



BA Computer Games Design
/ BA Animation & VFX

Environment & level Design
ACCA4032

Morgan Jones - 2210512





The Lego Daily Bugle brought to life in Unreal Engine 5



What is the Lego scale to UE5 scale?



Lego Minifigure:
Height=4cm
Width=1.5cm

[2]



UE5 Character:
Height=180cm
Width=50cm

[3]



[4]

Full set:
Height=82cm
Width=27cm
Depth=27cm

Building only:
Height=55cm
Width=20cm
Depth=20cm

Set sizes/minifigure size

Full set:
Height $82/4 = 20.5$
Width $27/1.5 = 18$
Depth $27/1.5 = 18$

Building only:
Height $55/4\text{cm} = 13.75$
Width $20/1.5\text{cm} = 13.33$
Depth $20/1.5\text{cm} = 13.33$

Unreal size x Lego conversion

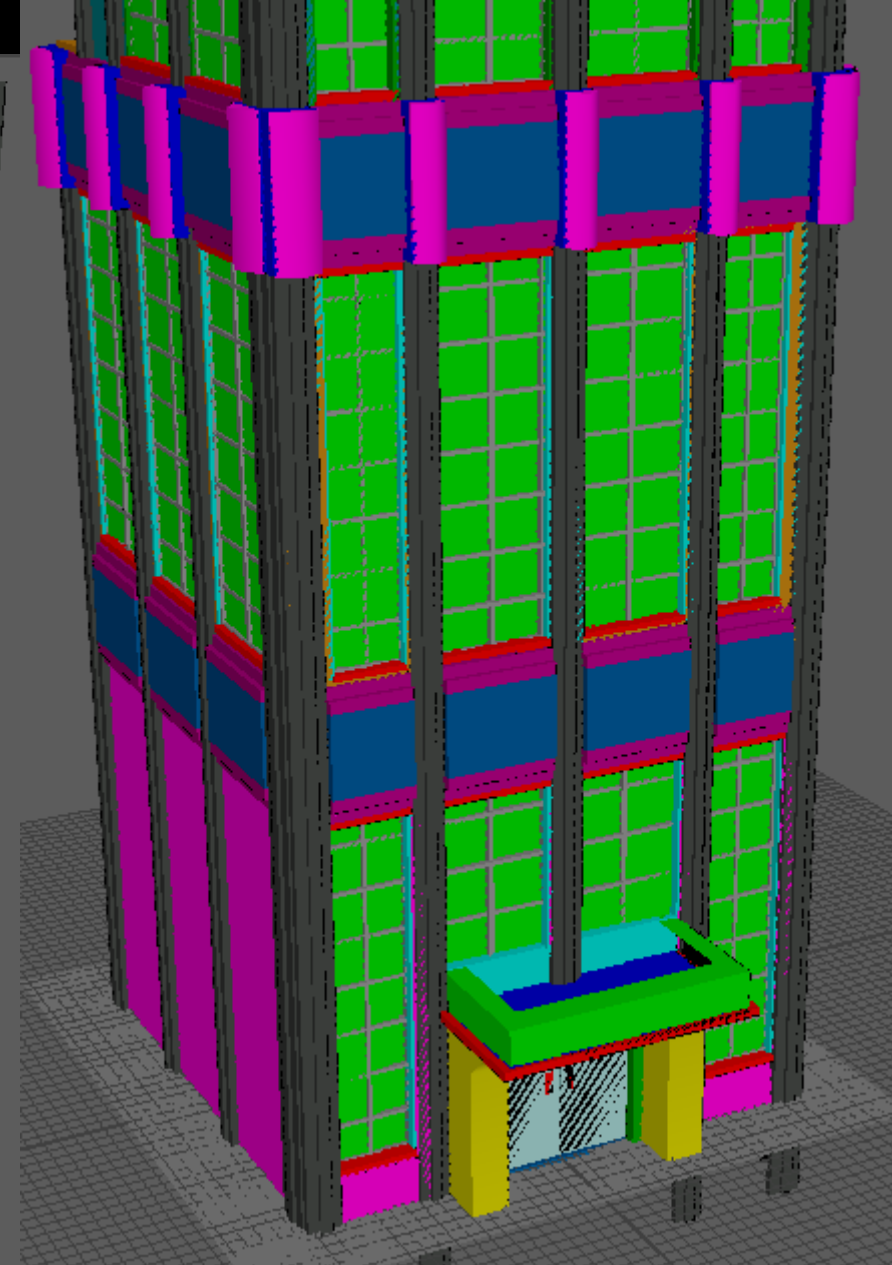
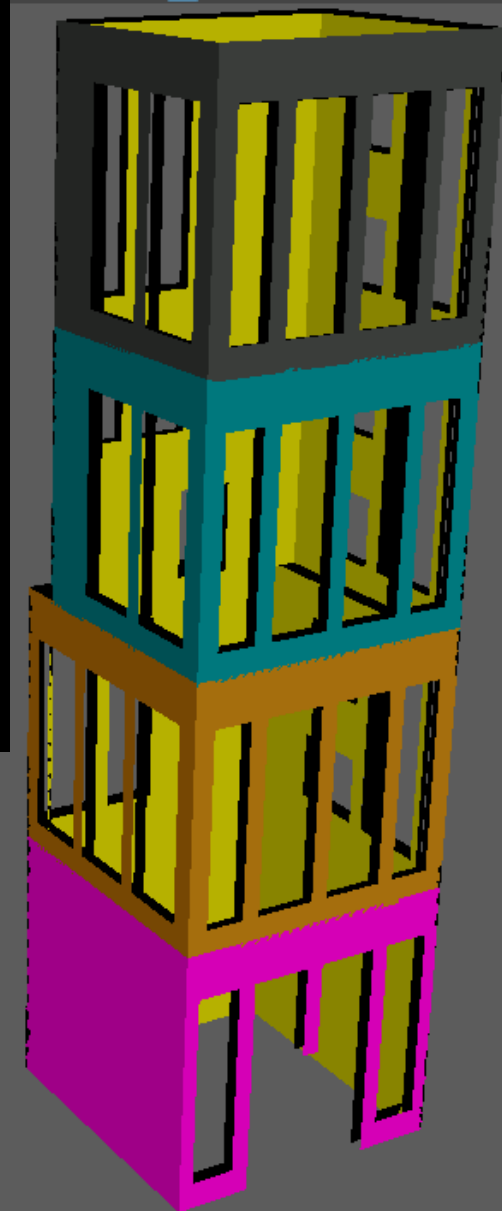
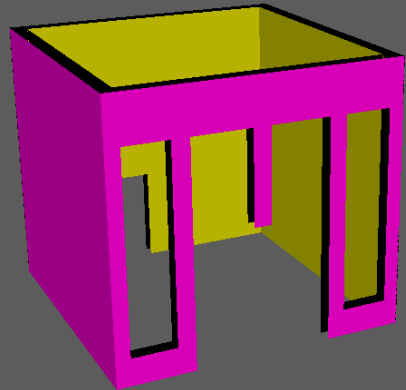
Full set:
 $180 \times 20.5 = 3,690\text{cm}$
 $50 \times 18 = 900\text{cm}$
 $50 \times 18 = 900\text{cm}$

