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Intro to Blender

DevLUp FSU

GBM #4

October 3rd, 2024

Welcome!

Next Few Weeks

COUNTDOWN TO GAME JAM: **29 DAYS**

Date	Week #	GBM Title	Secondary Event	Presenter
29 Aug	1	(No Meeting)	Involvement Fair	
5 Sep	2	Intro to Club and New Club Project		Club
12 Sep	3	Intro to Game Design		Chris
19 Sep	4	Intro to 3D Game Dev in Godot		Dion
26 Sep	5	Intro to 3D Modelling in Blender		Jake, Parker, Emma
3 Oct	6	Blender Animations		Ares
10 Oct	7	Blender Materials		Parker, Jake
17 Oct	8	Pixel Art		Ares, Emma
24 Oct	9	Tile Maps		Jake, Ares
31 Oct	10	Spooky Game Night Social	CANDY FOR ALL (No Candy)	Jack Skellington
7 Nov	11	Writing for Games		Emma, Chris
14 Nov	12	UI Design		Emma, Jake
21 Nov	13	3D Math		Dion
28 Nov	14	Thanksgiving Break		
5 Dec	15	Goodbye Chris Social		Chris
12 Dec	16	Finals		

DevLUp War Games - Game Jam

- DevLUp-wide Game Jam
 - FSU, UF, FIT, FAU, and more
- November 1st — 3rd
 - 48 hours
 - Starts Friday afternoon/evening
 - Ends Sunday afternoon/evening
- We will likely have access to the Innovation Hub (still needs to be reserved)



Download Blender



<https://www.blender.org/download/>

#00 showoff recap

Intro to Blender

Lesson plan:

- UI basics
- Object mode
- Edit mode
- Modifiers
- Sculpt mode

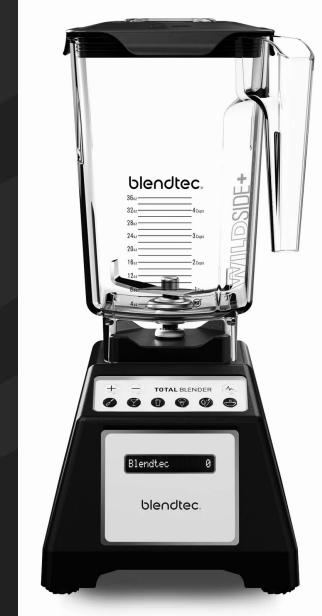
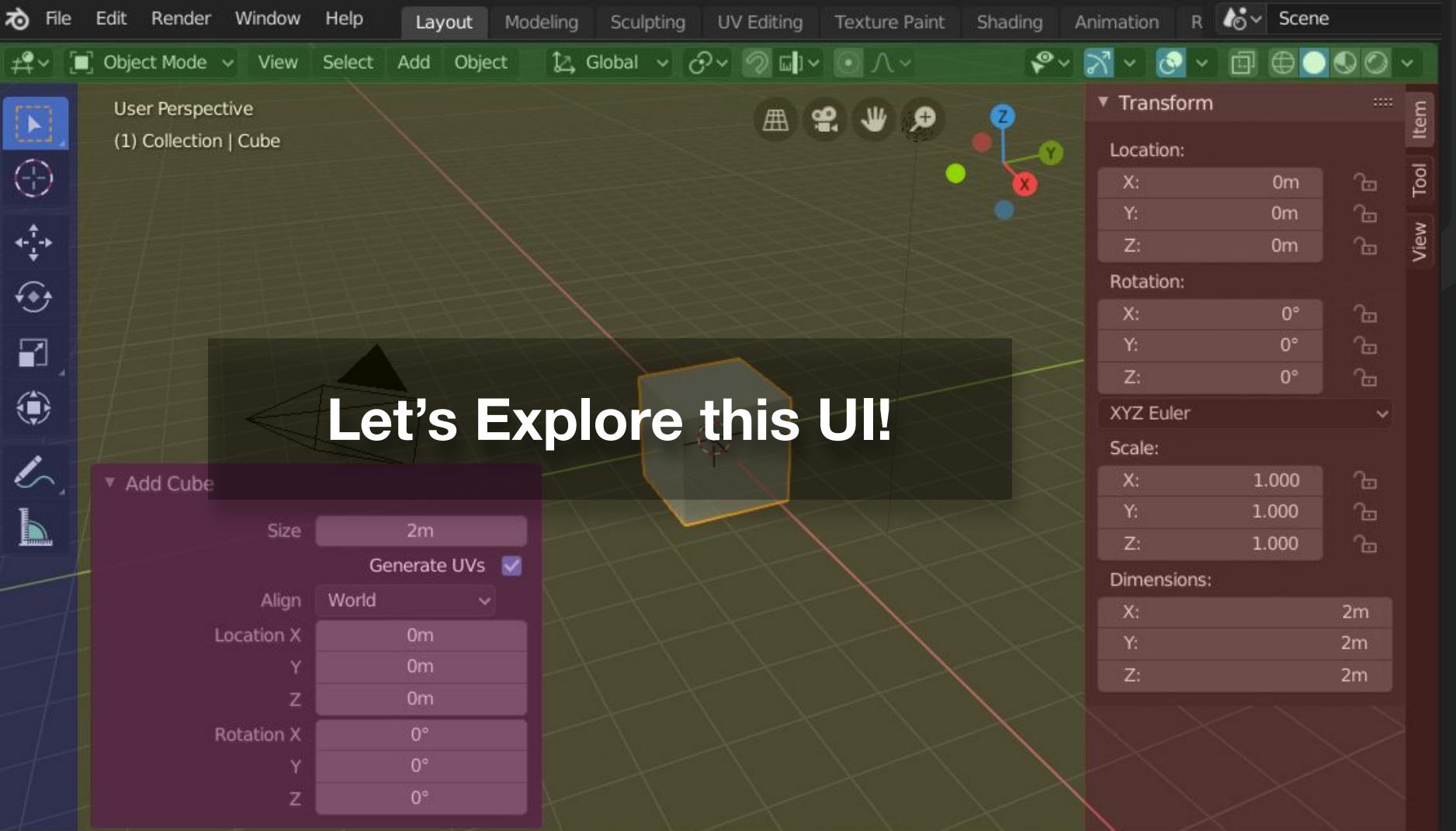


