

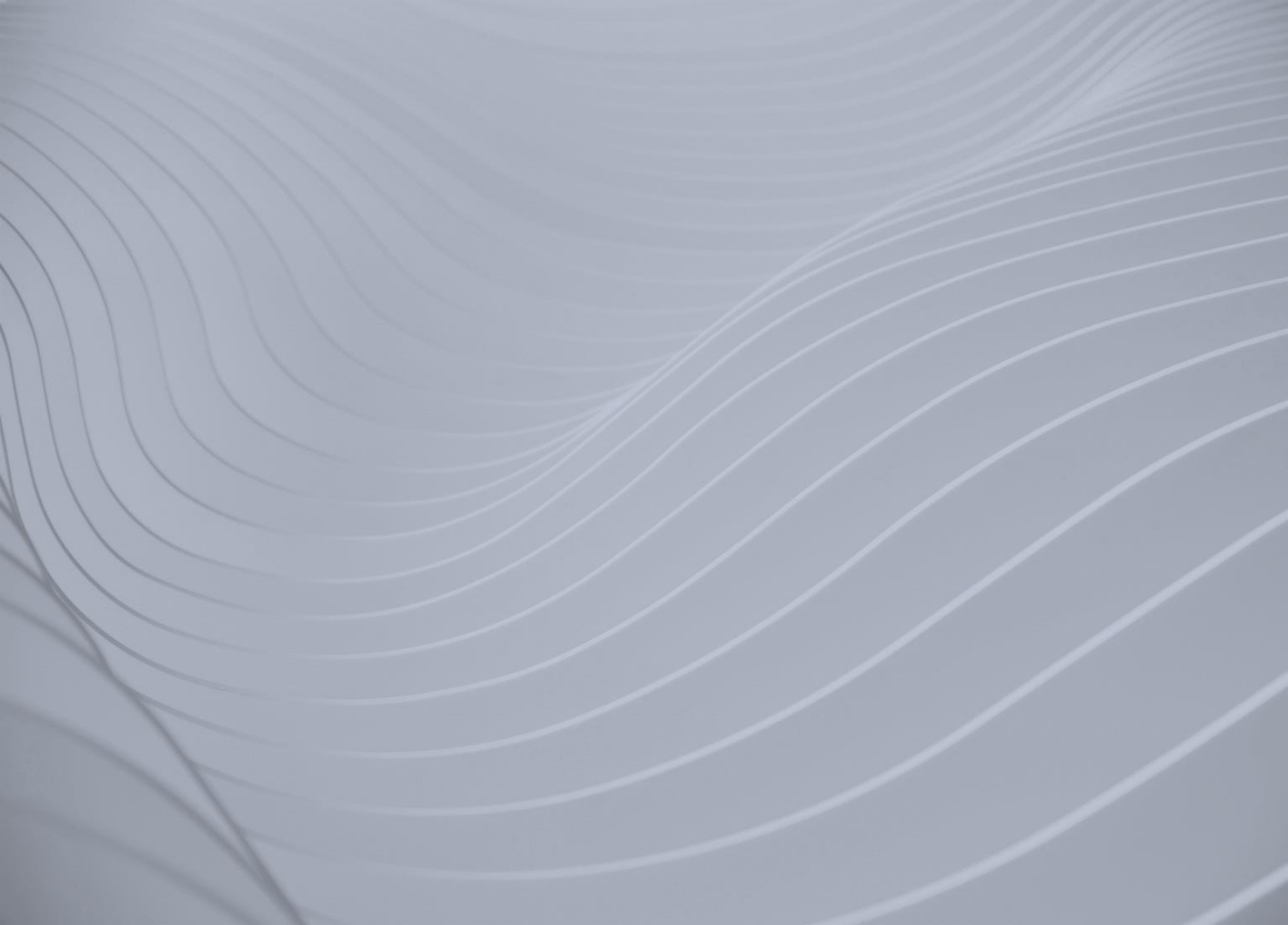


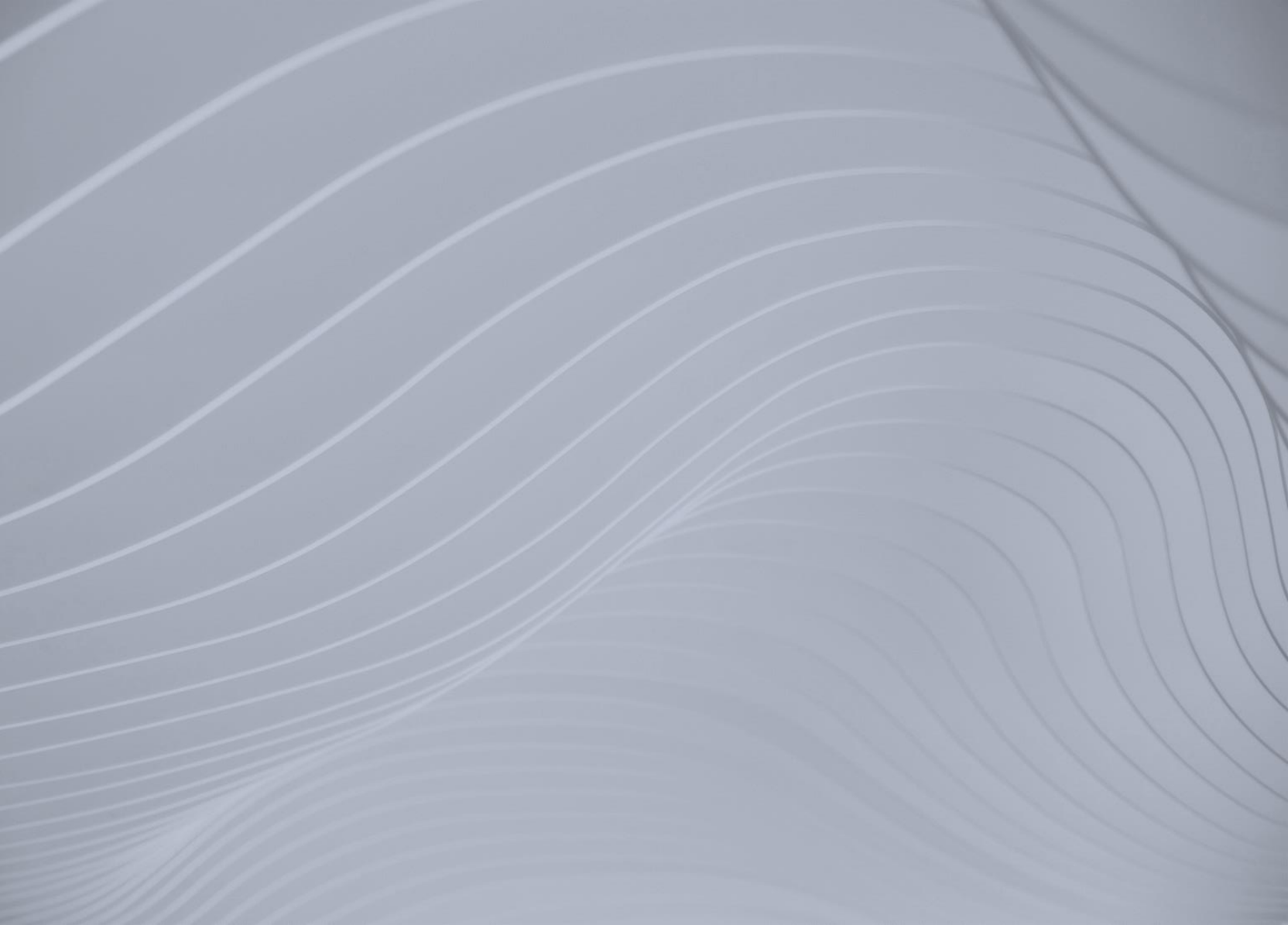
ROLAND BAKO  
FREELANCE 3D ARTIST

[www.rolandbako.winchesterdigital.ac.uk](http://www.rolandbako.winchesterdigital.ac.uk)

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# 3D ARTIST



## ROLAND BAKO

I am a final year student of BSc Digital Media Development at the University of Winchester. I specialize in 3D environments and also have a keen interest in character and hard surface modelling.

My affection to computers started at an early age. I was amazed by the binary world. Since my brother's first Sinclair and Enterprise computers through Gameboys, consoles to self-built rigs, I played on everything. The greatest stories and epic sagas, LAN parties and MMOs paved my digital devotion. Roots of my inspiration comes from historic battles and myths of ancient and future civilisations, classical fantasy, horror and sci-fi literature. Tabletop RPGs and MMOs and the latest AAA titles equally shape my creativity as my own adventures throughout the continents and years of travelling. My aim is to enrich our cultural heritage through digital storytelling.