Building only:
Height $13.75 \times 180 = 2,475\text{cm}$
Width $13.33 \times 50 = 666.5\text{cm}$
Depth $13.33 \times 50 = 666.5\text{cm}$

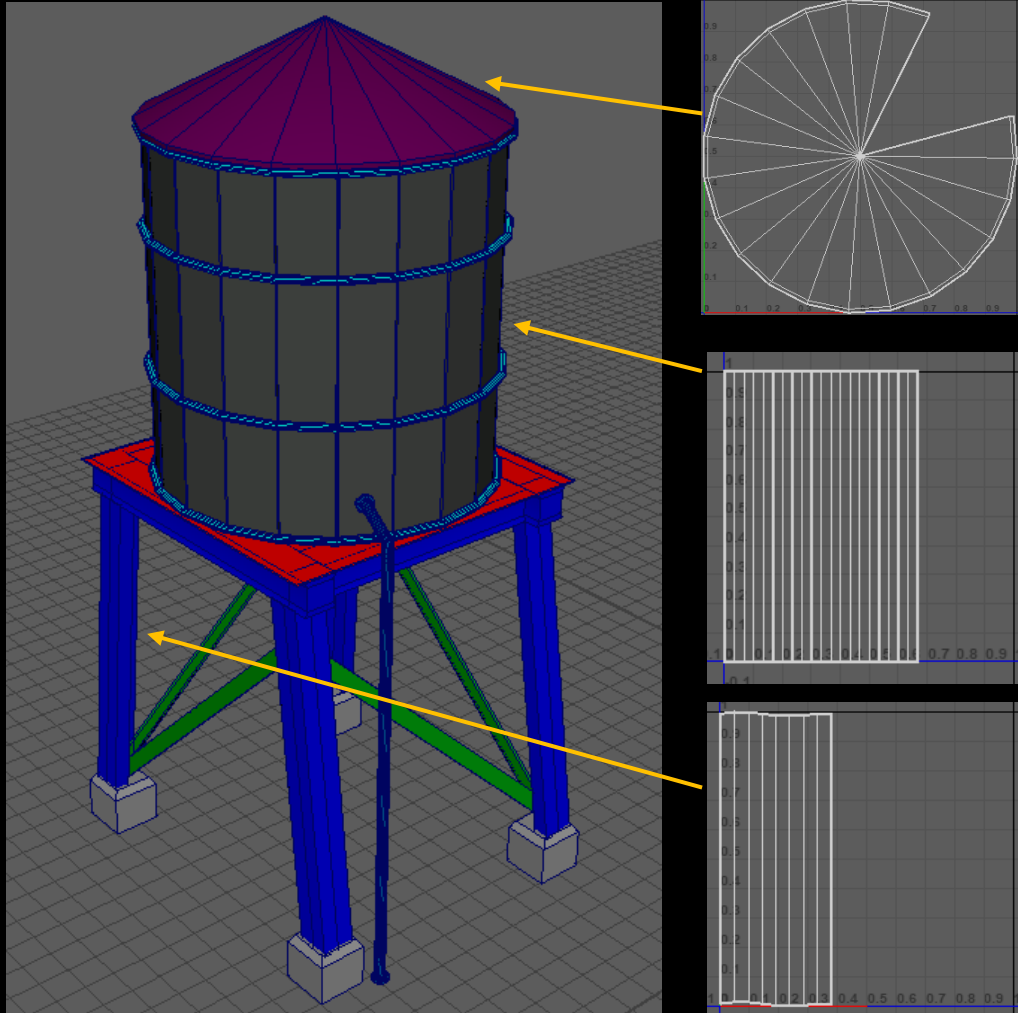
Constructing the building (Modular)



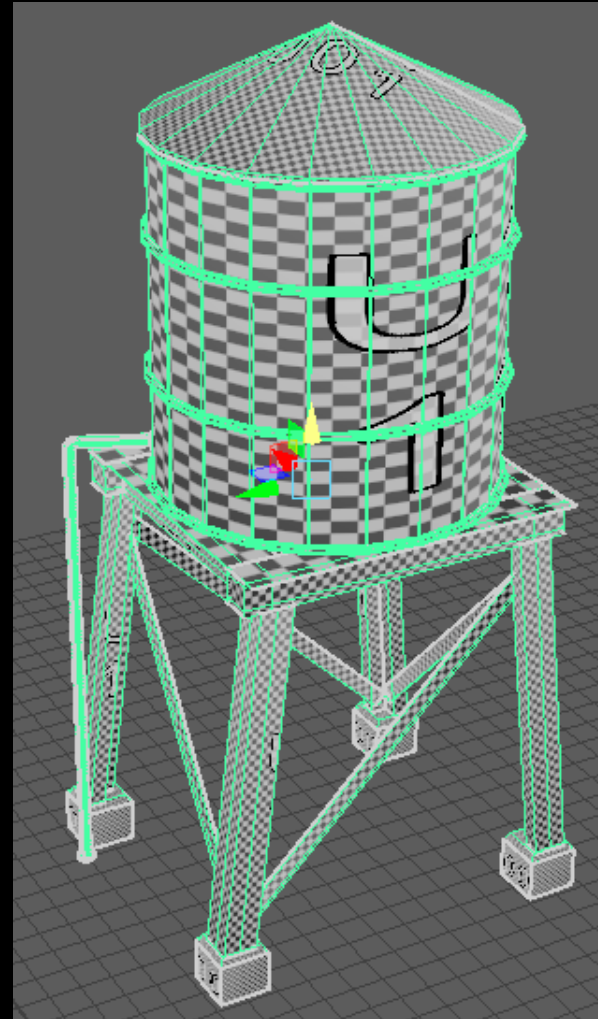
[1]



