
A SAMPLE WORKING FLOW

In this sample version, the project is going to include:

Basic Design, floor map, etc 👉

Sketch model in sketching software

Basic Control 👉

VIVE/ Oculus
Tilt brush
Blocks by Google

Import / Export 2d reference and 3d sketch 👉
Making a 3d sketch 👉

Working in Blender/Zbrush/etc. 👉

Import sketch model
Working on build
Export Build model

Unity Model

Pt.1

- Basic shape Models (cube, sphere, cones, planes)
- Indoor/ Outdoor Models
- Textured Models (Low-polygon/ Textured)
- Material Example Models

Pt.2

- Skybox (360photo)
- Lighting (Directional light = outdoor/ Spot light or Point light = indoor
- Emission Objects

Pt.3

Navigation scripts
Animated Objects
Switch Camera

Pt.4

Photo-realistic Improvement Render
Transparent, reflective, translucent material

Pt.5

Hot spot, Hot key (Prescripted)

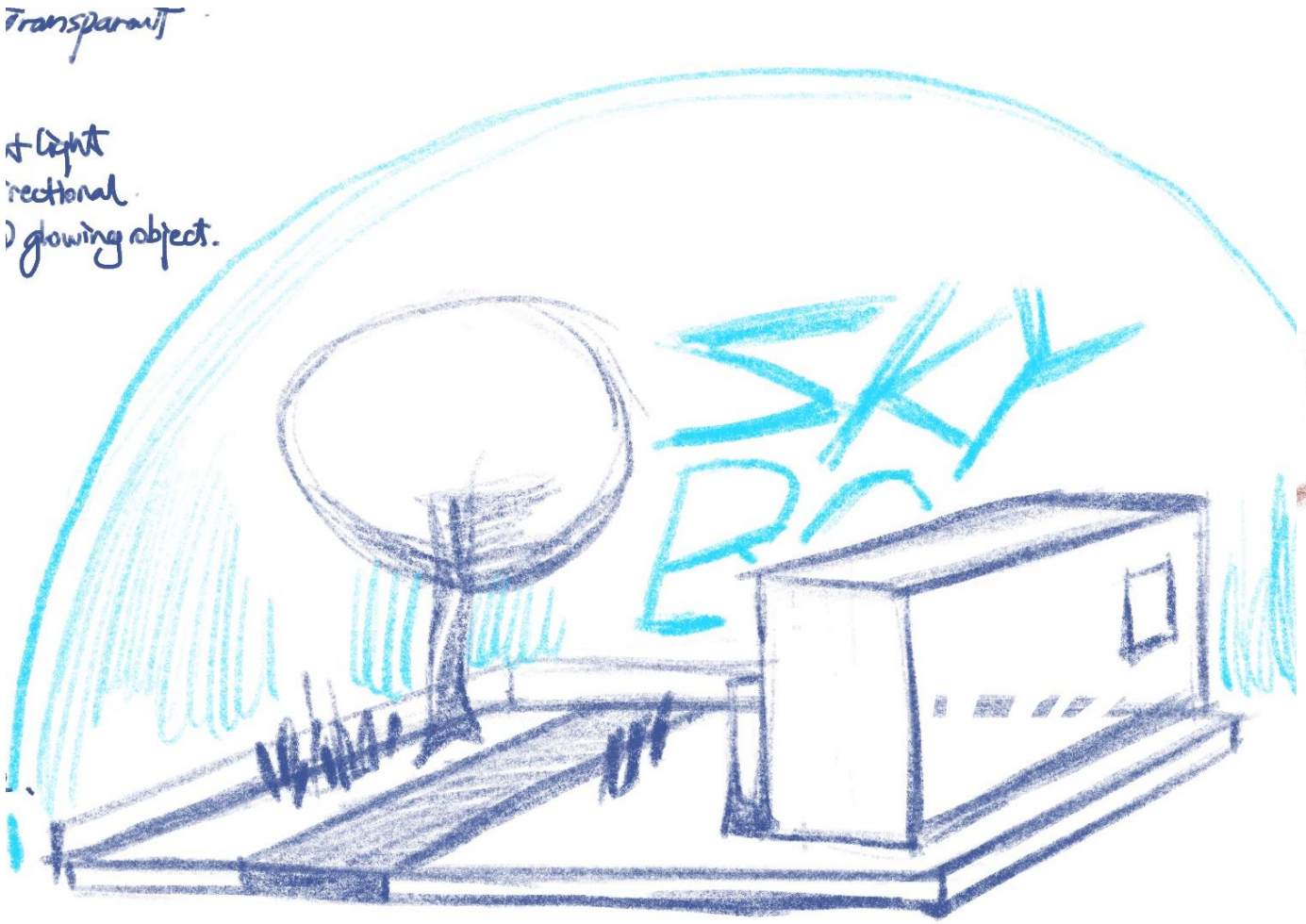
How to : Link prescriped spots to object