Get in touch



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# CONTENT

1

**MOBILE DEVICE PROJECT**  
Year 1 Semester 2  
PAGE: 6 - 9

2

**INTERACTIVE PROJECT**  
Year 1 Semester 2  
PAGE: 10 - 13

3

**GROUP CLIENT PROJECT**  
Year 2 Semester 1  
PAGE: 14 - 17

4

**GROUP CLIENT PROJECT**  
Year 2 Semester 2  
PAGE: 18 - 21

5

**GROUP CLIENT PROJECT**  
Year 3 Semester 1  
PAGE: 22 - 25

6

**OTHER WORKS**  
2020 - 2023  
PAGE: 26 - 29

# MOBILE DEVICE PROJECT - AIMED



## DURATION

8 weeks

## PRODUCT NAME

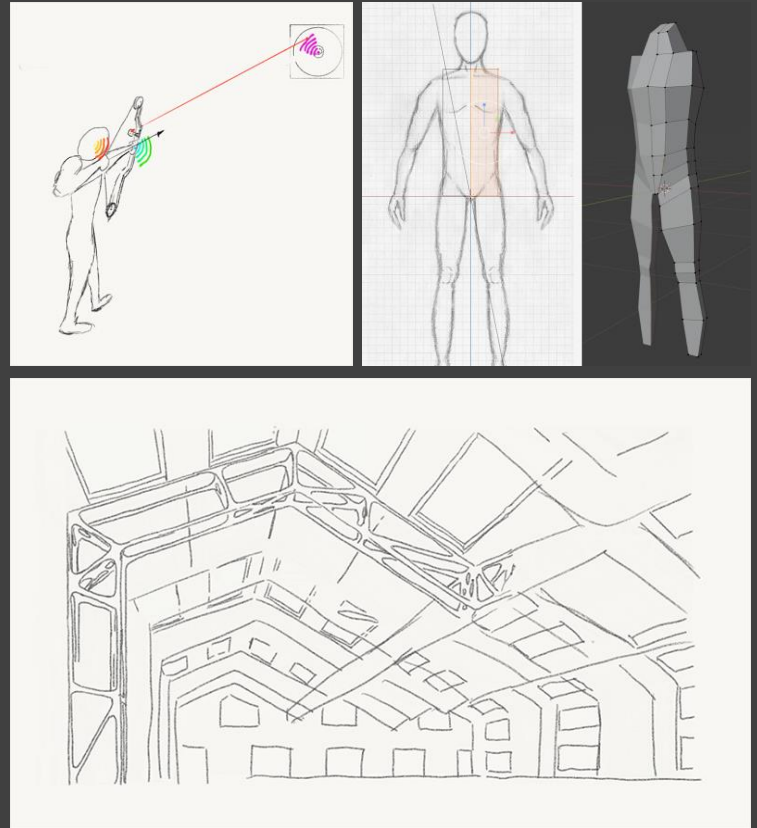
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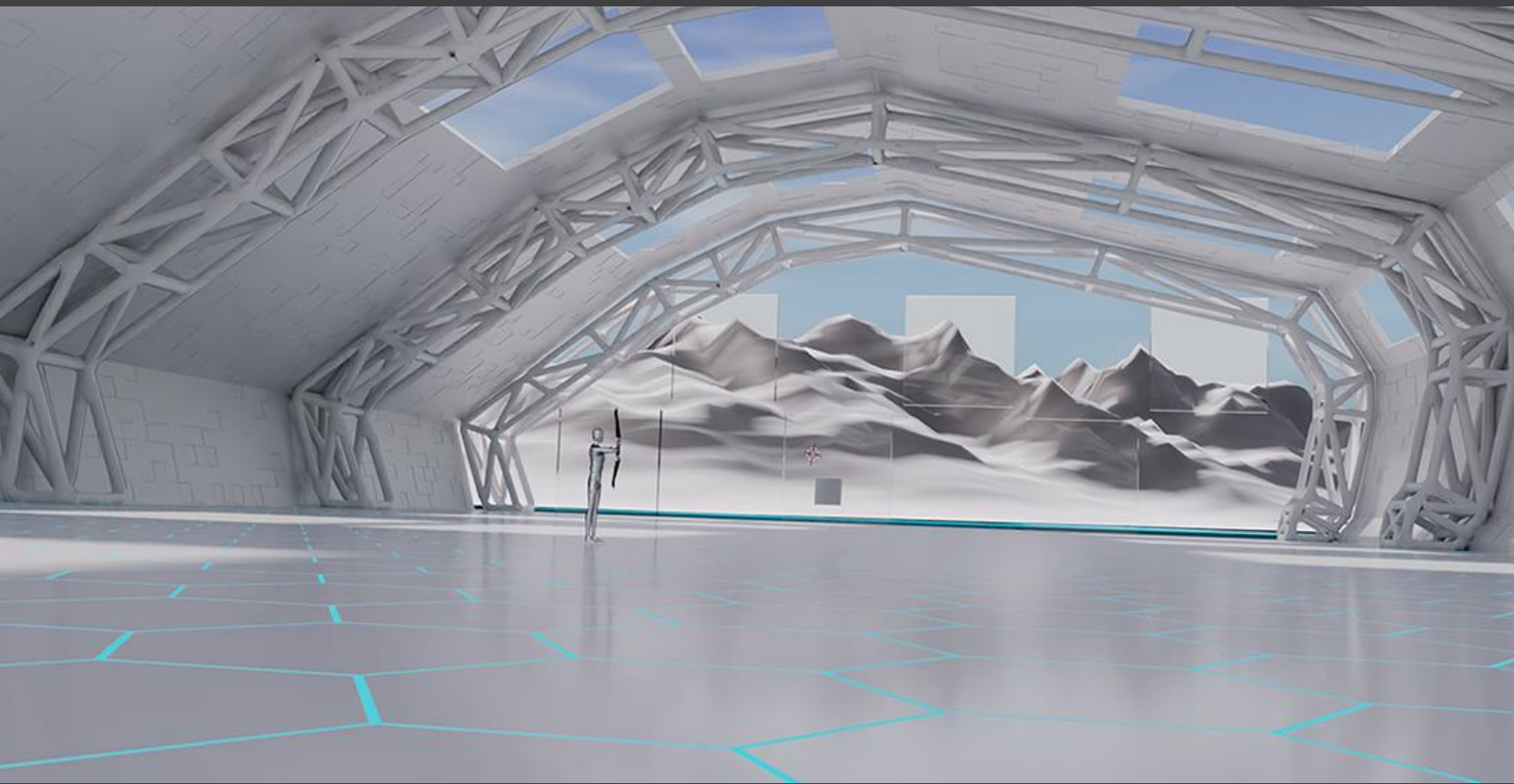
## CONCEPT

To create a 3D product animation that showcases a portable scope that offers aiming assistance through laser guided instant haptic feedback to archery practitioners and the visually impaired.