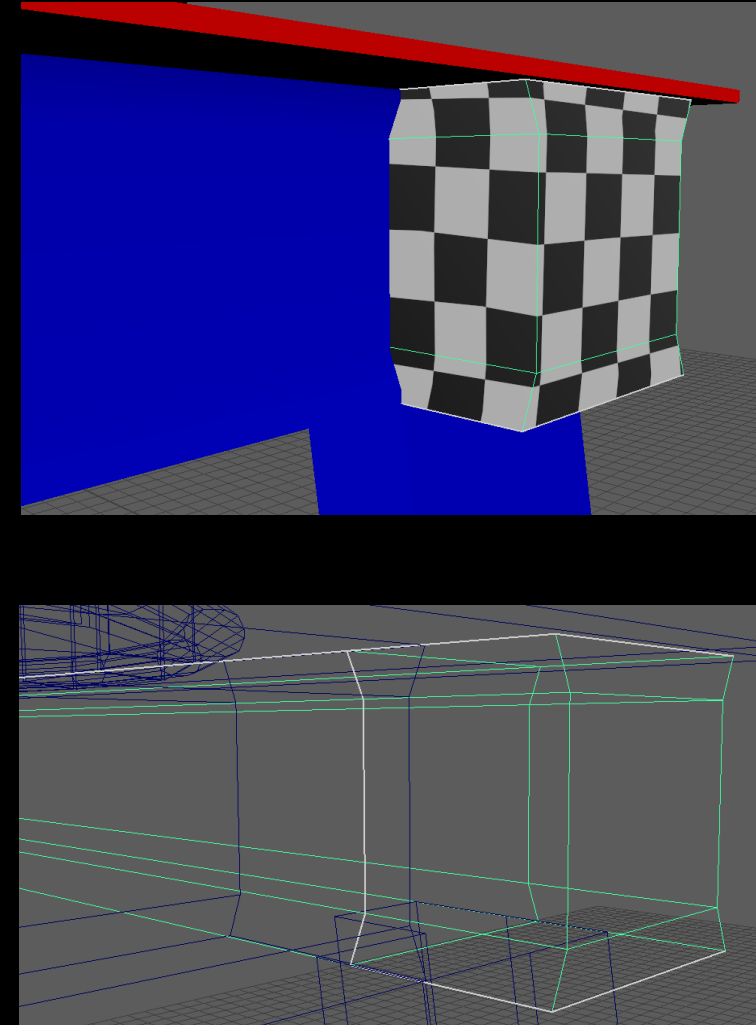
Modelling (Maya)



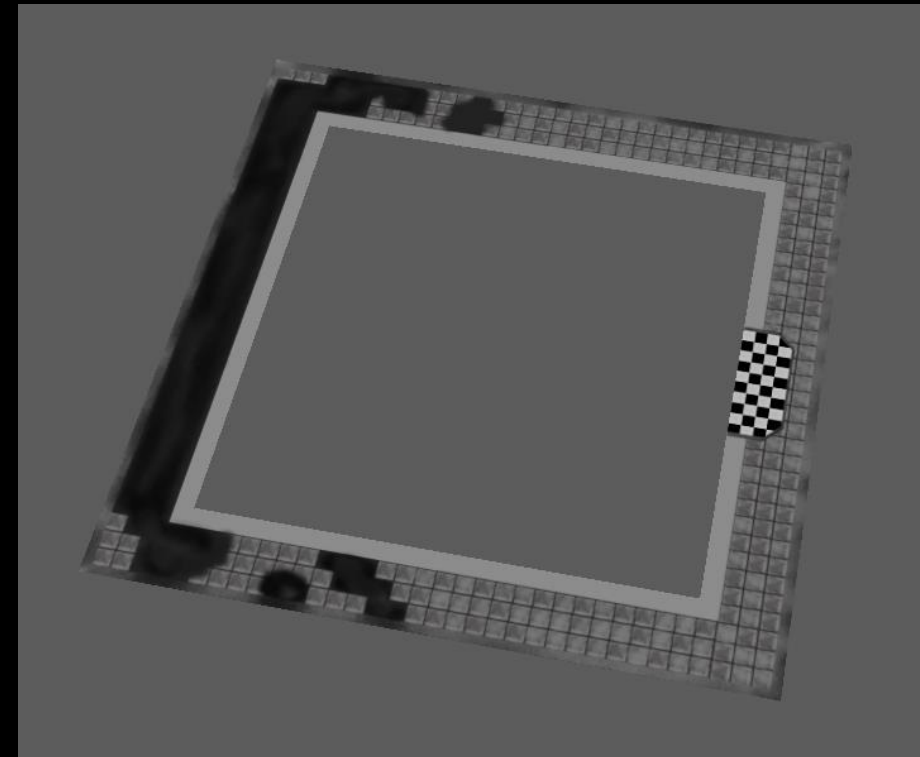
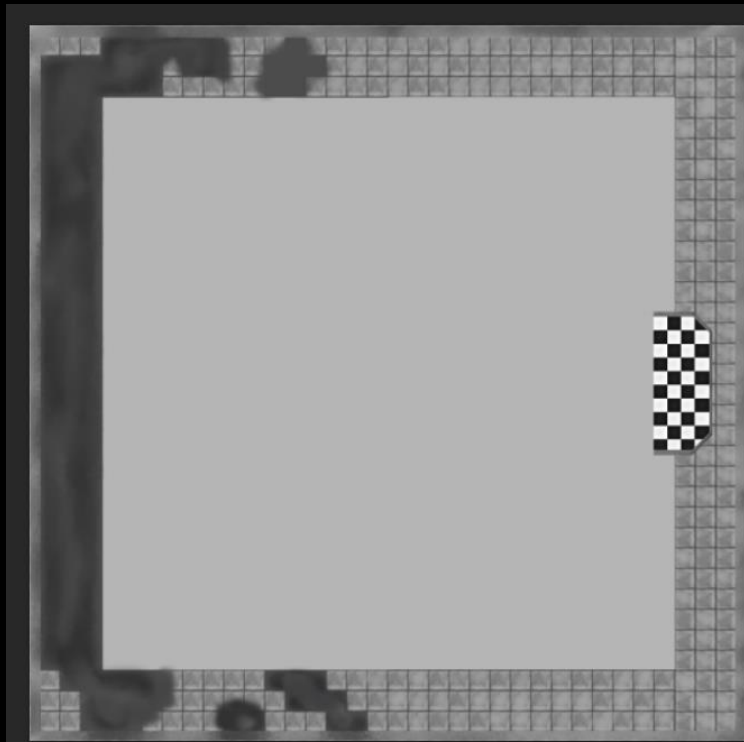
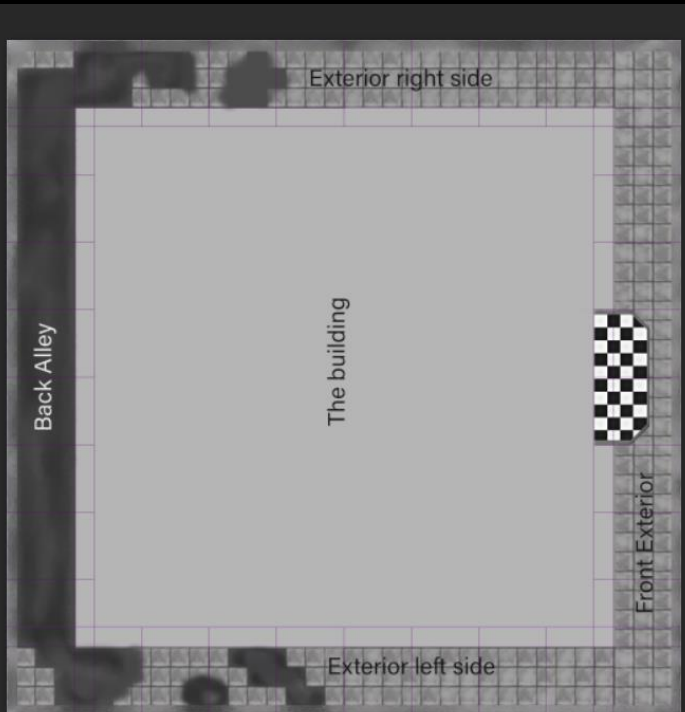
[5]