Fig. 0: *The same joke as last year, again*



Blender

Object Mode View Select Add Object

Global

Options

Scene Collection Collection Mesh Rig Collision Extras

Scene ViewLayer
Scene Camera Background Scene Active Clip
> Units
> Gravity Gravity
> Keying Sets
> Audio
> Rigid Body World
> Custom Properties

Viewport

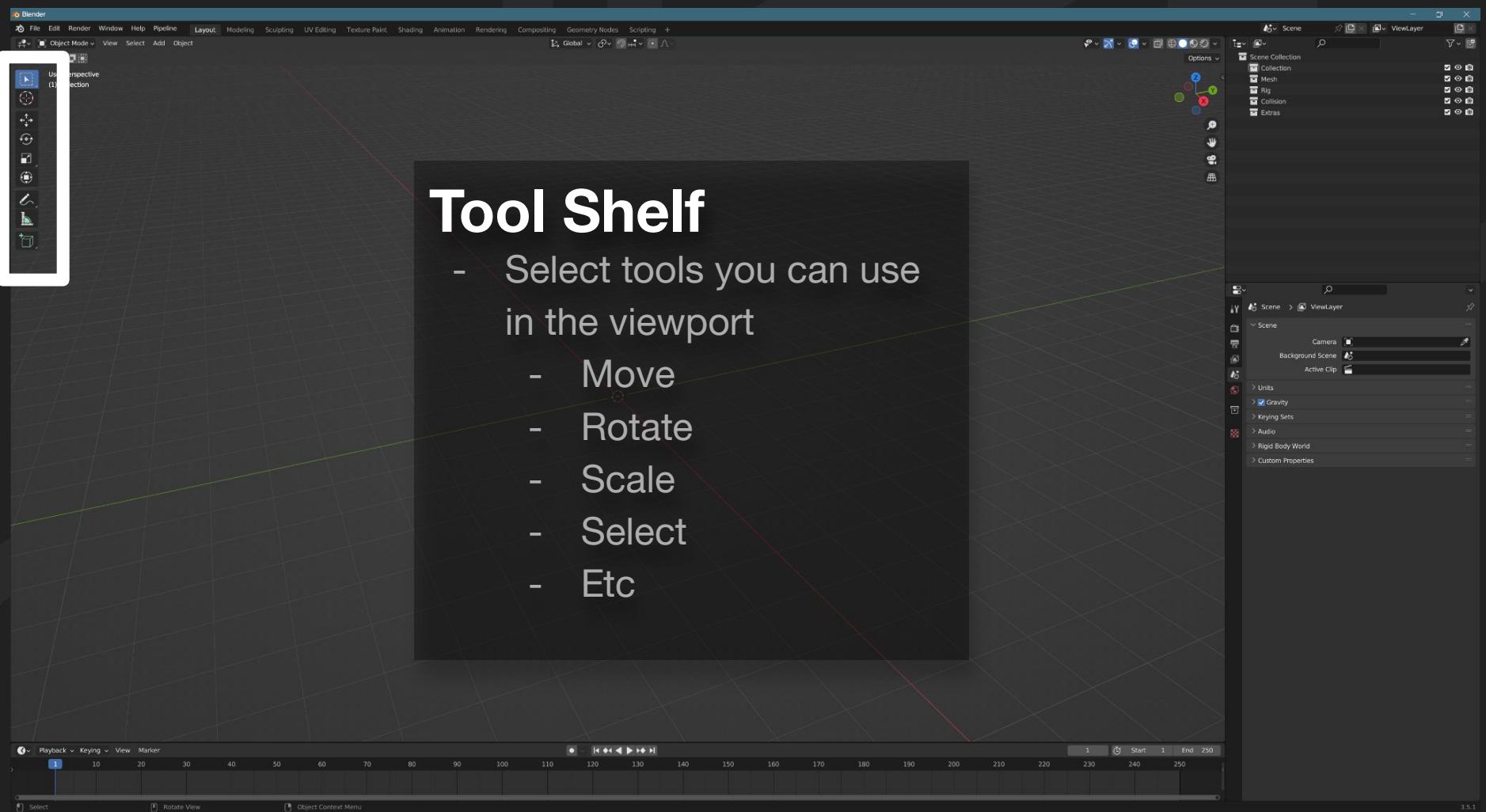
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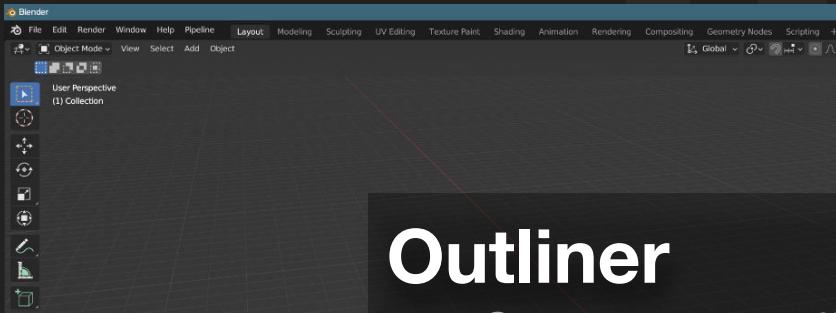
Select

