



Intro to Blender 3D

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ElectronicArmory.com
3D Game Development Course

Question of the Day

What was your first console/computer game?

What is Blender?

3D Modeling Tool

- Free, Open Source, updated monthly
- Create 3D models and animations for websites, games, video, and more
- Export to:
 - Image
 - Animations
 - Video
 - WebGL
 - VR



Blender Can Do Anything

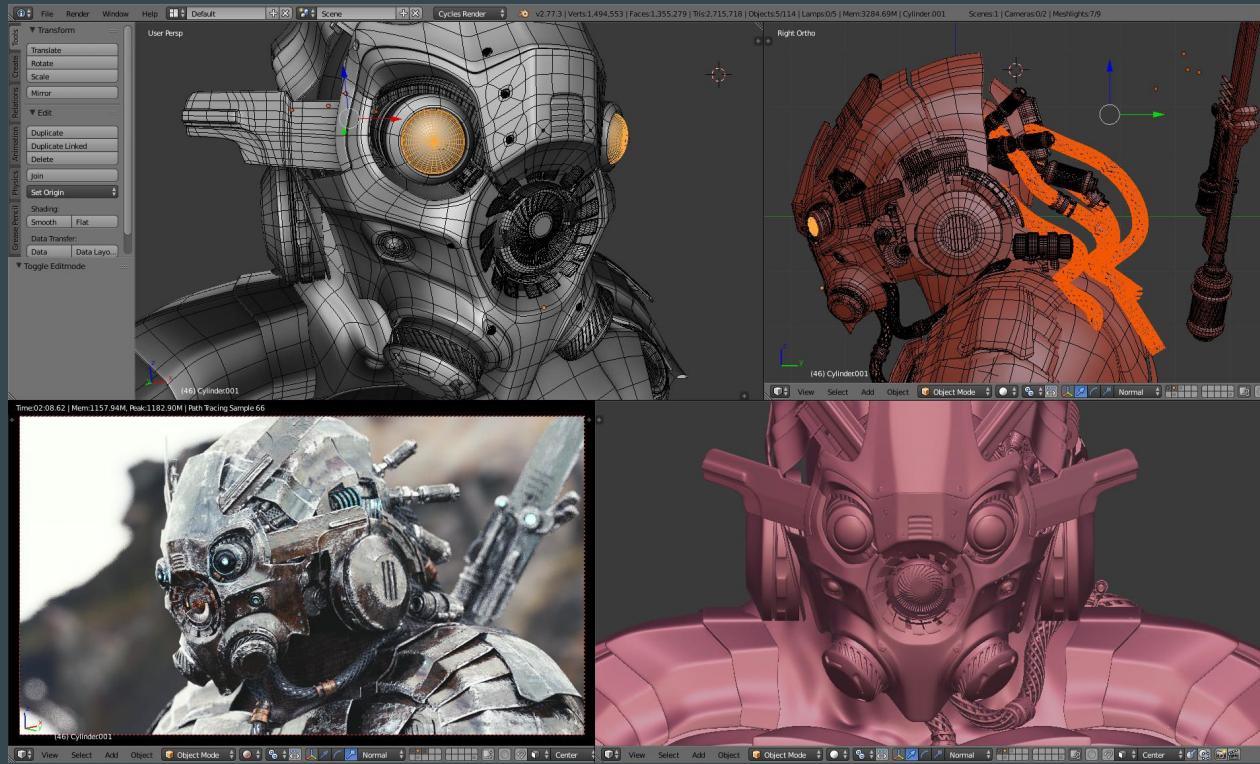
“Now, open-source software like Blender can do almost everything Pixar's software can do.” - Tony DeRose Pixar's Senior Scientist

Source: <https://www.theverge.com/2013/3/7/4074956/pixar-senior-scientist-derose-explains-how-math-makes-movies-games>