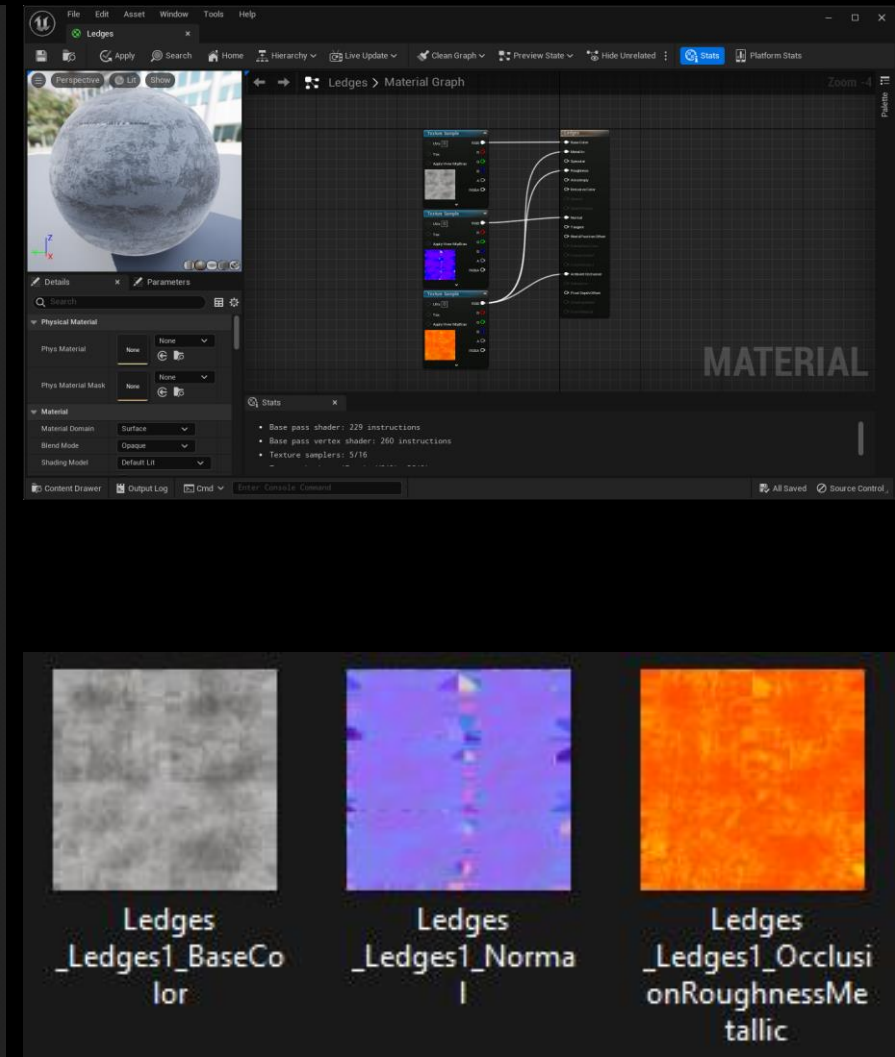
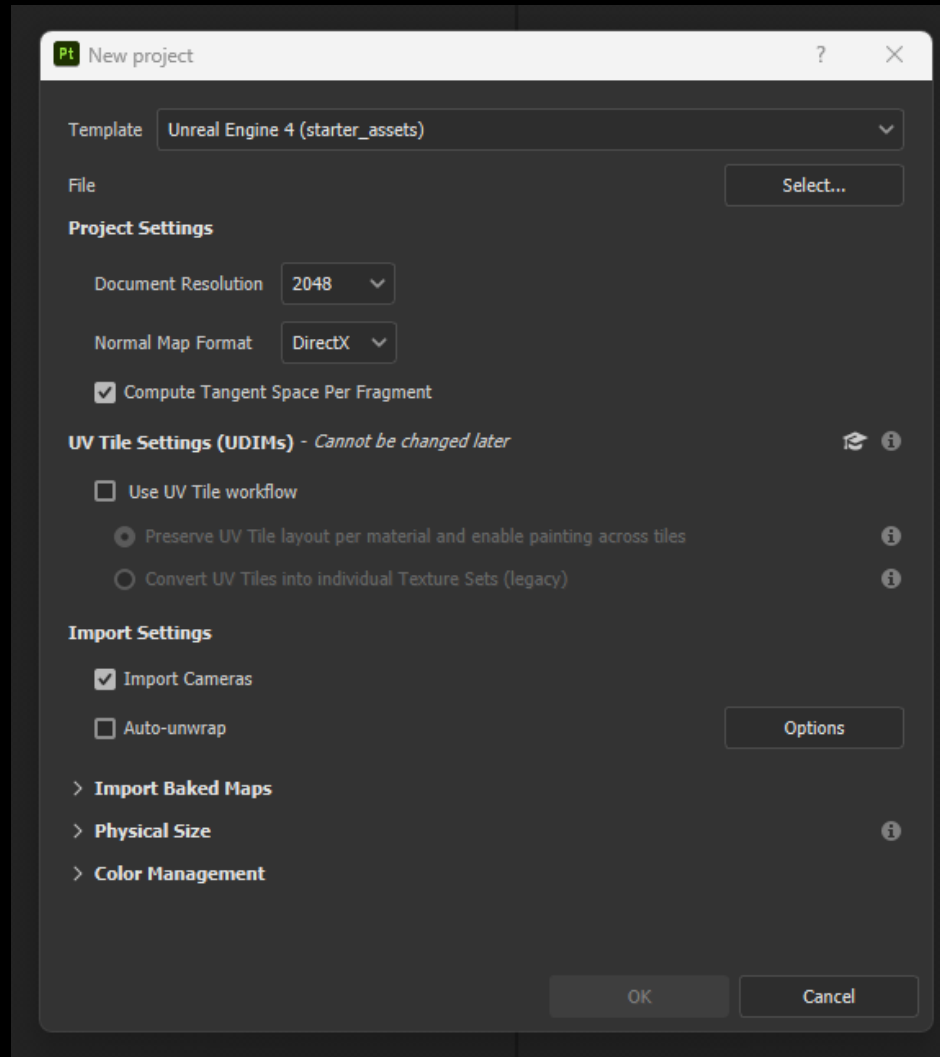
[6]