Rotate View

Object Context Menu

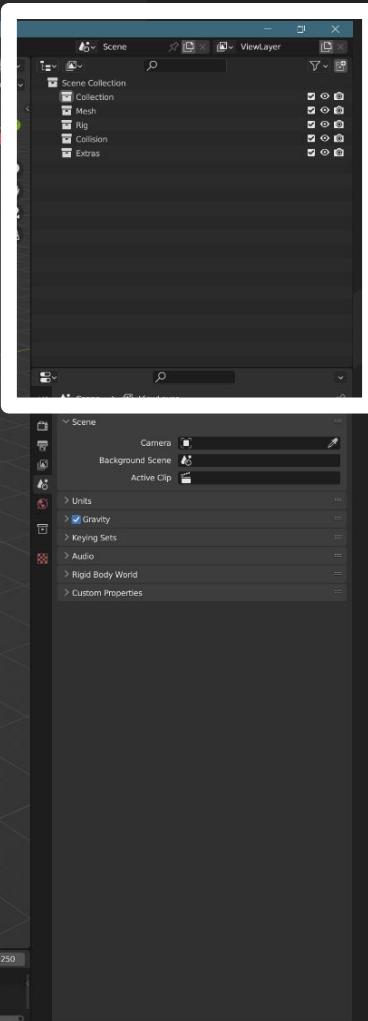
3.5.1





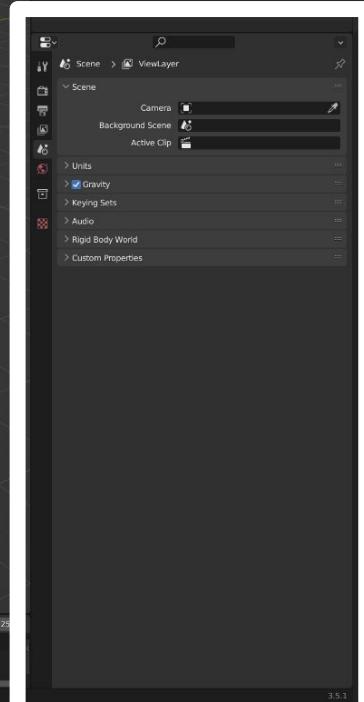
Outliner

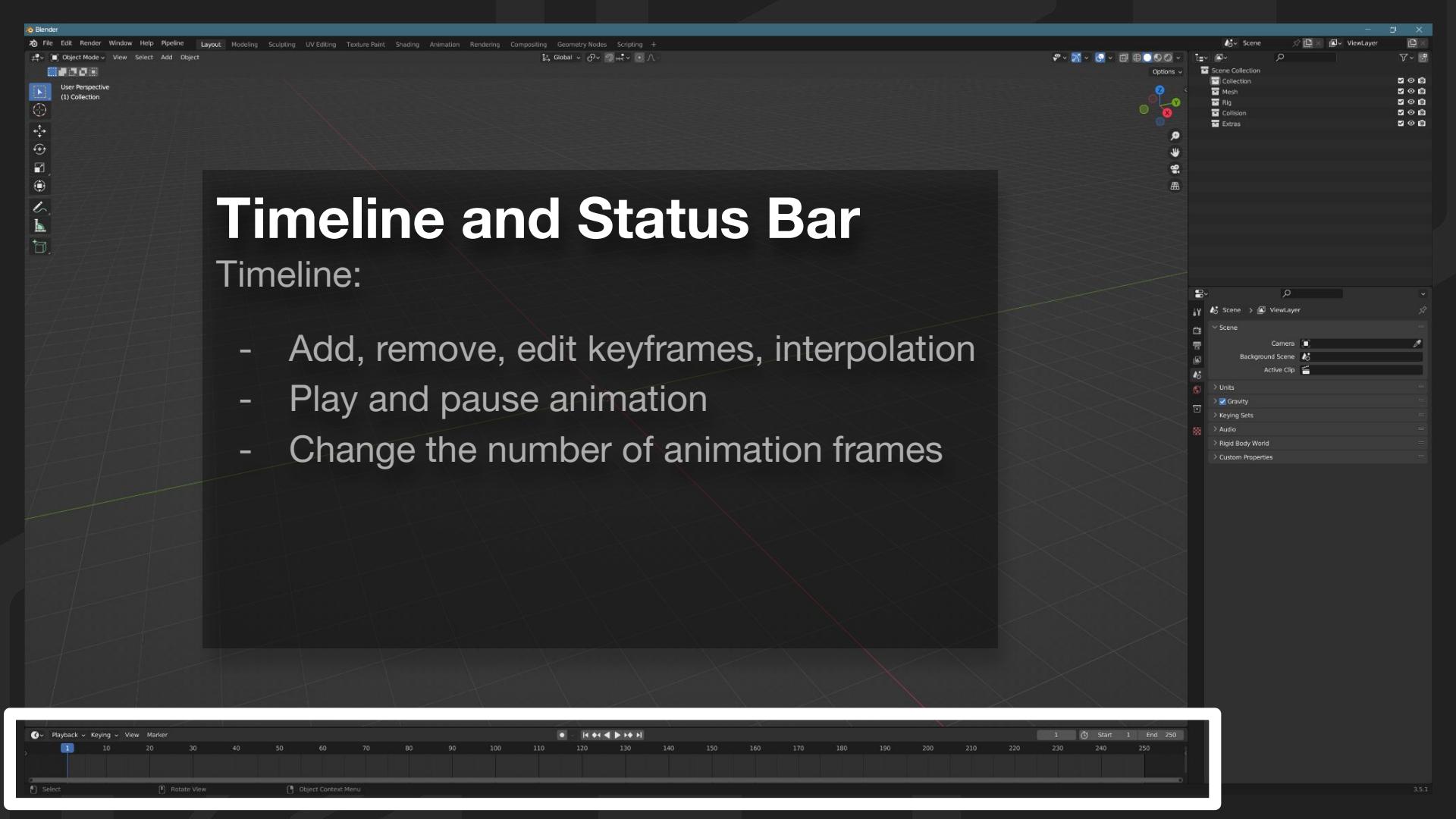
- See all your stuff and their hierarchies
- Toggle objects hidden, rendered
- Select stuff, see what's selected
- Rename stuff
- It's the same thing as the Godot one