## DESIGN

After the initial brainstorming and research, a sketch was drawn to demonstrate how the device would operate (TL). The idea was to invoke a sense of difficulty when aiming without the product. Therefore a vast, indoor space occupying the whole view was designed (BL). Importing a human shaped sketch into Blender served as a reference for scale modelling (TR). Few iterations of the hangar were made during the modelling phase. (right page)





# MOBILE DEVICE PROJECT

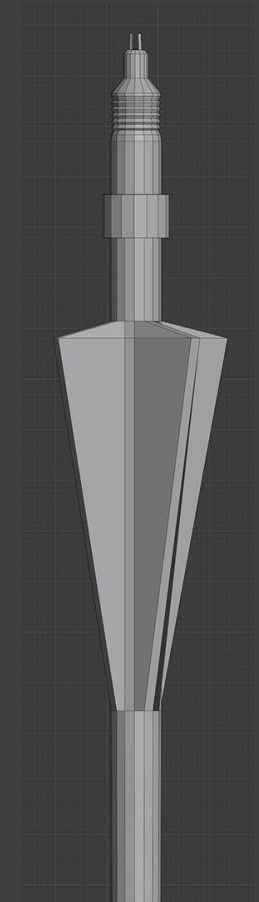
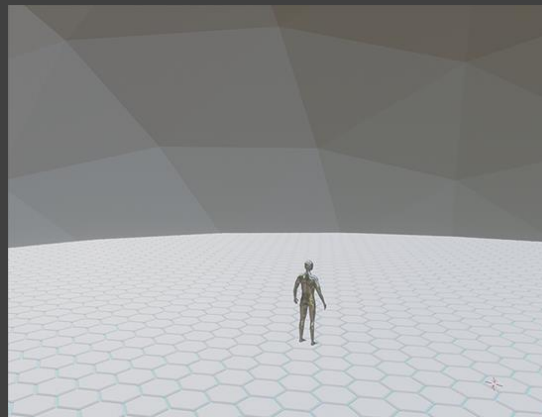
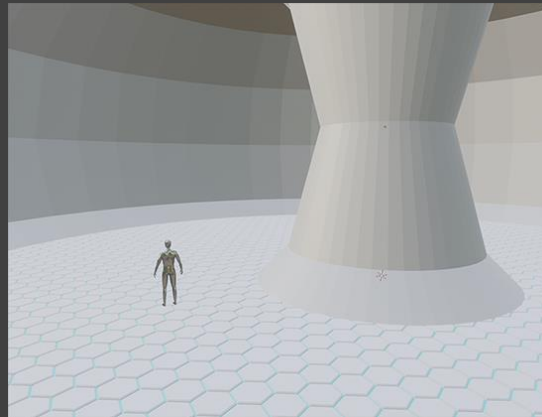


## MODELLING

With the product being an ultra-modern device it was appropriate for the surrounding environment to reflect this. My aim was to create a minimalist yet industrial atmosphere. The white hexagonal floor with turquoise light emitting through the gaps and the beam structure further enhanced the futuristic ambiance.