Using photoshop

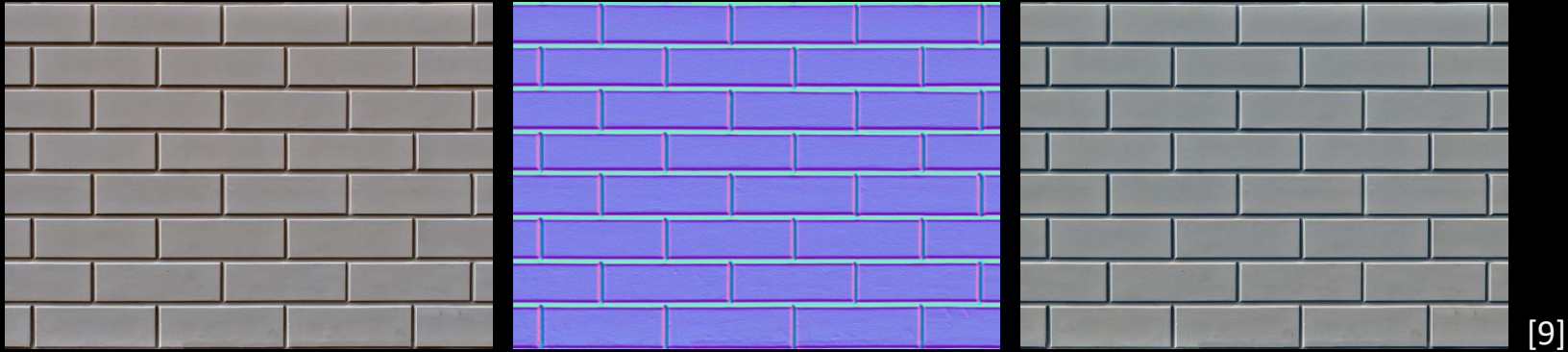


Using substance painter



Not my textures! (Sourced online)

Building brick wrap



2nd Floor flooring



[10]

Rendered shots

Total Poly Count: 62,929.

Approx 56 hours to create.

Programmes used:
Maya 2023
Adobe Photoshop
Adobe 3D Substance Painter
Adobe Premier Pro
Unreal Engine 5



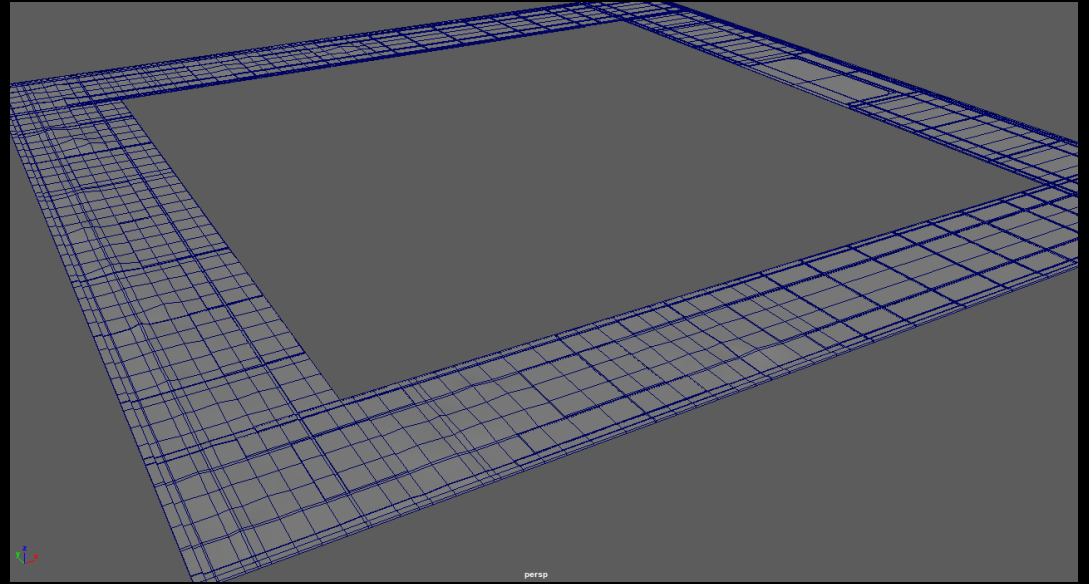
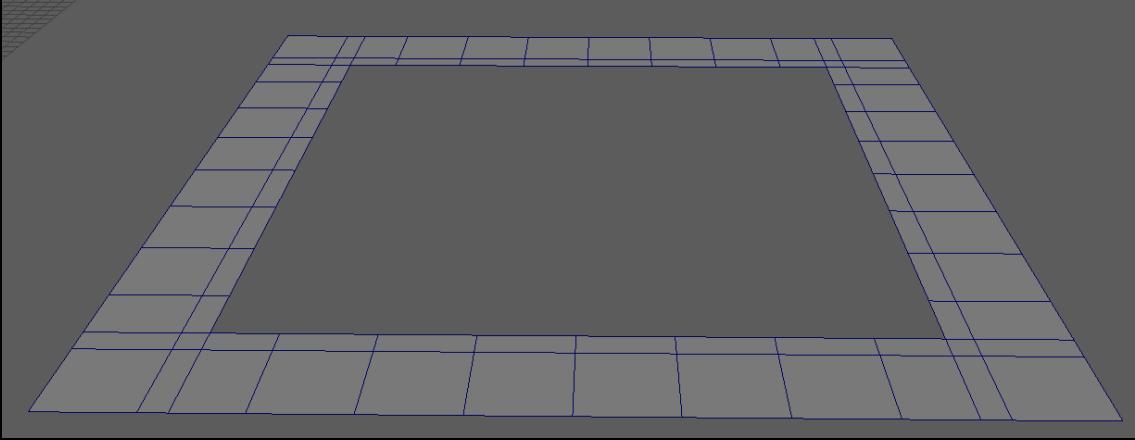
DAILY BUGLE