Properties

- Change object properties
 - Transforms
 - Modifiers
 - Materials
 - (lots of others)
- Render settings
- Render resolution
- (lots of others)

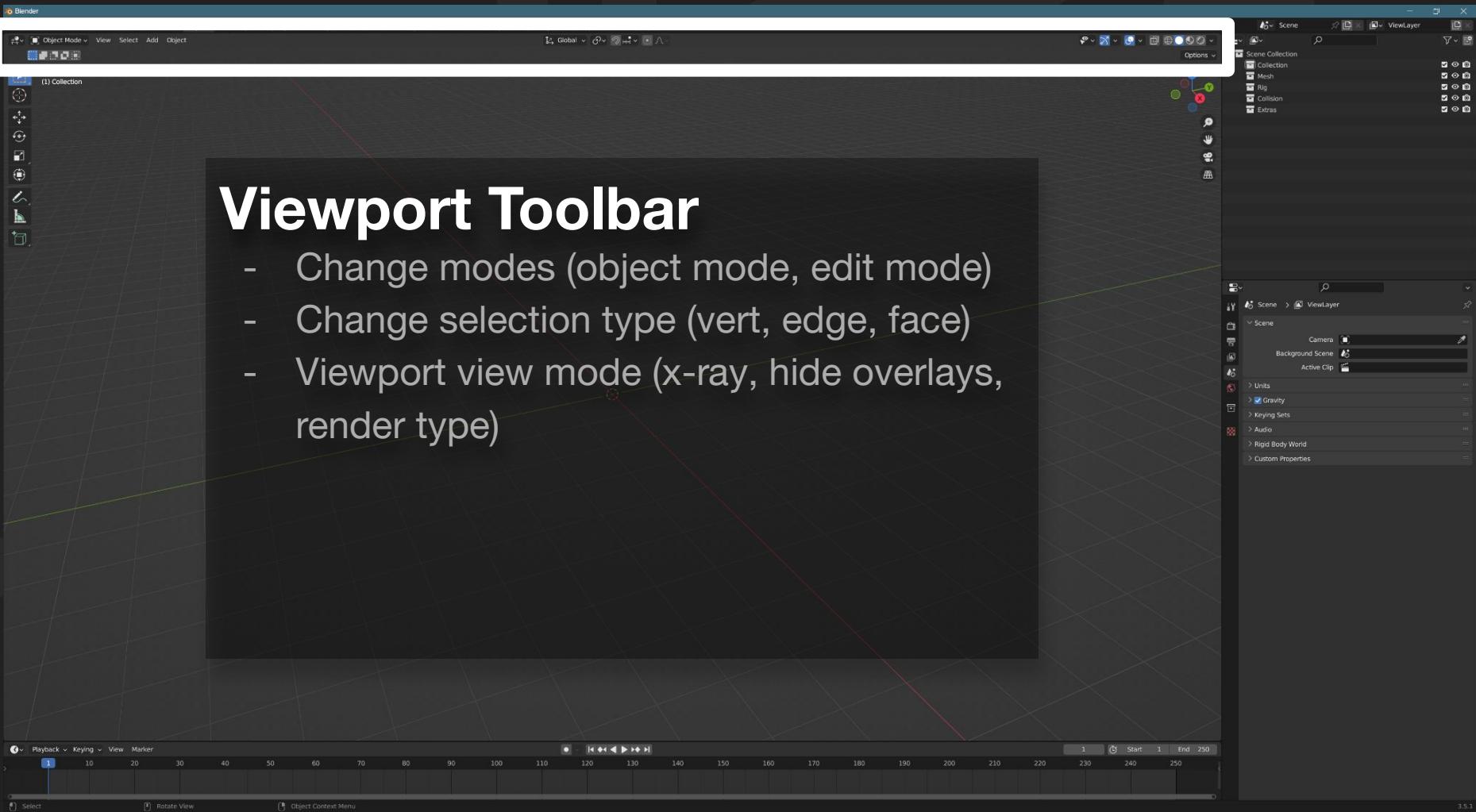


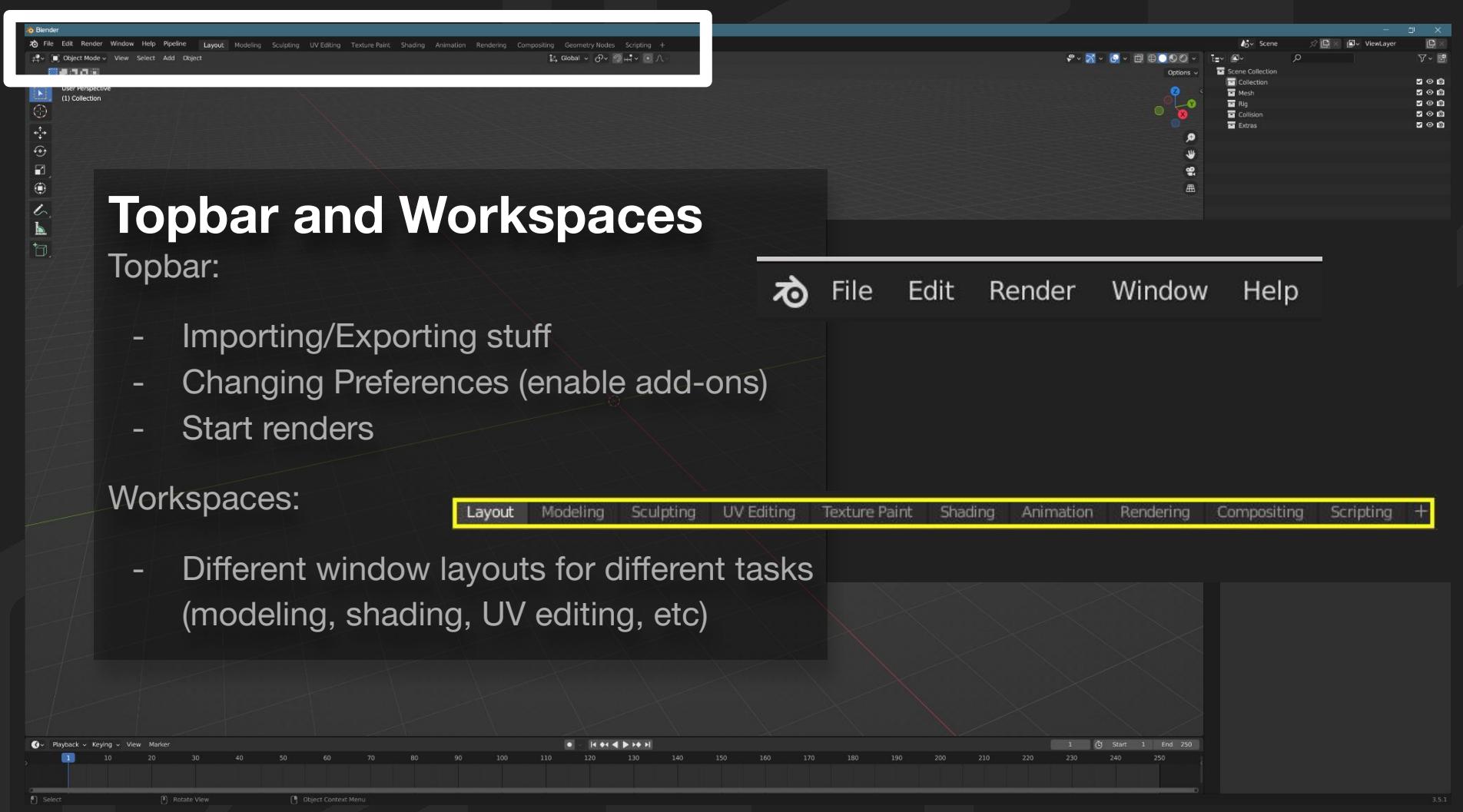


Timeline and Status Bar

Timeline:

- Add, remove, edit keyframes, interpolation
- Play and pause animation
- Change the number of animation frames





