

L4 - Environment Design: Diorama ACCA4032

By Laura Jackson

1707535

Submitted: 24/05/23

Other diorama ideas: A cat themed store

After some **brainstorming**, I **decided** on a **cat theme**. **Love of cat videos**.

Pros:

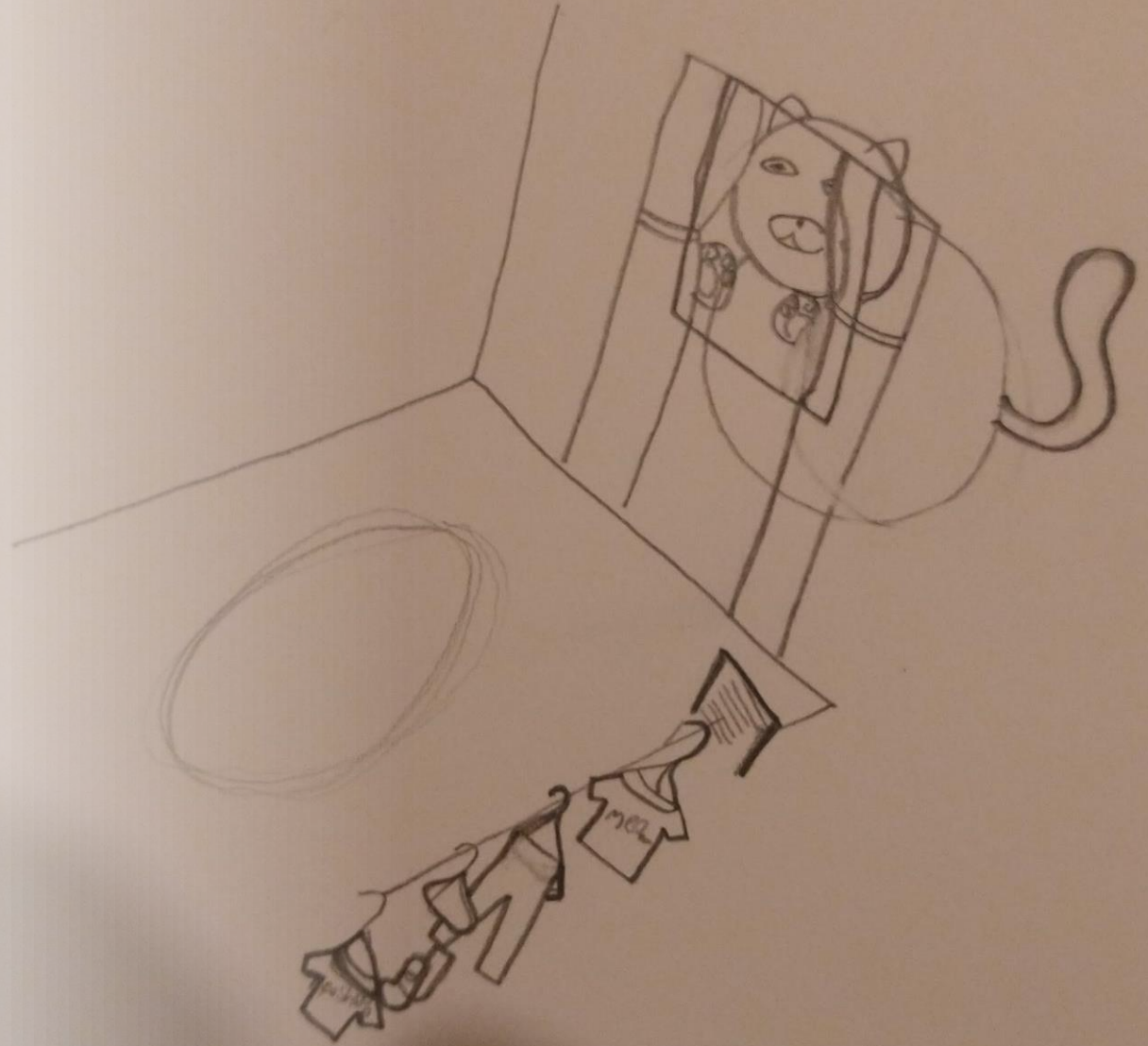
- Many cat shaped items.
- They don't have to match.
- Real stores for inspiration.

Cons:

- Thought to color schemes.
- Making the outside (not confident).

Cat Bedroom: Idea

- Theme for cat bedroom, **clothing** and **furniture**
- **A cat lady** would **love this** room
- **Focal point: Large cat** looking in
- (Weird and notable)
- **Reference** real **cat merchandise, clothing, furniture, flooring.**



Cat Bedroom [artists
own image]

Cat Bedroom:
Colours

Warm colours:
(Comfier space)

- Red
- Yellow
- Orange



Tuxedo Cat reproduced from
[1]

Cat bedroom ideas changed

Change to:

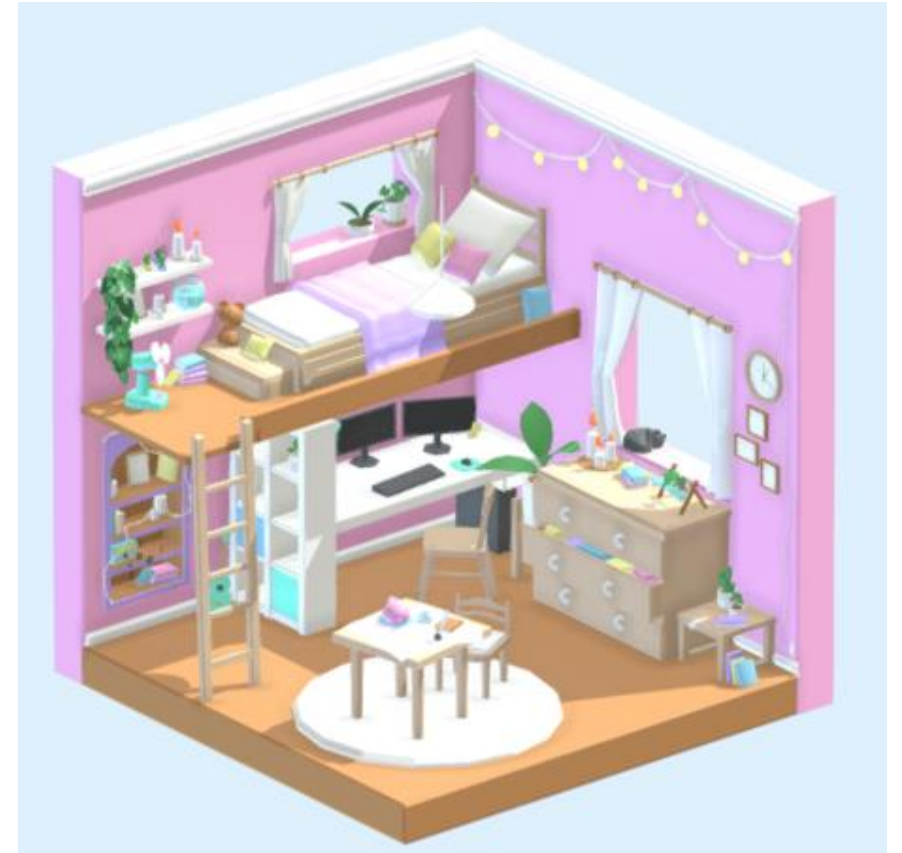
- **Cat themed furniture focus**
- **Research cat products as a result**
- **Expensive look**

Inspirational pieces

Cute Isometric Room 🌸 by
JaDe.Dfr [2]

I like:

- Plays w/ **vertical space**
- **Details!!**
- **Noted furniture and decorations**
used



Cute Isometric Room 🌸 reproduced from
[2]

Inspirational pieces

Room furniture collection (HP+LP) by Lukas Boban [4]

The focus on furniture like the bed and bookshelf caught my eye. It's interesting to see these creative furniture designs from other artists.



Room furniture collection (HP+LP) reproduced from [3]

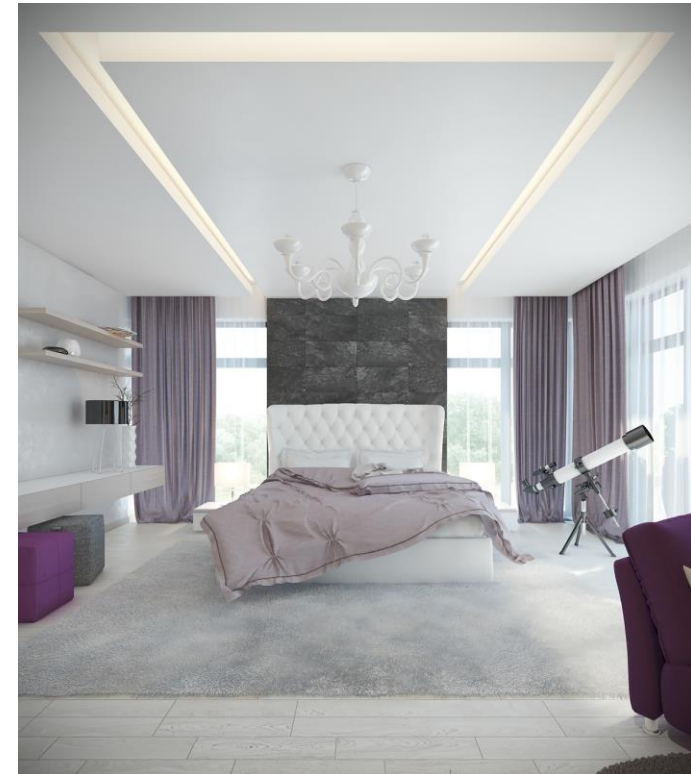
Expensive bedroom inspo & What I find interesting

large windows/ unique bedroom shape



Stunning Masculine Bedroom Ideas (Colors & Designs)
reproduced from [4]

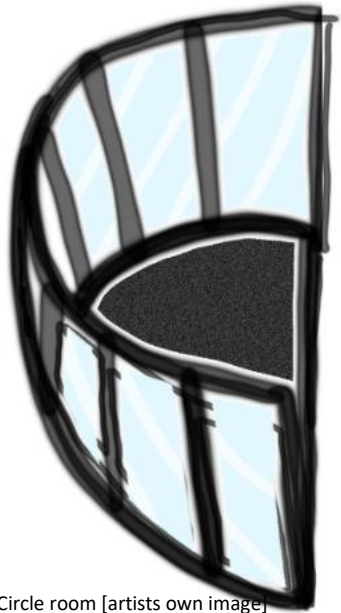
floating desk table/ examples of bed a focal point/ interesting ceiling light



10 Modern
Bedroom Design
Ideas With
Luxury
Decorating Ideas
reproduced
from [5]

Bedroom shape Ideas

Half circle



Half Circle room [artists own image]

Oval



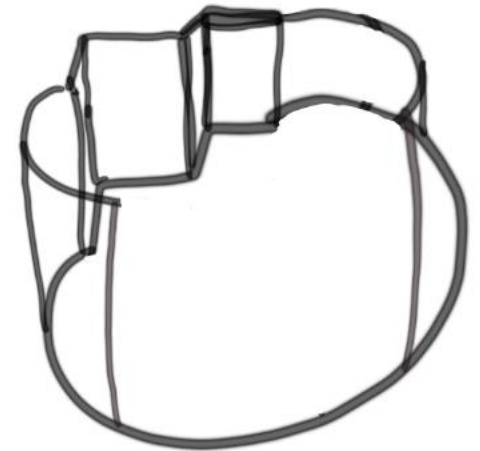
Oval room [artists own image]

Realistic Cat head



Realistic Cat Head room
[artists own image]

Cartoon/ symbol Cat head



Cartoon/ symbol Cat head
Room [artists own image]

- I was inspired to have curved walls as part of the bedroom shape from research.
- I drew my first idea for the cartoon cathead room last in case I had anymore ideas pop up.
- Though I could try drawing a realistic version of a cat's head as it may create interesting opportunities to play with space.
- My diorama will be furniture focused regardless of which one I pick.

Chosen bedroom Shape

I will be making a model of the more cartoon style cat head room as my room shape. The **odd shape** could help me think of **more creative furniture types** and window placement. I still get that **curved wall idea** I'm interested in.



Cartoon/ symbol Cat head
Room [artists own image]

Themed furniture research: Cat Poses

- The most interesting **poses** of cats I found.
- I can see myself using the **tail, sitting positions** and cat **anatomy**.



Cold weather reproduced from [6]



Untitled reproduced from [8]



Pure Breeds Archives - The Happy Cat Site reproduced from [9]



Cat sitting looking away, isolated reproduced from [7]



©Warren Photographic
Ginger cat washing her nose reproduced from [10]

Animal Couch Research

I researched some animal based couches and found these wacky ones that implement **animal heads and** entire **bodies** into the design. I can see myself **creating** a cat couch with **the cat loaf position** found in earlier research. I'll **try more basic** cat themed **couch ideas** first.



Tiger couch reproduced from [13]



Pig Couch reproduced from [11]



Hippopotamine Sofa reproduced from [12]

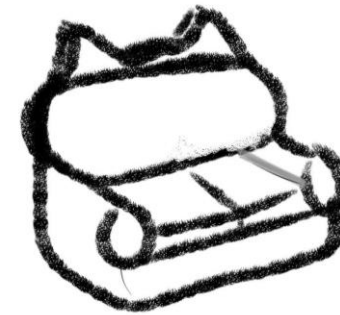
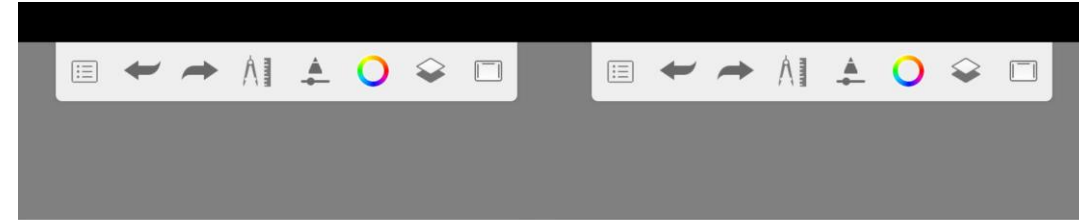
Drawing the furniture: The couch

Ver 1: Cat head couch

The cat ear motif is something I have gone to, to begin with, but it seems a tad bit generic. It's your standard couch shape and a nice start.

Ver 2: Cat loaf couch

The couch I decided to stick with after idea number 1. It's complex and may be a bit hard to model in Maya, but I really like it and how it implements the cat loaf position and tail as part of the design.



Cat couch ver 1 [artists own image]

Cat couch ver 2 [artists own image]

Bed Research

Houzz reproduced from [16]



Dog bed reproduced from [15]



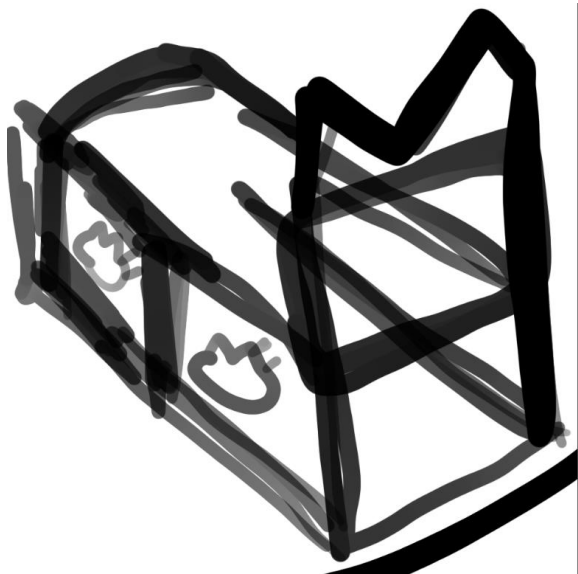
Indiamart bed reproduced from [17]



Pinterest Corner bed reproduced from [14]

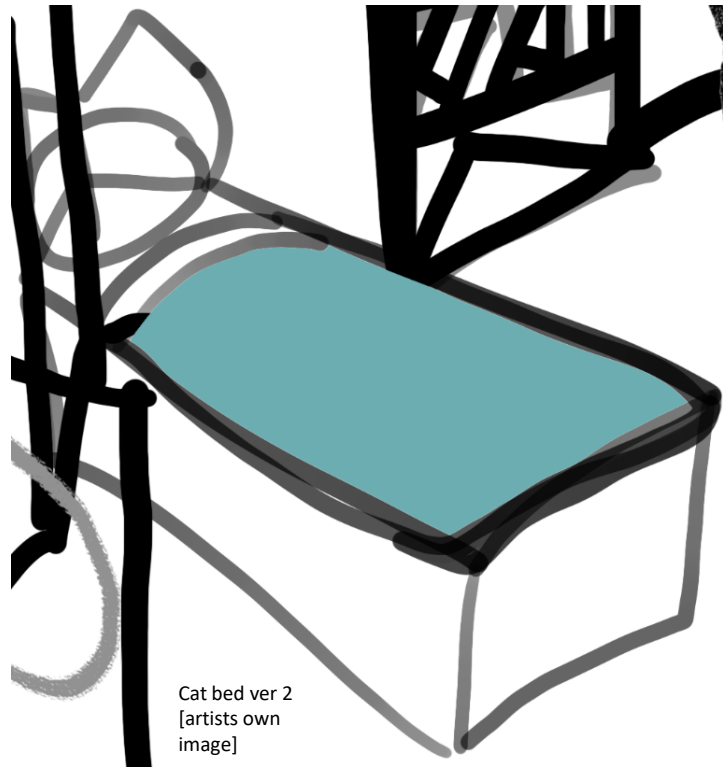
Drawing the furniture: The bed

Ver 1



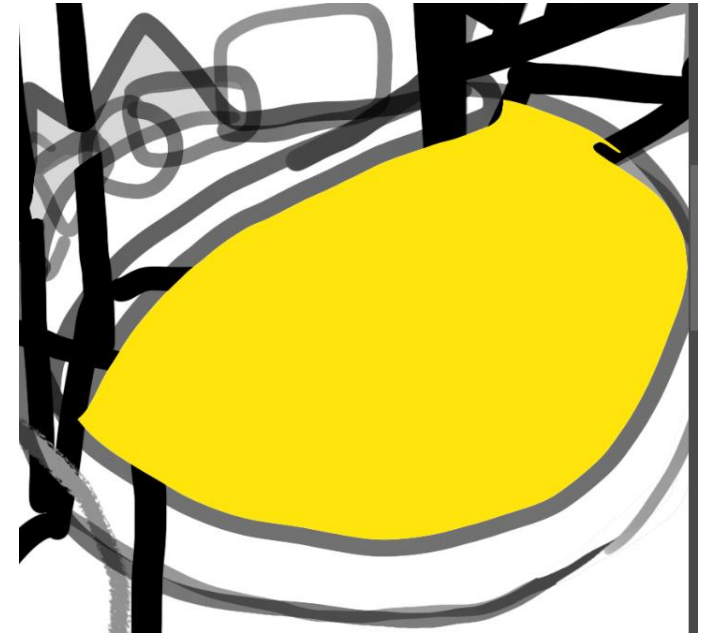
Cat bed ver 1 [artists own image]

Ver 2



Cat bed ver 2
[artists own image]

Ver 3



Cat bed ver 3 [artists own image]

Rug & Cat's Paw Research



Cats paw reproduced from [18]



Happy cat rug reproduced from [19]



Cat head rug reproduced from [20]

I looked through a few cat-themed rugs but decided to make one based on a **cat's paw despite** the other **imagery** I saw.

