

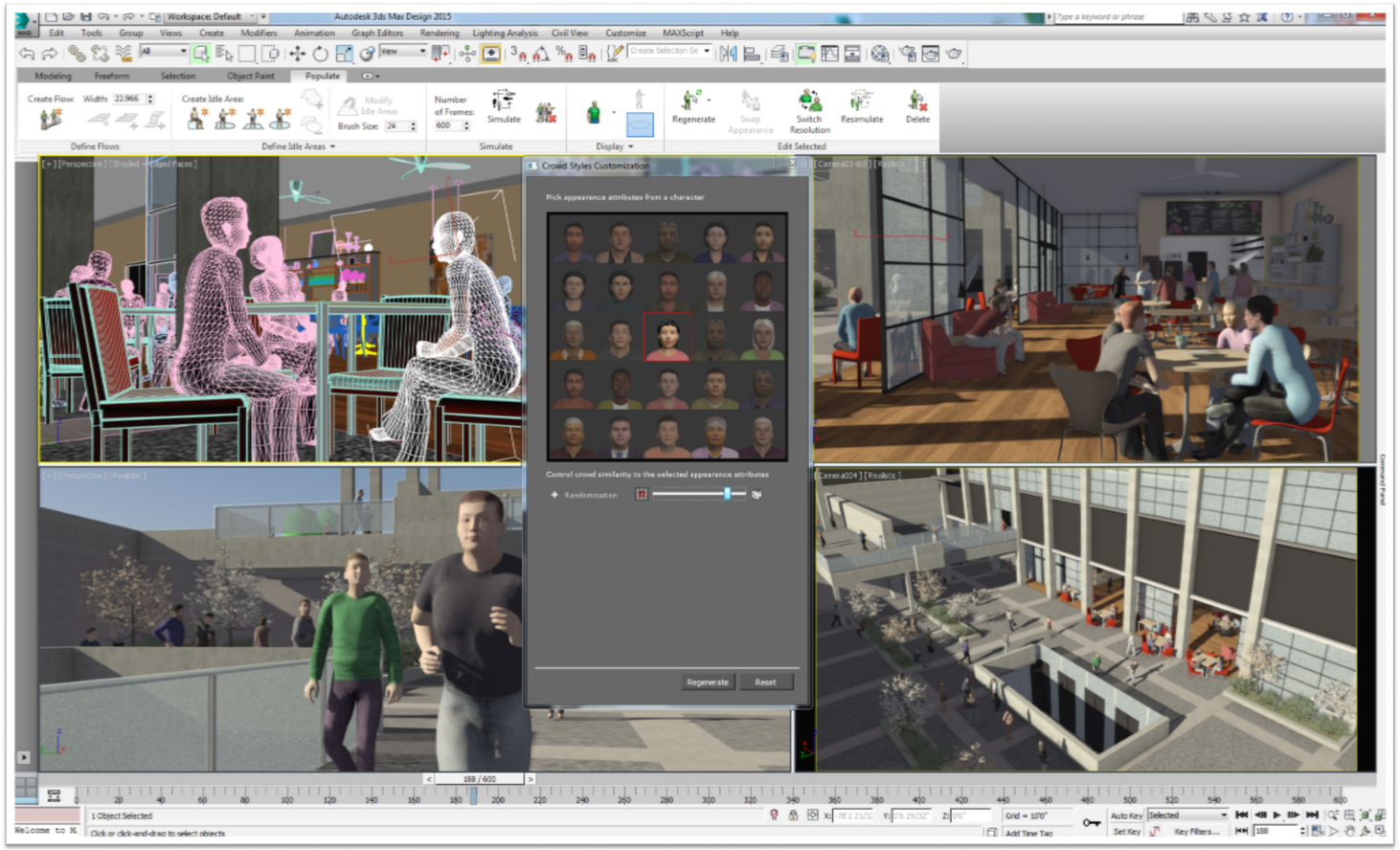
- Additional download
- External application
- Easy to use
- Select and Place