Essential Tools

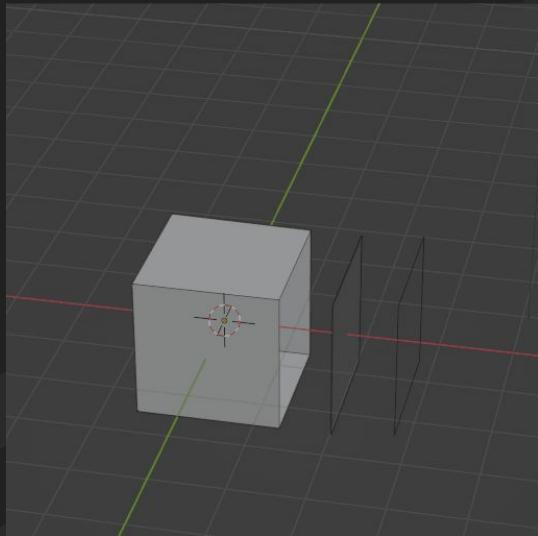


Fig. 4: *extrusion*

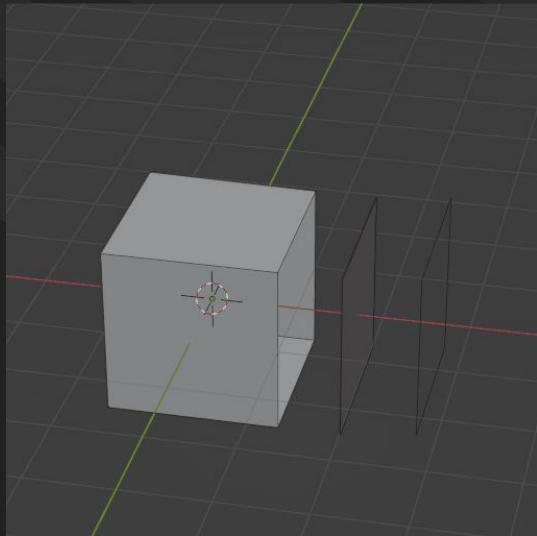


Fig. 5: *loop cut*

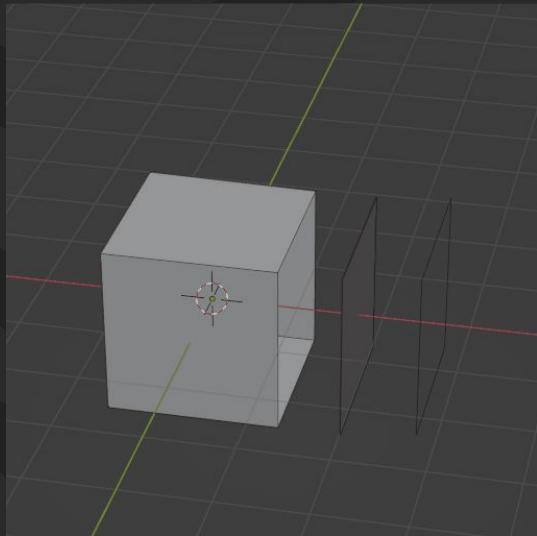


Fig. 1: *filling and merging*

Now, with your new knowledge

MUTILATE YOUR CUBE

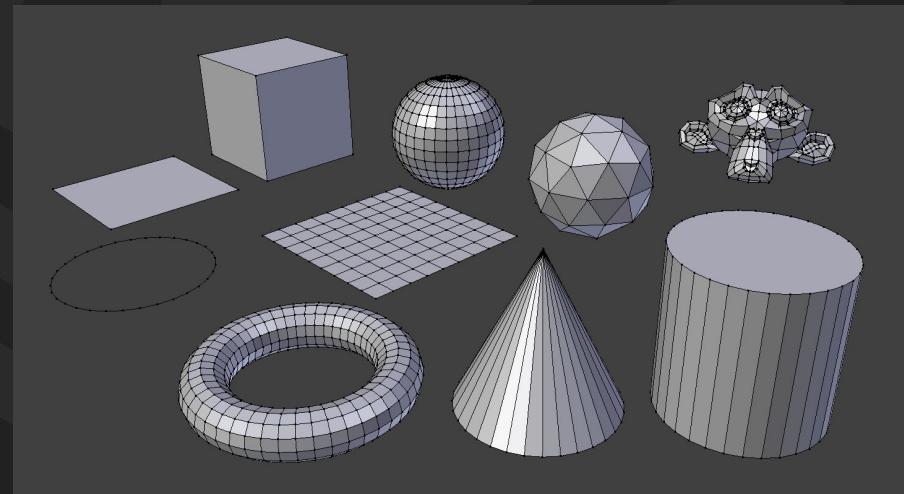
Most messed up cube wins



Object Mode

Primitives