3D Modeling Tool



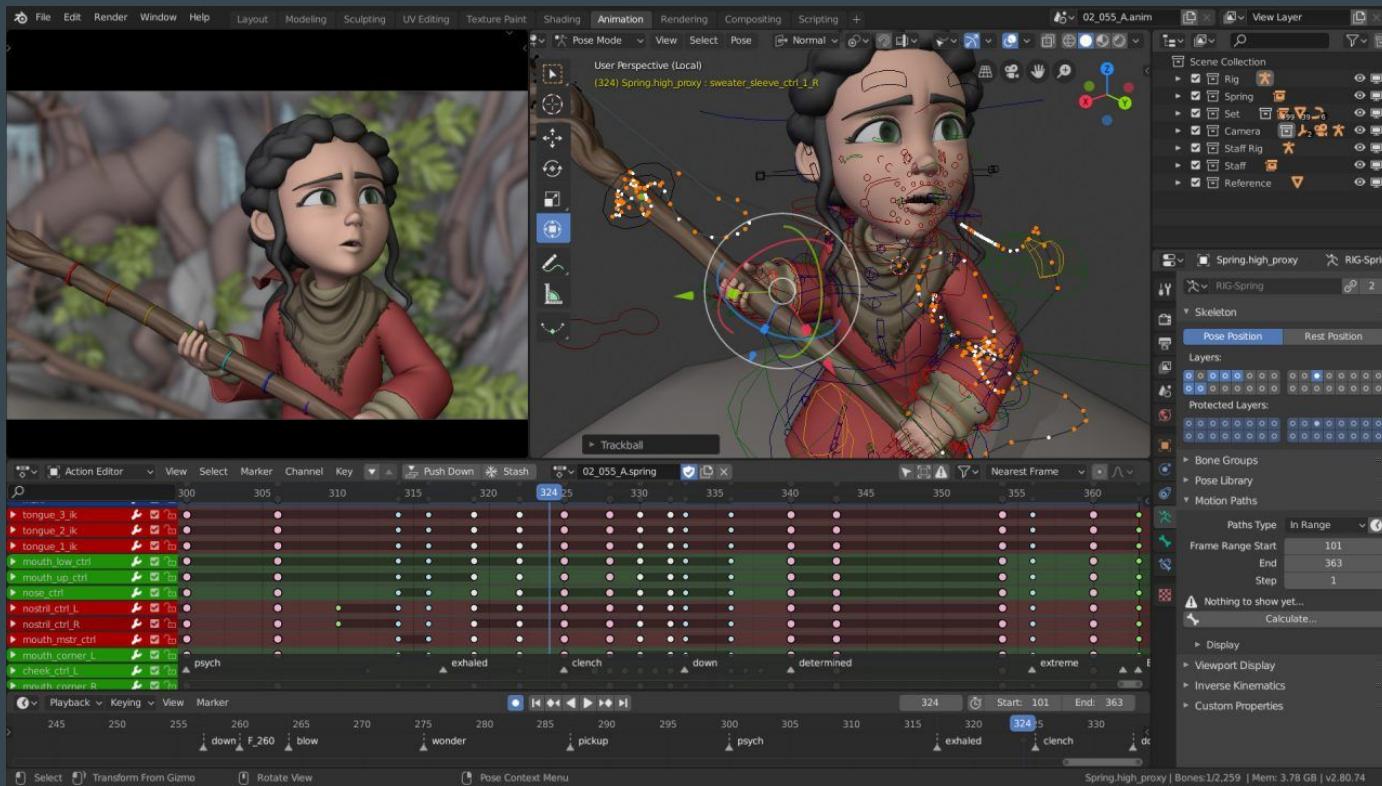
3D Sculpting Tool



2D/3D Animation Tool



Rigging



3D Game Engine



3D Paint Tool



