Coursework Presentation

3D Modelling and Digital Sculpting
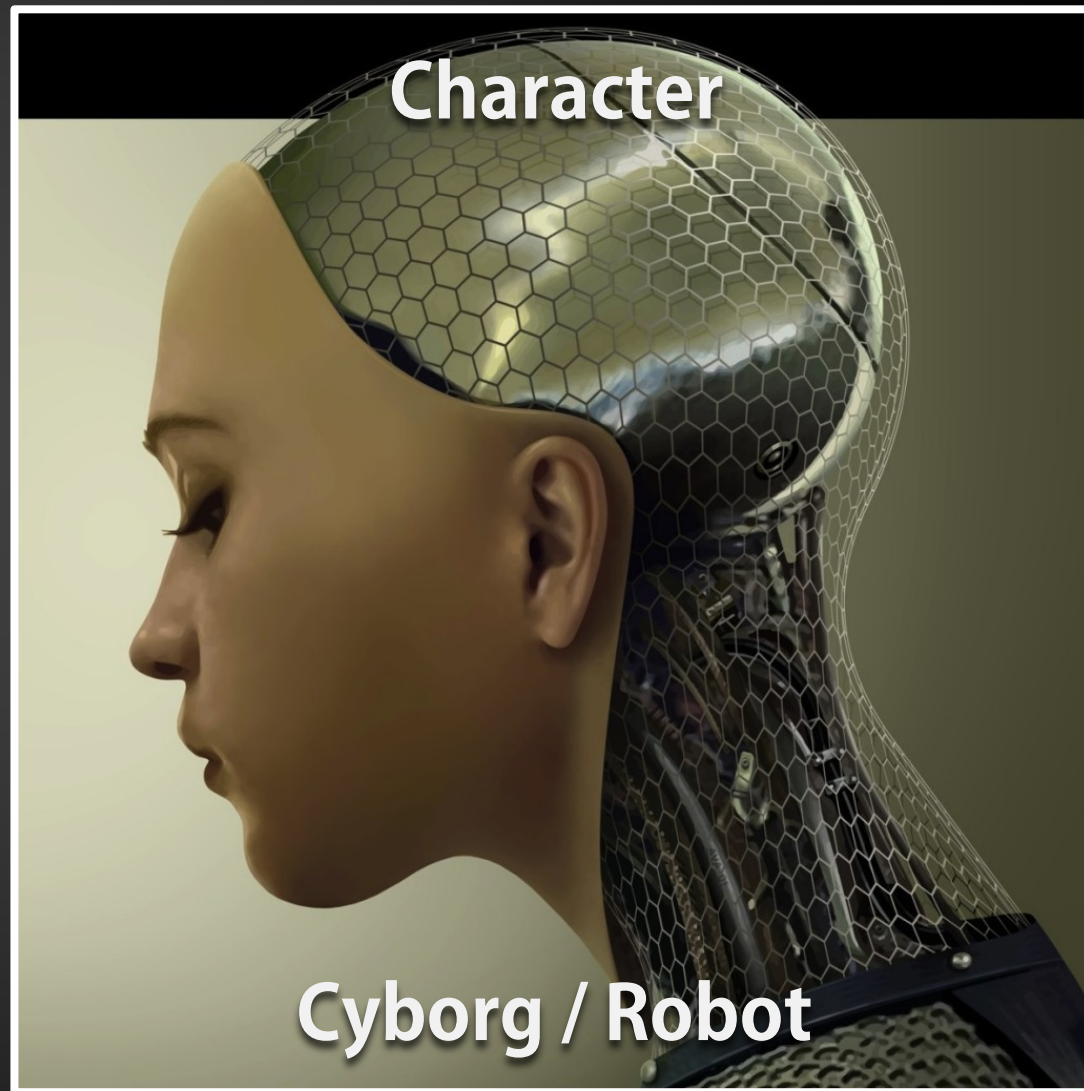## Lyall Campbell