- A common object type used in a 3D scene is a mesh. Blender comes with a number of “primitive” mesh shapes that you can start modeling from.
- You can also add primitives in Edit Mode at the 3D cursor.



Edit Mode

Transformations

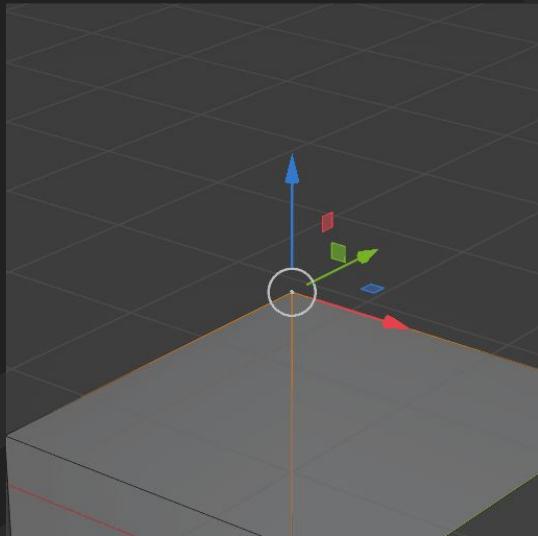


Fig. 1: *position*

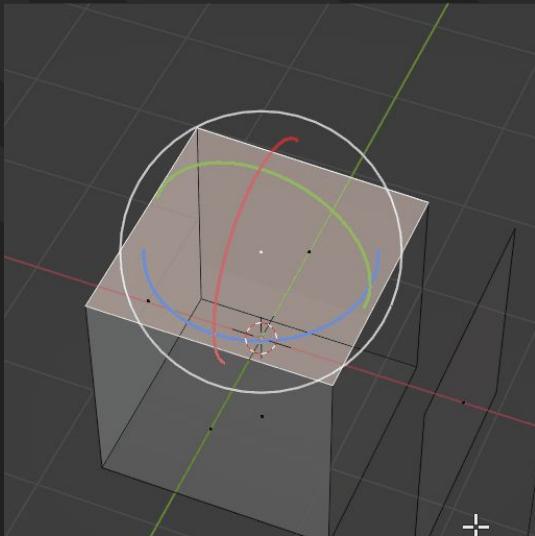


Fig. 2: *rotation*

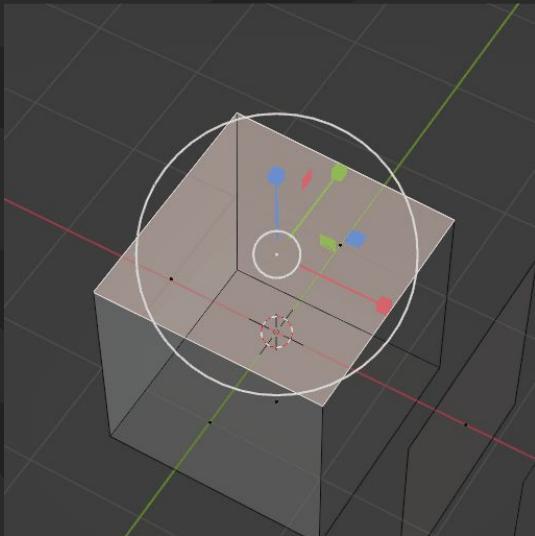
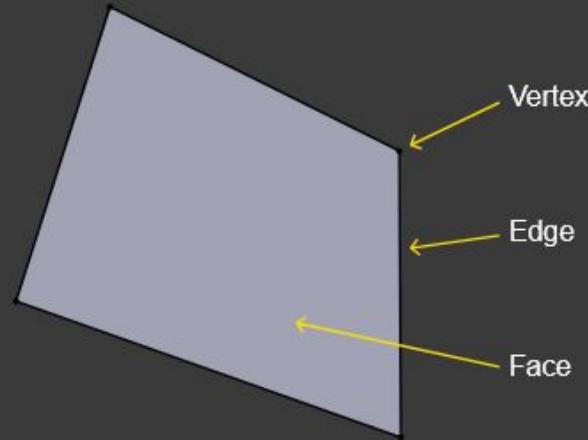