Video Editor

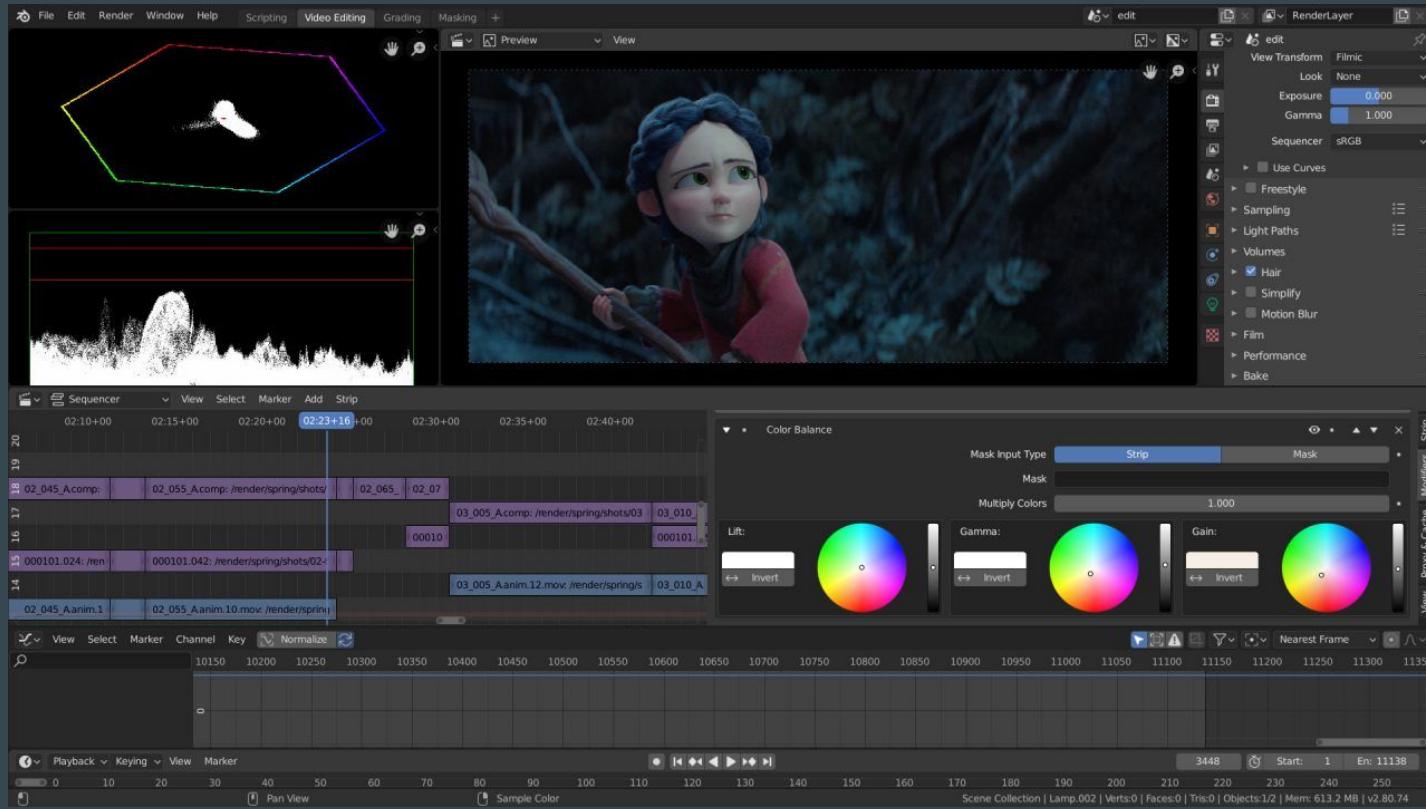
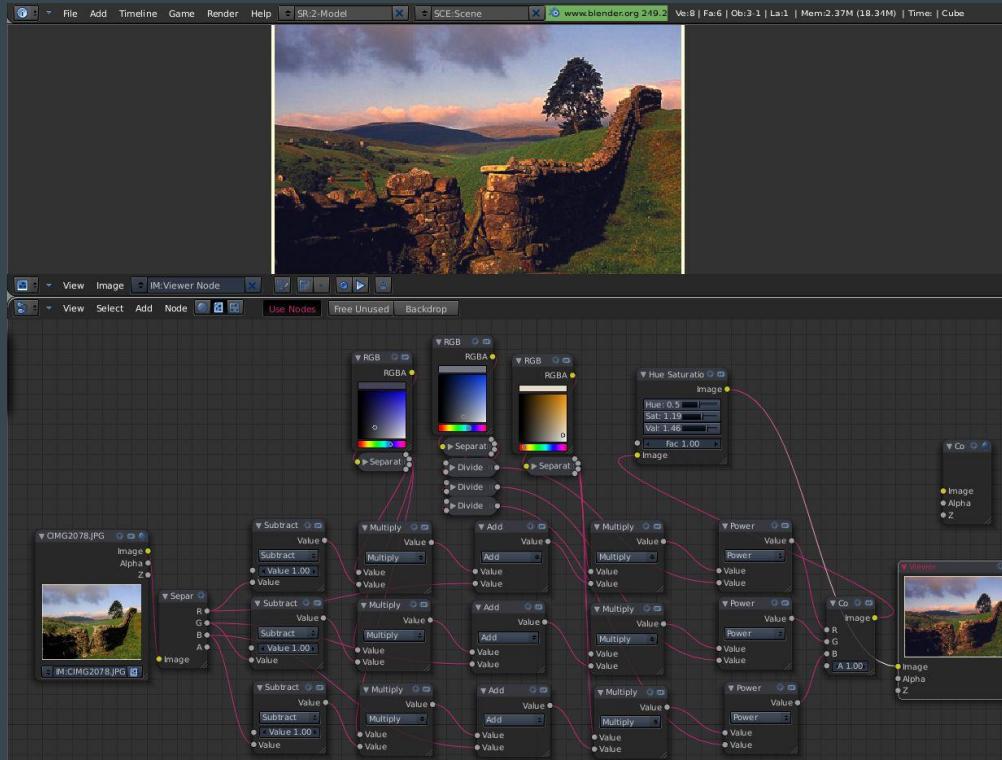
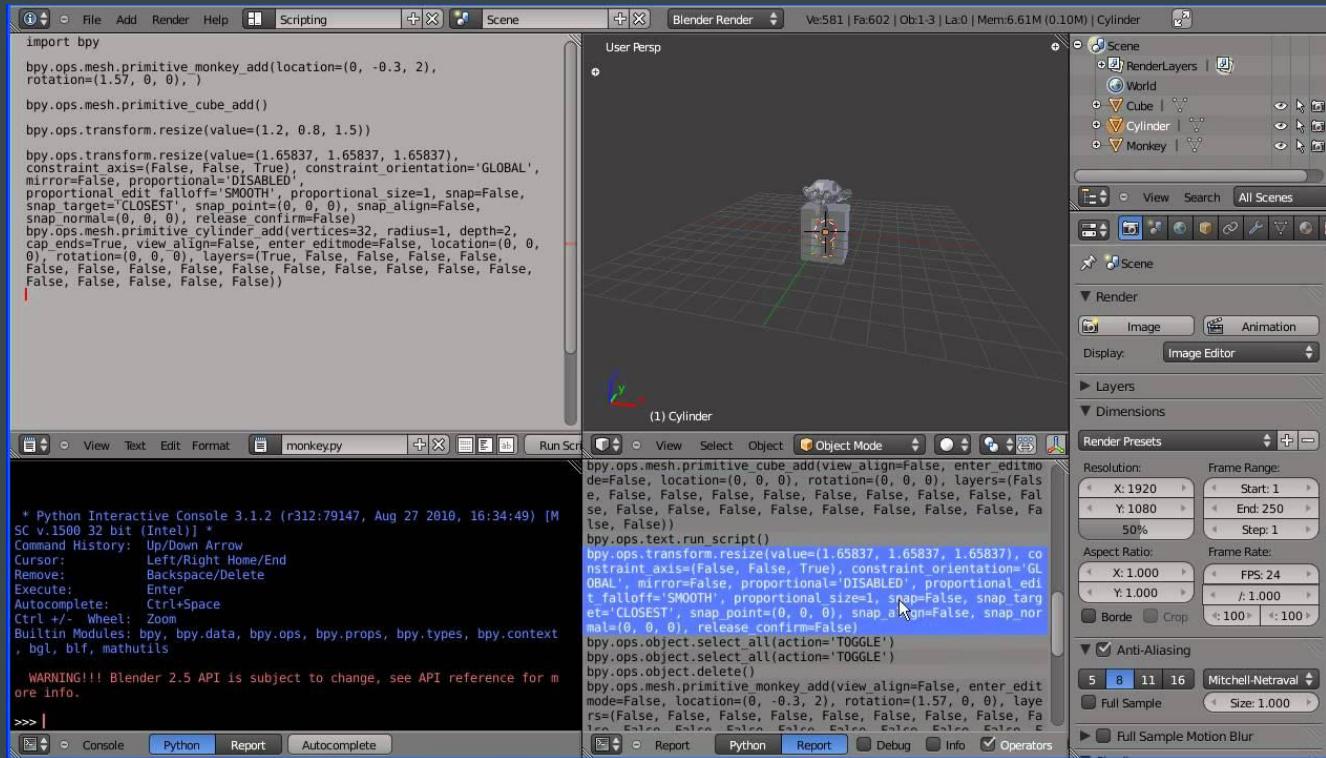