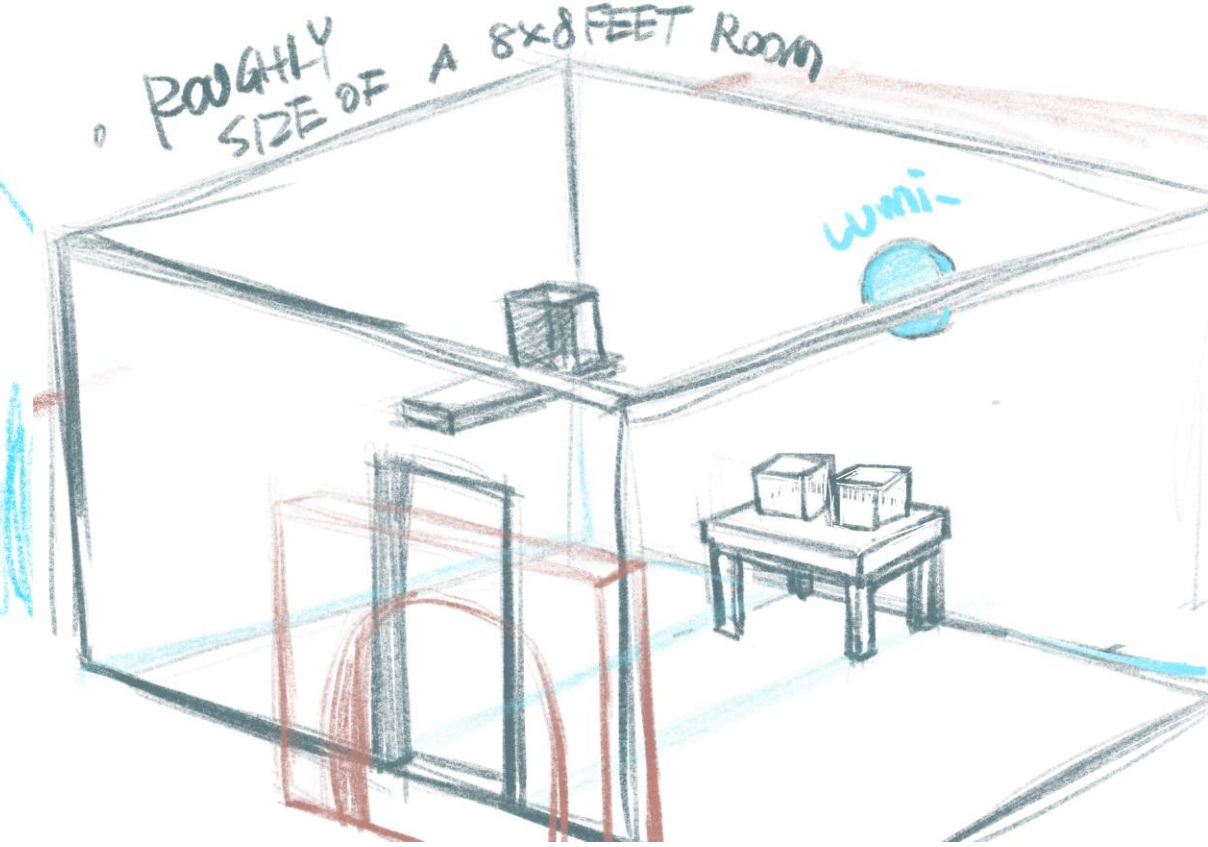
Basic programming in

Player (camera movement)
Player (interaction with environment)
Animation (in environment)
Levels (switch in environment)

Sketching & Design in paper:

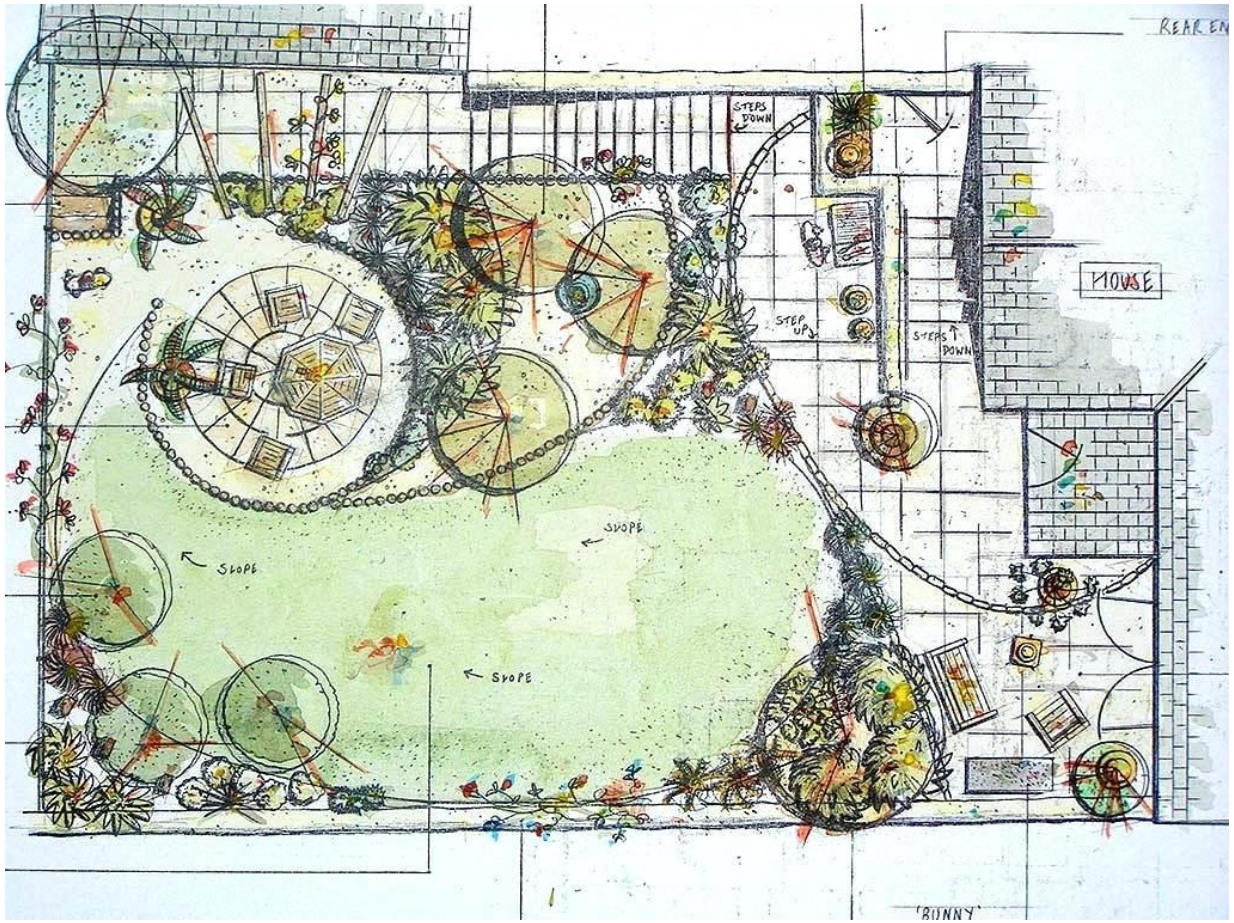
This is my own super simple and basic model





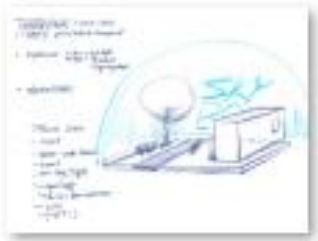
Making a floor map (if needed)

I'm just using fancy ones here to illustrate what might happen in people's design



Save as JPEG/JPG/PNG format

* If there's a reference picture that you want with transparency, save in photoshop as PNG format with alpha channel, tilt brush or gravity sketch or blocks will recognize them.