I have experimented with various shapes for the general form of the structure (T & B) until acquiring its final version.

Several object were also modelled such as the mannequin and other props. (R)



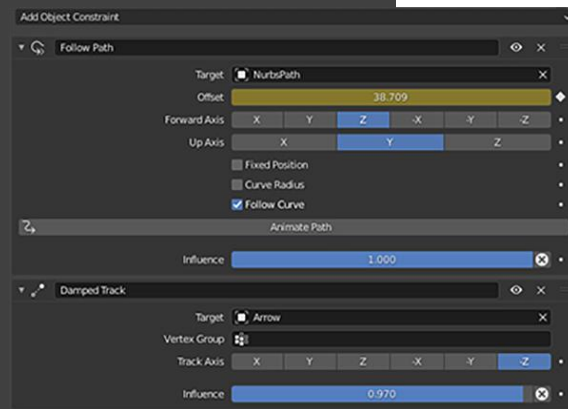
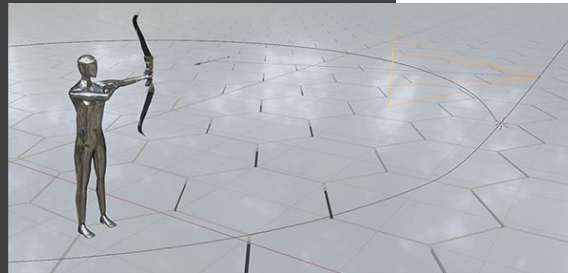
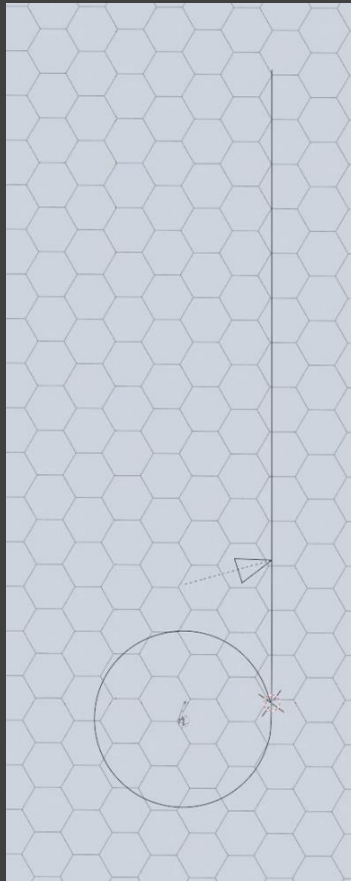


# MOBILE DEVICE PROJECT - AIMED



## ANIMATION

To ensure clarity, I produced a comprehensive storyboard that featured hand-drawn images depicting the scenes, camera position and angle, focus point, aperture numbers, and zoom information. By using techniques such as slow-motion and zooming in and out, the video was able to showcase the product effectively. (TR) The camera closely followed the path of the arrow. (BR) First being fired without activating the device highlighted the challenge of aiming accurately. (left) However, once the device was turned on, the arrow hit the bullseye with ease.



# INTERACTIVE PROJECT



## DURATION

8 weeks

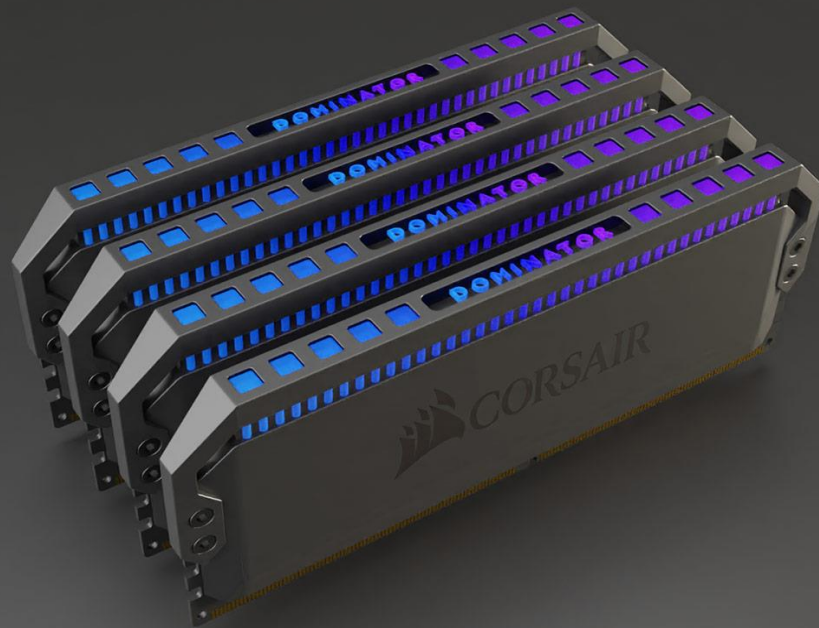
## CONCEPT

To produce a virtual exposition stand that aids technophobes and PC enthusiasts alike to gain hardware knowledge and serves as a guide when building a computer.