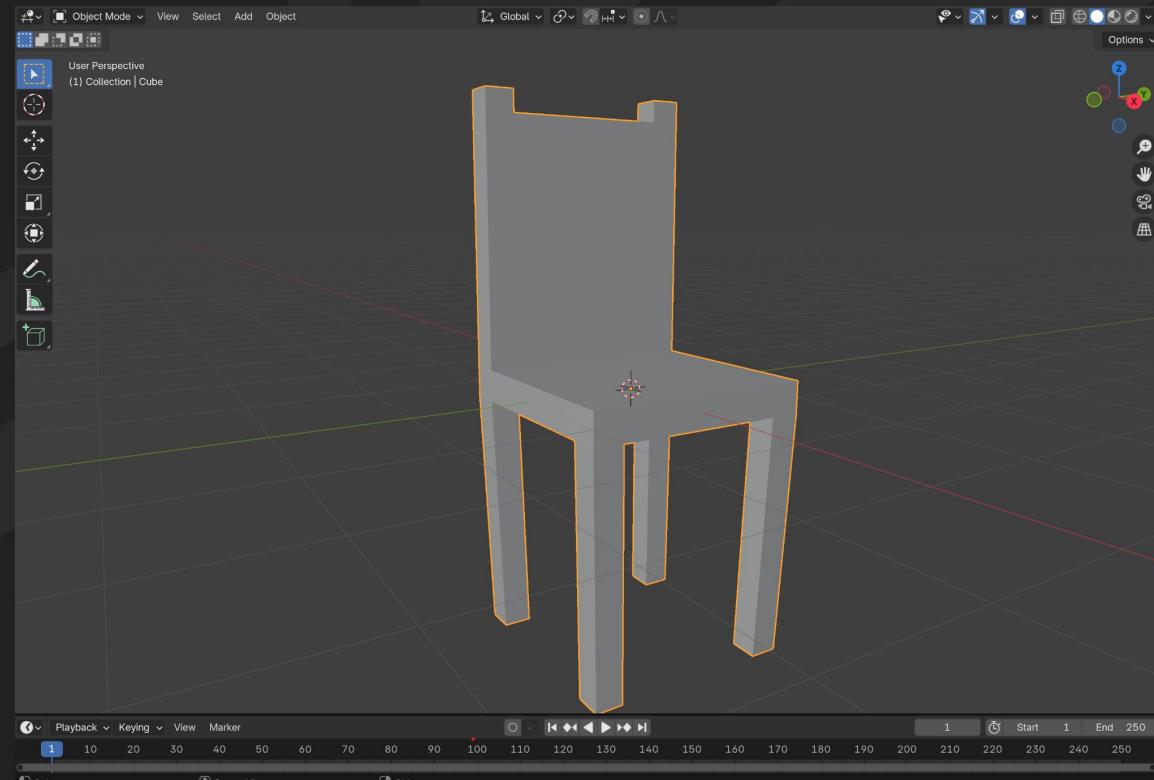
Fig. 1: *scale*

Entities in 3D space

- Meshes are made up of vertices
- Vertices connect to make edges
- Edges are bridged (filled) to make faces
- Faces connect to meshes



Quick Modeling Exercise: Make a Chair!

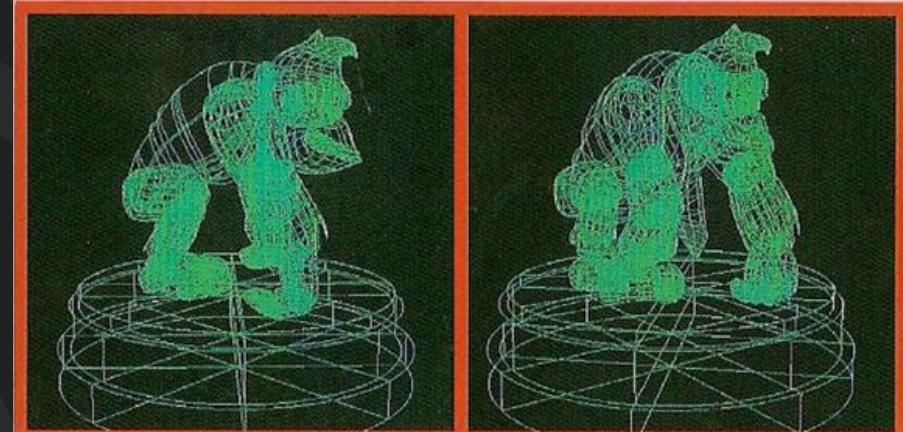
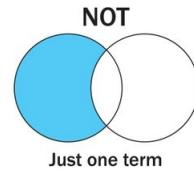
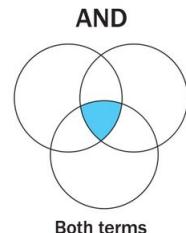
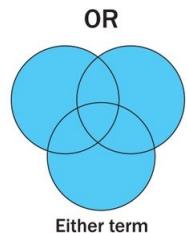


Back in primitive times

- Back in barbaric times, people used to model objects with 3D primitives using boolean operations.



BOOLEAN LOGIC



Actual SGI wire-frame models before hair and other textures are added.