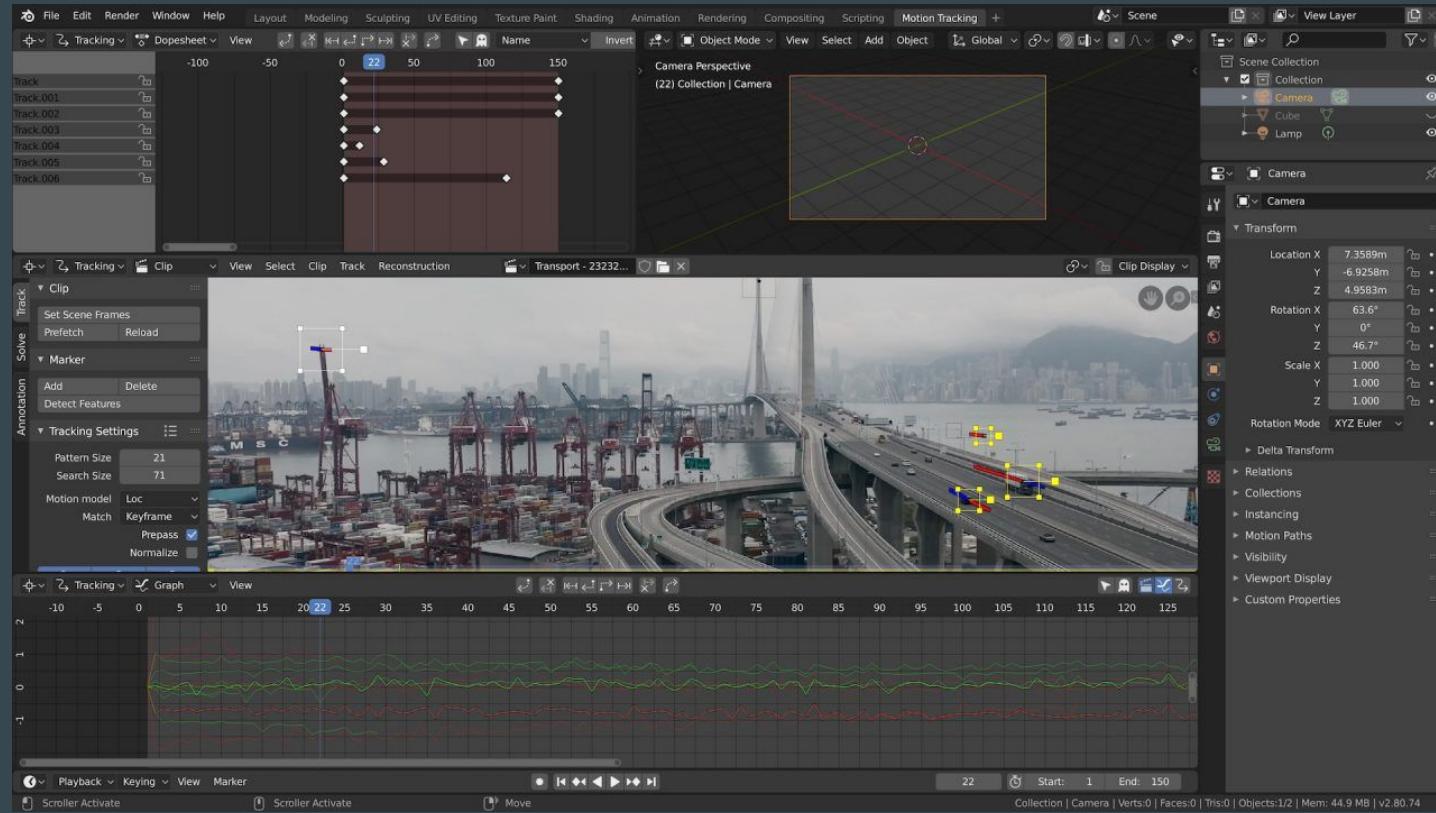
Image Compositor



Programming IDE



Mix 3D and Live Action



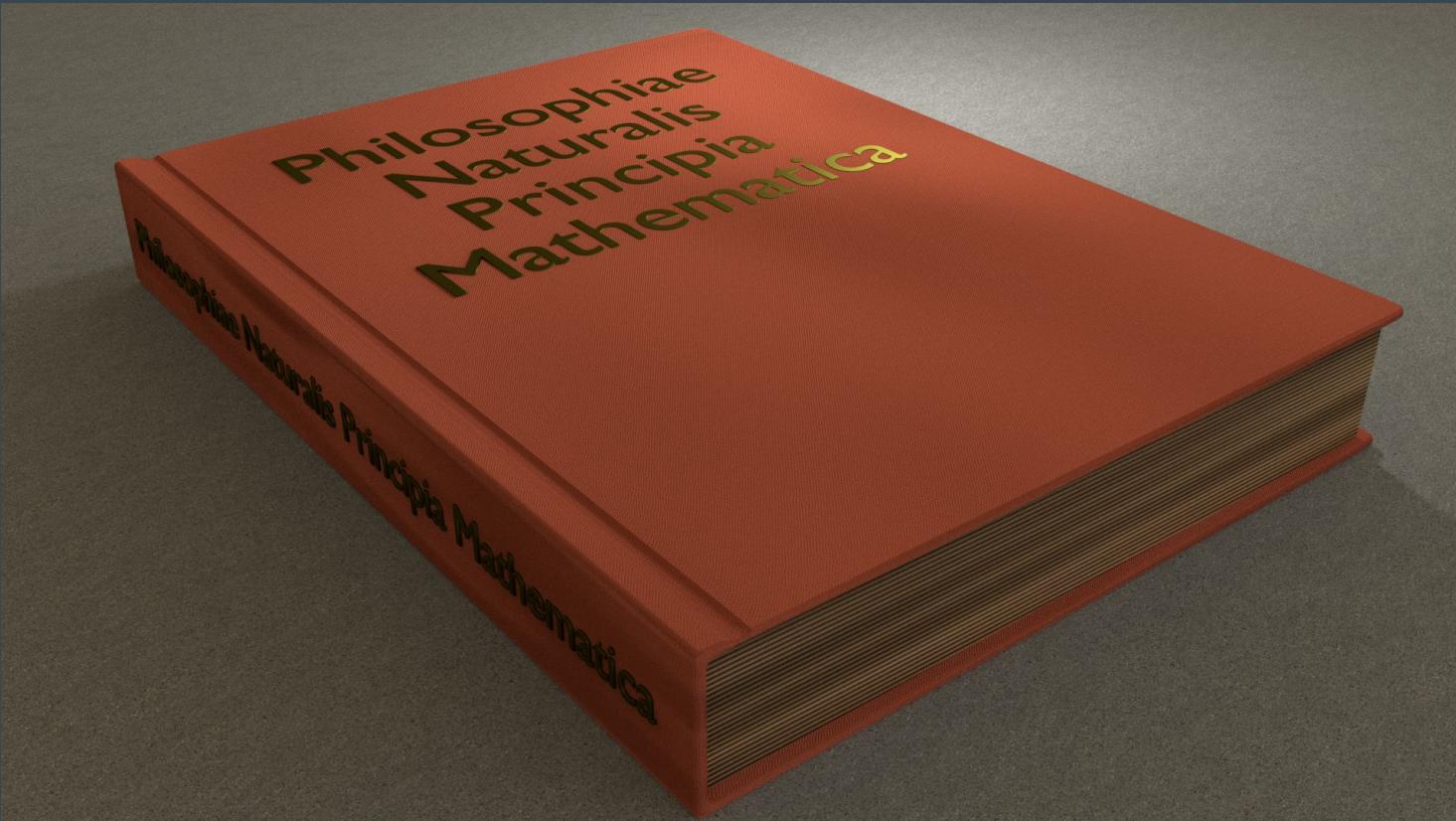
Other features

- Make 360 degree videos
- CAD
- 3D Printing
- Visualizations
- 2D Drawing
- Simulations