## MODELLING

A dual process pipeline was implemented (2 LODs) as each computer part required a separate version for 3D printing and for marketing purposes. .stl file format, basic grey colour, low-poly count and non-manifold geometry characterize the 3D printing models to prevent issues with slicing software (Top). Much higher level of detail and materials were used for the hero variants. (Bot) The final Eevee render shows the exact replicas of the Corsair Dominator Platinum Pro RGB ram sticks (Right).





## INTERACTIVE PROJECT

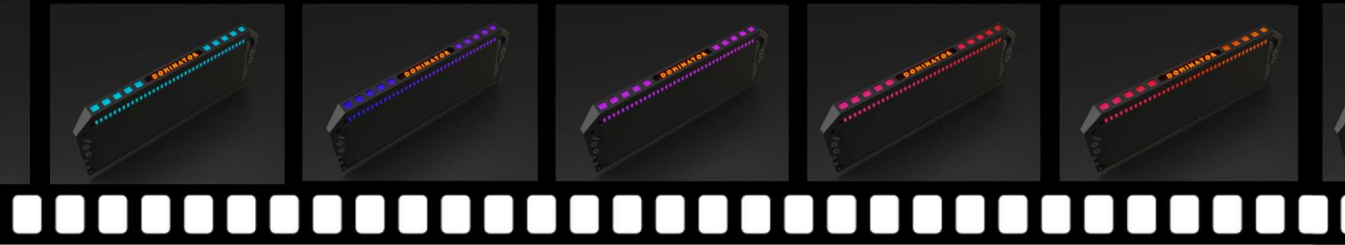


### TEXTURING

I replicated several materials such as alloy(Right), paper, brushed metal, plastic among others, using procedural generation or image textures.

### LIGHTING

The circulating lighting effect of the 95 individual led lights is controlled by a math node(Bot)



# INTERACTIVE PROJECT



## ITEMS

- AMD Radeon Pro GPU
- Instead of replicating a real life equivalent I designed a new PC tower case with our initial logo embossed into the side plate.
- Samsung 860 EVO 4TB 2.52" SSD drive



# GROUP CLIENT PROJECT – CSI SCENE



## DURATION

10 weeks

## CLIENT

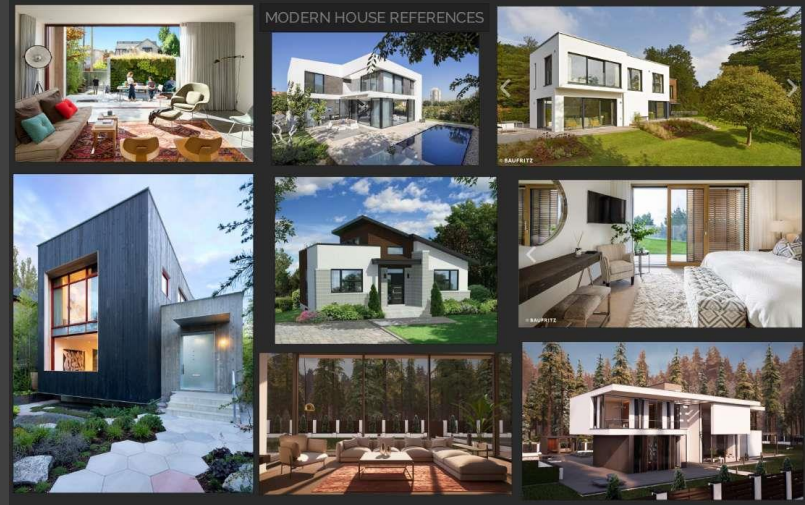
University of Winchester Forensic Department

## CONCEPT

To create the framework for a realistic high fidelity Virtual Reality experience that can be used as an educational tool for 3rd year students of the Crime Scene Investigation (CSI) module and also serve as an application to exhibit on university open days. The goal for the user will be to explore a crime scene and find/identify evidence.

## MOOD BOARDS

Collecting reference images to any creative work is one of the most fundamental phases of the design process. I tend to go through hundreds of images and videos to form a concept of the base design then narrow the number down keeping pictures on a display throughout modelling (Top).



1

Keep polygons as low as possible

2

Create detail with textures over polygons

3

Use LODs where necessary

4

Share as many textures as possible and objects where possible

5

Use baked reflection over real time reflection

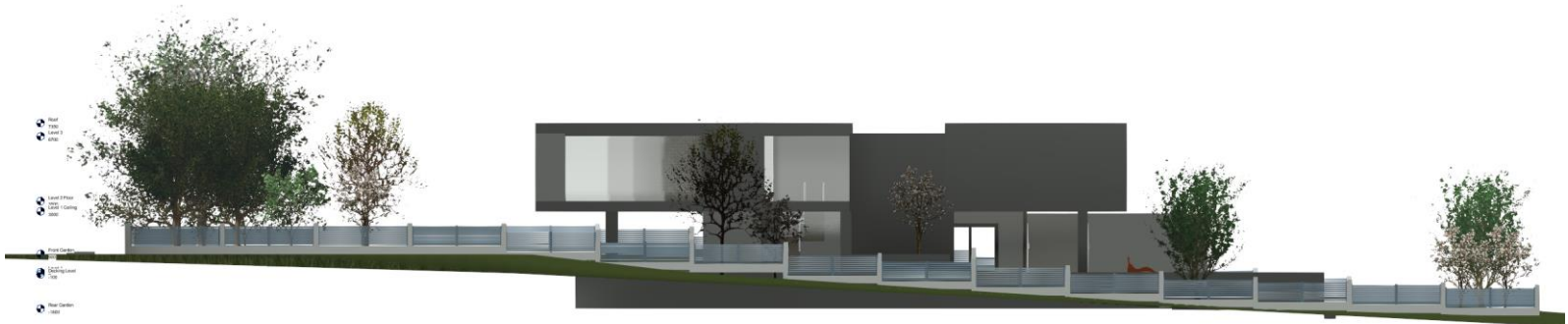
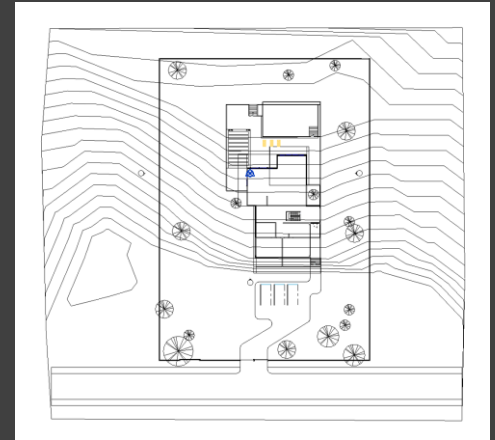