Modifiers

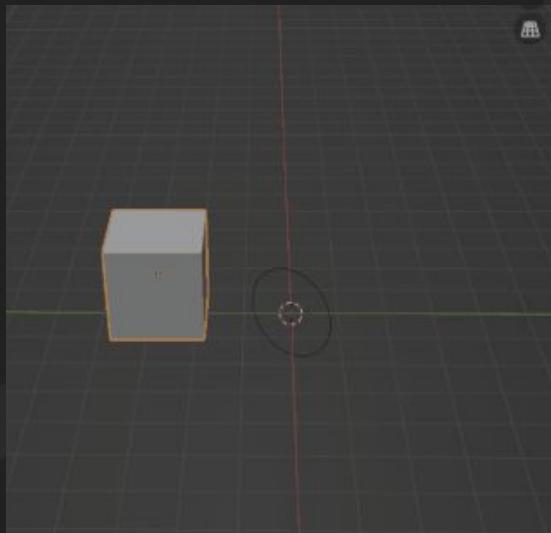


Fig. 4: *mirror*

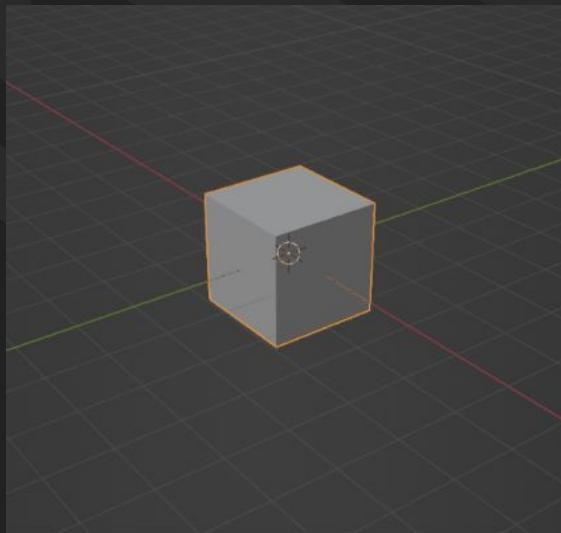


Fig. 5: *subdivision surface (sub-surf)*

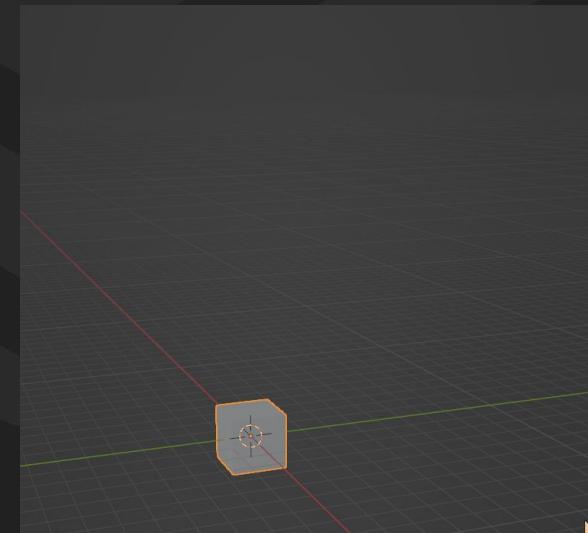
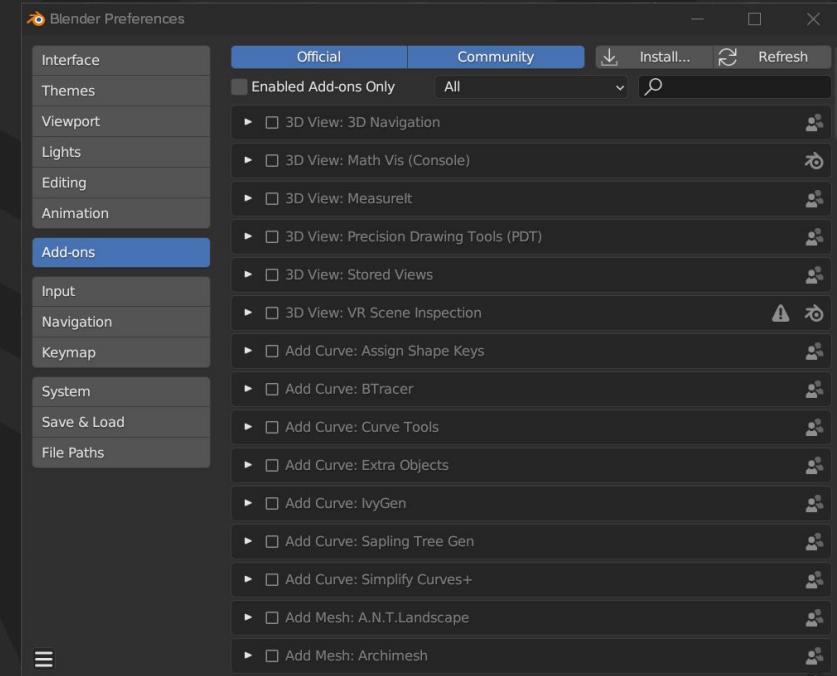


Fig. 1: *array*

(aside) Helpful and fun add-ons:

It would be helpful to enable:

- Import Images as Planes
- Looptools
- F2
- Node Wrangler
- Extra Objects (both)
- Sapling Tree Gen



Keyboard Shortcuts you can use for these:

Move: G

Rotate: R

Scale: S

Add objects: Shift + A

Change Mode: Tab

Selection and Cursor: Shift + S

Loop Cut: Ctrl + R

Duplicate: Shift + D

Repeat Last Action: Shift + R



Try opening a cheat sheet when you work.

Additional Resources:

Tech Artist who makes really great shader tutorials:



Ben Cloward

@BenCloward 51.1K subscribers 206 videos

This channel focuses on shader creation and other game development tip... >

Blender guy:



Blender Guru •

@blenderguru 2.68M subscribers 264 videos

Subscribe for tutorials on learning Blender (open source 3d software). >

poliigon.com and 1 more link

blender reddit (i don't like reddit but it's still really useful)



r/blender

Artstation (many artists post great breakdowns)



ARTSTATION

Exit Survey:



Fig. 1: Homer dislikes exit surveys.