Drawing the furniture: The rug

Paw Rug

Here's the **first and final version**. A cat's paw was **simple enough to sketch** from previous reference.



Cat paw rug [artists own image]

Drawing the furniture

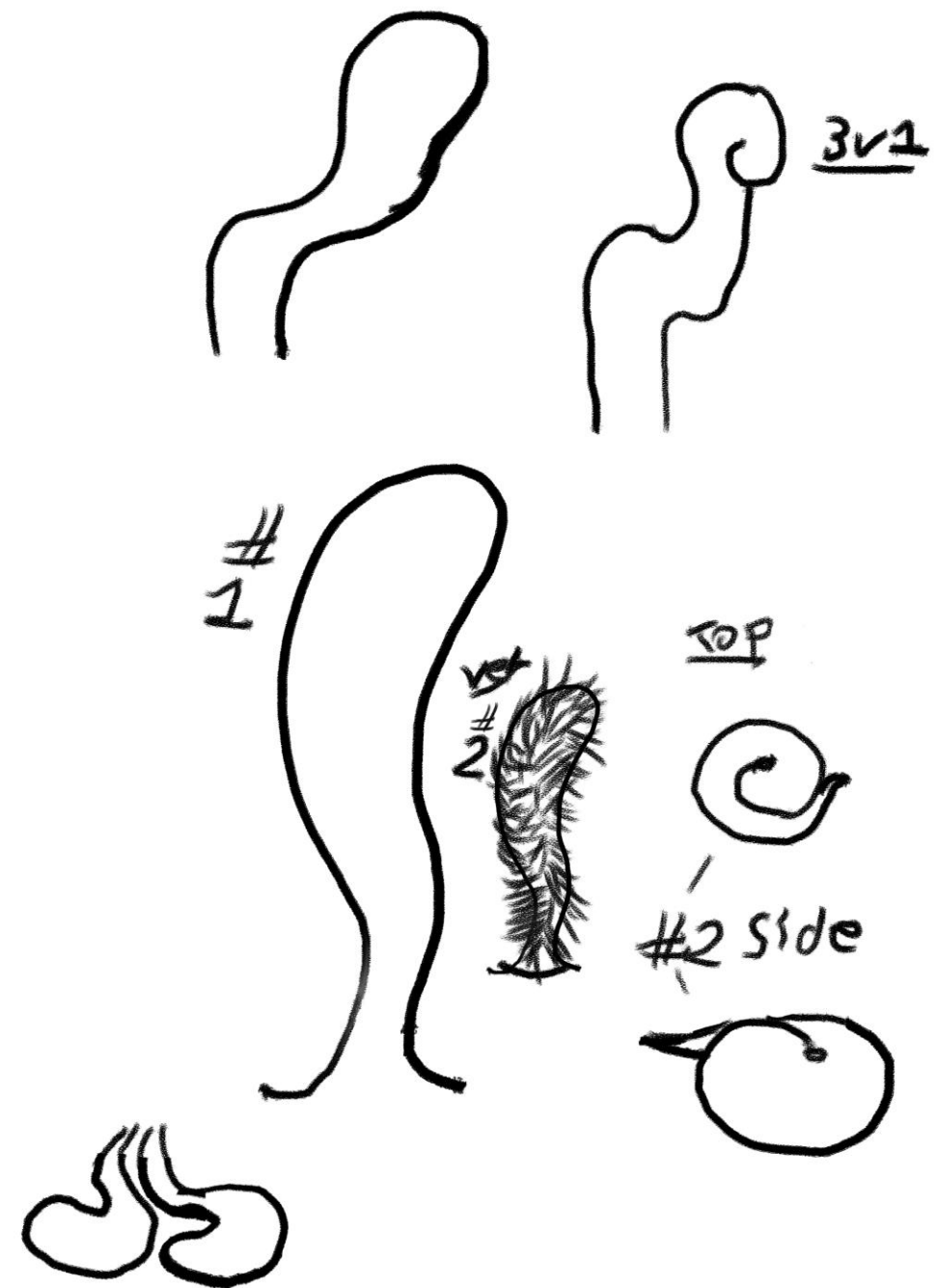
Cat tail plant

Versions I sketched of this include the side and top sketch depicting a wall light of a curled up tail, then the bottom left shows a **chandelier idea** I had briefly before landing on **another version** of the **standing lamp**, but with fur.

I decided to make this a **plant** in the end.



Cat tail plant [artists own image]



Cat tail furniture drawings all versions [artists own image]

Cat light and Tail research



Tom cat light reproduced from [21]



Children's table lamp reproduced from [22]



Stretching cat light reproduced from [23]



Cat night light reproduced from [24]

Drawing the furniture

Curled Cat Tail Light

Wall light of a curled-up cat's tail from 2 angles. It **mimics** the cat pose of a **cat curling into a ball**, which I found earlier.



Cat tail light side view [artists own image]



Cat tail light top view [artists own image]

Drawing the Floor

Herringbone tile wood floor

Granite or porcelain tile may have been too hard of a material for a bedroom.

The pattern is **reminiscent of cat ears**, not exact, but it's **subtle**.



Cross tile wood floor room view reproduced from [25]



Cross tile wood floor reproduced from [25]

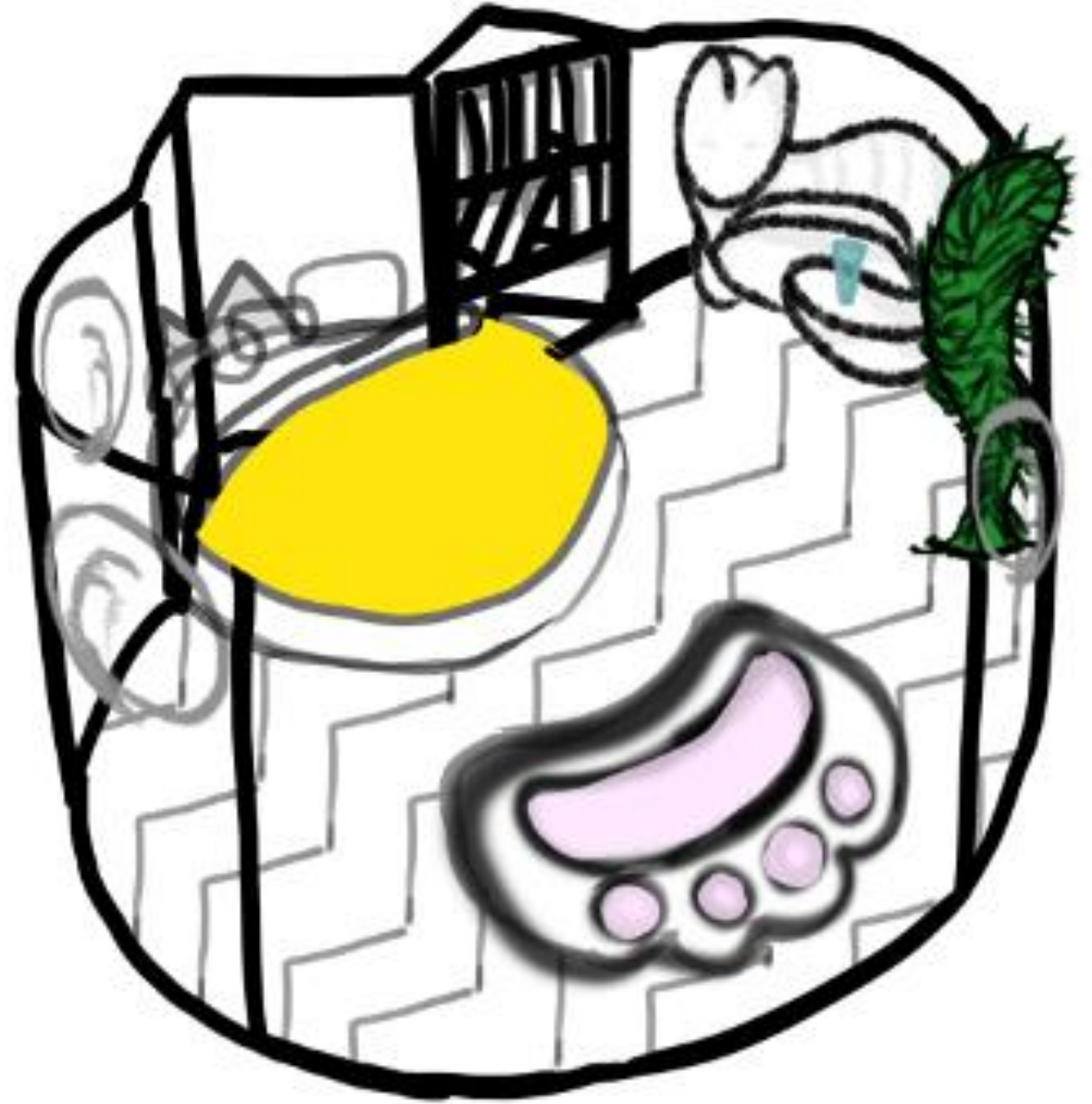


Tile wood floor reproduced from [26]



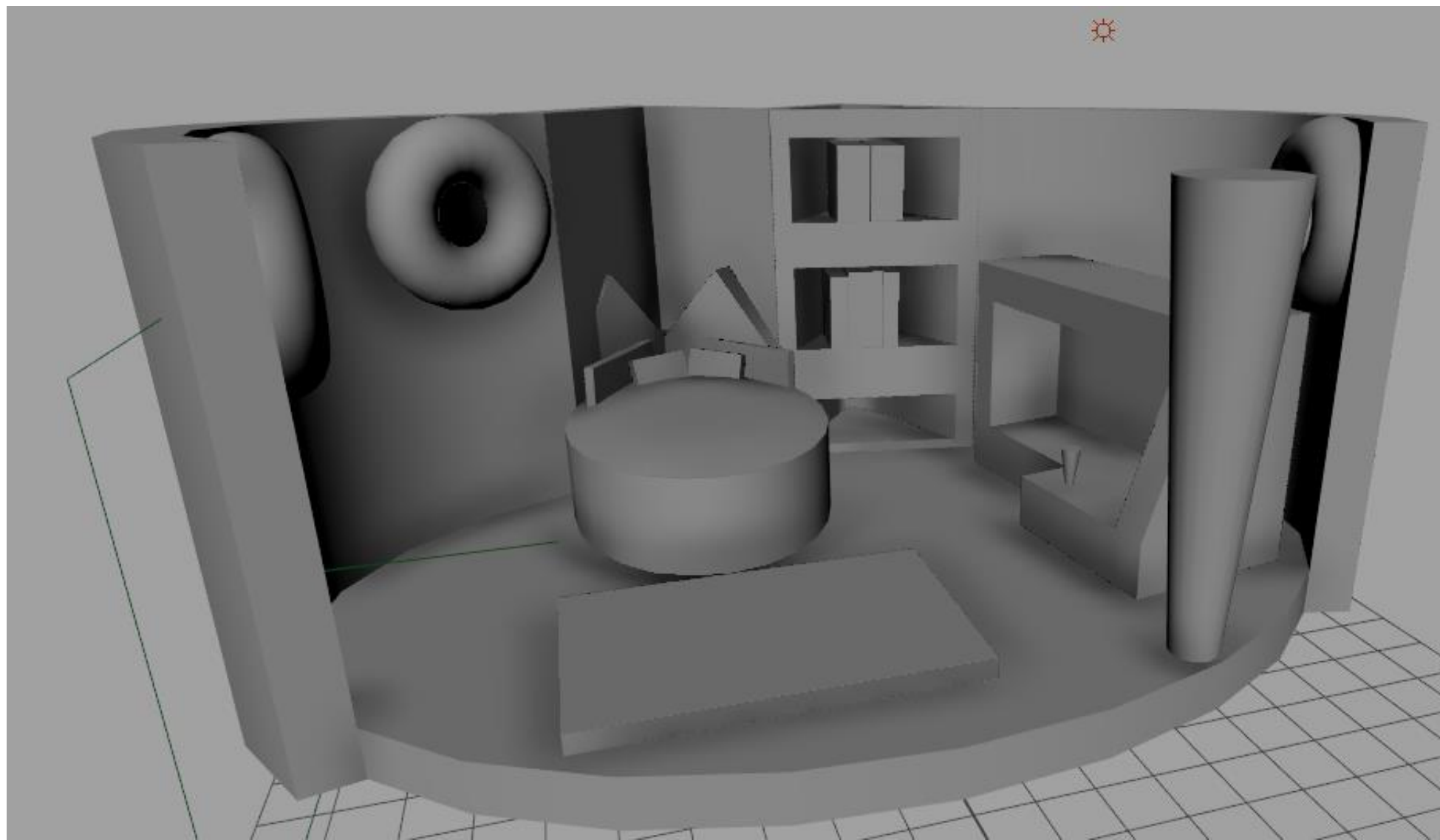
Herringbone tile wood floor reproduced from [27]

The Drawn room



Cat themed bedroom [artists own
image]

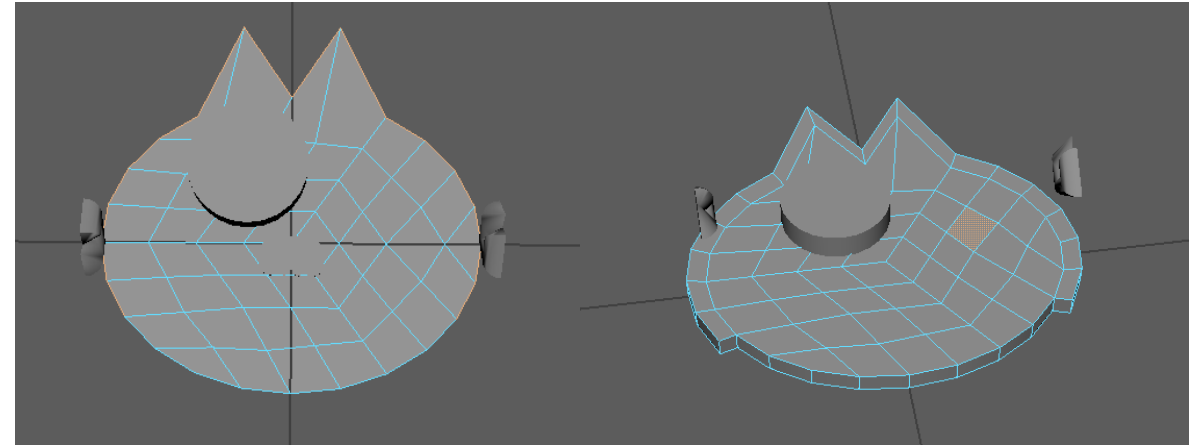
The Grey Box



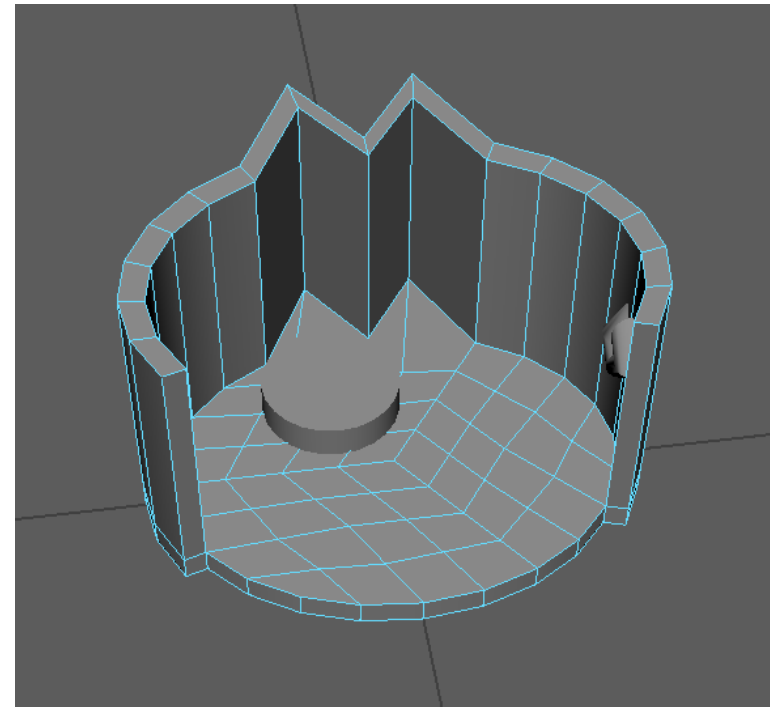
The Room Itself

- **Circular plane**
- **Moved top vertices for ears**
- **Some simple extruding, and scaling**

Maya cat bedroom
model step 1 [artists
own image]