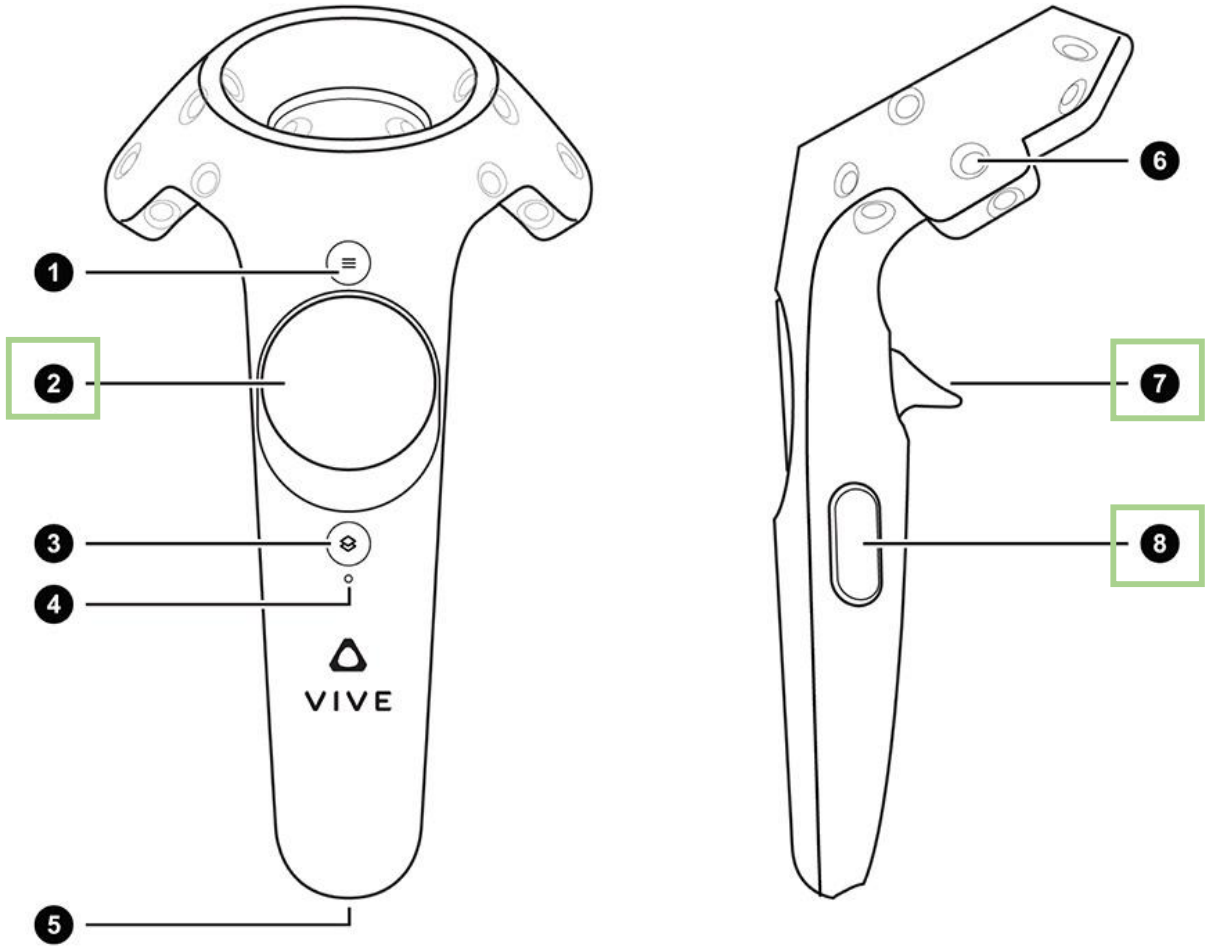
designs 1

Designs 2

floorplans

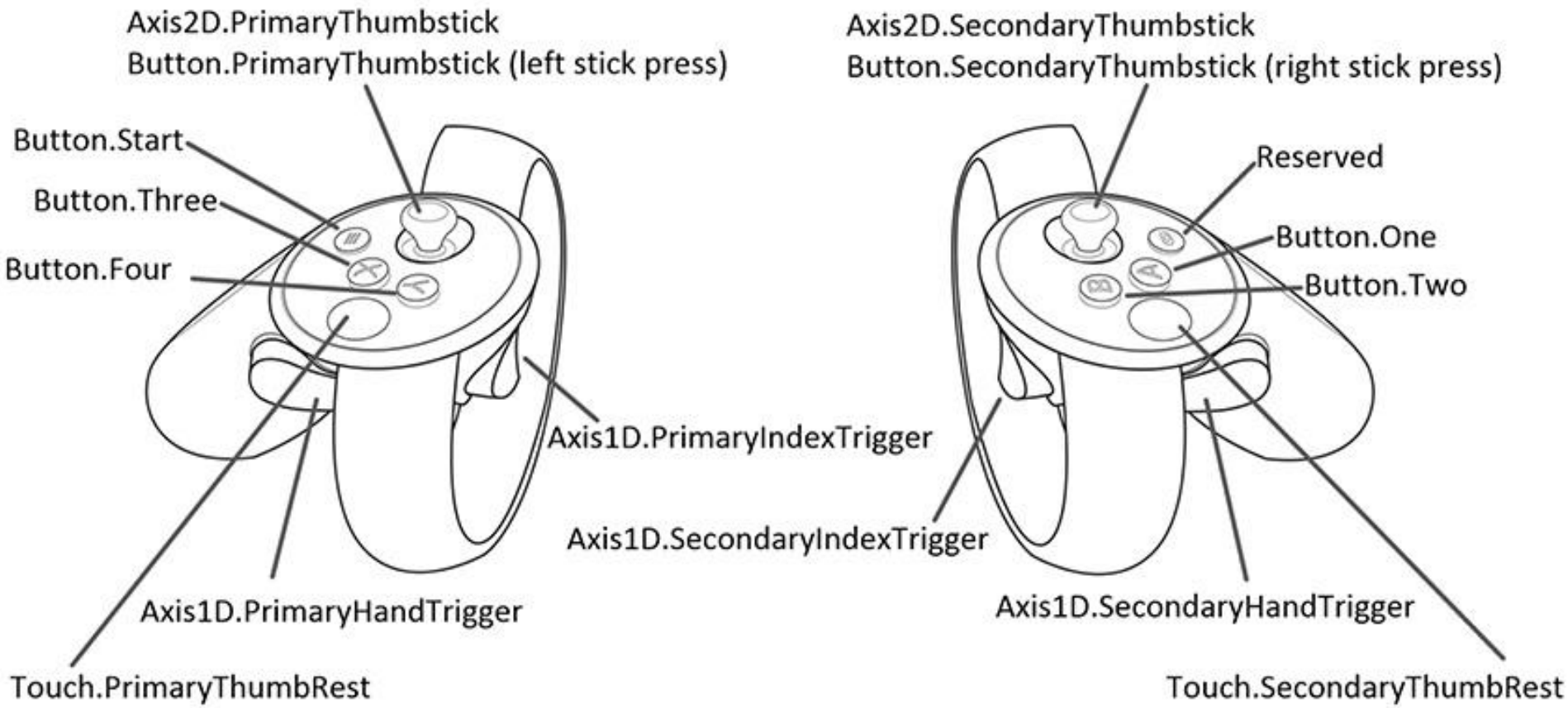
designs 1	2018/10/17 10:31	JPG	609 KB
Designs 2	2018/10/17 10:31	JPG	731 KB
floorplans	2018/10/17 10:38	JPG	403 KB