OVERVIEW
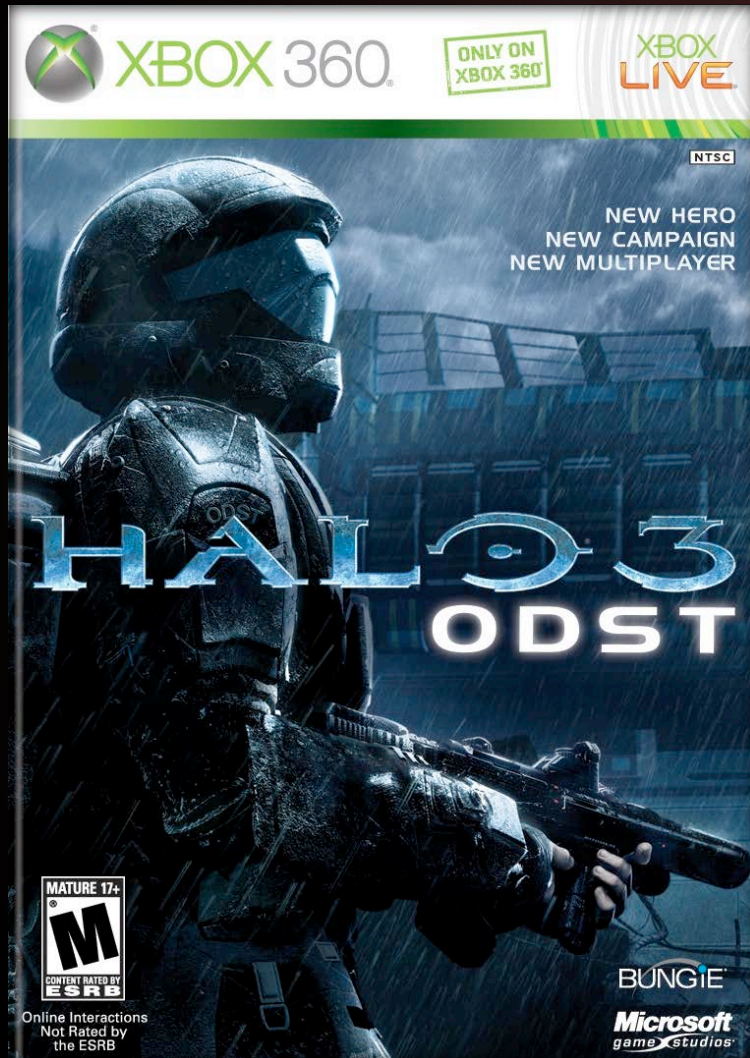
Environment

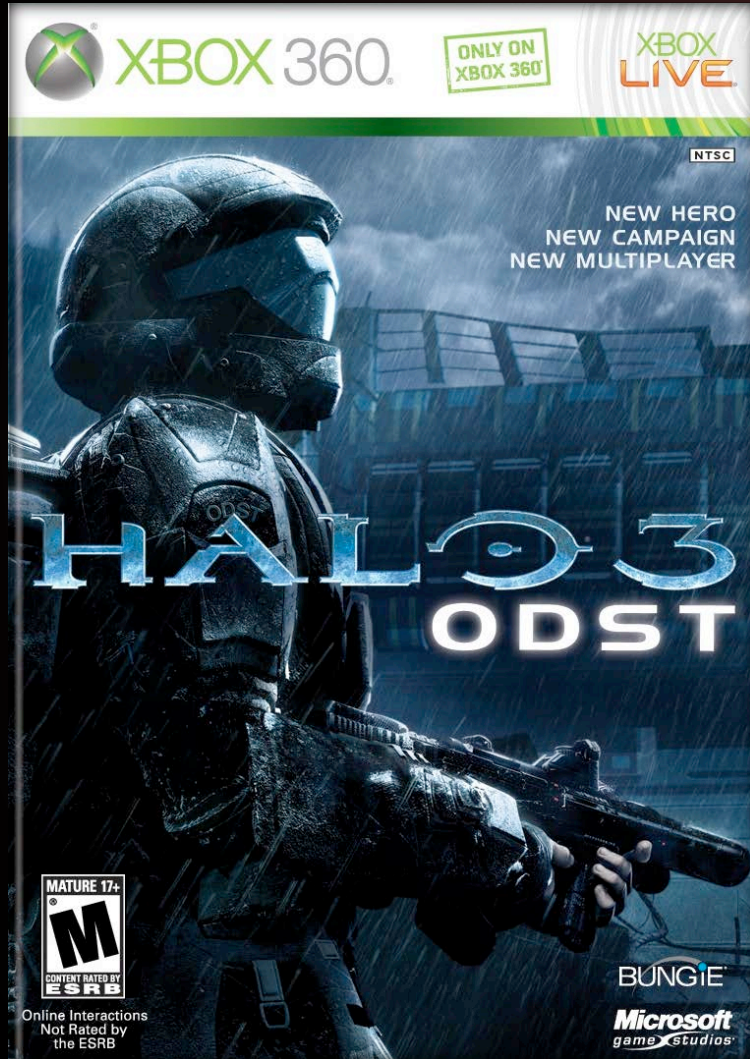**Futuristic / Sci-Fi City**

Character

Cyborg / Robot

CHOOSING THE ENVIRONMENT

CHOOSING THE ENVIRONMENT