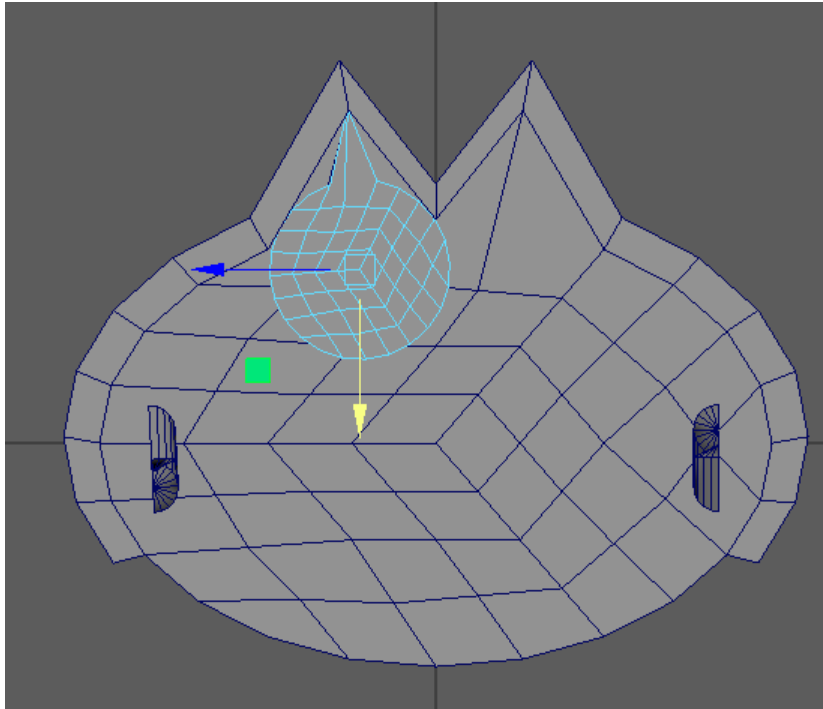
Maya cat bedroom
model step 2 [artists
own image]



Maya cat bedroom model step 3
[artists own image]

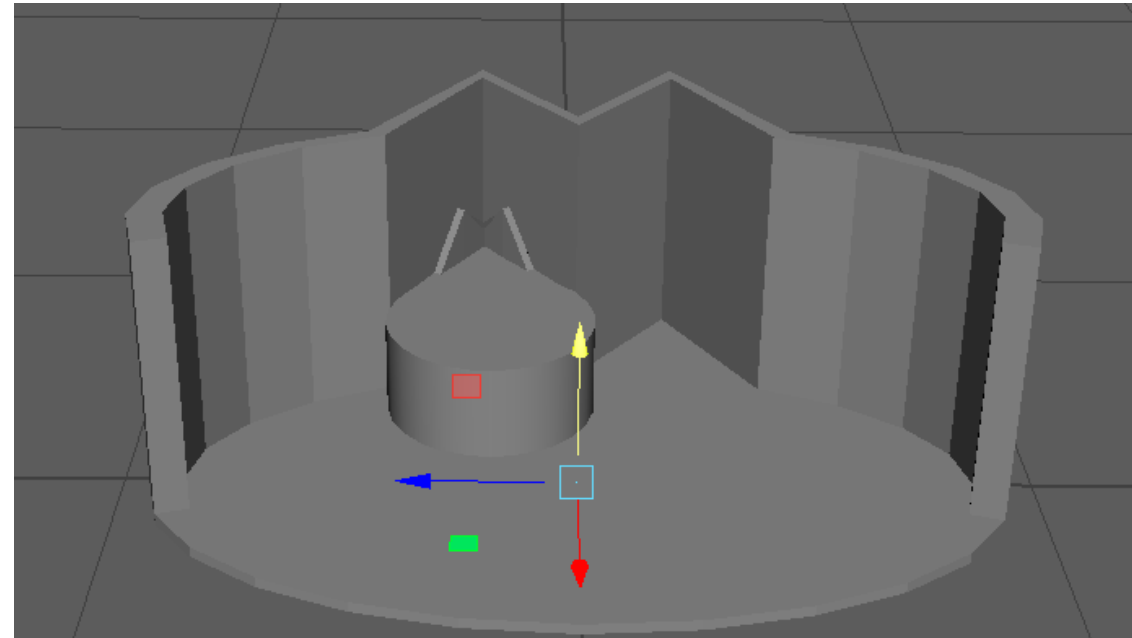
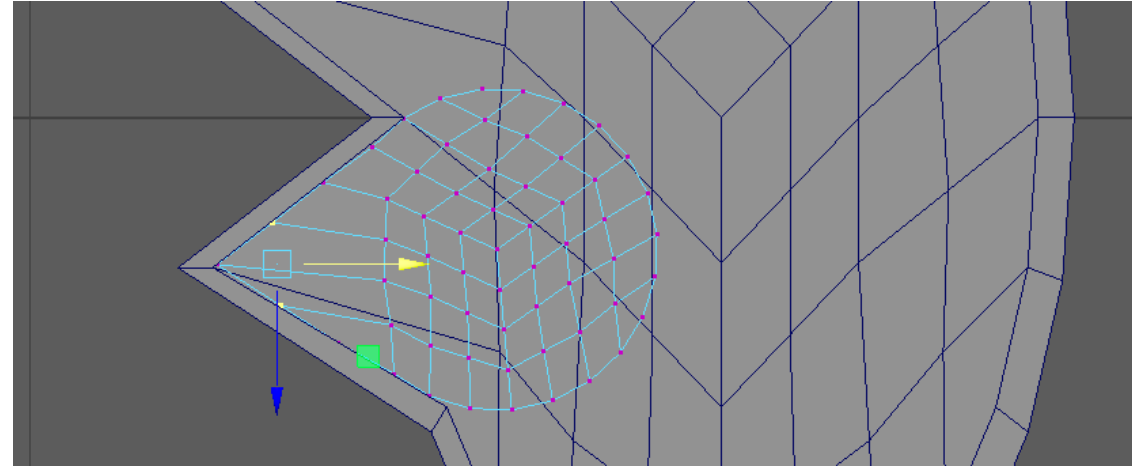
The Bed

Circular plane>
move vertices to create a point for the bedroom corner>
Extrude>



Maya cat bed ver 1 step
1 [artists own image]

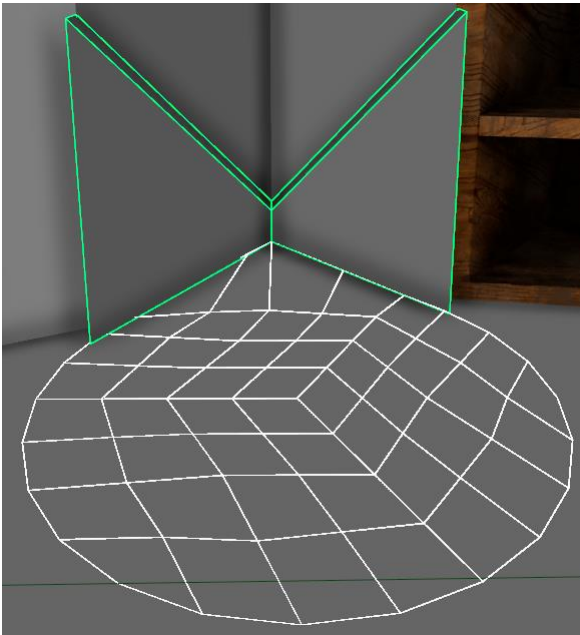
Maya cat bed ver 1 step
2 [artists own image]



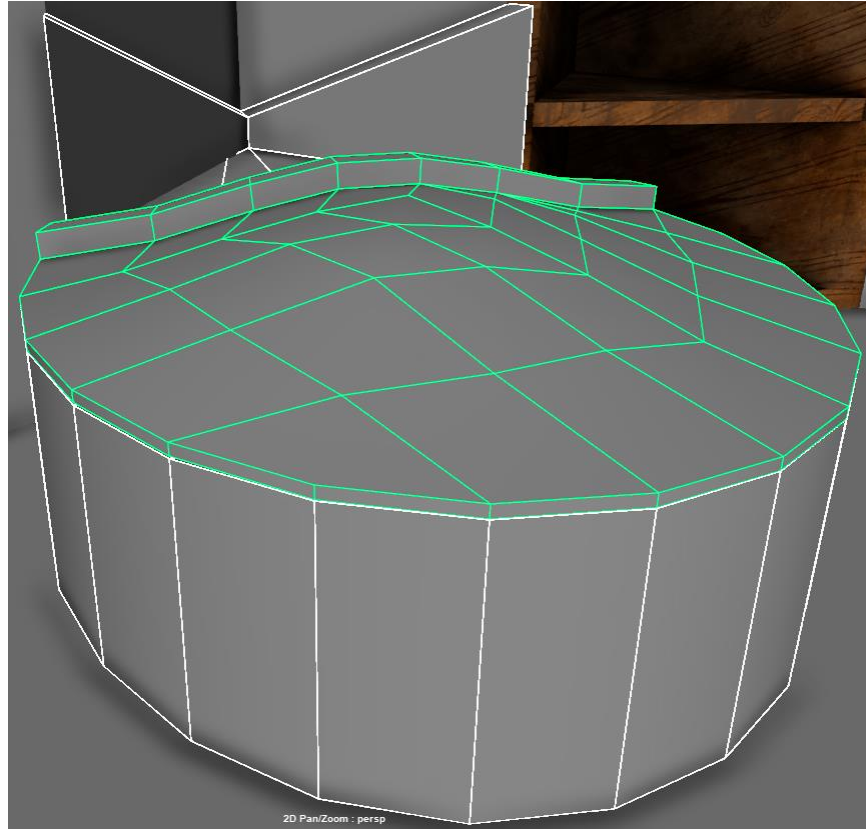
Maya cat bed ver 1 step
3 [artists own image]

The Bed

But then:
Ears first> main bed



Maya cat bed ver 2 step
1 [artists own image]



Maya cat bed ver 2 step
2 [artists own image]

Bevel + Smooth

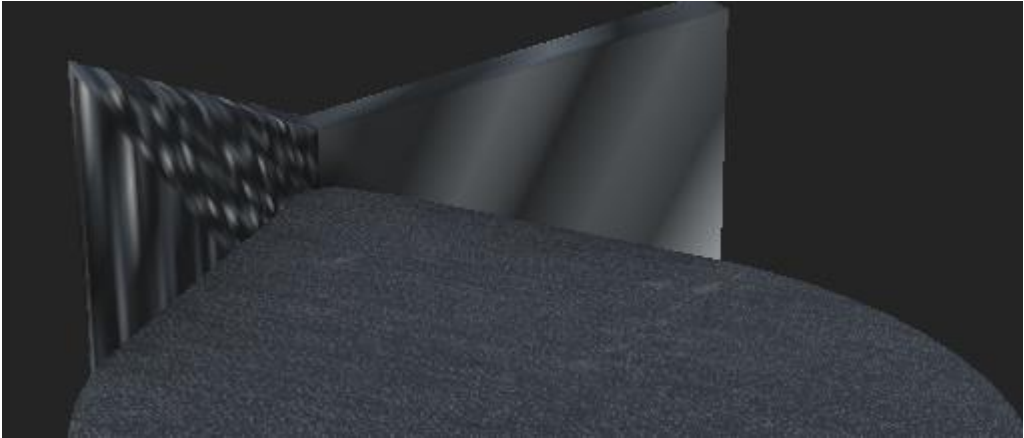


Maya cat bed ver 2 step
3 [artists own image]

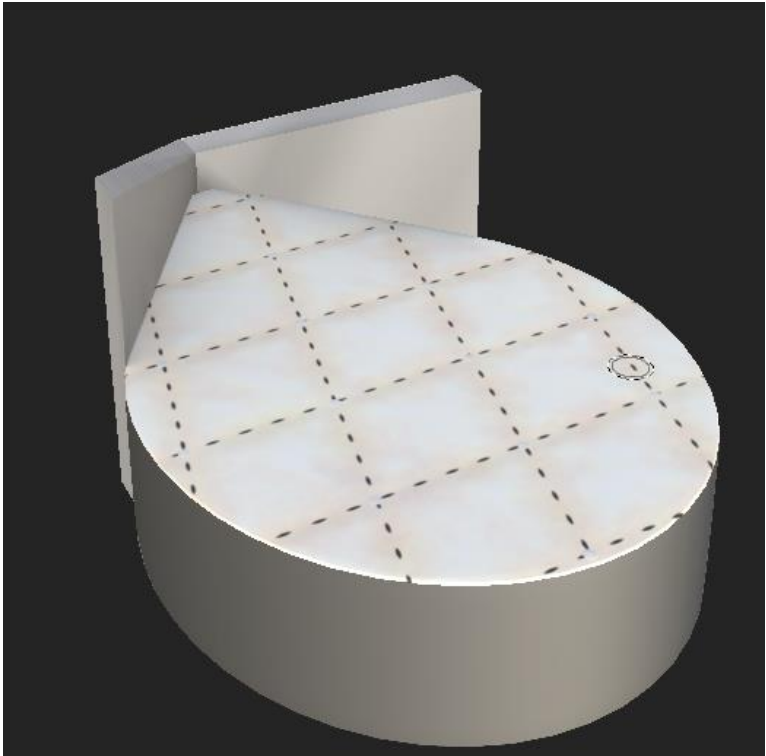
The Bed

Maya cat bed ver 2
texture error [artists
own image]

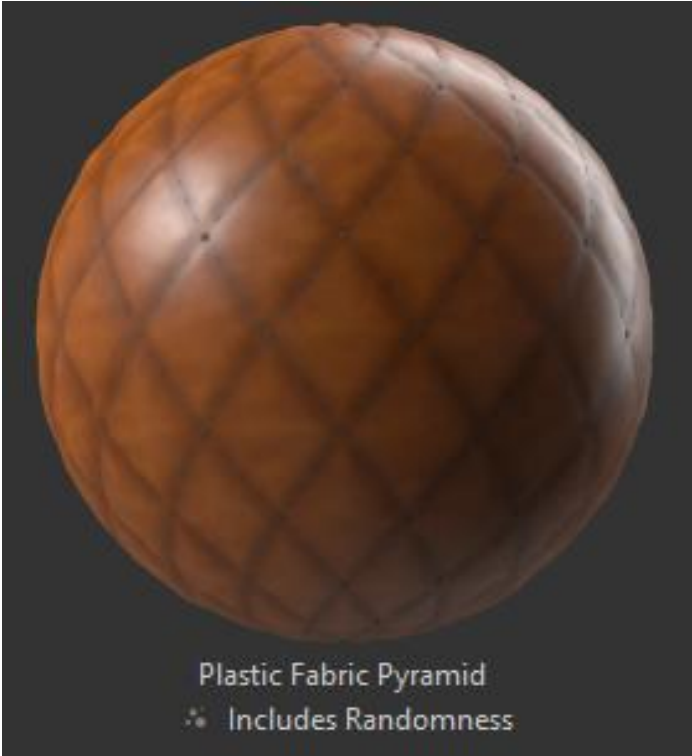
Plain colour only



Mattress Texture

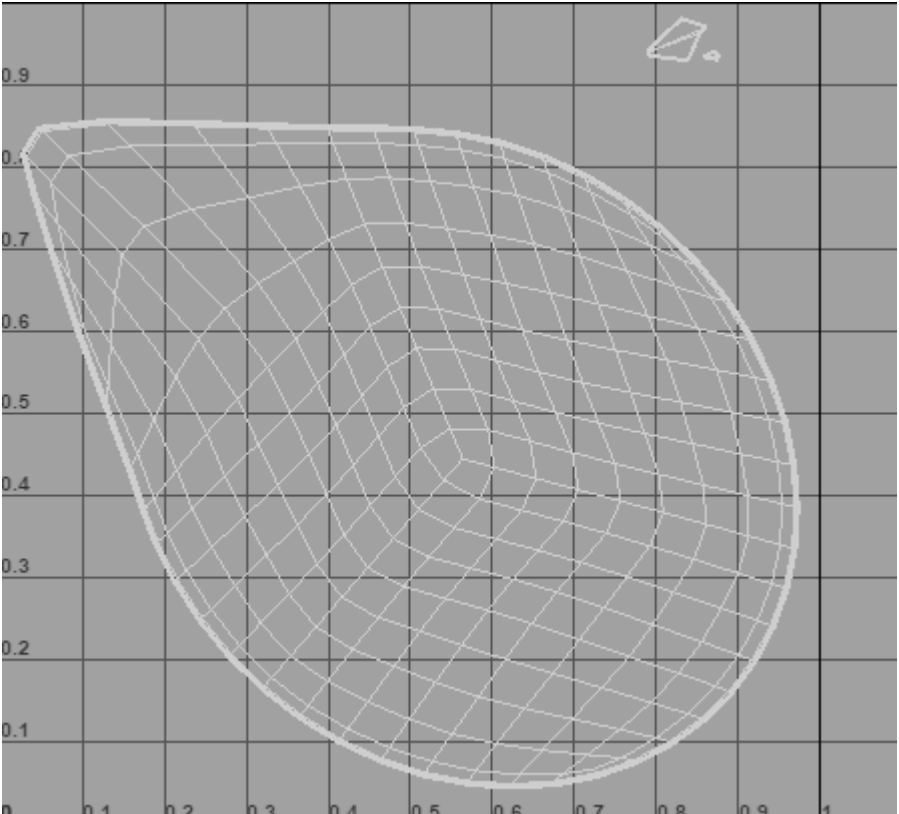


Maya cat bed ver 2 textured [artists own image]



Plastic Fabric Pyramid
Includes Randomness

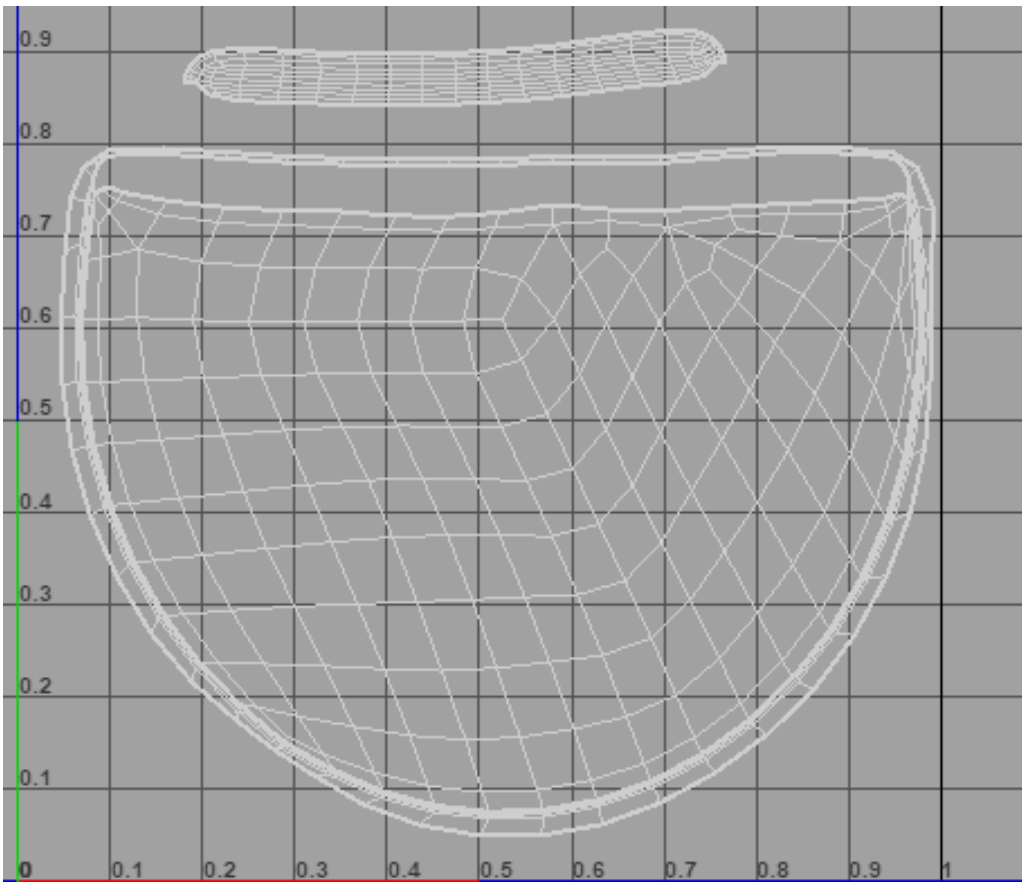
Maya cat bed ver 2 texture [artists own image]