VIVE/Oculus controller



1	Menu Button
2	Trackpad
3	System button
4	Status light
5	Micro-USB port
6	Tracking sensor
7	Trigger
8	Grip button

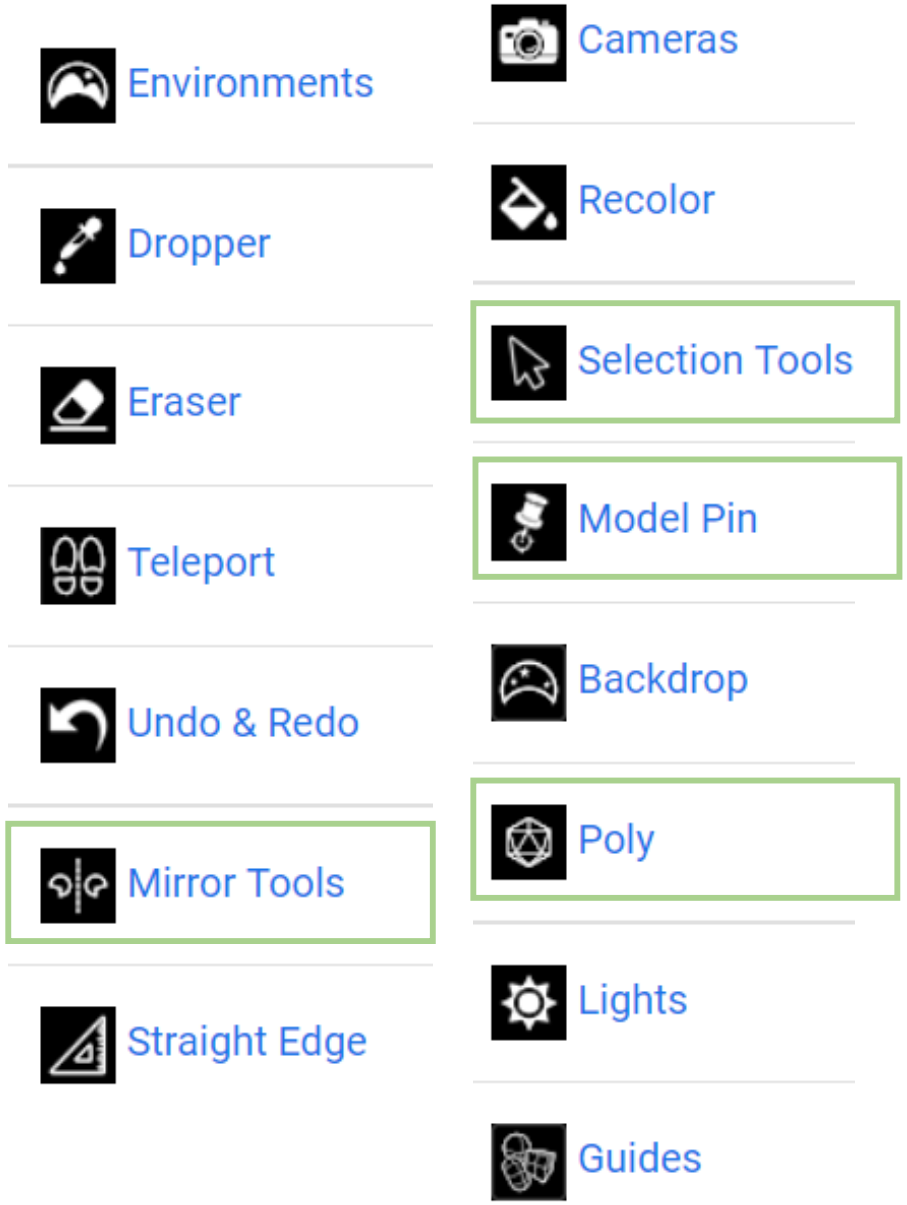
VIVE/Oculus controller



Using the Tilt Brush Tools, Quick Tools, and Menu panels

https://support.google.com/tiltbrush/answer/6389713?hl=en

→These are a little less intuitive to play with, so please at least read the description in the help page provided by google



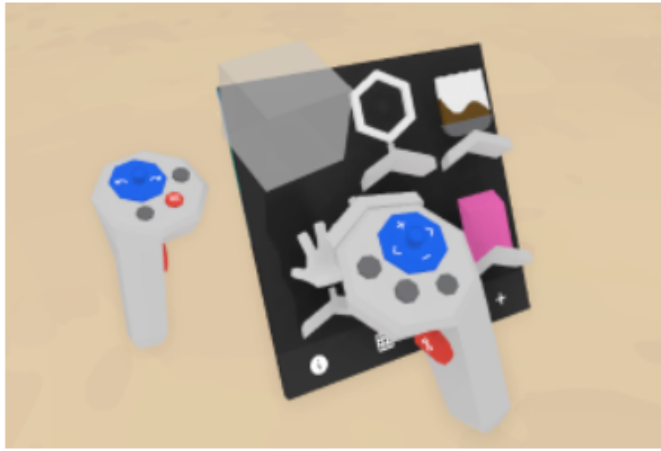
Some Basics in Google Blocks:

Please check the link below for basic info on how to create mesh in blocks.

https://sidelinemediablog.wordpress.com/2017/07/14/how-to-use-google-blocks/

Navigation

Your left controller is the support controller, and the right is the drawing controller. You can switch these by bumping the top tips of the controllers against each other. To move the world, grab with either of the grip buttons (red, under the controller). To rotate, hold and turn with both sides' grip buttons. You can scale the piece by moving your hands closer together and further apart.



Add a reference image or 3D model in Tilt Brush

https://support.google.com/tiltbrush/answer/6389717?hl=en&ref_topic=7074683

Add a reference image

On a computer, copy a PNG or JPG file to Documents/Tilt Brush/Media Library/Images.
Go to the Menu panel (below your palette) and select
"More Options..." > Labs > Local Media Library > Local Images.
Switch between selecting images and models using the icons in the top left.

Add a 3D model

On a computer, copy .obj files to Documents/Tilt Brush/Media Library/Models.
Go to the Menu panel (below your palette) and select
"More Options..." > Labs > Local Media Library > Local Models.
Switch between selecting images and models using the icons in the top left.

Move an image or model:

Position your controller on the image, press and hold a grip button on the side of your controller. Then, drag the image to the new location and release the grip button.

Resize an image or model:

With your controllers near the image, press and hold both grip buttons. Then, move the controllers farther apart or closer together.

Pin an image or model:

While holding your selection with the grip, pull the trigger to pin. Alternatively, you can use the Pin tool to pin images, models, or guides.

Remove an image or model:

With your controller near the reference image, press and hold a grip button. Then, flick the controller away from your body and release the grip button.