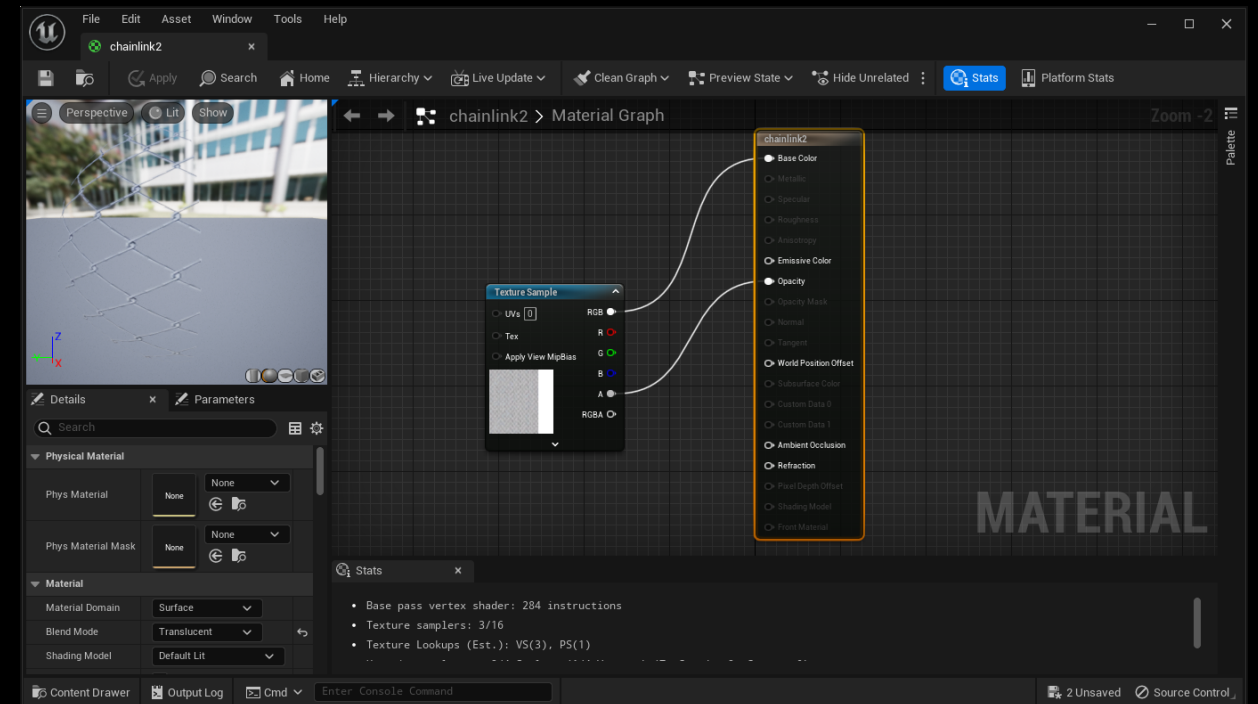
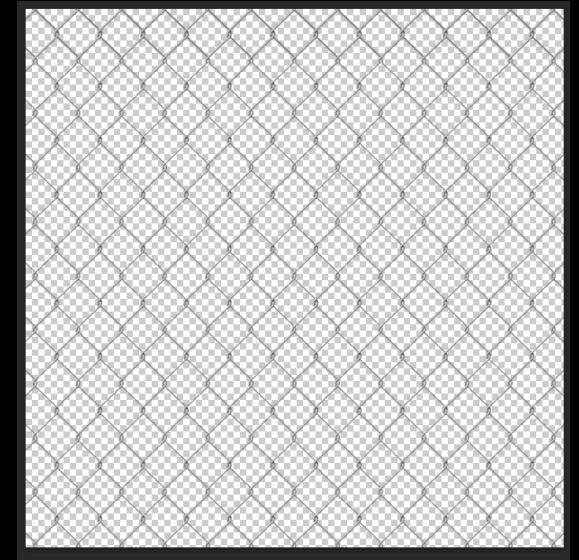
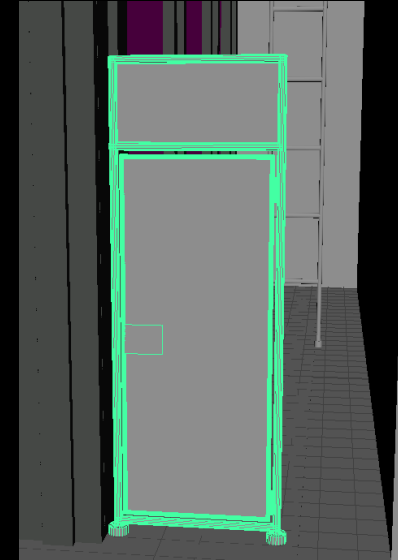
DAILY BUGLE



Baking (Concrete pavement)



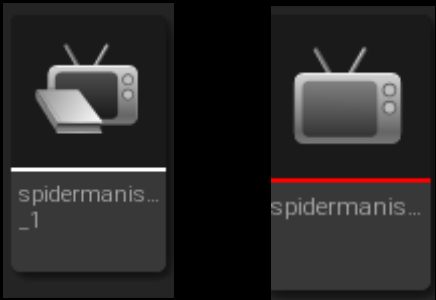
Alpha mask (Chainlink fence)



Media Texture (Large TV screens)



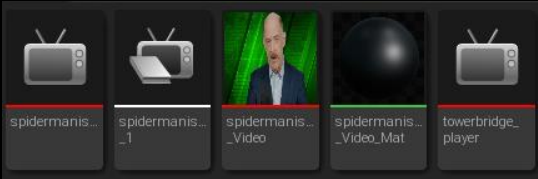
1.



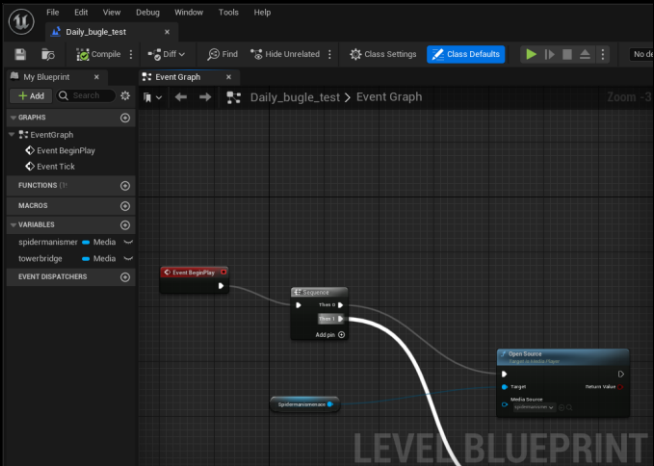
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3.