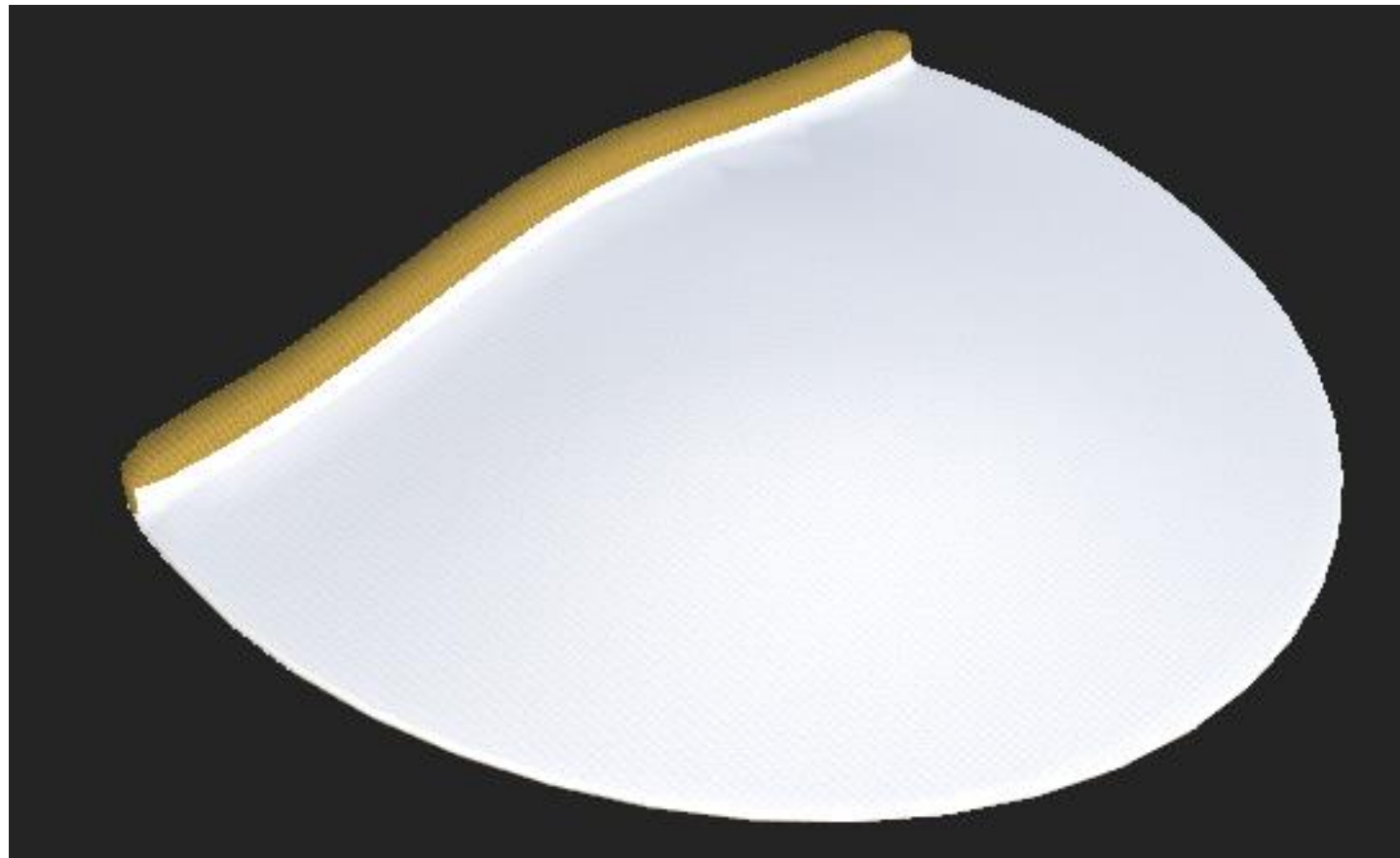
Maya cat
bed ver 2
UV Map
[artists own
image]

The Bed: Bedsheet

Maya cat bedsheet UV Map [artists own image]

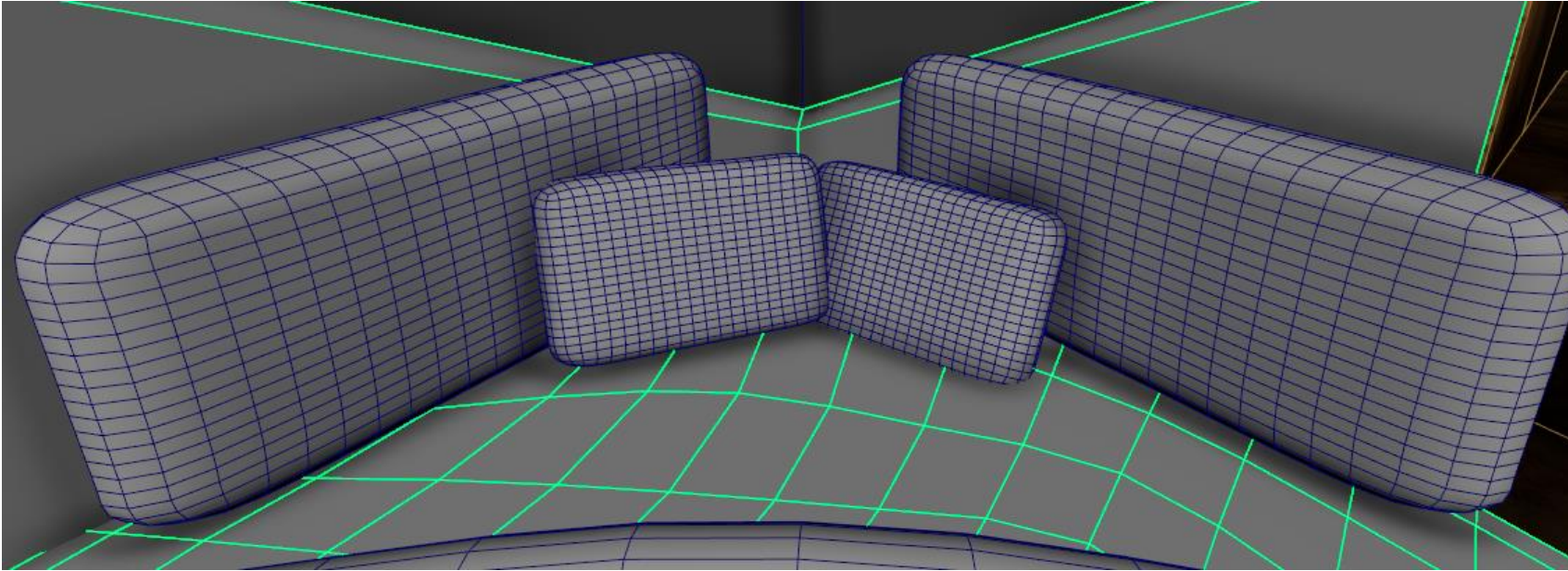


Maya cat bedsheet Textured [artists own image]

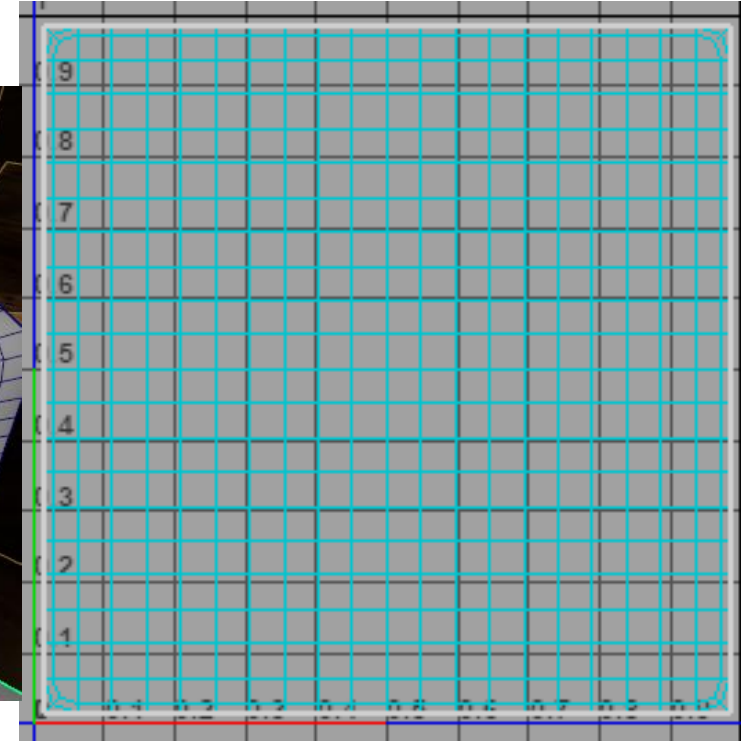


Bed: Pillow

Pillow



Maya pillows asset [artists own image]

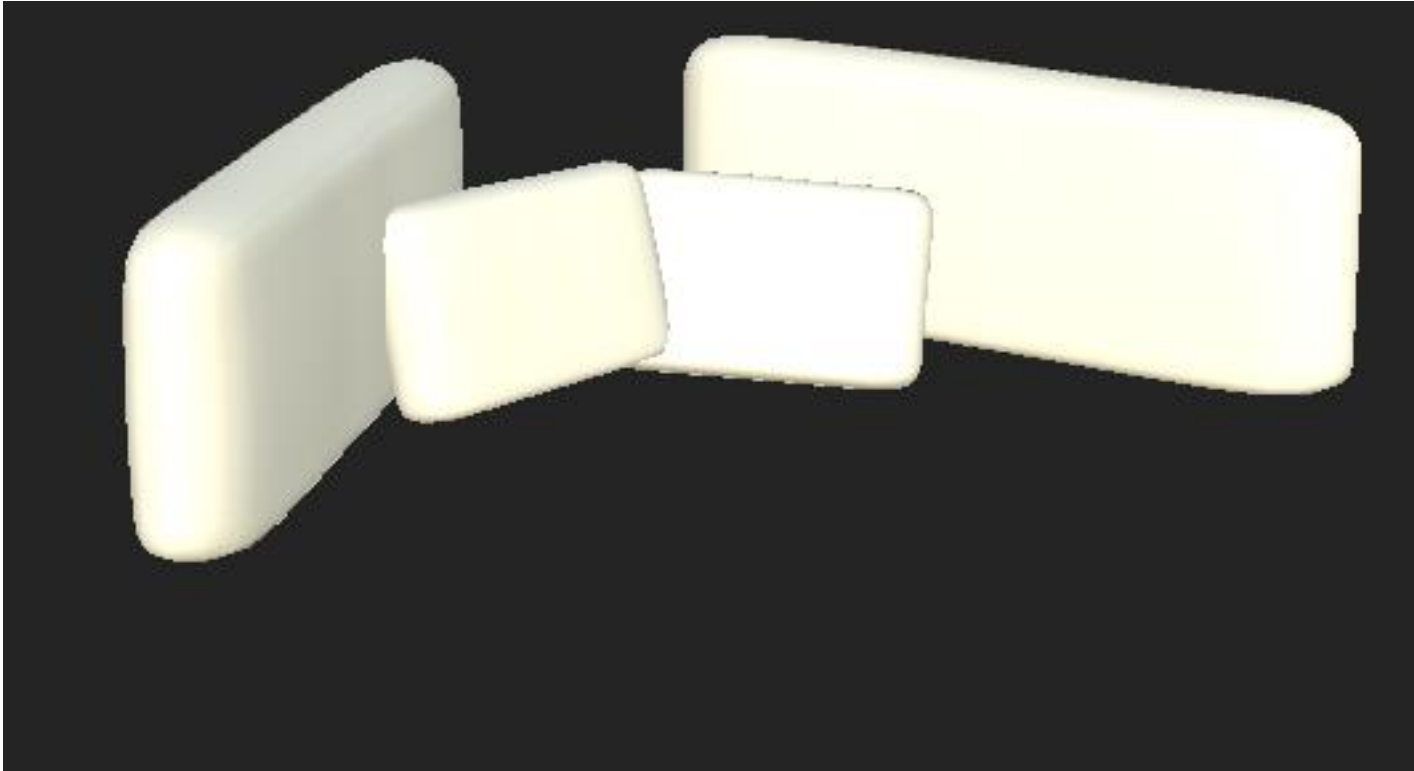


Maya pillows UV Map [artists own image]

- **Extrude> Mover verts> Soft select> Smooth> Duplicate**

Bed: Pillow

Pillow Texture



Maya pillows asset textured [artists own image]

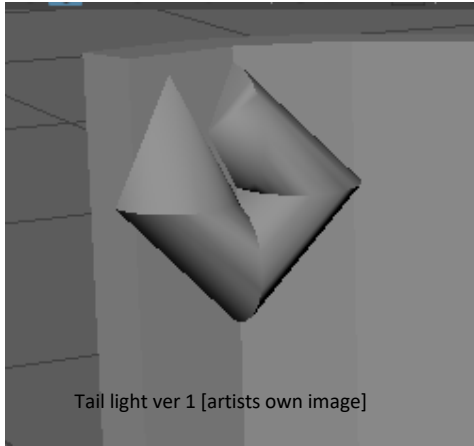


Fabric Baseball Hat

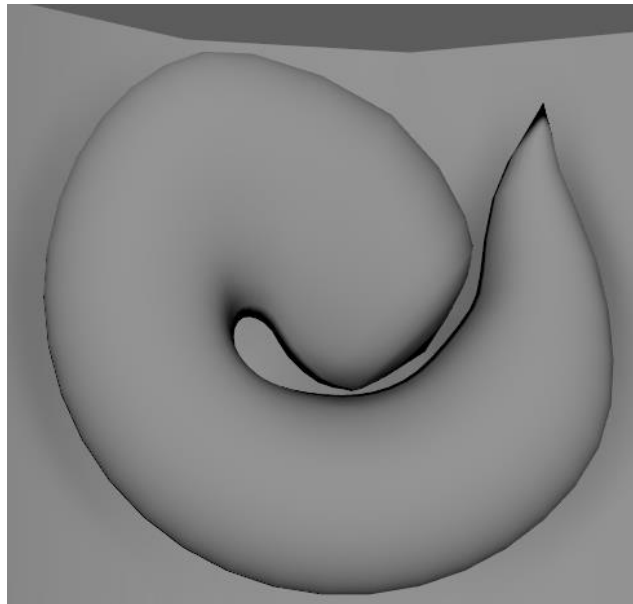
Maya pillows asset texture [artists own image]

Spiral Tail Light

First try with cone



Then torus



Created from a **torus**.

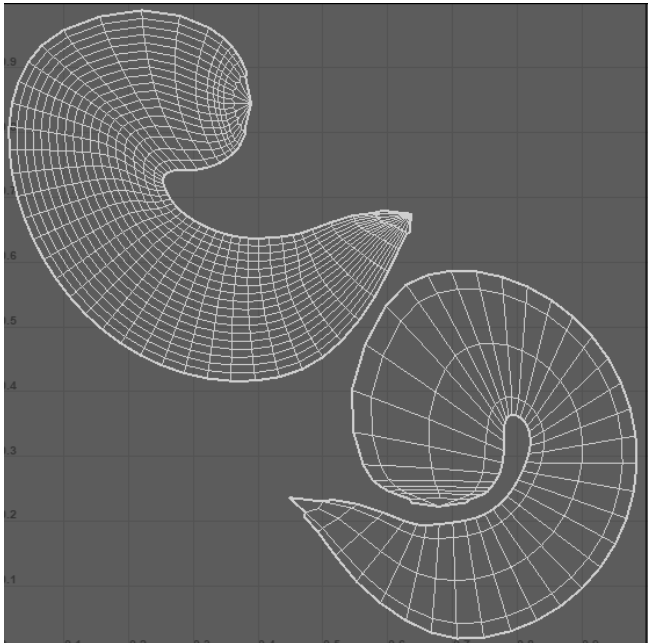
- **Add** loops
- **Half** it
- **Delete** faces to make **ends**
- Add **edge loops**
- **Soft select end** edge **inward**
- **Merge** tool ends
- Soft select **scale** and **move** new and old edges
- Smooth shape

Spiral Tail Light

UV

I watched **Substance Painter Beginner Tutorial : Emissive Materials** by Jayanam [28] to learn emissive texture painting.