I wanted to focus on the architectural style of cities in Halo

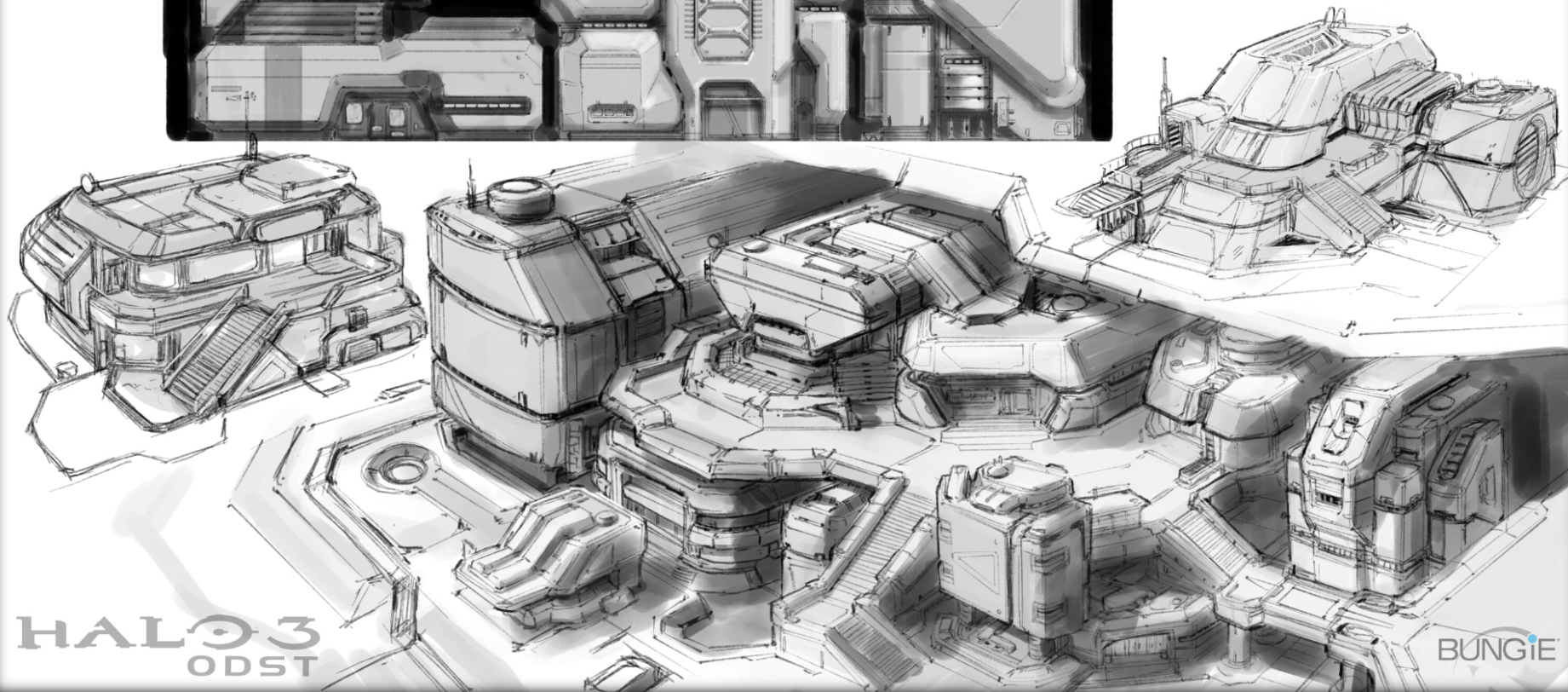Primarily Halo 3: ODST with additional referencing to Halo: Reach
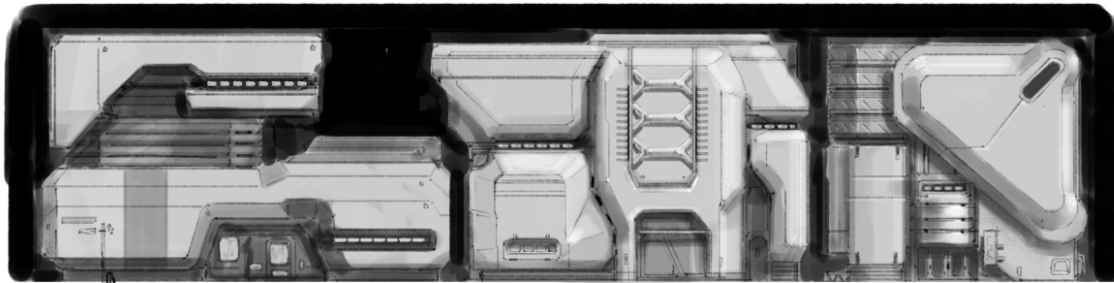
HALO 3: ODST