Some Examples



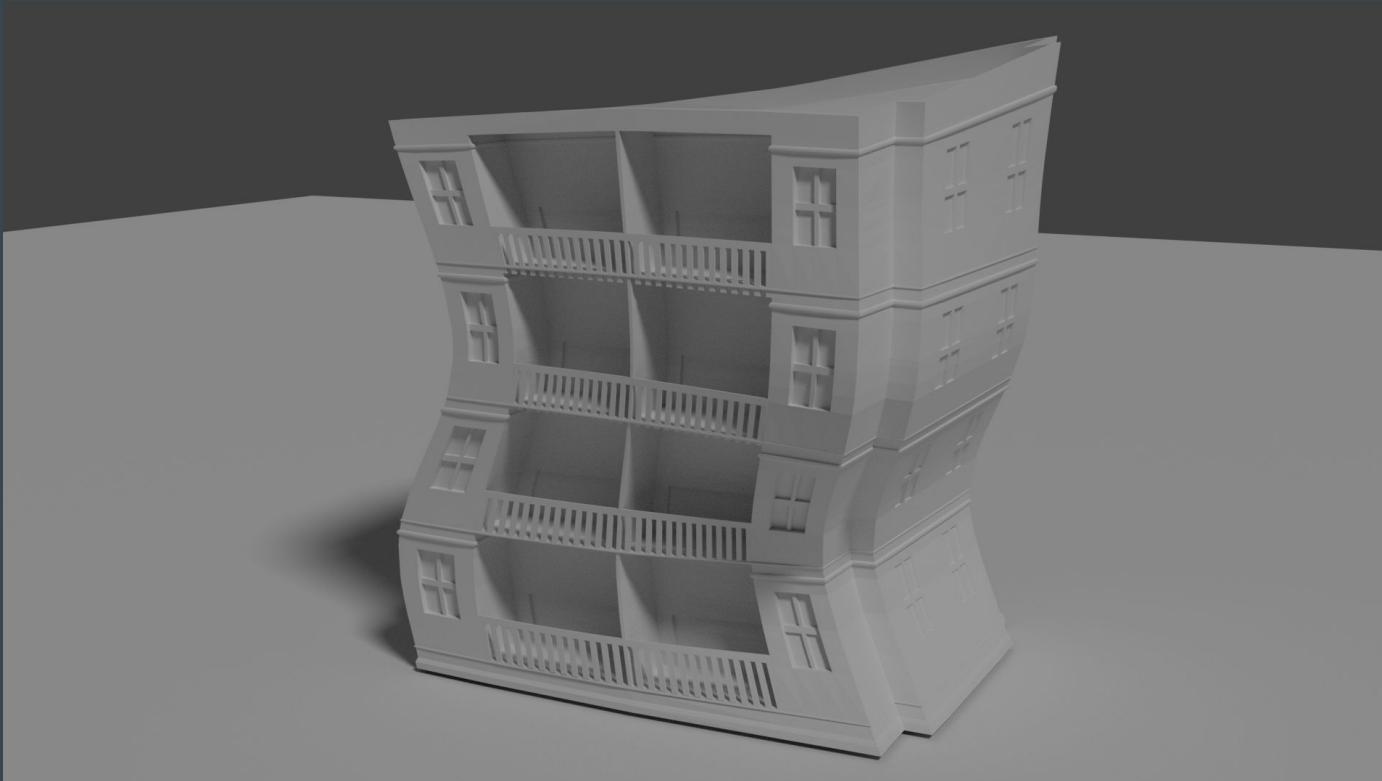
Some Examples



Some Examples



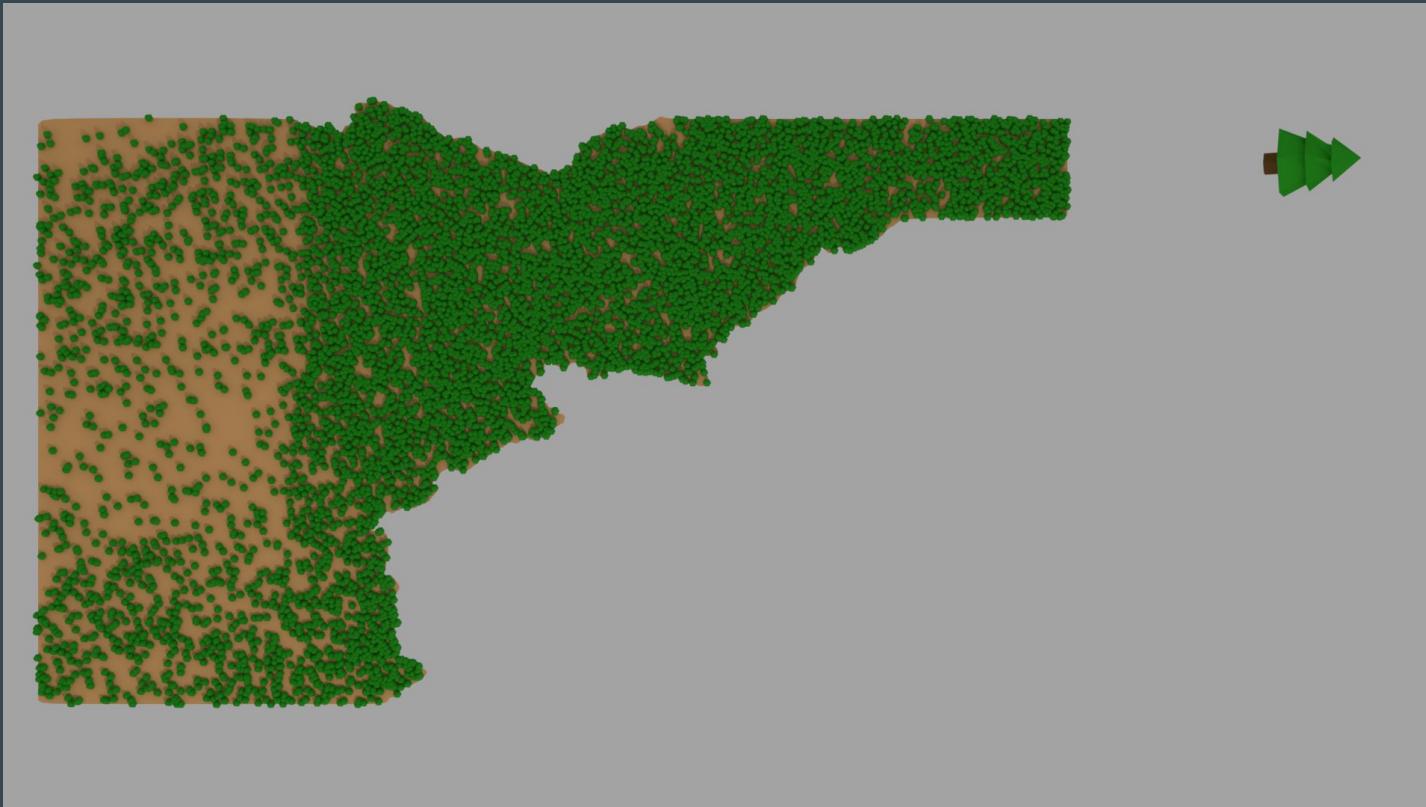
Some Examples



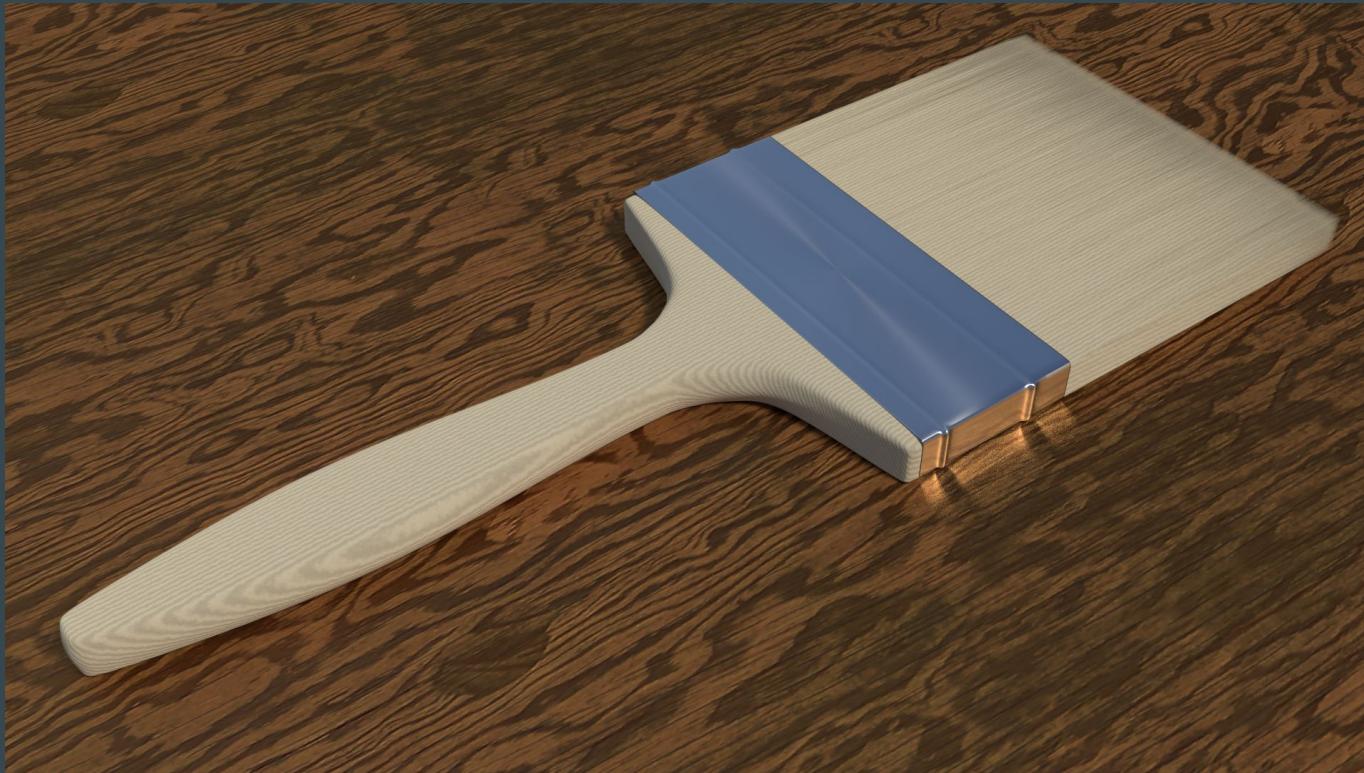
Some Examples



Some Examples



Some Examples



Some Examples



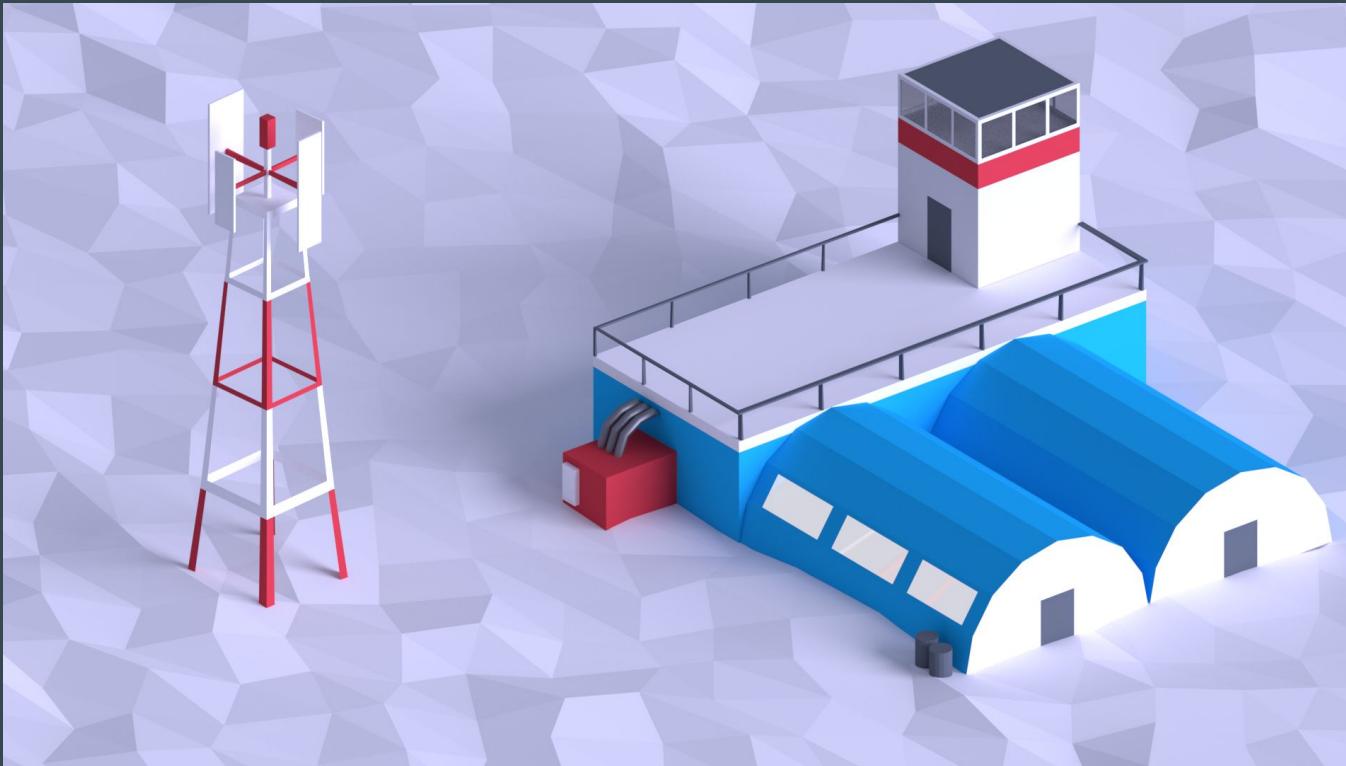
Some Examples



Some Examples



Some Examples



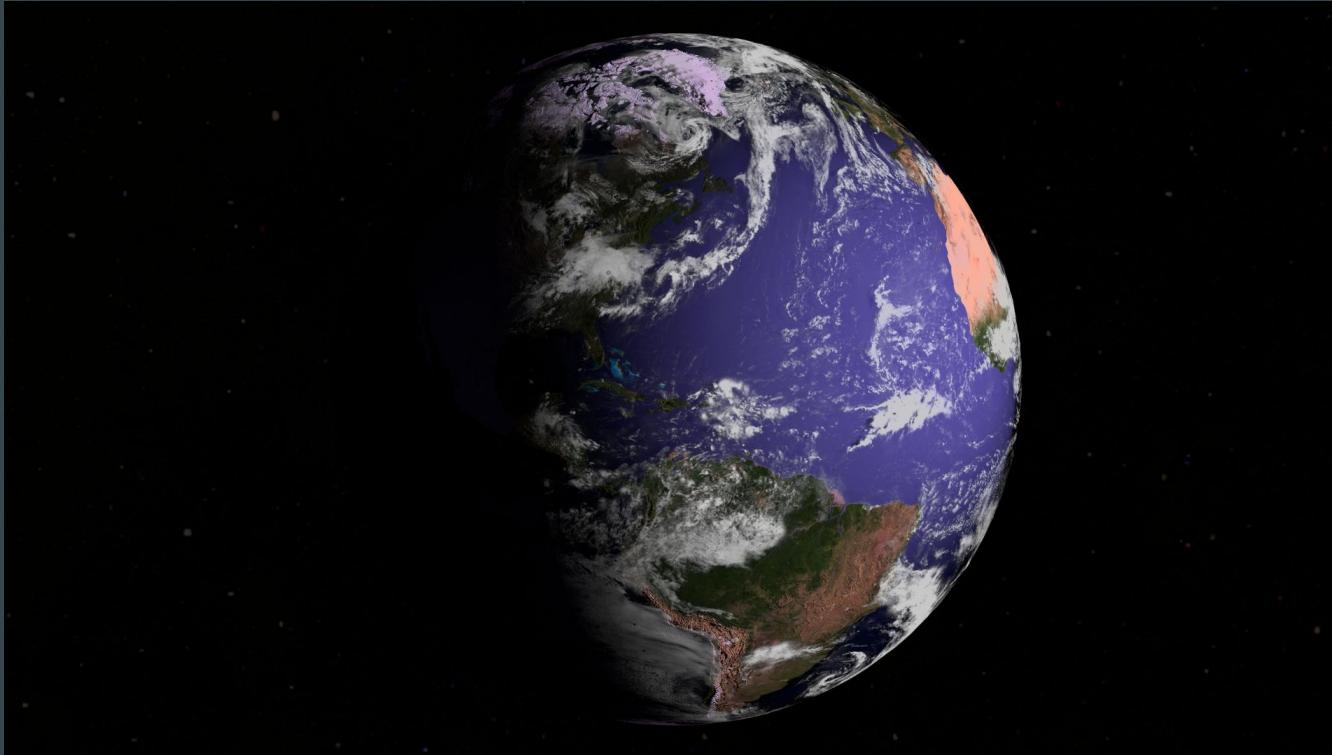
Some Examples



Some Examples



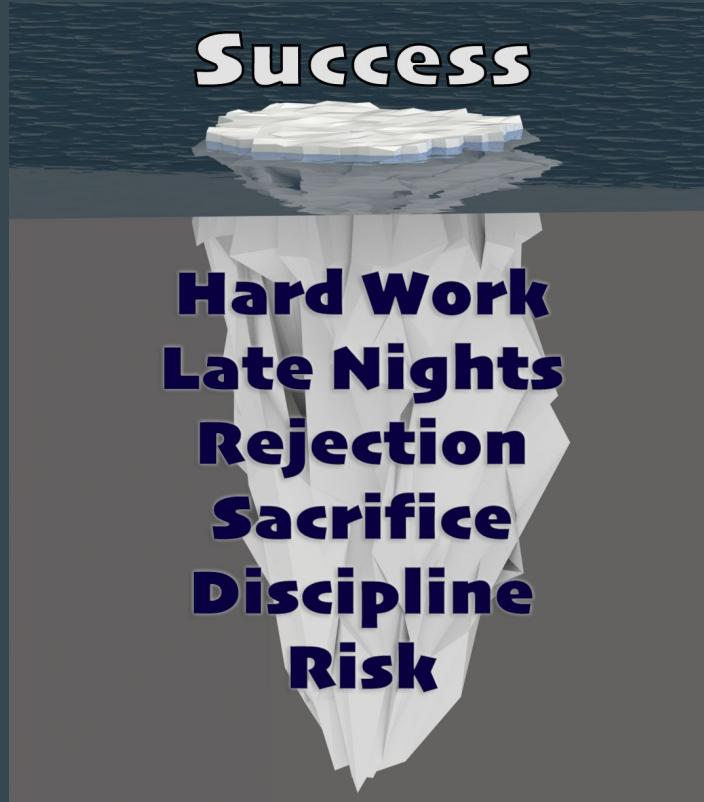
Some Examples



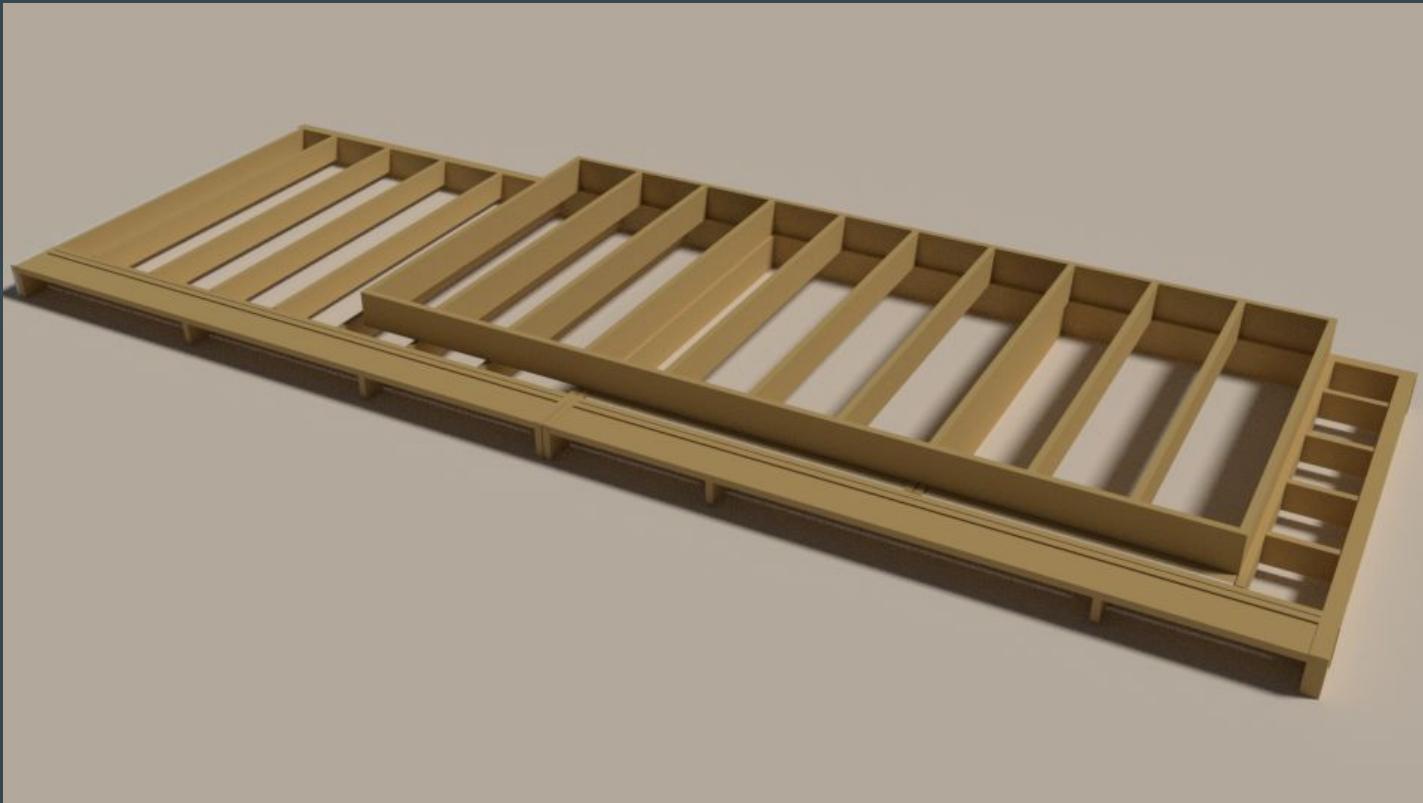
Some Examples