Tail light ver 2 UV Map [artists own image]



Tail light ver 2 texture [artists own image]



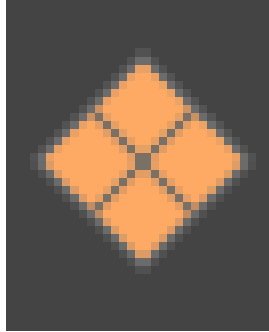
Tail light ver 2 textured [artists own image]



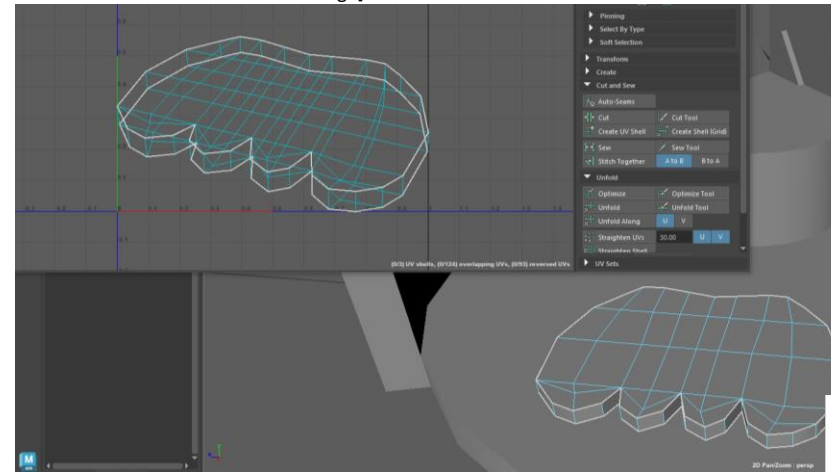
- **Fabric covered** object
- **Emissive** texture

Paw Rug

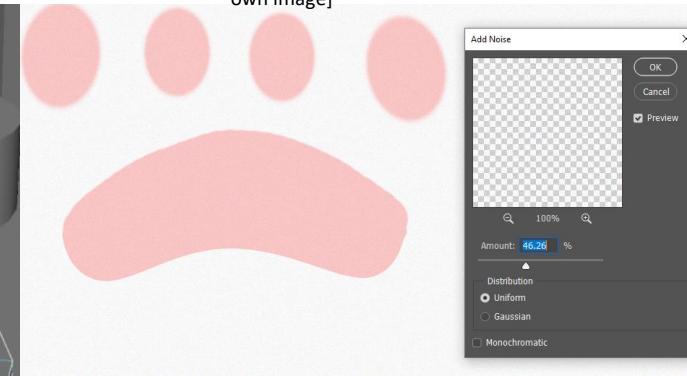
Square plane
[artists own
image]



Paw rug low poly model
[artists own
image]

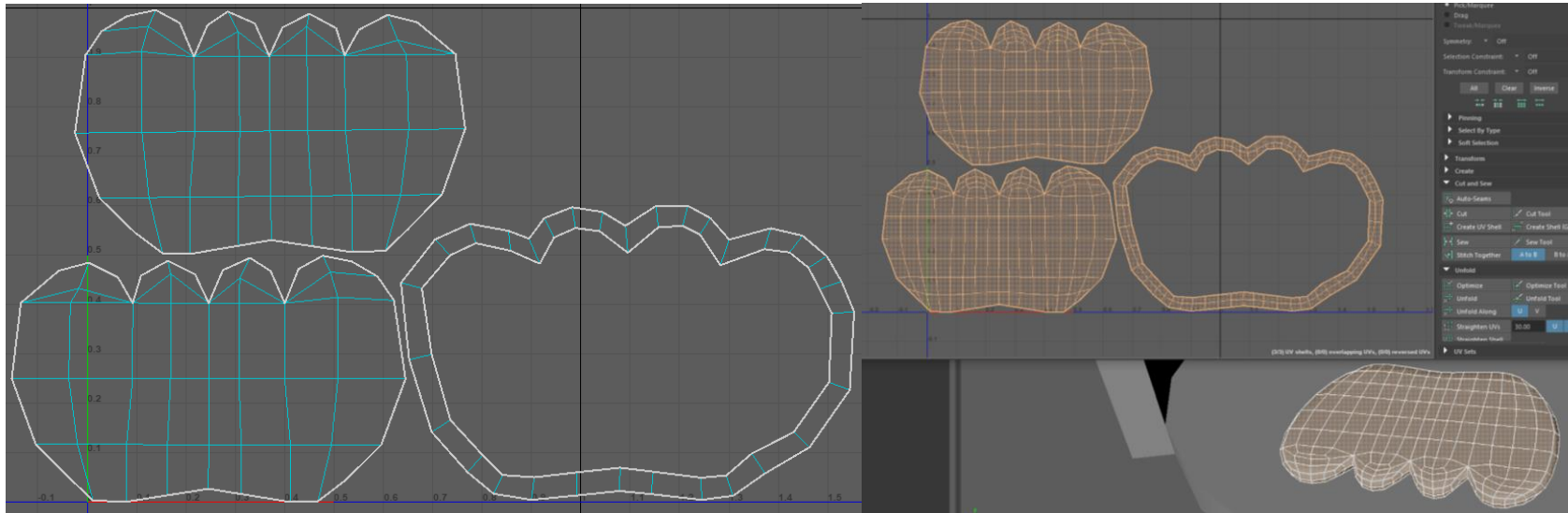


Paw rug photoshop noise filter [artists
own image]

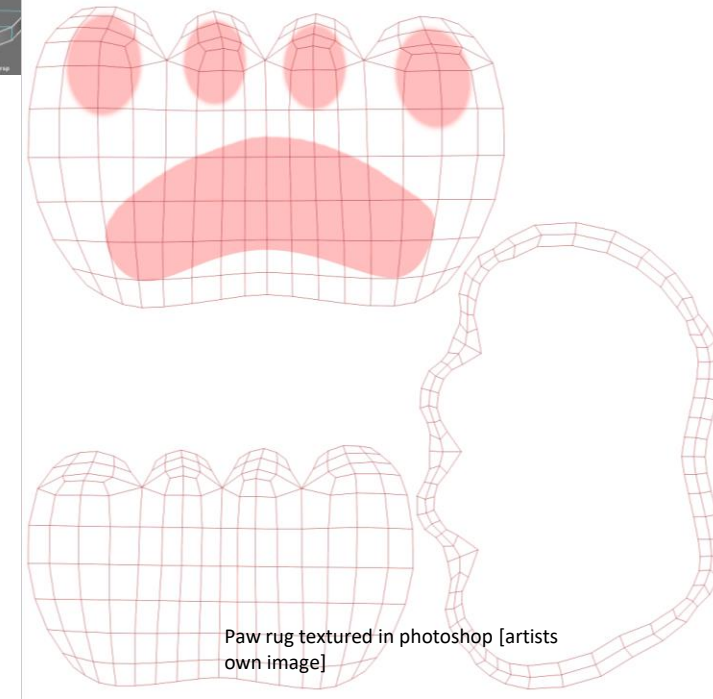


Paw rug UV Map [artists own image]

Unwrapped



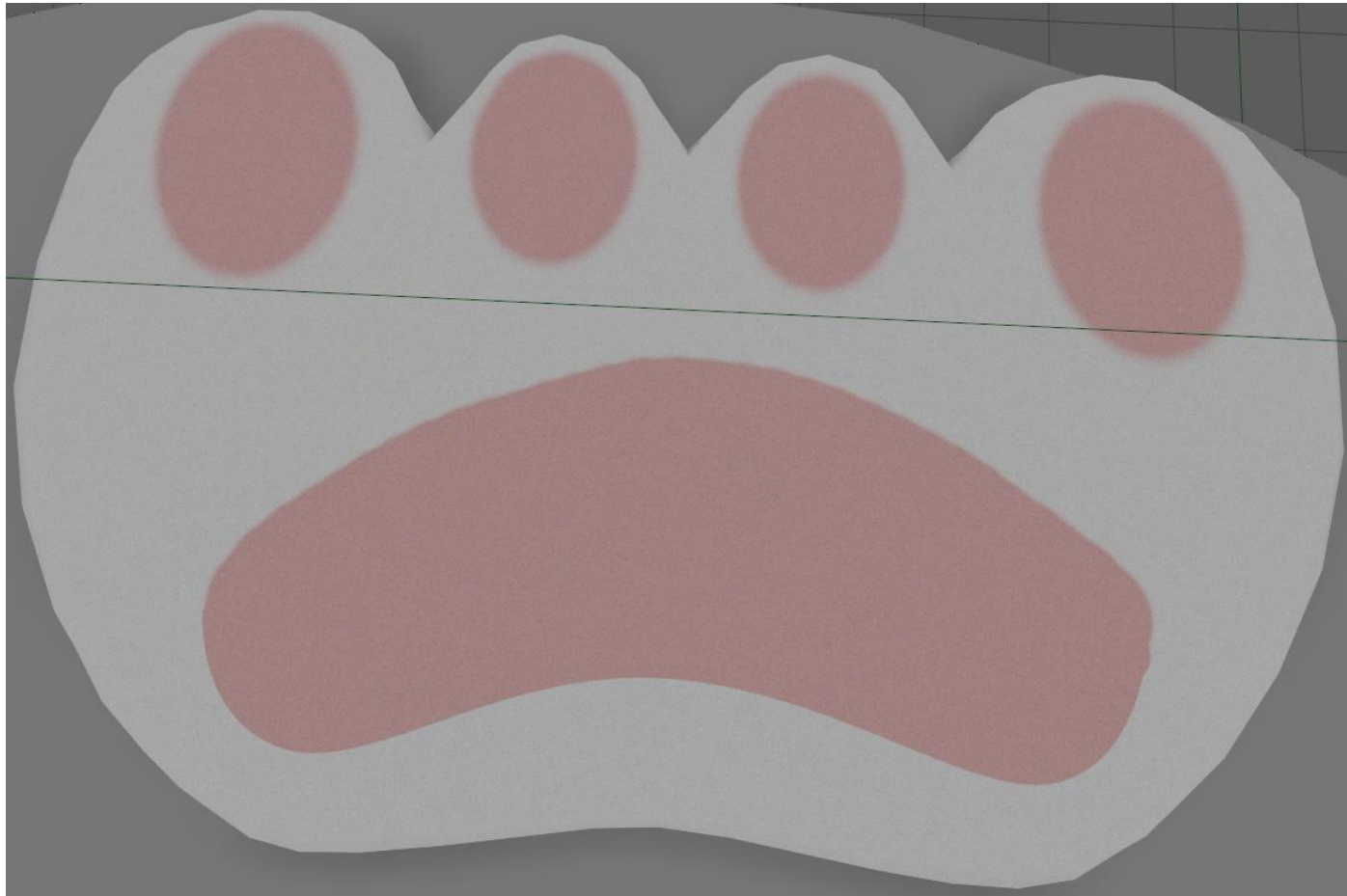
Paw rug UV Map and smooth model
[artists own image]



Paw rug textured in photoshop [artists
own image]

Paw Rug

In Maya

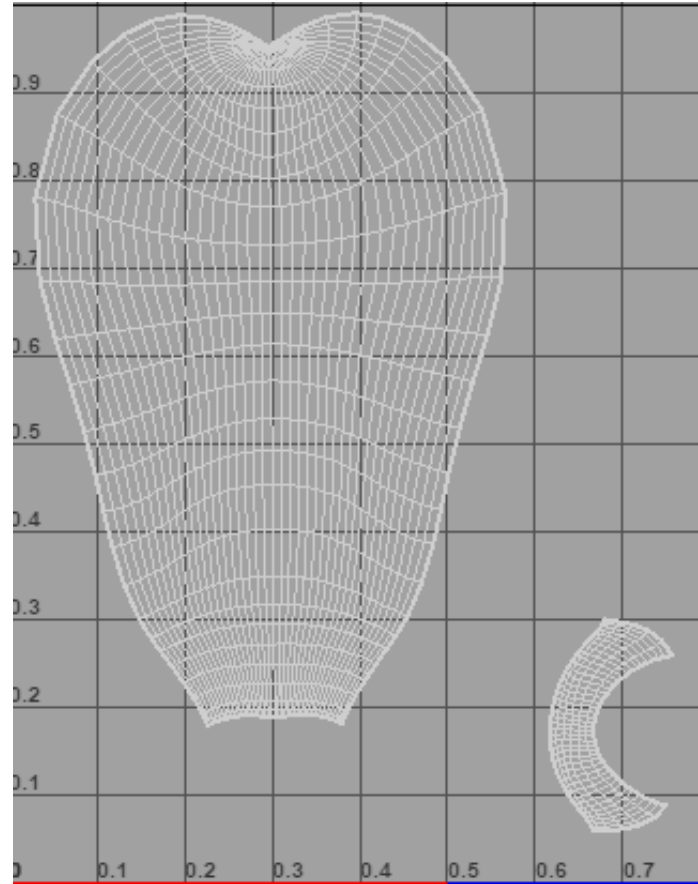


Paw rug finished in Maya [artists own image]

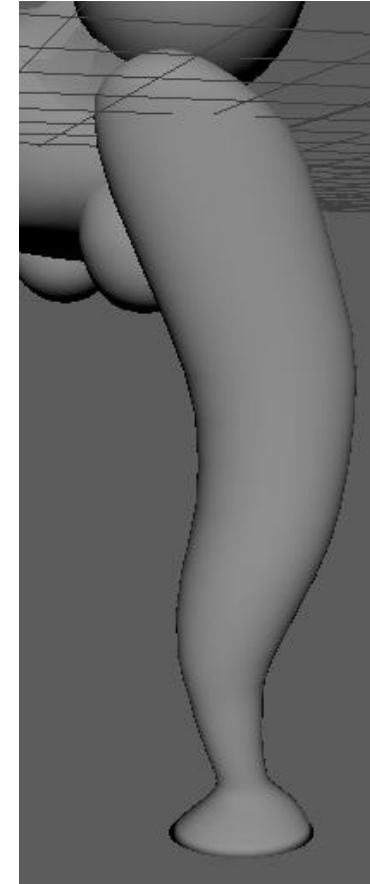
Cat Tail Plant

One of my **favourite assets** is my cat tail plant.

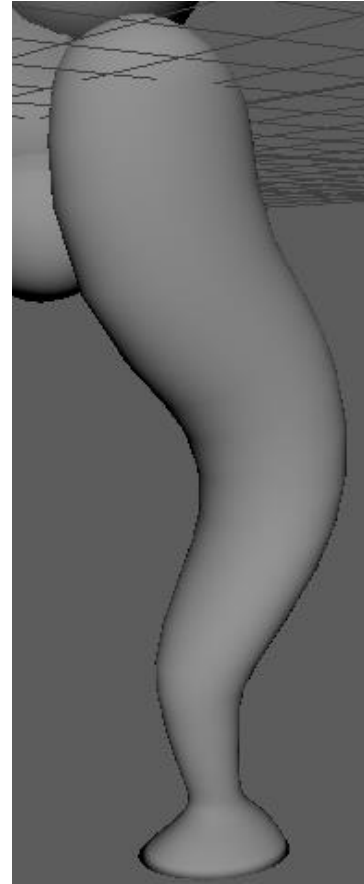
- I **modelled** it from the **original image** I drew from a **cylinder**.
- **Base wasn't** quite **right**
- **Scaled** it **down** with soft select **at the bottom** to give it a dramatic taper like the drawing
- Then **rotated** the **middle** with **soft select** to get the result on the right



Tail plant UV Map [artists own image]



Tail plant model ver 1 [artists own image]



Tail plant model ver 2 [artists own image]

Cat Tail Plant

#2: Multi layer> foliage brush> Height> > Steel

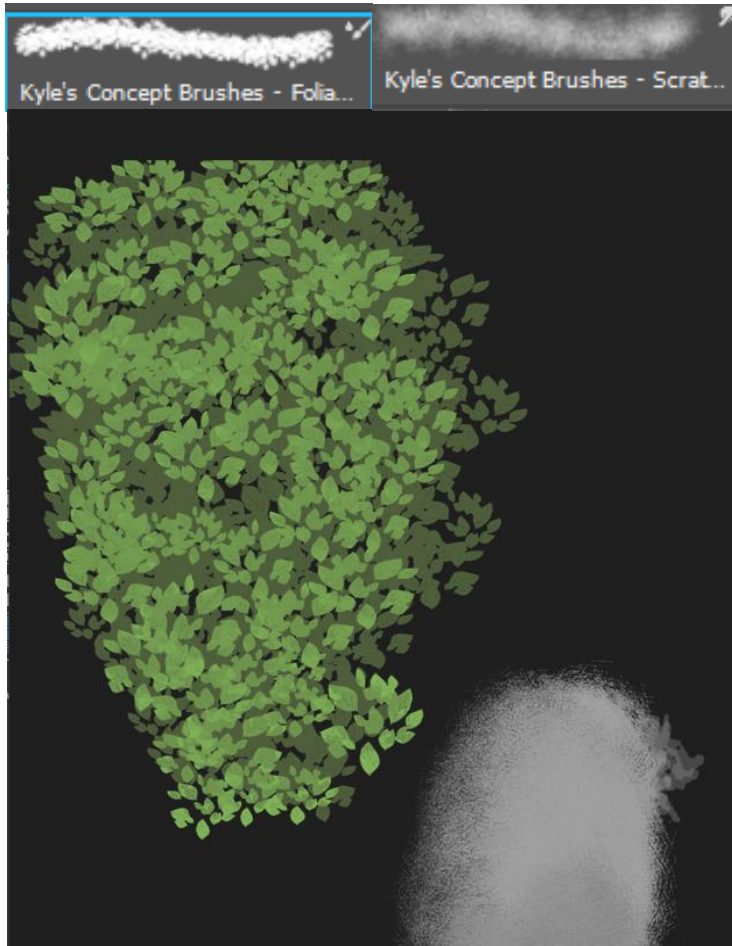
Attempt 1:

Foliage brush

Scratch
smudge
brush

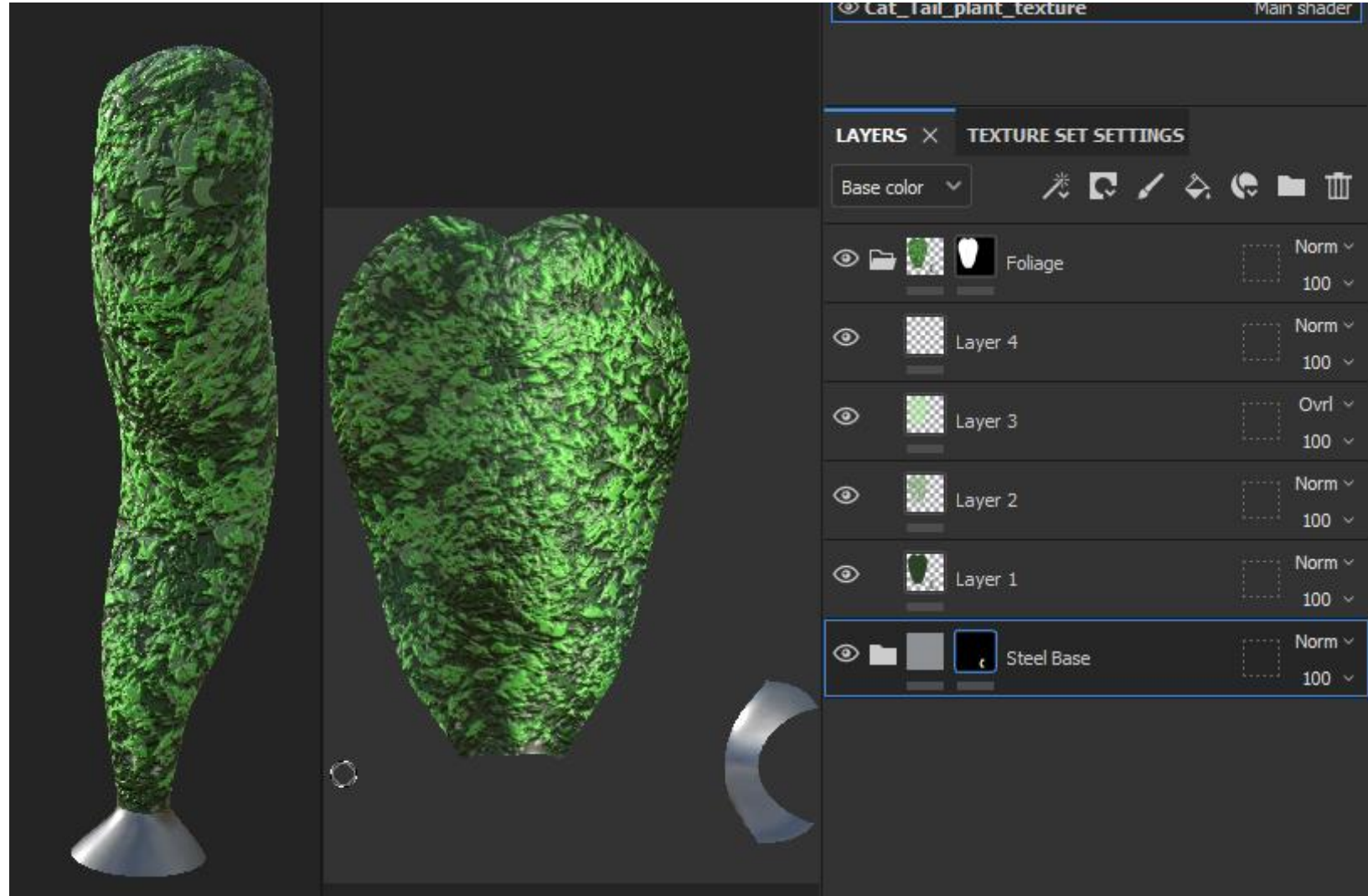
Photoshop brush
scratches [artists own
image]

Photoshop
brush foliage
[artists own
image]



Tail plant
photoshop
attempt
[artists own
image]

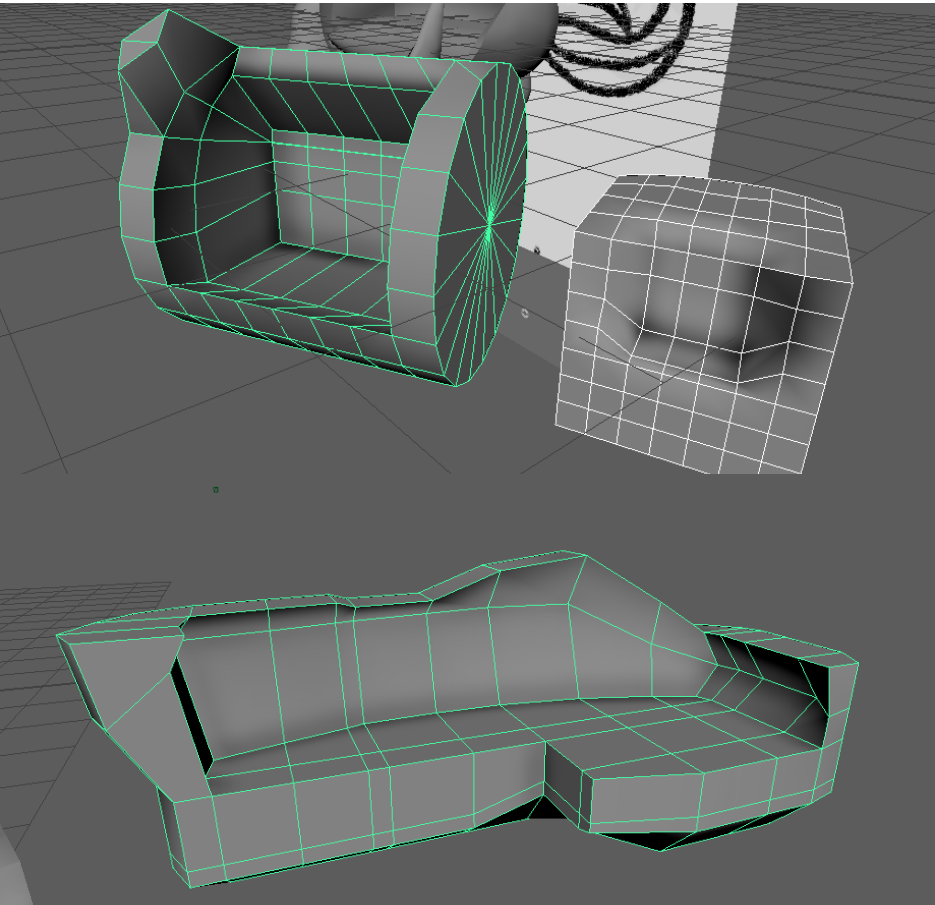
Tail plant textured [artists own
image]



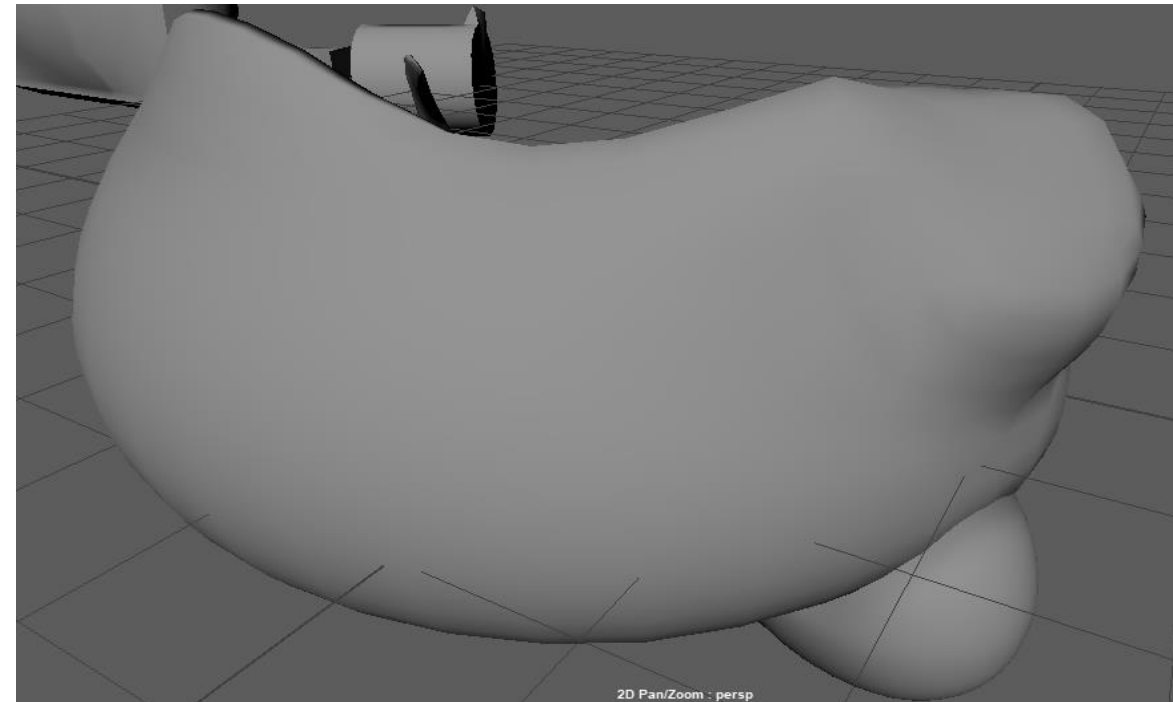
Cat Couch

Several failed versions

Couch failed versions [artists own image]



- **Stretched sphere**
- Extrude thicken.
- Verts and edges **adjusted** from **ref image**
- **Extruded** faces for **neck**

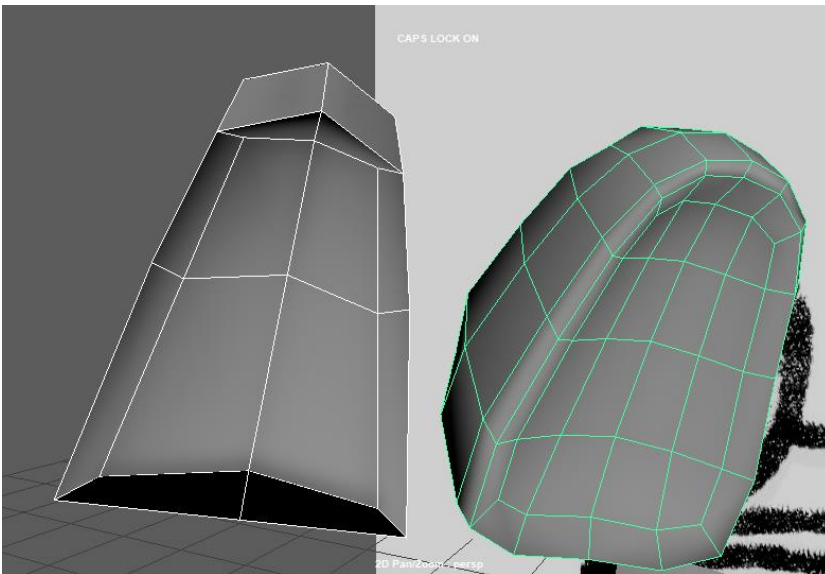


Couch body and neck [artists own image]

Cat Couch

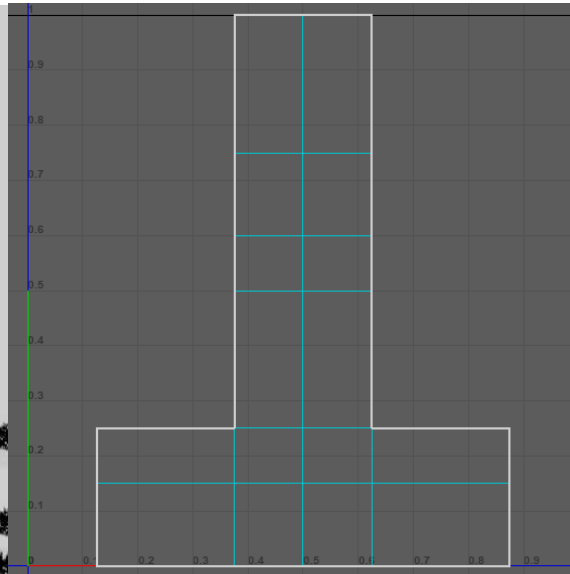
Used a **Low poly cat tutorial** to understand cat ear modelling. It was called 'How to make low poly cat 3D modeling with maya - Part1 lofi hip hop house music blender' [29]

Ears from a cube



Couch ears [artists own image]

Simple UV Map

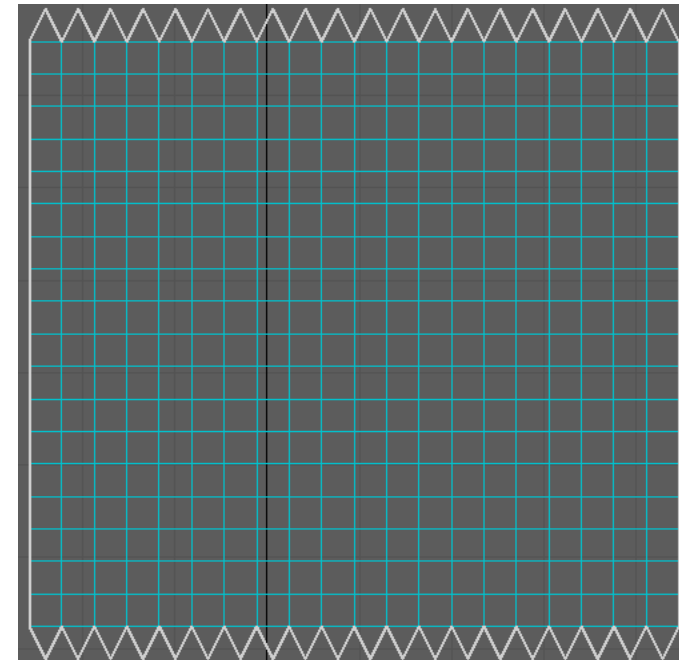


Couch ears UV Map [artists own image]

Head is a sphere

Sphere head UV map

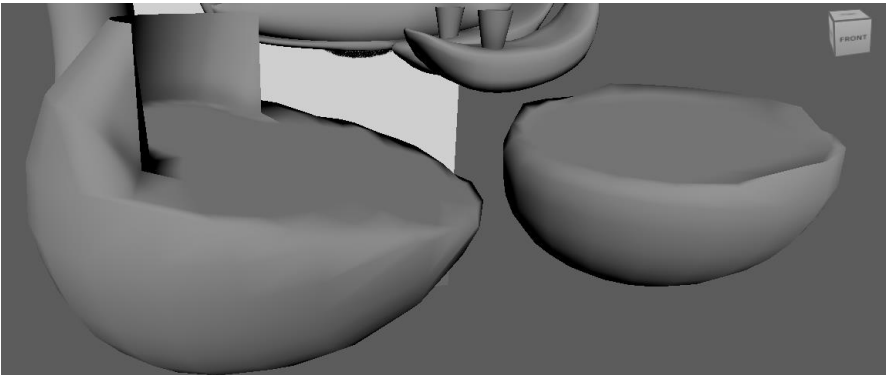
Couch head UV Map [artists own image]



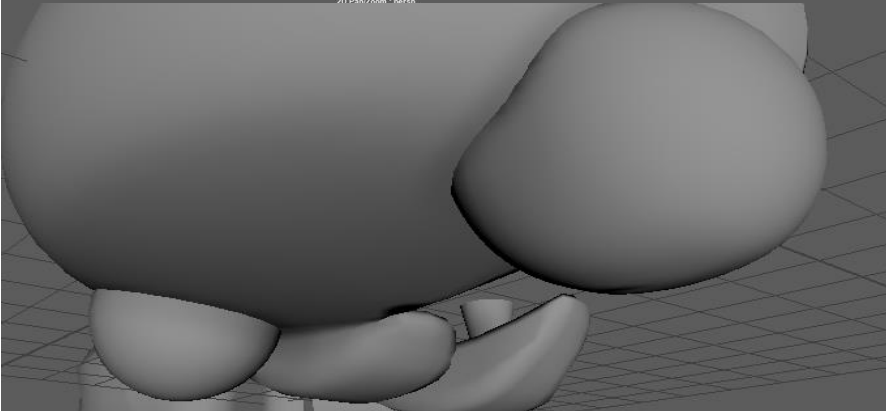
Cat Couch

Spheres modelled around couch

Couch feet models [artists own image]

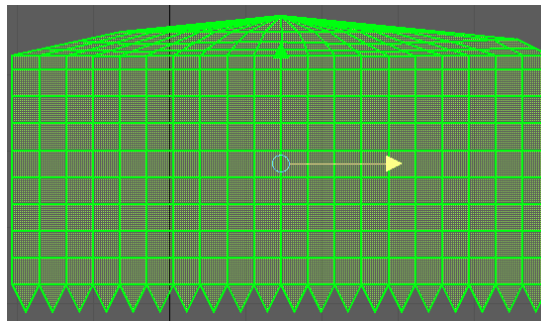
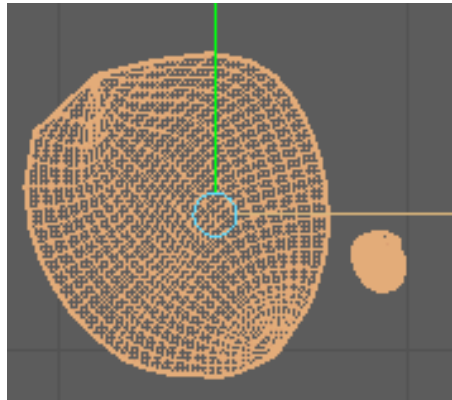


2D Pan/Zoom - persp



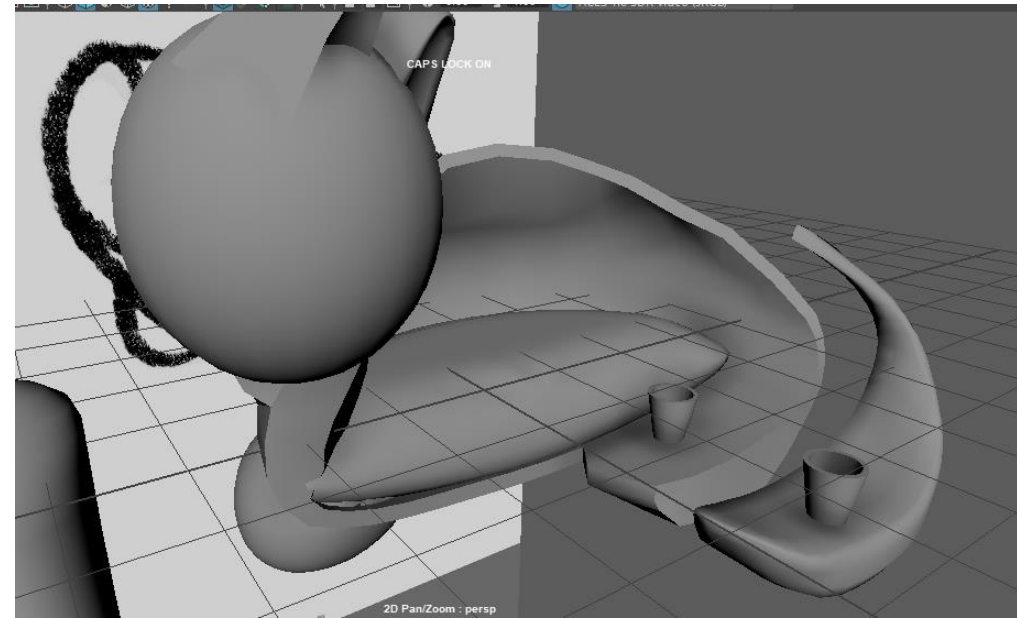
Couch feet attached to couch [artists own image]