To Export A 3d sketch from Tilt brush:

Tilt Brush's export button is a bit hidden under its control

Tools > More… > Lab > Export

The outcome model by default goes to

Documents/Tilt Brush/Exports

Add a reference in Blocks

Blocks 2.0 update : Export in .fbx/ .obj
Import and snap on reference images
https://steamcommunity.com/games/533970/announcements/detail/1493364699932092584

Currently Missing Tutorials, will complete later

Export Model in Blocks

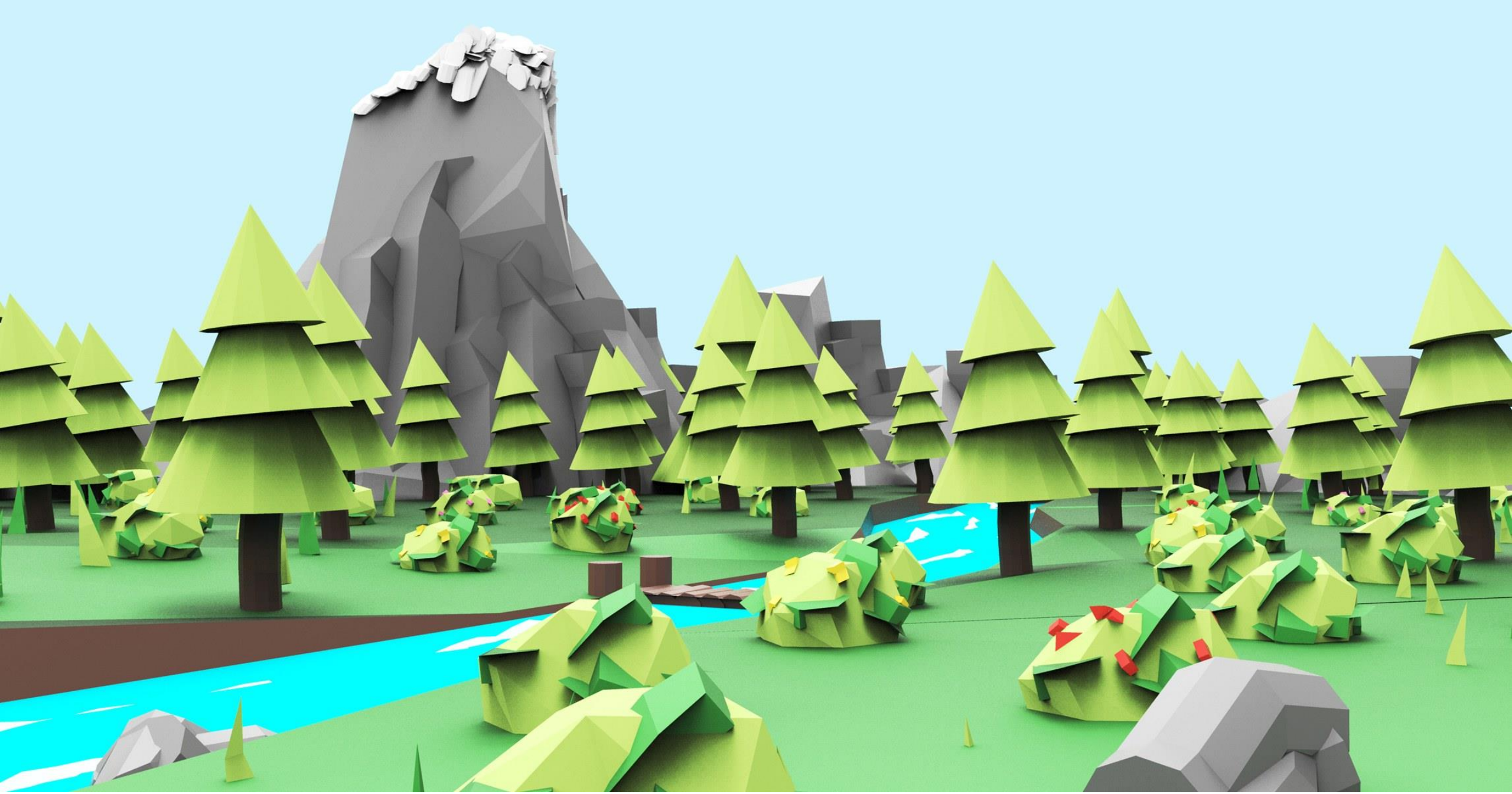
Currently Missing Tutorials, will complete later

Making A 3d Sketch

This is very intuitive, just use tilt brush or Blocks or whatever software that suits your own habits.

* Created Using Tilt Brush

* Light effect might be lost during exporting. Frame work will remains.



* Created Using Blocks


* Created Using Blocks, rendered in other software

Some Suggestions while making a sketch model:

(for Blender, 3dmax, Unity or other software might not support the look given to the model)

Avoid ember, smoke, snow or any particle brushes.

use **Wire brush** for volume, and **Marker brush** for flat, simple strokes.

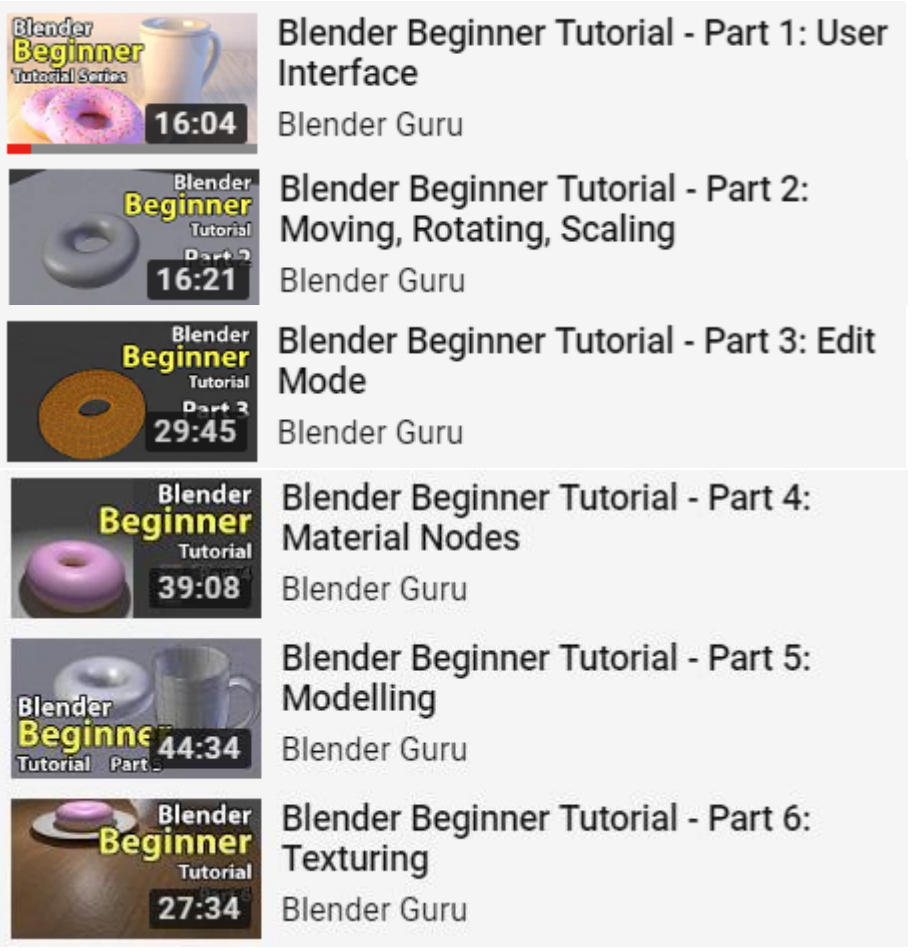
use **Light colors** (such as white) for highlights.