NO ACCESS

Since this is the main source, a lot of in-game images were gathered at the start

The game's concept art is useful too!

Geometric form and layout
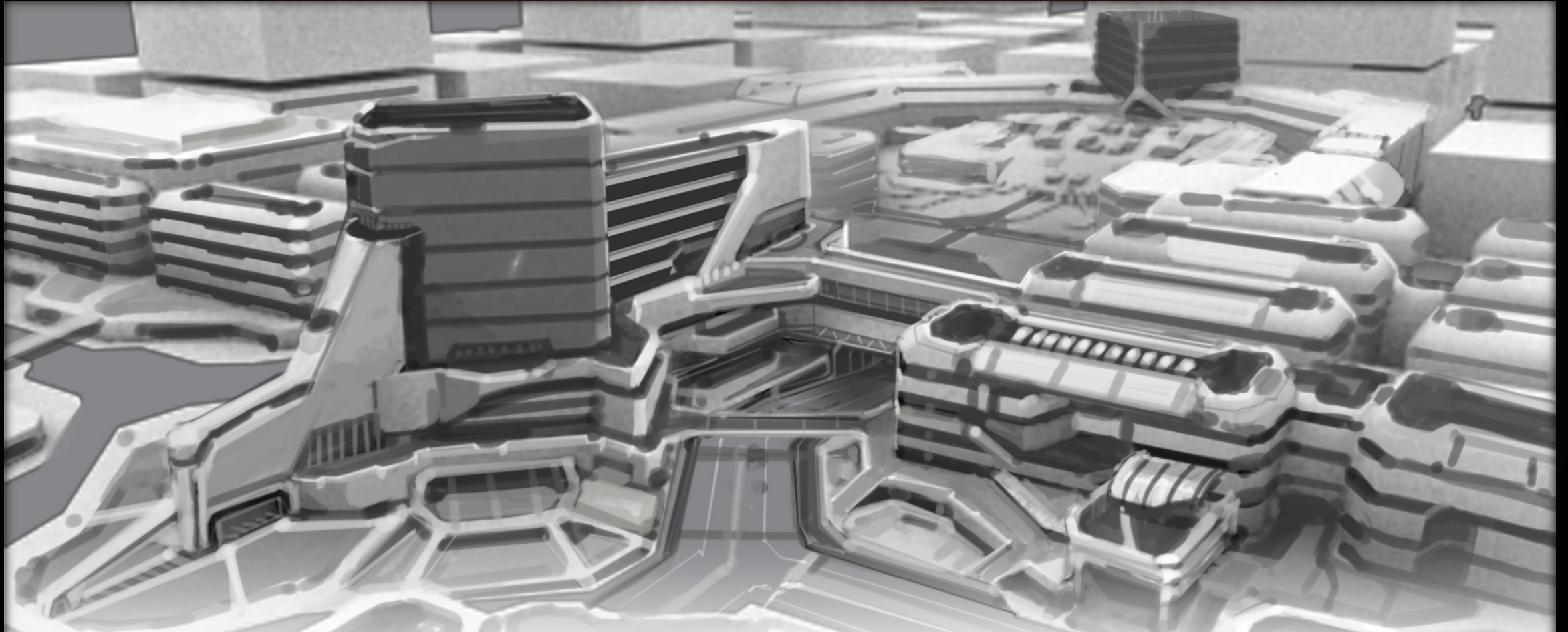
Clean bevelled and rounded surfaces