Don't adjust sphere UV next time



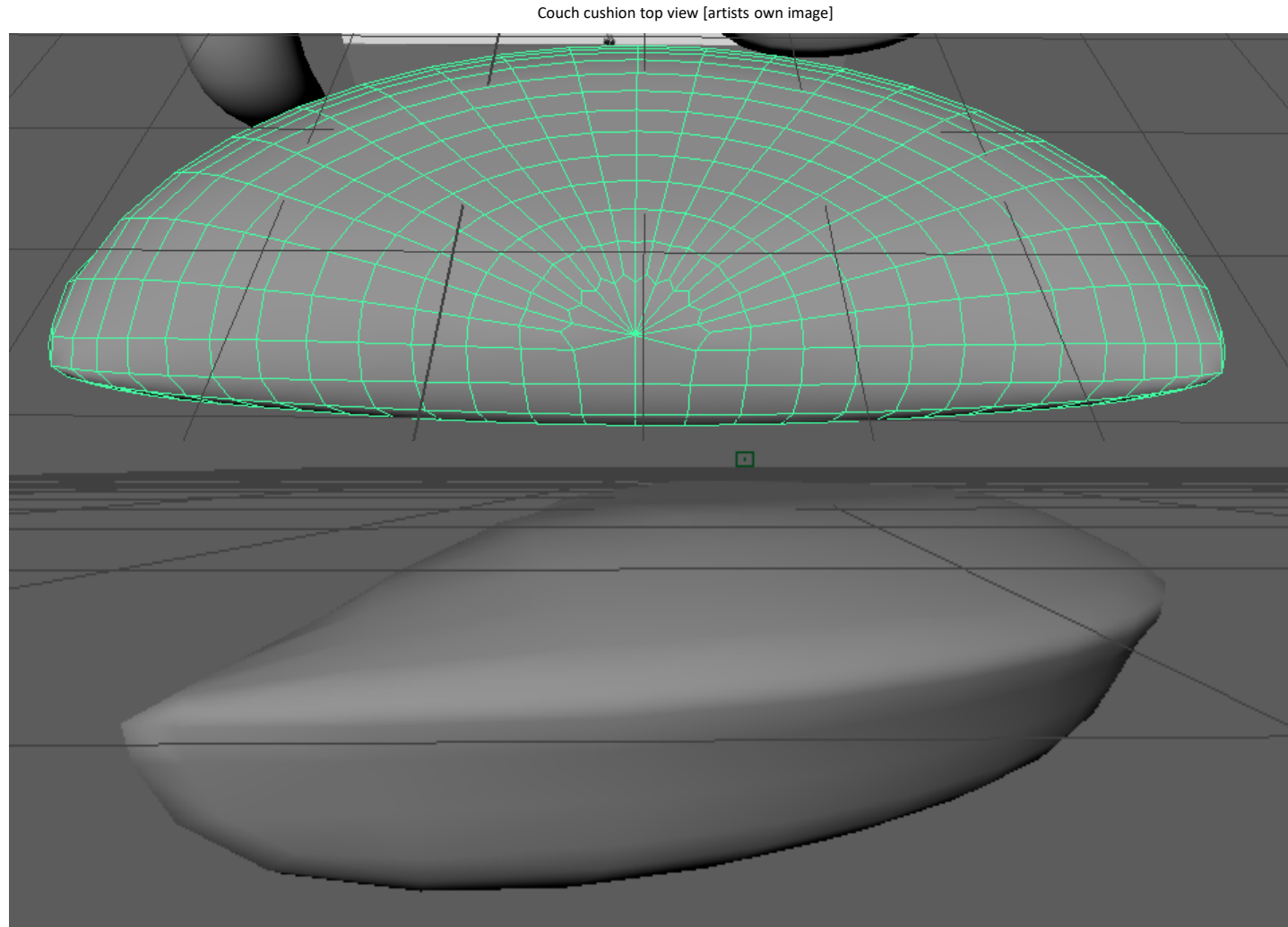
- The tail was originally modelled from a duplicated edge of the couch, with adjusted vertices. It wasn't joining neatly to the couch though.
- Then I realised it would be better to model the tail directly from the couch as one model.

Couch tail versions models [artists own image]



Cat Couch

- **Duplicate faces**
- **Extruded**
- **Soft select outwards**

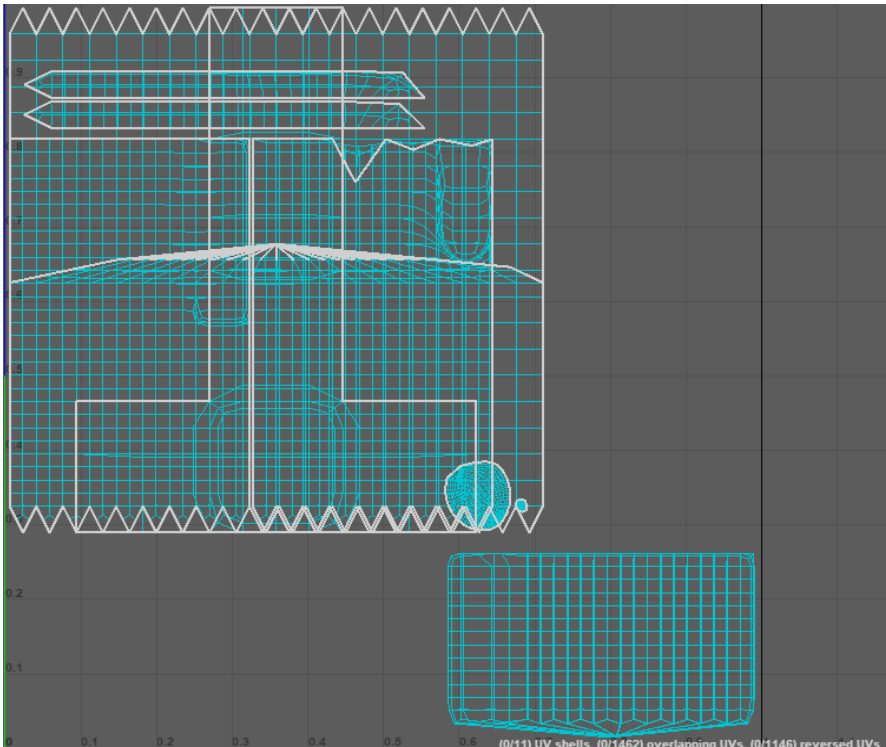


Couch cushion side view [artists own image]

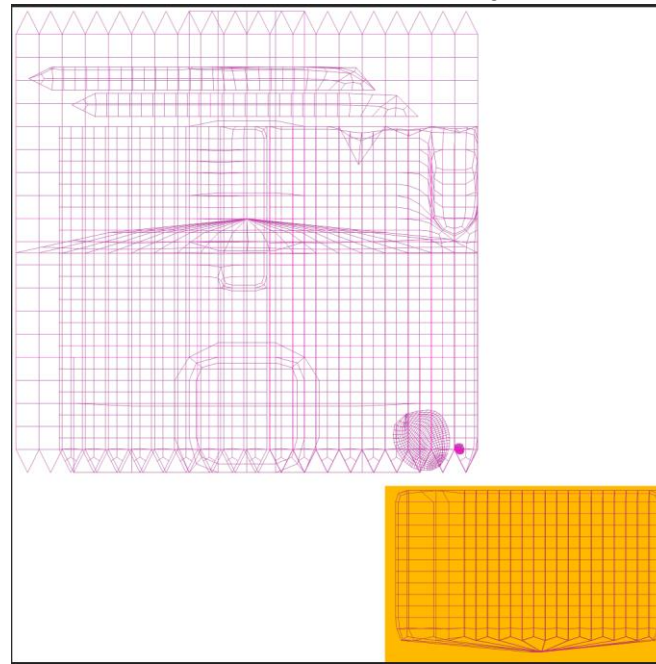
Cat Couch

- The UV Map of the combined couch.
- Most white
- Cushion will be yellow

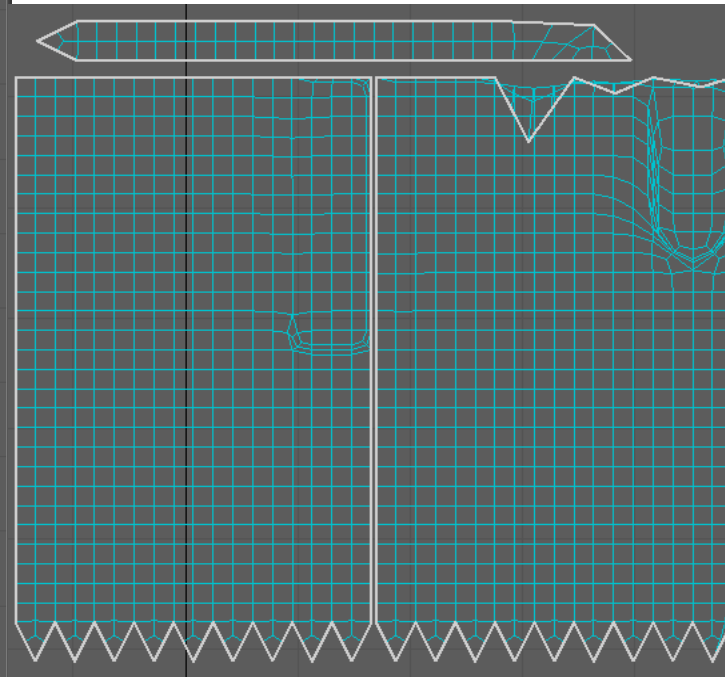
Couch combined UV MAP [artists own image]



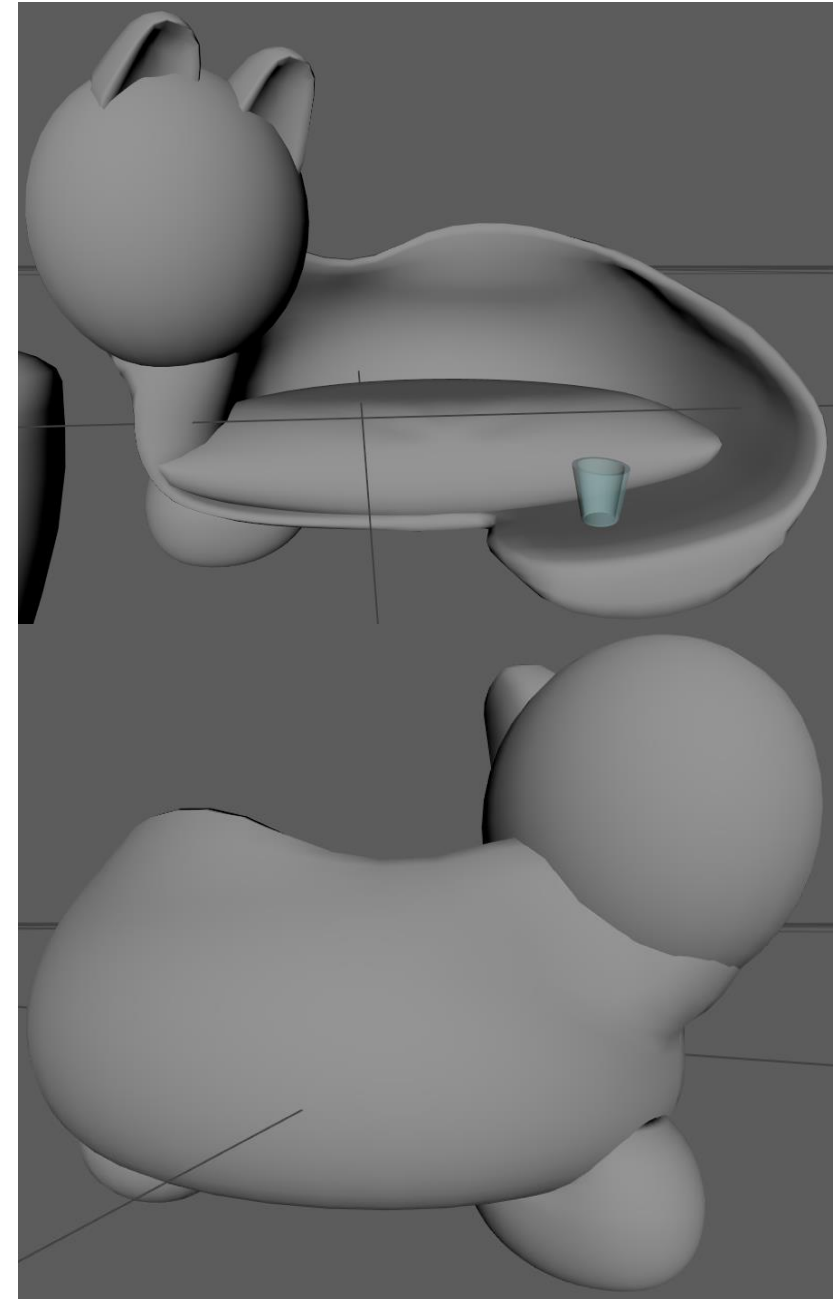
Couch UV MAP with texture [artists own image]



The main body on it's own

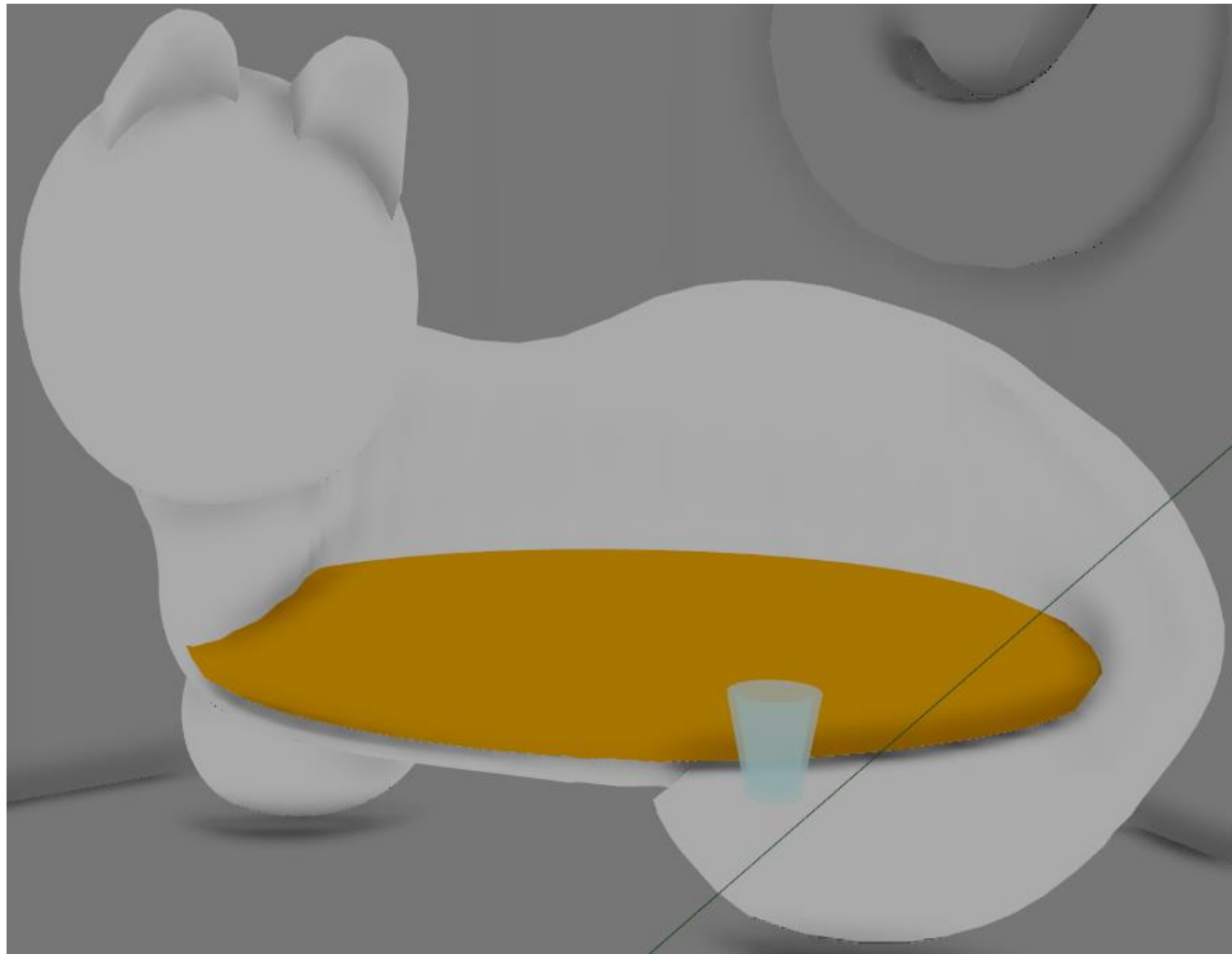


Couch body only UV MAP [artists own image]



Cat Couch

Textured in Maya



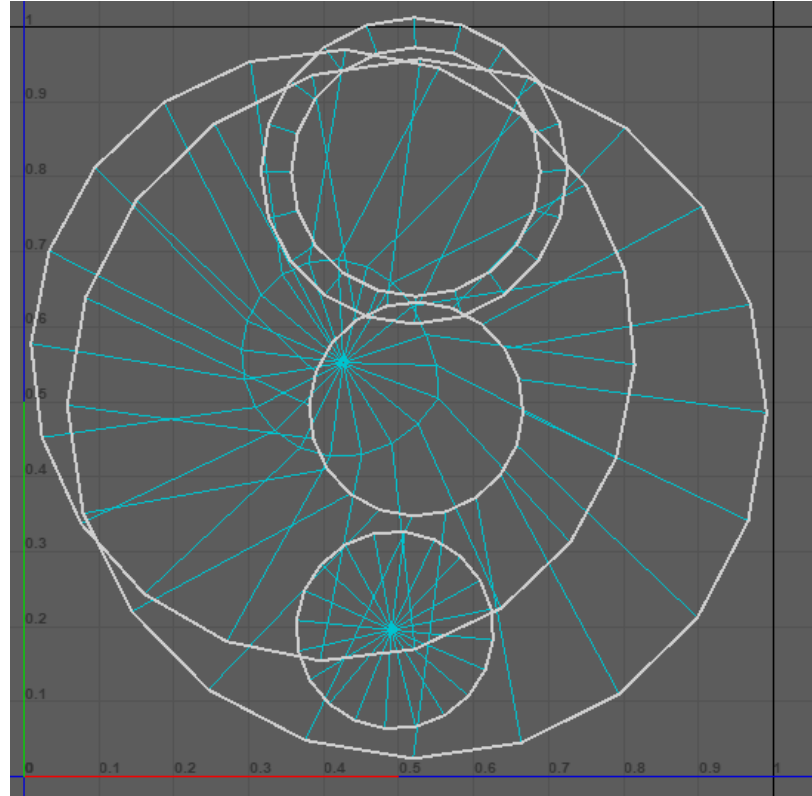
Couch textured in Maya [artists own image]