for later clarity, tag the export name by **time + content** in the export folder.

Click Icon Above for Basic Tutorial on

Interface/Create Mesh /Edit Mesh/ Render

YouTube Channel = Blender Guru

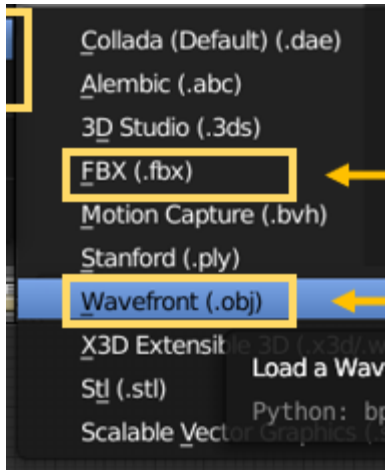


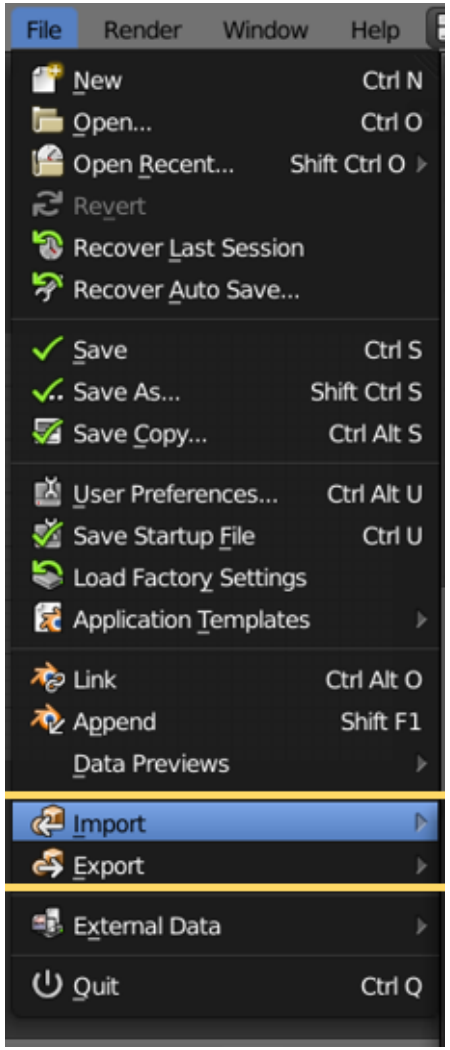
Importing from Tilt brush/Blocks/Downloaded resource to Blender:

In a opened new Scene, Choose

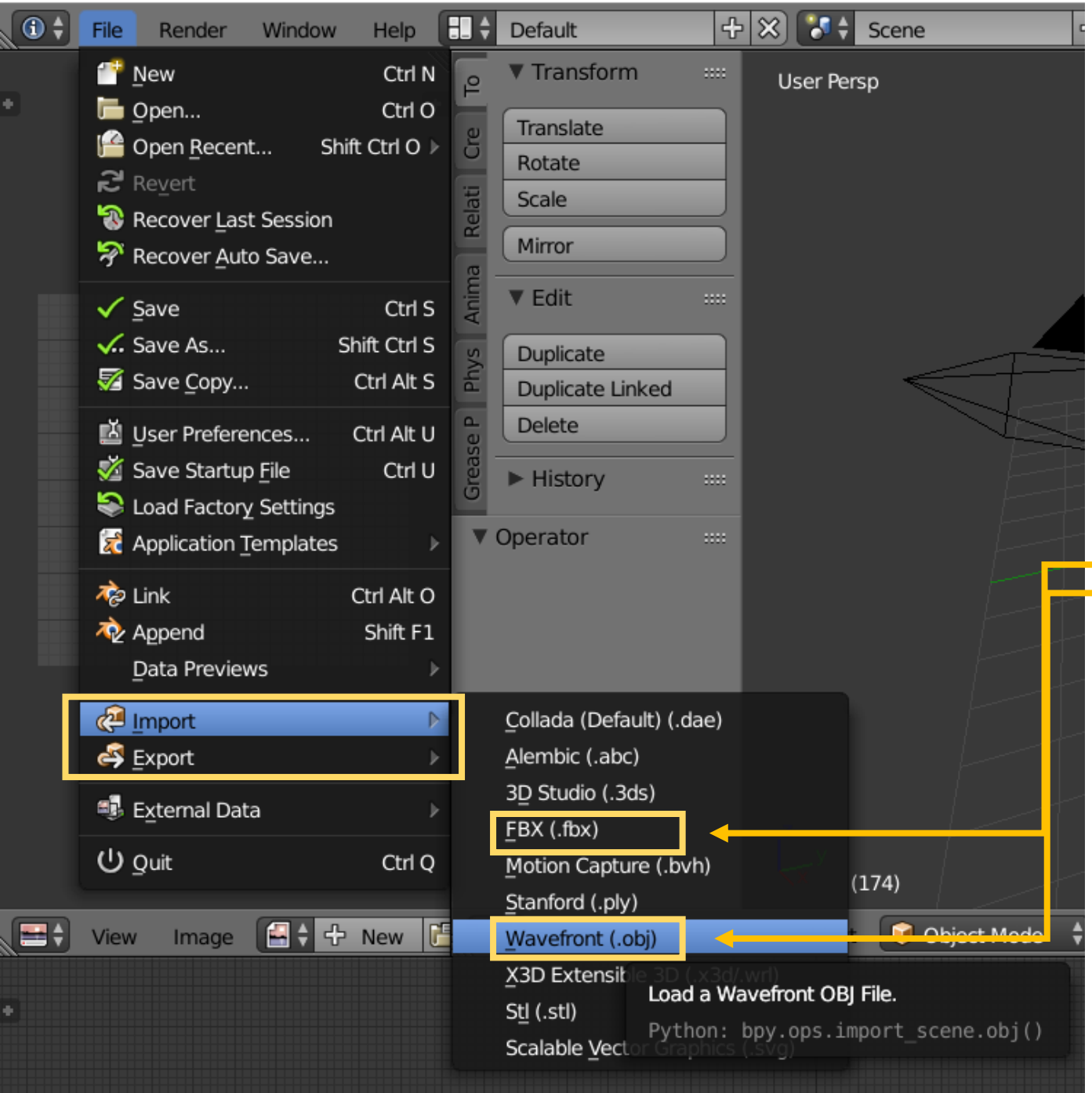
File > Import

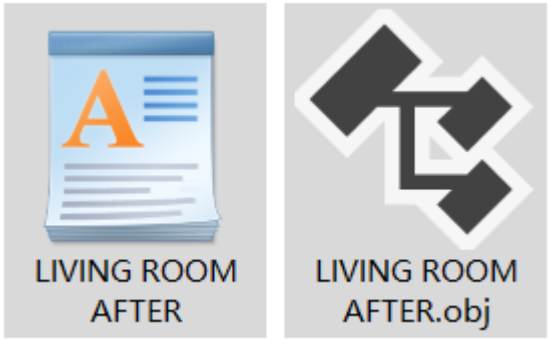
View and choose the file format from the opened window:





Blender



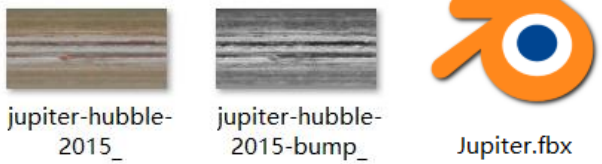


A .obj File example looks something like THIS.

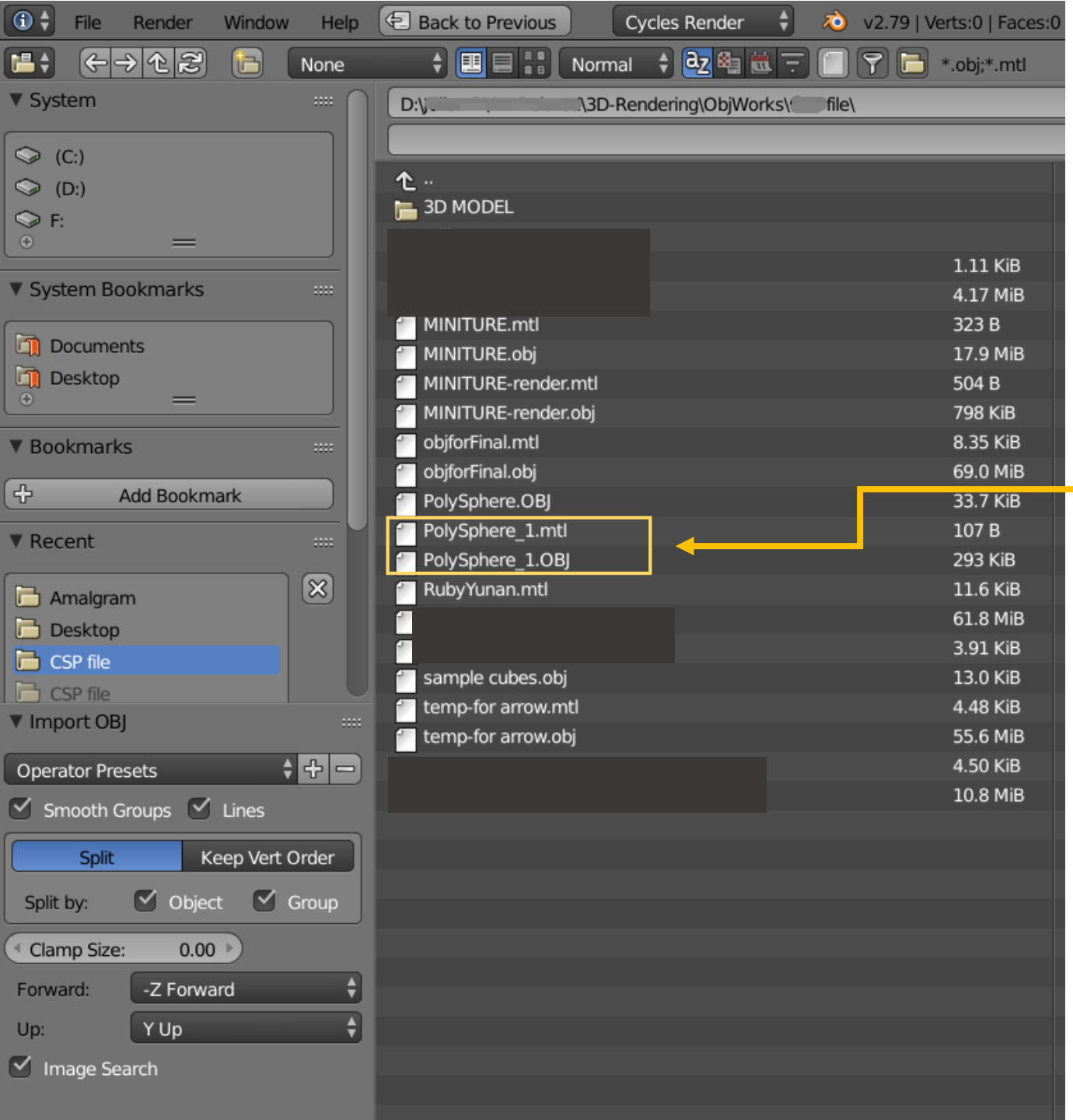
LIVING ROOM AF	2018/05/19 21:45	MTL 文件	3 KB
LIVING ROOM AF...	2018/05/19 21:45	对象文件	22,115 KB

These are the format created by Tilt Brush/ Blocks/ downloaded outside resource.

A .fbx File example looks something like THIS.



jupiter-hubble-20	2018/03/13 1:01	JPG 文件	382 KB
jupiter-hubble-20...	2018/03/13 1:02	JPG 文件	446 KB
Jupiter.fbx	2018/03/13 1:01	FBX 文件	25,964 KB



Choose the Obj file will automatically read the .mtl file at the same time.

The model should also include flat color information if there's any.

If there's a texture that was mapped before importing but did not show up after import, check the .mtl file to make sure the file are quoting the correct map info.

All the texture picture should be put under a same folder, or a folder that reads correctly in the mtl file.