Set dressing your 3ds Max scene

3DS MAX POPULATE

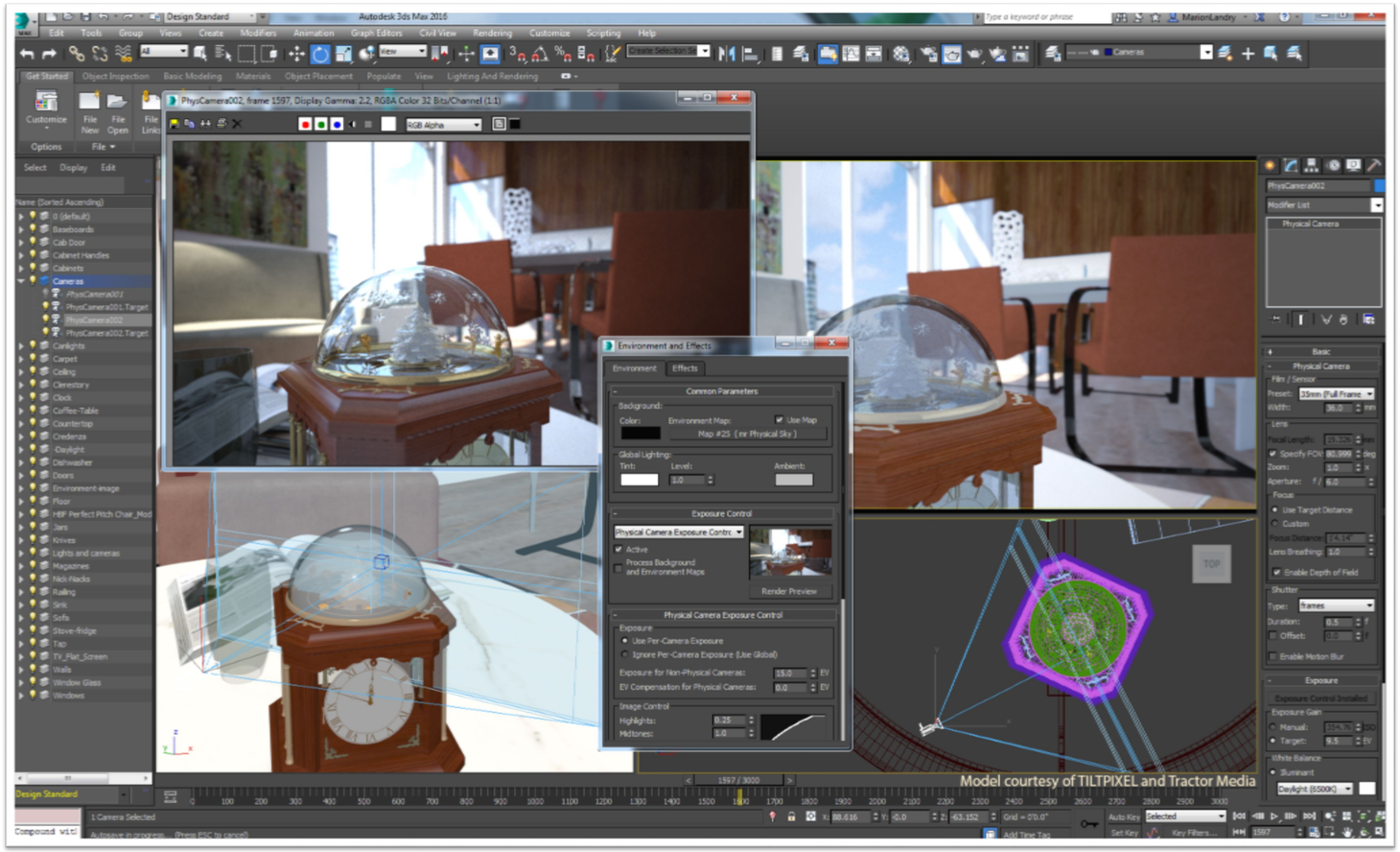
- Additional download
- Walking or running 3D characters
- Idle areas



Set dressing your 3ds Max scene

PHYSICAL CAMERAS

- Camera based Exposure Control
- Depth of Field
- Ctrl+C



Set dressing your 3ds Max scene

3DS MAX CARS

- https://a360.co/2QsiuIt



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