## GROUP CLIENT PROJECT – CSI SCENE



### AUTODESK REVIT

Specifically for this project I learned Revit. This Architectural software proved to be easy to use and great for the purpose of modelling buildings. The location of the crime is a modern house I designed based on the reference photos. Features within the software made it possible to create a site plan (Right) and elevation views (Bot) that were very much appreciated by the client.





## JANE WILLIAMS

Age: 35  
Profession: Marketing Strategist  
Marital status: Married  
Address: That epic house you saw earlier :)  
Hobbies: Swimming, Reading classical Greek literature  
Blood Type: A Rh+  
Cause of death: Multiple stab wounds  
Time of death: ~ 10:20pm



## AARON LEE

Age: 39  
Profession: Assistant Art Director  
Marital status: Married  
Address: That epic house you saw earlier :)  
Hobbies: Mountaineering, Drone Videography  
Blood Type: O  
Cause of death: Head trauma from blunt object  
Time of death: ~ 2am



## GROUP CLIENT PROJECT – CSI SCENE



### METAHUMAN STORIES

An interesting proposition often mentioned by leading 3D creatives suggests if one pairs an imaginary story to his/her creation it encourages a better connection between artist and concept (the scene, an asset or alike) therefore boosting efficiency and enthusiasm. I applied this idea to the character creation making detailed personas for the metahumans serving as victim. (Top & Bot Left)

### METAHUMAN STORIES

One of the project requirements was to achieve near life like visual quality. I hoped to achieve this by creating assets within the Metahuman Creator importing them through Quixel Bridge into Unreal Engine eventually (Bot Right).



# GROUP CLIENT PROJECT 1 - TEM

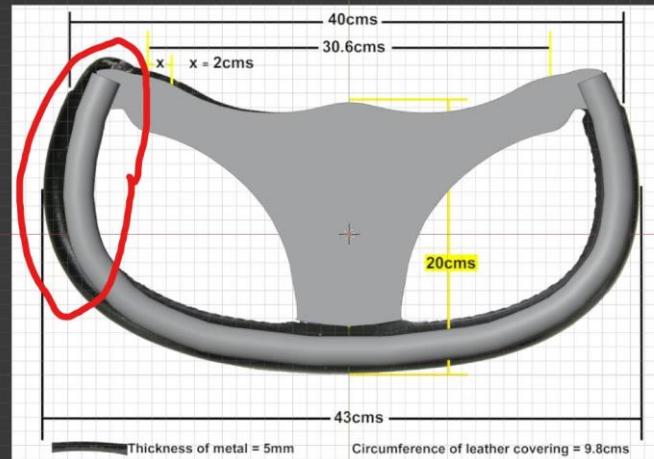
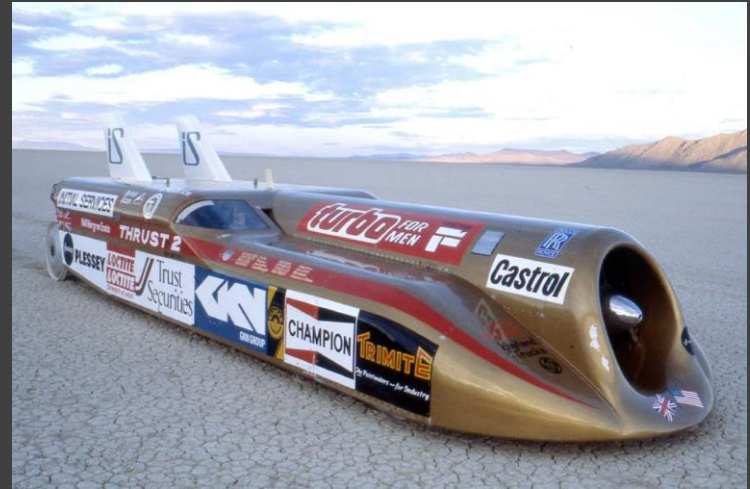


**DURATION**  
10 weeks

**CLIENT**  
The Earth Museum

**CONCEPT**  
Building The Earth Museum real life replicas of the Thrust 2 land speed record car (Top) and its steering wheel.

**RESEARCH**  
I had to pay particular attention before and during modelling to the lack of available photographs and lens distortion (Bot). Due to the angle and the distance between the object and the lens some image distortion occurred. To counter this I modelled only the left side of the centre of the wheel and applied a mirror modifier. This also helped in reducing the number of vertices. Final render (Far Right).