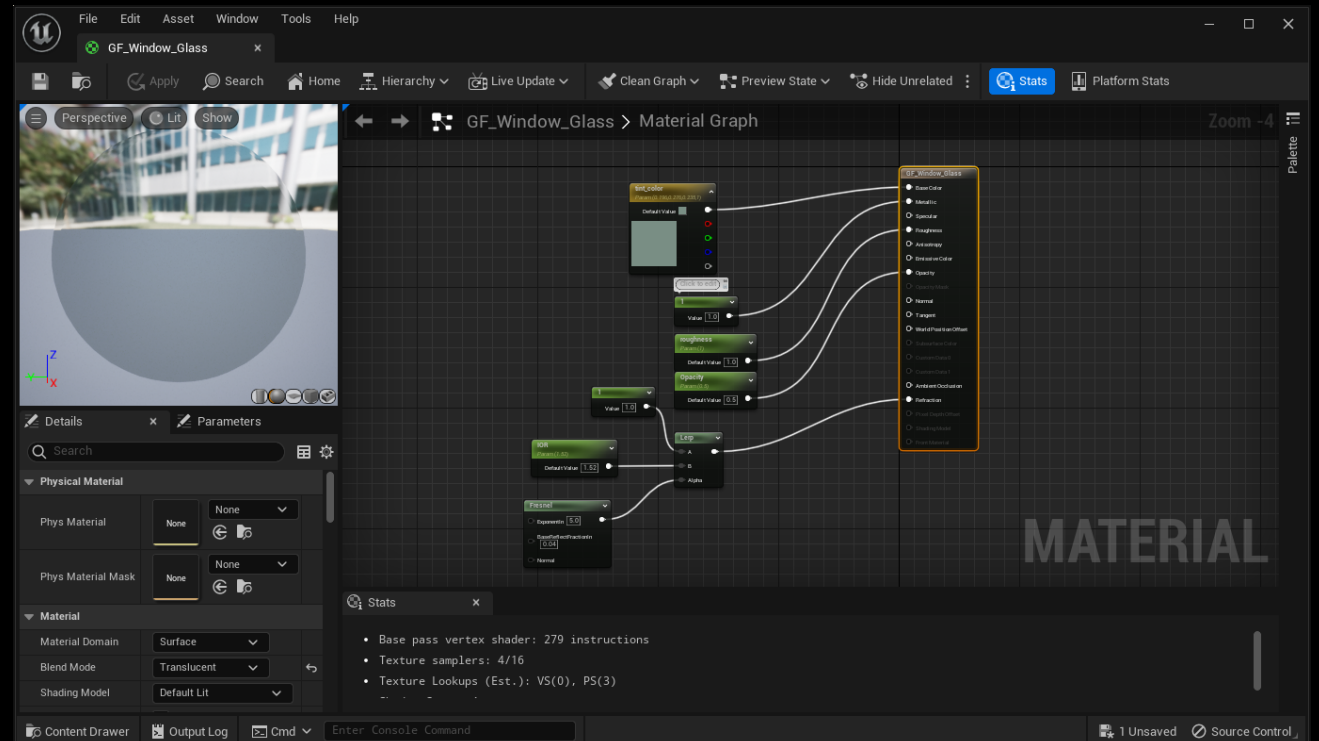
4.



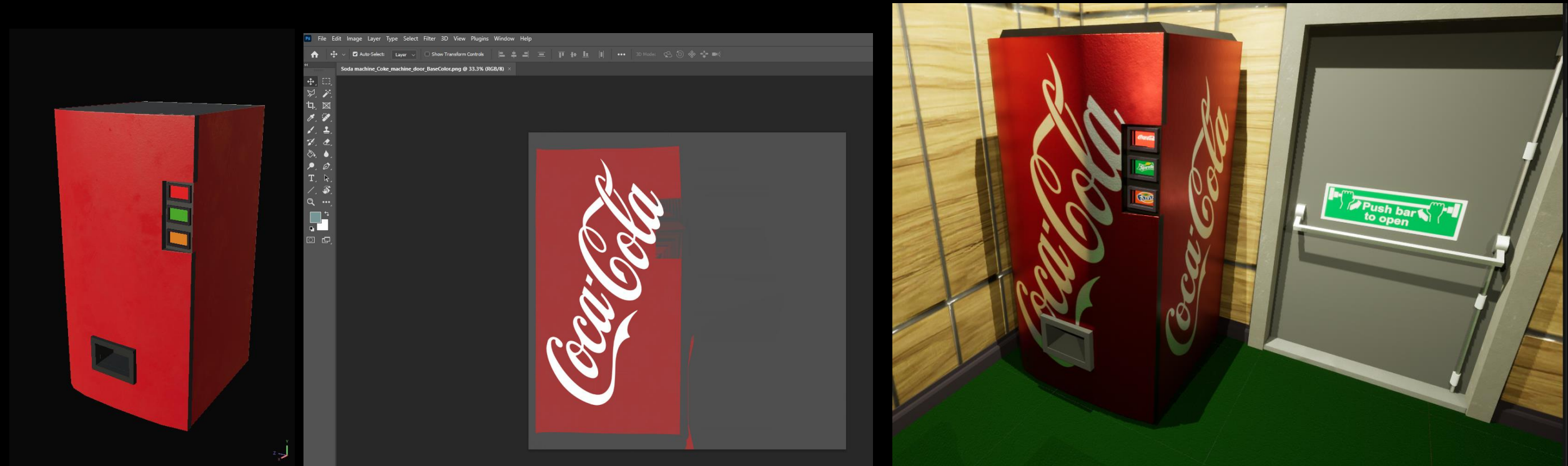
Glass (Windows and doors)



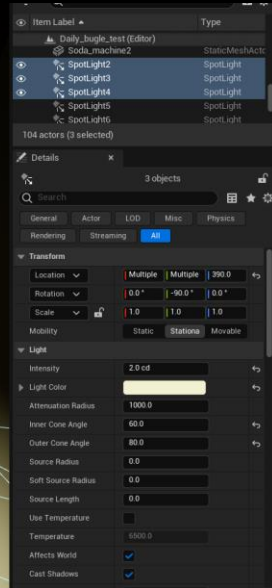
Material	IOR Value
Air	1.00
Water	1.33
Ice	1.31
Glass	1.52
Diamond	2.42