Some Examples



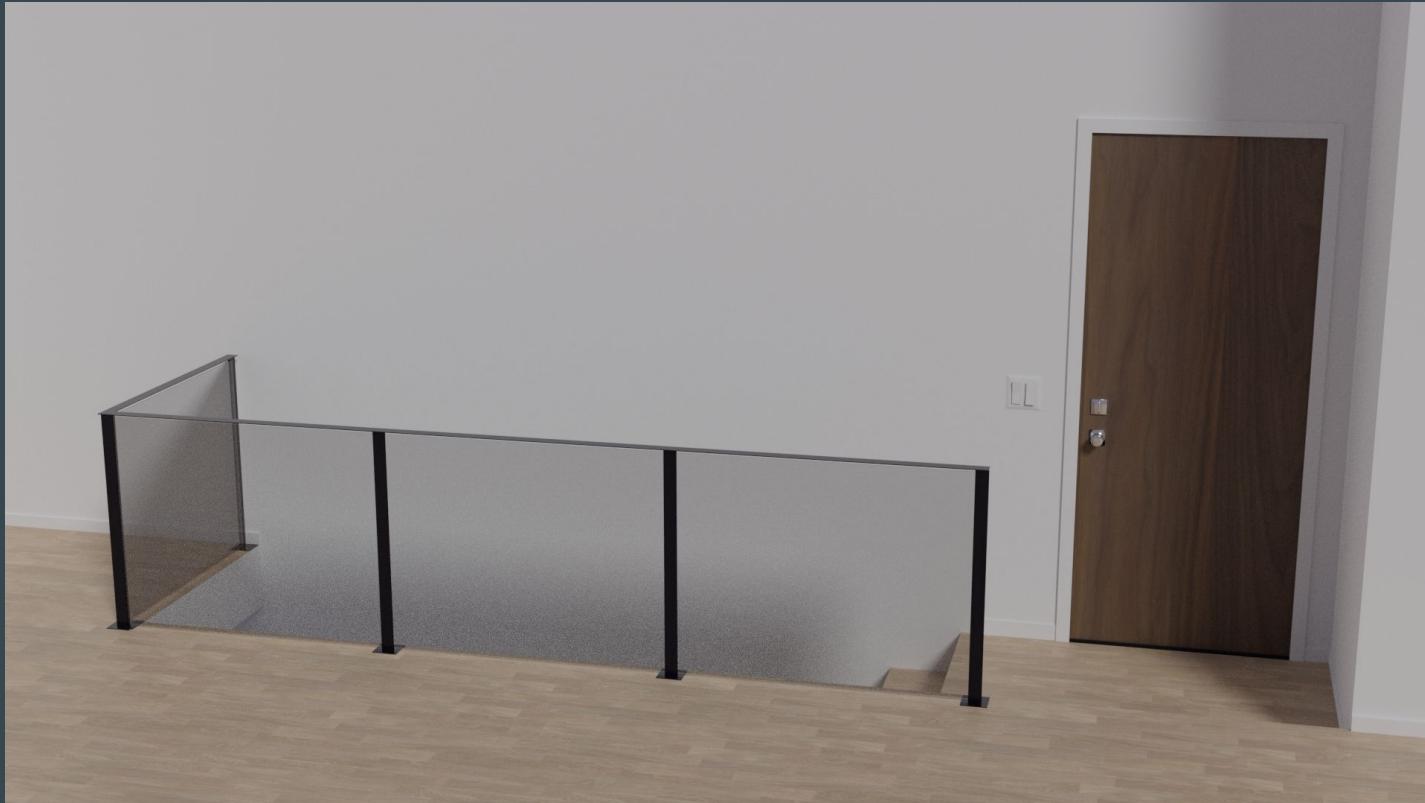
Some Examples



Some Examples



Some Examples



Resources

[Blender](#) - Official homepage

[Blender Nation](#) - News and links

[Blender Artist](#) - Forums and gallery of Blender artists

[Blend Swap](#) - Free Blender models

[Turbo Squid](#) - Free and paid high quality models

[Art Station](#) - Artist community

General (most window types)

| | |
|--------------------------|---|
| Toolbar | T |
| Properties | N |
| Add Object/Node | Shift + A |
| Delete | X or Delete |
| Search for Function | F3 |
| Move | G |
| Scale | S |
| Rotate | R |
| ... along axis | <u>... then X/Y/Z</u> |
| ... along local axis | <u>... then X, X/Y, Y/Z, Z</u> |
| Trackball Rotate | R, R |
| Precise movement | Shift (<i>hold</i>) |
| Incremental movement | Ctrl (<i>hold</i>) |
| Duplicate | Shift + D |
| Duplicate Linked | Alt + D |
| Hide | H |
| Unhide All | Alt + H |
| Hide all Except Selected | Shift + H |
| | |
| Annotate | D (<i>hold</i>) + LMB (<i>drag</i>) |
| Erase Annotation | D (<i>hold</i>) + RMB (<i>drag</i>) |
| Quick favs menu | Q |