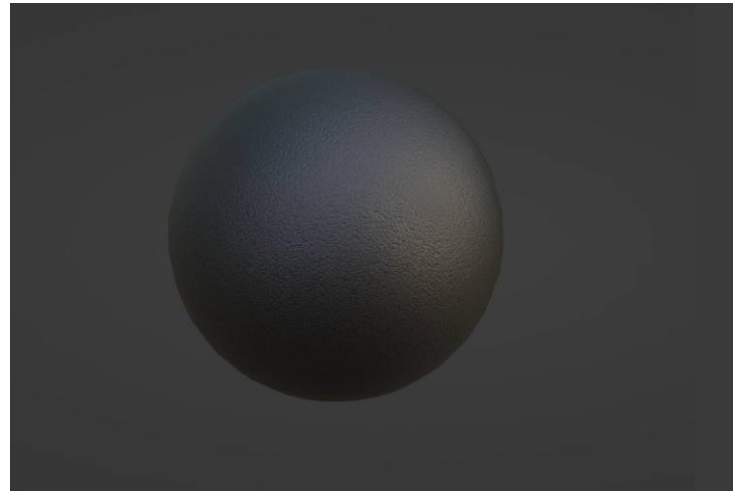


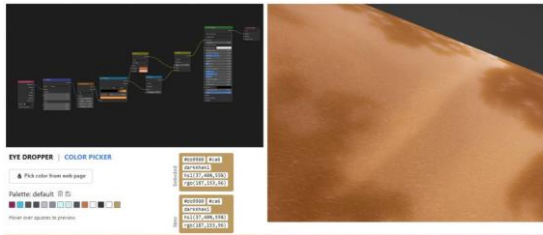
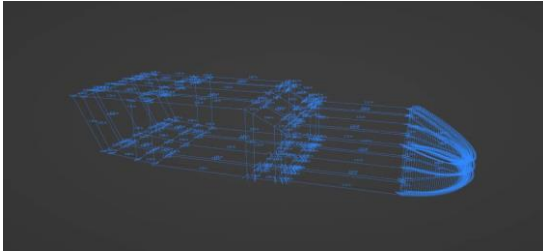
## GROUP CLIENT PROJECT 1 - TEM



### HYPER REALISM

To accurately duplicate realistic elements I experimented with a number of procedural materials such as steel and leather (Top). By browsing through countless images of renders by renowned artist I perceived some important steps that can make or break the illusion of 3d realism. Attention to detail is key here. Braking patterns and symmetry just a start. Variety and added detail is also invaluable. I unstraightened the curves what the stitching follows by moving vertices. The individual stitches also made up of 5 variants contributing to unorderly pattern. I added some scaled down, grouped, twisted and bent cylinders representing sticking out thread ends. (Bot)





# GROUP CLIENT PROJECT

## 1 - TEM



### MODELLING

Although efforts were made to stay true to the original car as much as possible in many instances I could only rely on partial images or none at all for references therefore I improvised. (Bot L) I also employed an add-on called Measureit to precisely measure dimensions. (Top L)

### MODELLING

I wanted to replicate the exact colour of Thrust 2 as on the reference images can be observed. Unfortunately due to image quality and varied lighting conditions they were taken neither two are the same. Regardless I utilised a web-based app to sample the tone and recreated it with added scratches within Blender's node network (Bot L & Central).

# GAME PROTOTYPE – CASE CLOSED



## DURATION

12 weeks

## PRODUCT NAME

Case Closed

## CONCEPT

The base concept supplied contained the following requirements:

- First Person Psychological Thriller
- Normal human being with no special abilities
- Followed by a narrator who looks like a normal office worker
- The environment is surreal just slight off with the classic office colours and hum of flickering halogen lights.
- No focus on being chased around by a monster
- The in-game location must be within the borders of the UK.

The protagonist Private investigator I created with Metahuman Creator (Right). Modelling phase of the office interior (Far Right).





# GAME PROTOTYPE – CASE CLOSED

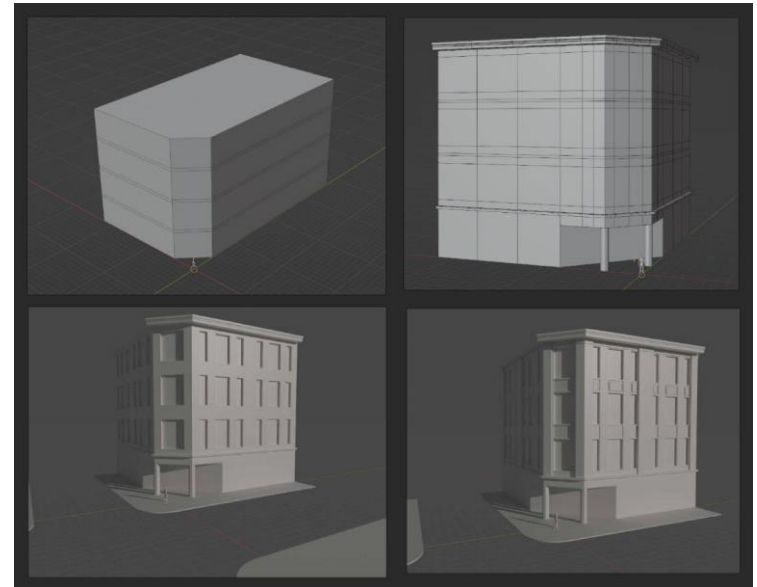


## MODELLING

I initiated by extensive research and reference gathering followed by focusing on the following areas from 1990s:

- Tall stone buildings, exteriors - central London Georgian and Victorian style architecture
- Office interiors - concentrating on detective /police offices
- Street props - trees, cast iron lamp posts, street signs, CCTV cameras
- Office props - furniture, stationary, electric and surveillance equipment
- Crime scene evidence examples - footprints, bloodstains, weapons

The image shows the exterior development from blockout to near completion narrowing the aim to ever so smaller details.