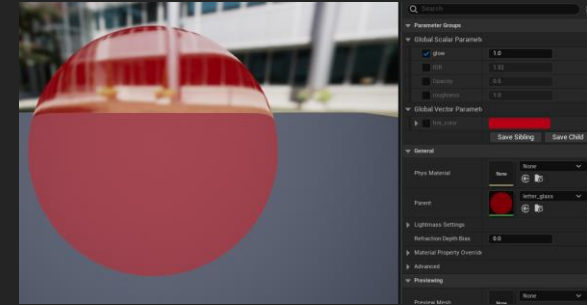
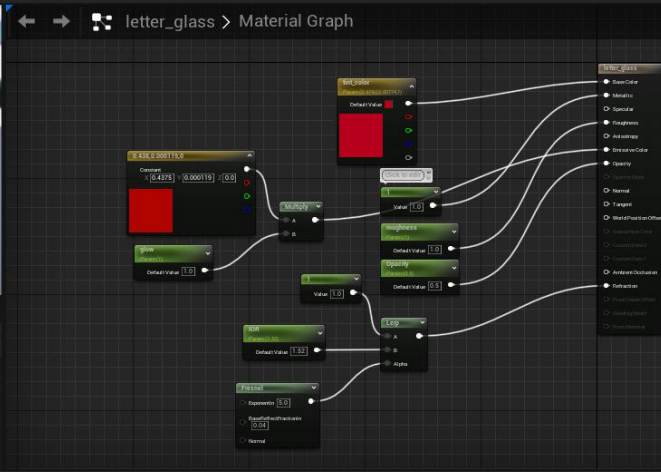
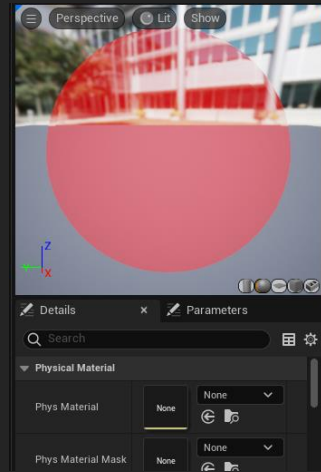


Substance + photoshop (Model texturing)



Interior lighting



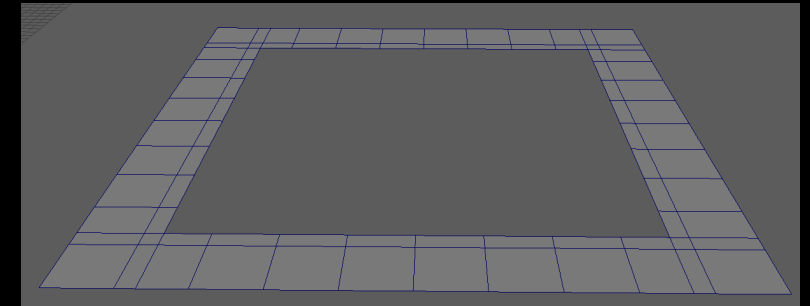
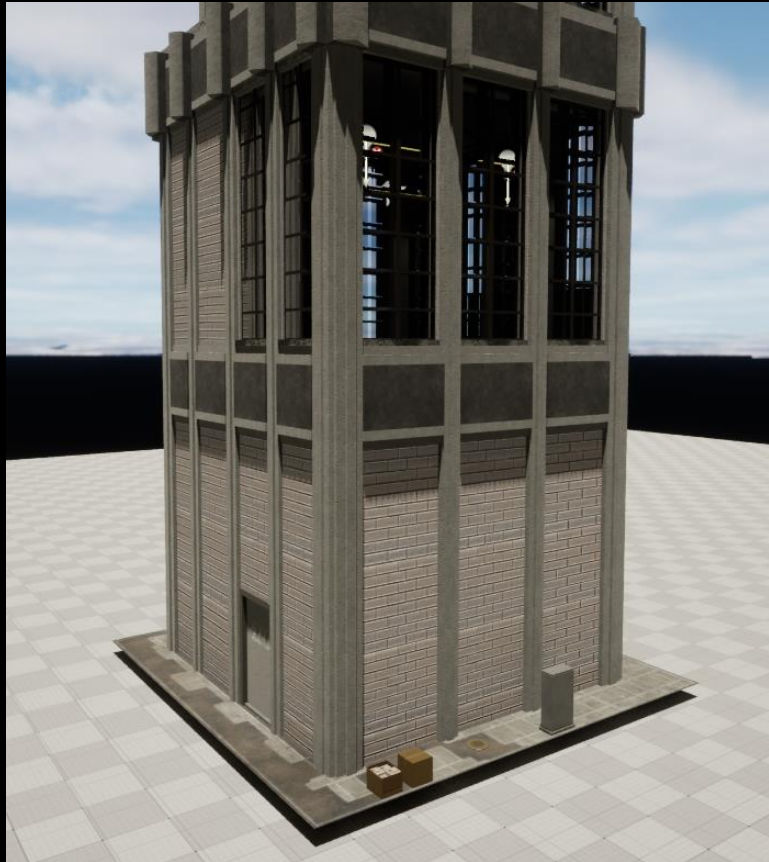
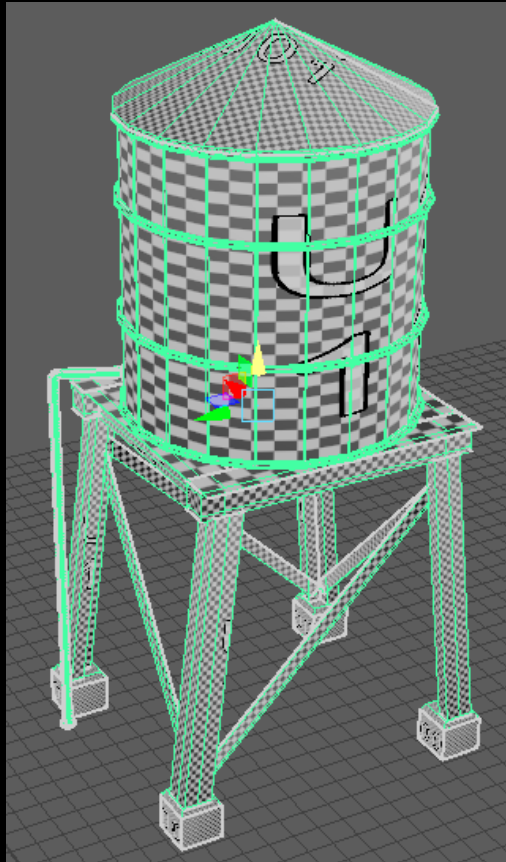


Emissive glow (Neon Sign)



Custom decals in Substance painter (Water tower graffiti)

Things I'd do differently



Thank you for listening.



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