Glass

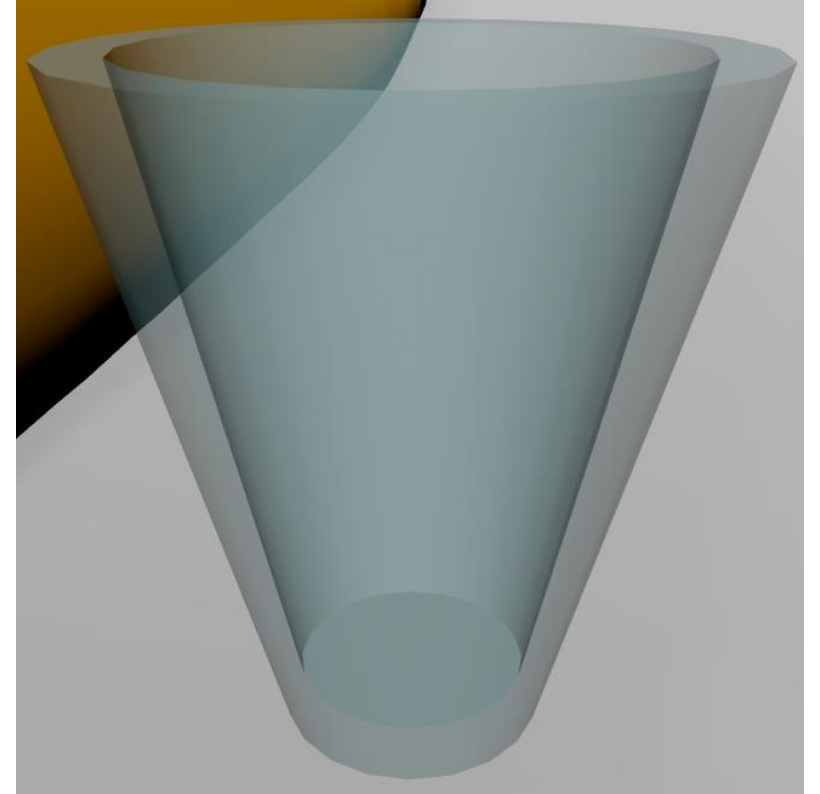
- Extruded and scaled

Texture:

- A light blue colour
- dark **grey layer mask**
- Saved as a PNG and TIFF



Glass UV Map [artists own image]



Glass in Maya textured [artists own image]

Bookshelf

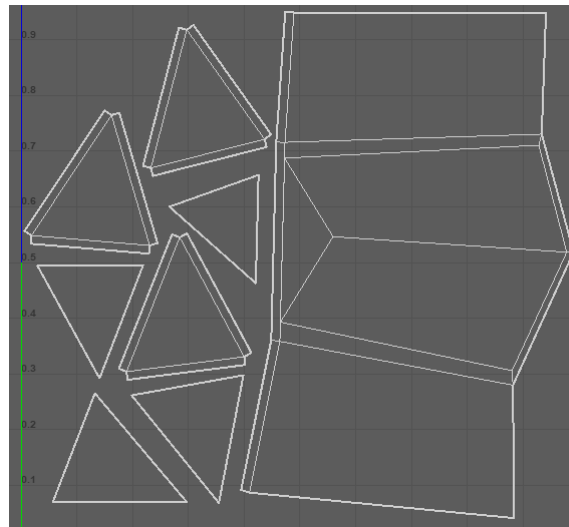
- **Duplicated** face
- **Scaled, welded** back edges, **duplicated** cubes

Texture:

- Here's the UV map ->
- A wood texture from substance painter



Bookshelf texture [artists own image]



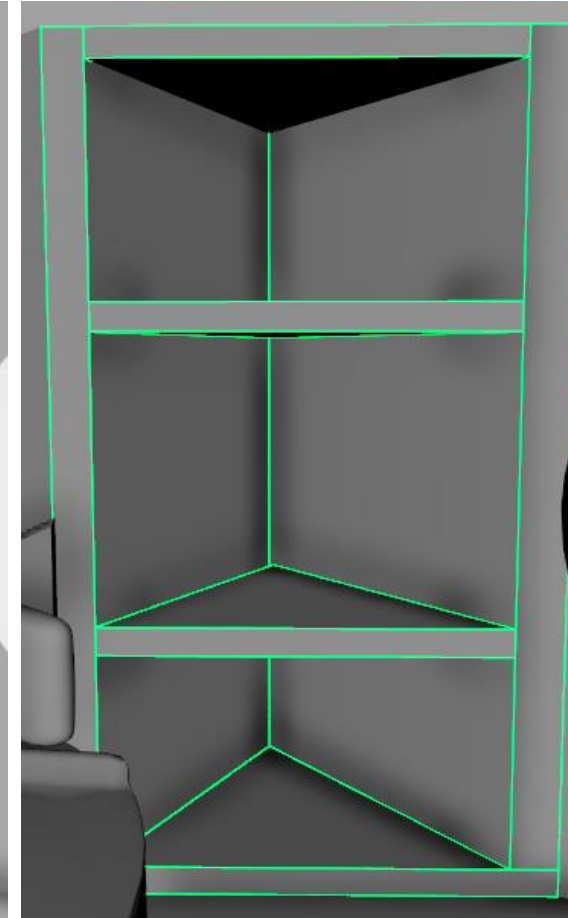
Bookshelf UV Map [artists own image]

Substance
painter



Bookshelf textured [artists own image]

In Maya

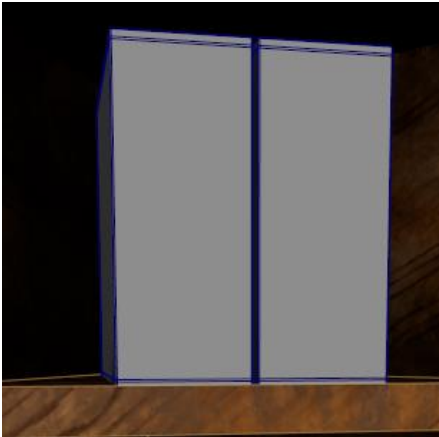


Bookshelf model [artists own image]

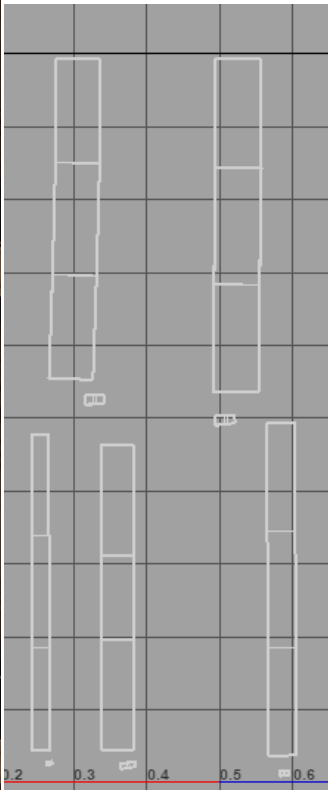
Bookshelf: Books

- Extrude> Offset> Bevel

Books model [artists own image]



Books UV Map [artists own image]



Books error texture
[artists own image]

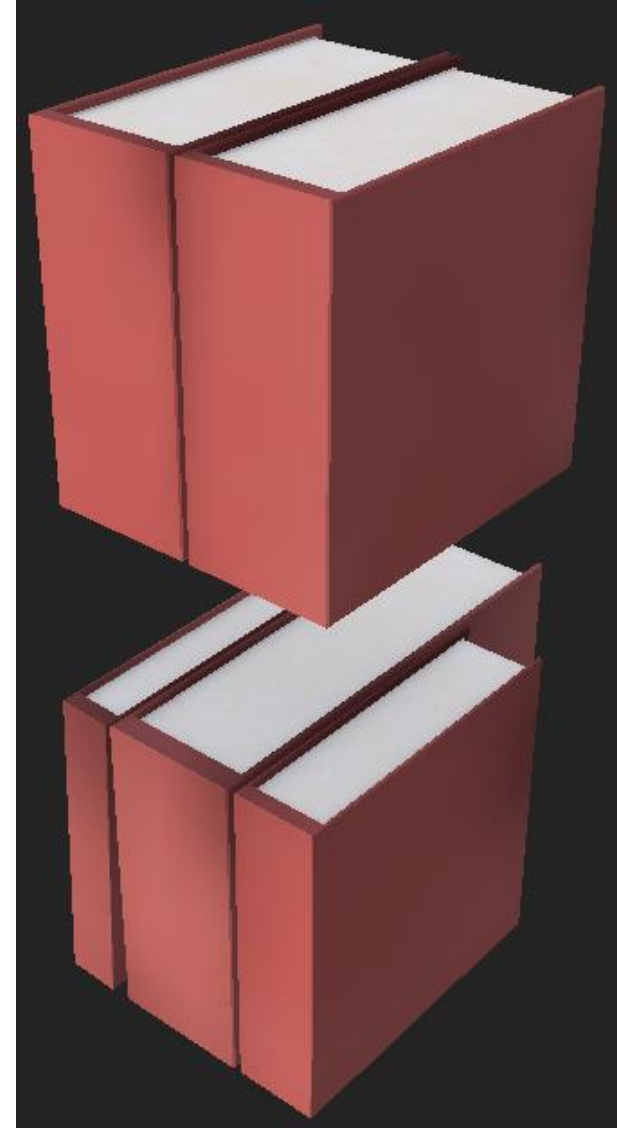


Books error texture and model [artists own image]

Leather Weathered



Attempt 2



Books try 2 textured [artists own image]

Books try 2 paper texture [artists own image]



Leather Natural Colored



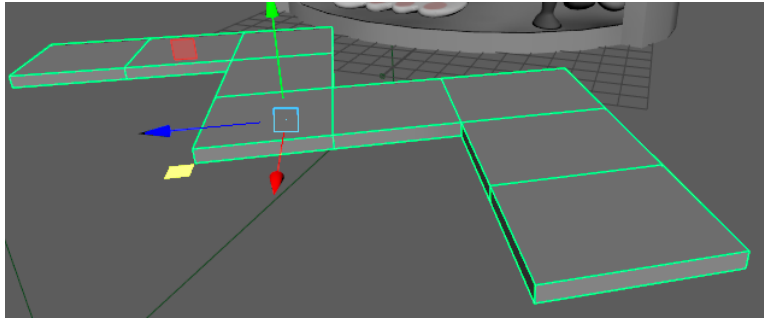
Plastic Used

Books try 2 plastic texture [artists own image]

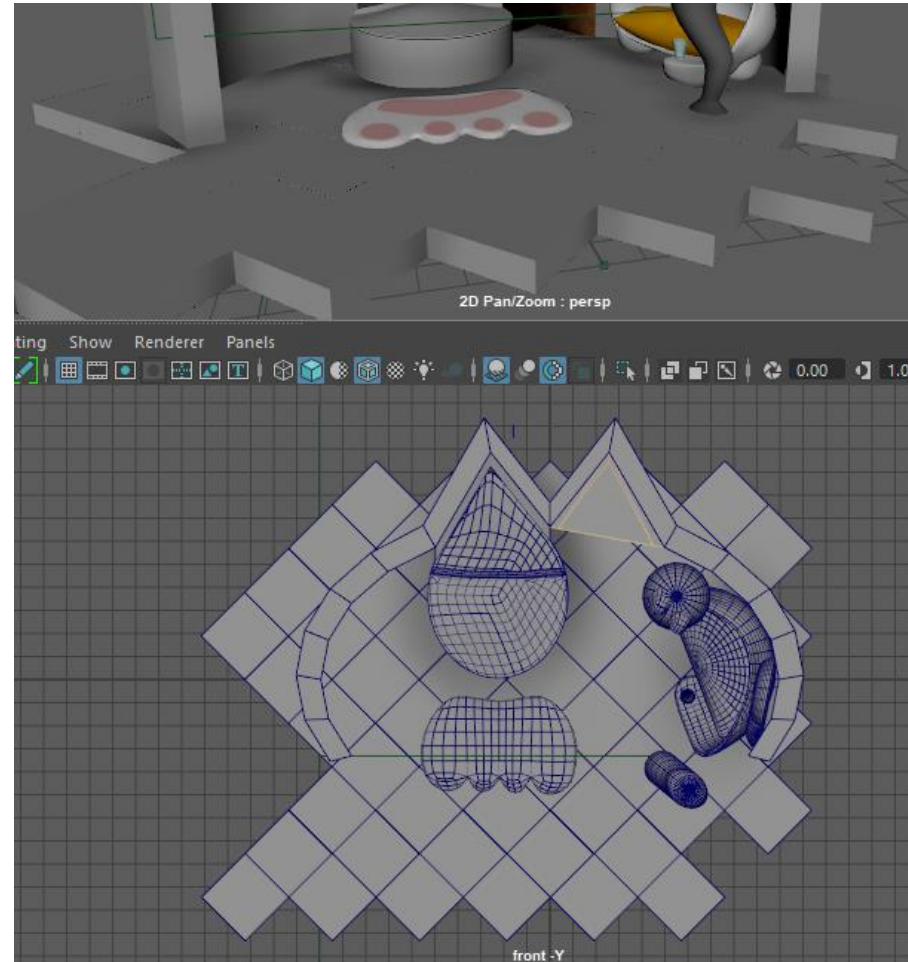
Floor

Will tile the floor asset

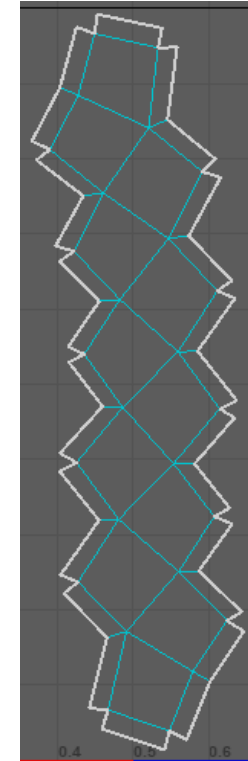
Extrude w/ separate faces



Floor try 1 model [artists own image]



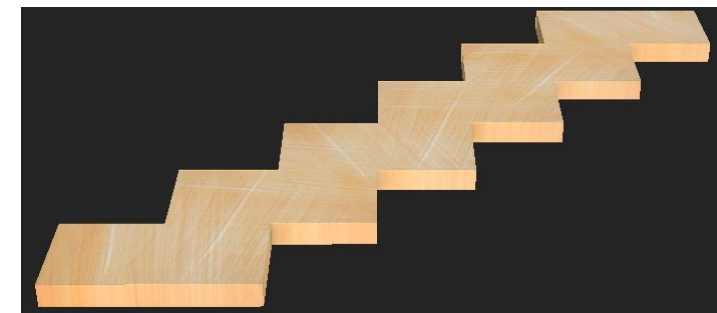
Floor try 1 model duplicated [artists own image]



Floor try 1 model UV Map [artists own image]



Floor try 1 UV map Textured [artists own image]

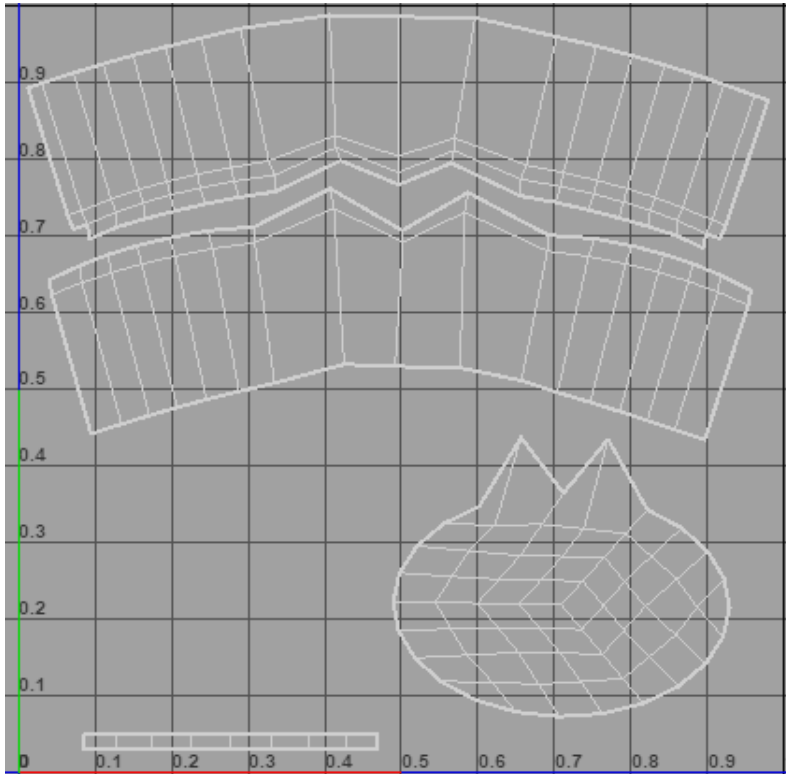


Floor and building texturing

Wood floor and building together

Manual paint and smart materials

- Abandoned herringbone floor**
 - More thought needed**



Cat room UV Map [artists own image]



Cat room Textured [artists own image]



Cat room Wood Texture [artists own image]

The Unreal Render Process

I used the **YouTube** tutorial **Substance 3D Painter Textures into Unreal Engine 5 Including Emission** [30] to properly **export** and **apply** the **textures** in **Unreal**.

I tried to get the **alpha map** for **my glass** to work in Unreal with the YouTube **tutorial Ue4: advanced materials (Ep. 8 Using Alpha/opacity masks)** [31].

Didn't work!



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