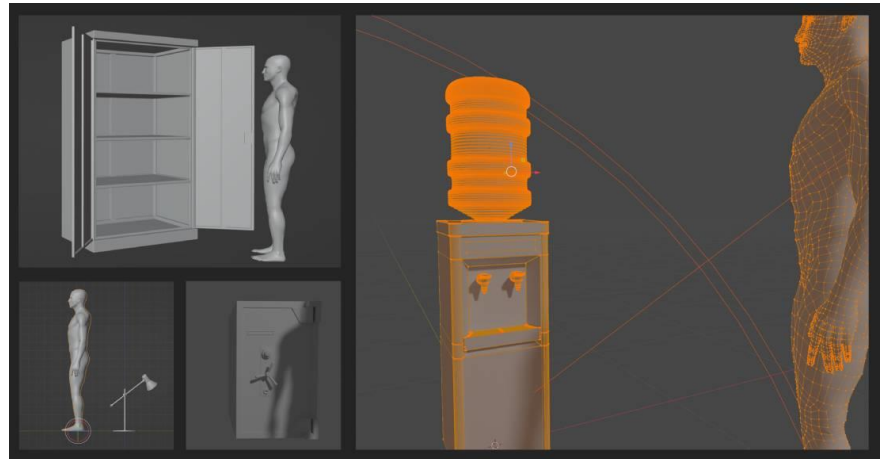
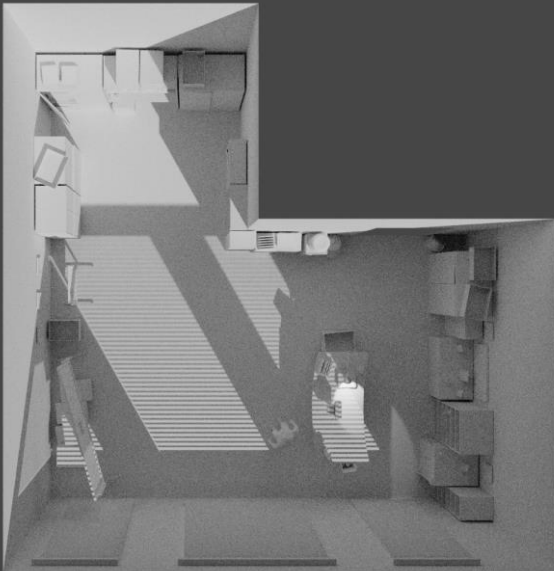


## GAME PROTOTYPE – CASE CLOSED



### PROP MODELLING

I made hundreds of props varying from water coolers to desktop computers and coffee cups (Bot Right). The near finished exterior (Top Left) and top view of the interior (Bot Left)



## OTHER WORKS – FUTURISTIC CITY



OTHER WORKS – LIGHTING ICE CUBE

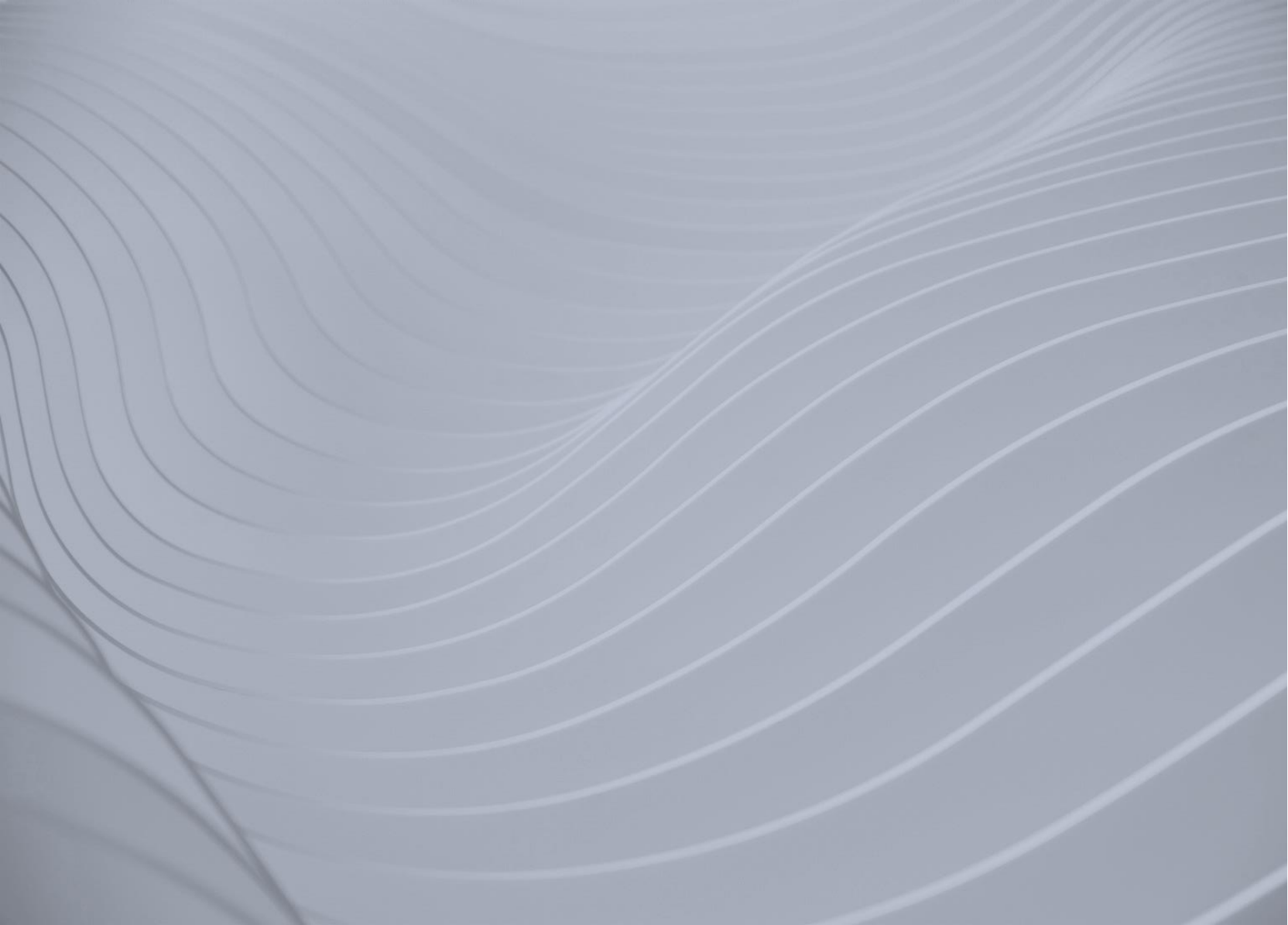


## OTHER WORKS – EARTH



## OTHER WORKS – NEON CITY





**THANK YOU FOR YOUR ATTENTION**



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