Navigation (3D viewport)

| | |
|-------------|----------------------|
| Orbit | MMB |
| Pan | Shift + MMB |
| Zoom In/Out | Scroll or Ctrl + MMB |
| Fly | Shift + ~ |

View (3D viewport)

Numpad views (most common **bolded**):

| | | |
|--------------------|--------------------------------|----------------------|
| | / | Isolate |
| 7 Top | 8 Up | 9 Opposite |
| 4 Left | 5 Persp/Ortho | 6 Right |
| 1 Front | 2 Down | 3 Side |
| 0 Camera | . | Focus |

View Pie Menu

~

Fast View Switch

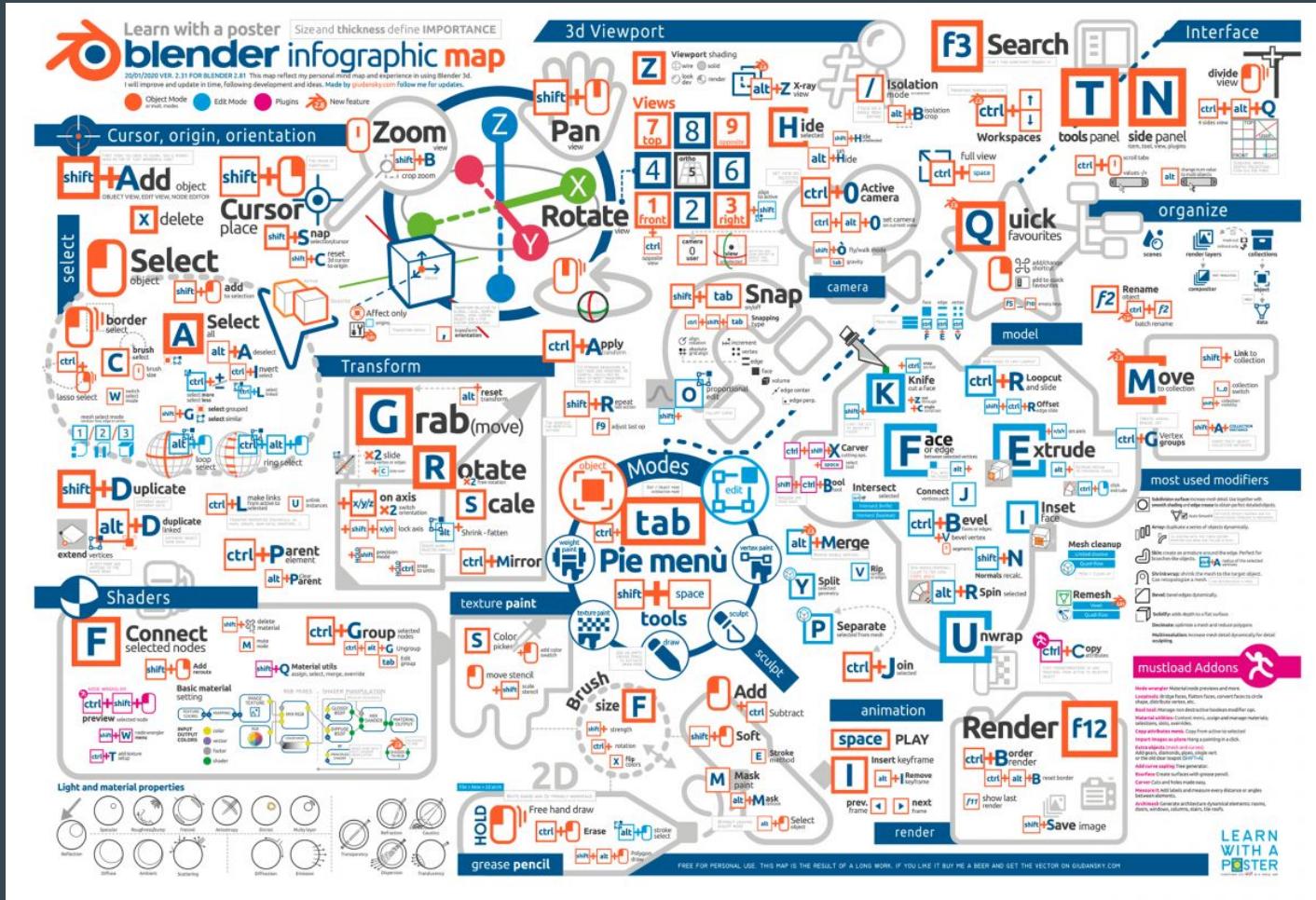
Alt + MMB (*drag*)

Show All Objects

Home

Zoom to region

Shift + B



Transforms

Grab - G (translate)

Rotate - R

Scale - S

Limit to axis - X, Y, or Z after a transform has been selected

Example: G, then X to move along the X axis

Adding Geometry

Shift-A - Add mesh

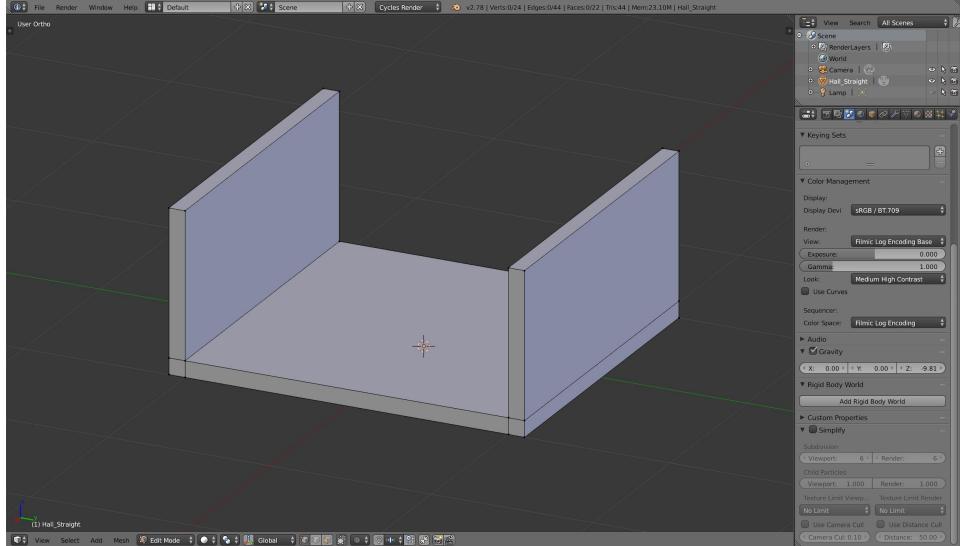
Add edge loop - Ctrl-R

Extrude - E

Blender 3D Demo

Making a corridor!

Simple, but illustrates a number of important ideas and techniques



Blender to Unreal