Make sure to change this location to the same folder with the picture file.

```
newmtl Material 003_PolySphere_1.bmp
Ns 96.078431
Ka 1.000000 1.000000 1.000000
Kd 0.546218 0.018028 0.022629
Ks 0.500000 0.500000 0.500000
Ke 0.000000 0.000000 0.000000
Ni 1.000000
d 1.000000
illum 2
map_Kd C:\Users\PolySphere_1.bmp
```

Exporting to Unity:

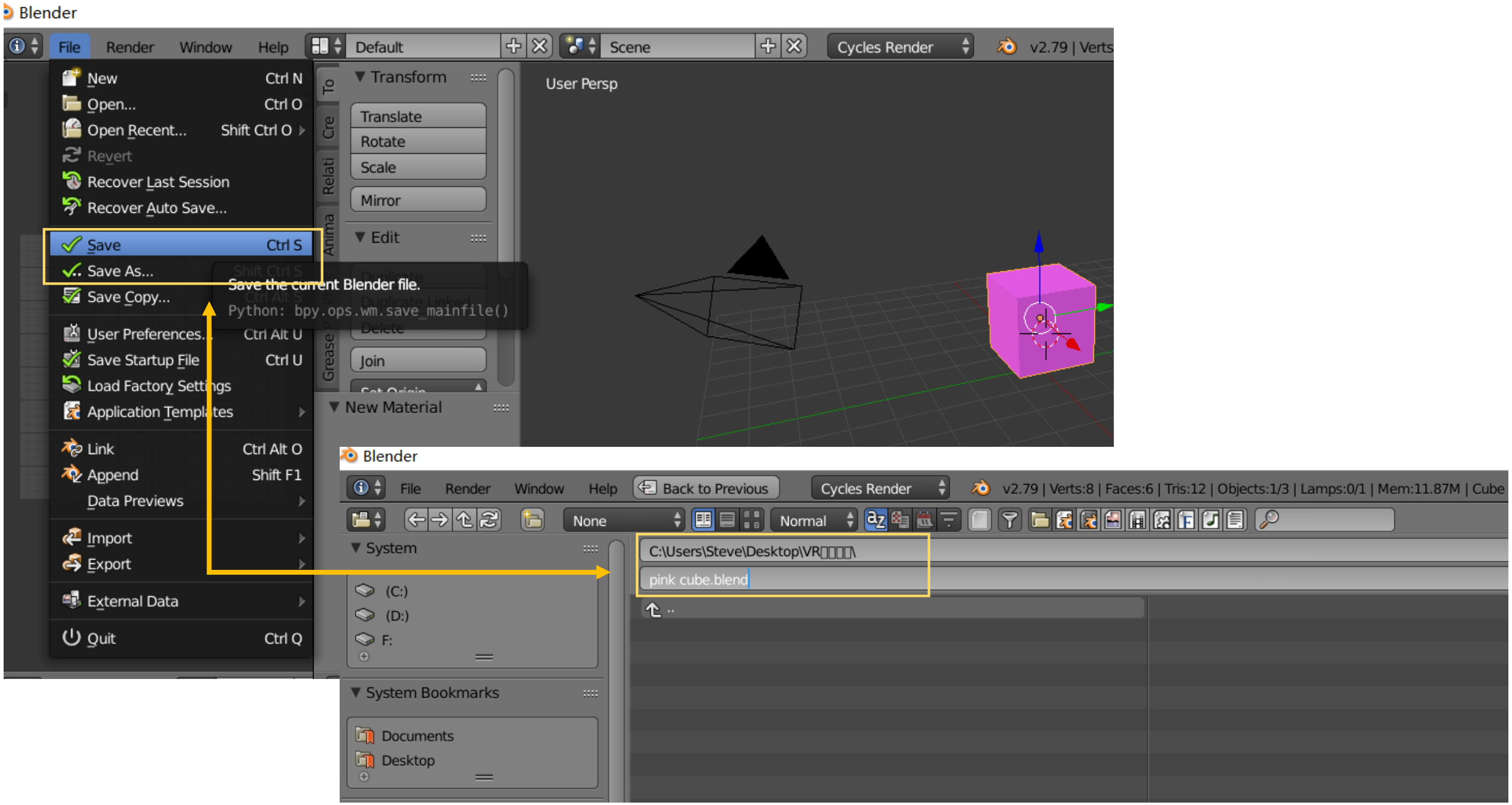
Unity User Manual : **Importing Objects From Blender**
https://docs.unity3d.com/560/Documentation/Manual/HOWTO-ImportObjectBlender.html

Unity natively imports Blender files. This works under the hood by using the Blender FBX exporter.

To get started, save your **.blend** file in your project's Assets folder. When you switch back into Unity, the file is imported automatically and will show up in the **Project View**.

To see your model in Unity, drag it from the Project View into the **Scene View**.

If you modify your **.blend** file, Unity will automatically update whenever you save.


Blender
File
Render
Window
Help
Default
Scene
Cycles Render
v2.79 | Verts
New Ctrl N
Open... Ctrl O
Open Recent... Shift Ctrl O
Revert
Recover Last Session
Recover Auto Save...
Save Ctrl S
Save As... Shift Ctrl S
Save Copy... Ctrl Alt S
User Preferences... Ctrl Alt U
Save Startup File Ctrl U
Load Factory Settings
Application Templates
Link Ctrl Alt O
Append Shift F1
Data Previews
Import
Export
External Data
Quit Ctrl Q
Save the current Blender file.
Python: bpy.ops.wm.save_mainfile()
Transform
Translate
Rotate
Scale
Mirror
Edit
Join
New Material
User Persp
Blender
File
Render
Window
Help
Back to Previous
Cycles Render
v2.79 | Verts:8 | Faces:6 | Tris:12 | Objects:1/3 | Lamps:0/1 | Mem:11.87M | Cube
None
Normal
System
(C:)
(D:)
F:
System Bookmarks
Documents
Desktop
C:\Users\Steve\Desktop\VR□□□□\
pink cube.blend
..

Unity currently imports

All nodes with position, rotation and scale.
Pivot points and Names are also imported.

Meshes with vertices, polygons, triangles, UVs, and normals.

Bones

Skinned Meshes

Animations

Things to remember while exporting

Prepare your assets:

- Meshes - Remove construction history, Nurbs, Nurms, Subdiv surfaces must be converted to polygons - e.g. triangulate or quadrangulate
- Animation - Select the correct rig, check frame rate, animation length etc.
- Blend Shapes / Morphing - Make sure your Blendshapes (Maya) or Morph targets (Max) are assigned / set up the export mesh appropriately
- Textures - Make sure your textures are sourced already from your Unity project or copied into a folder called \textures in your project
- Smoothing - Check if you want smoothing groups and/or smooth mesh

How do I include those elements?

Check the FBX export settings

- Be aware of your settings in the export dialogue so that you know what to expect and can match up the fbx settings In Unity - see figs 1, 2 & 3 below
- Check Animation / Deformations / Skins / Morphs as appropriate
- Nodes, markers and their transforms can be exported
- Cameras and Lights are not currently imported in to Unity