HALO 3: ODST

Futuristic, but relatively modern

Dark and gloomy atmosphere

NO ACCESS

HALO 3: ODST

A feeling of claustrophobia

Contrast with lighting, organic life and colour

HALO 3: ODST

Sense of scale with buildings in the distance

HALO: REACH

- Similar rounded architecture

- Geometric, angled surfaces

- White, grey and blue used

- Sparse use of greenery

- Visible transportation

Similar to Halo 3: ODST

Similar skyline but white and cleaner
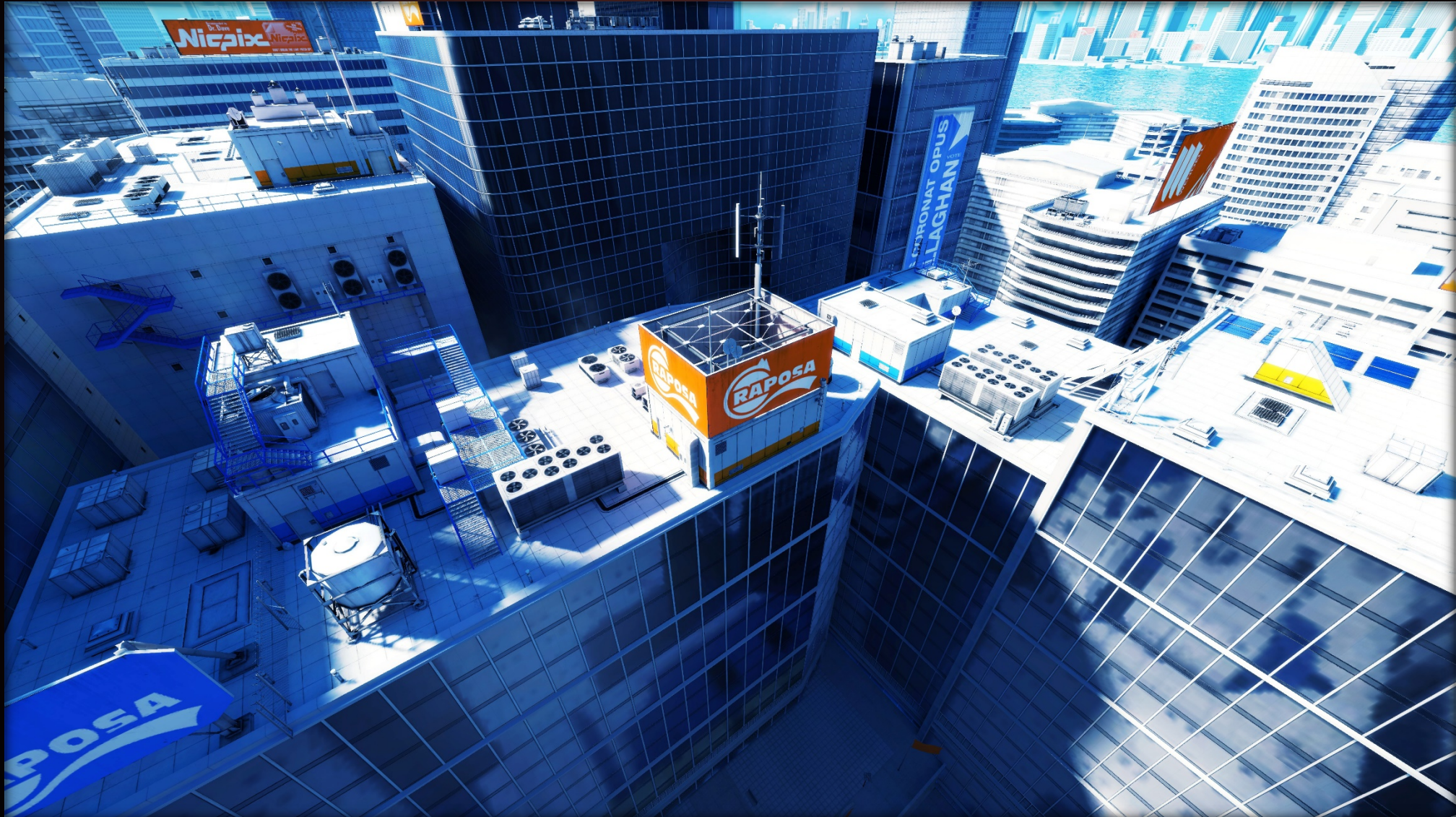
NEW ALEXANDRIA
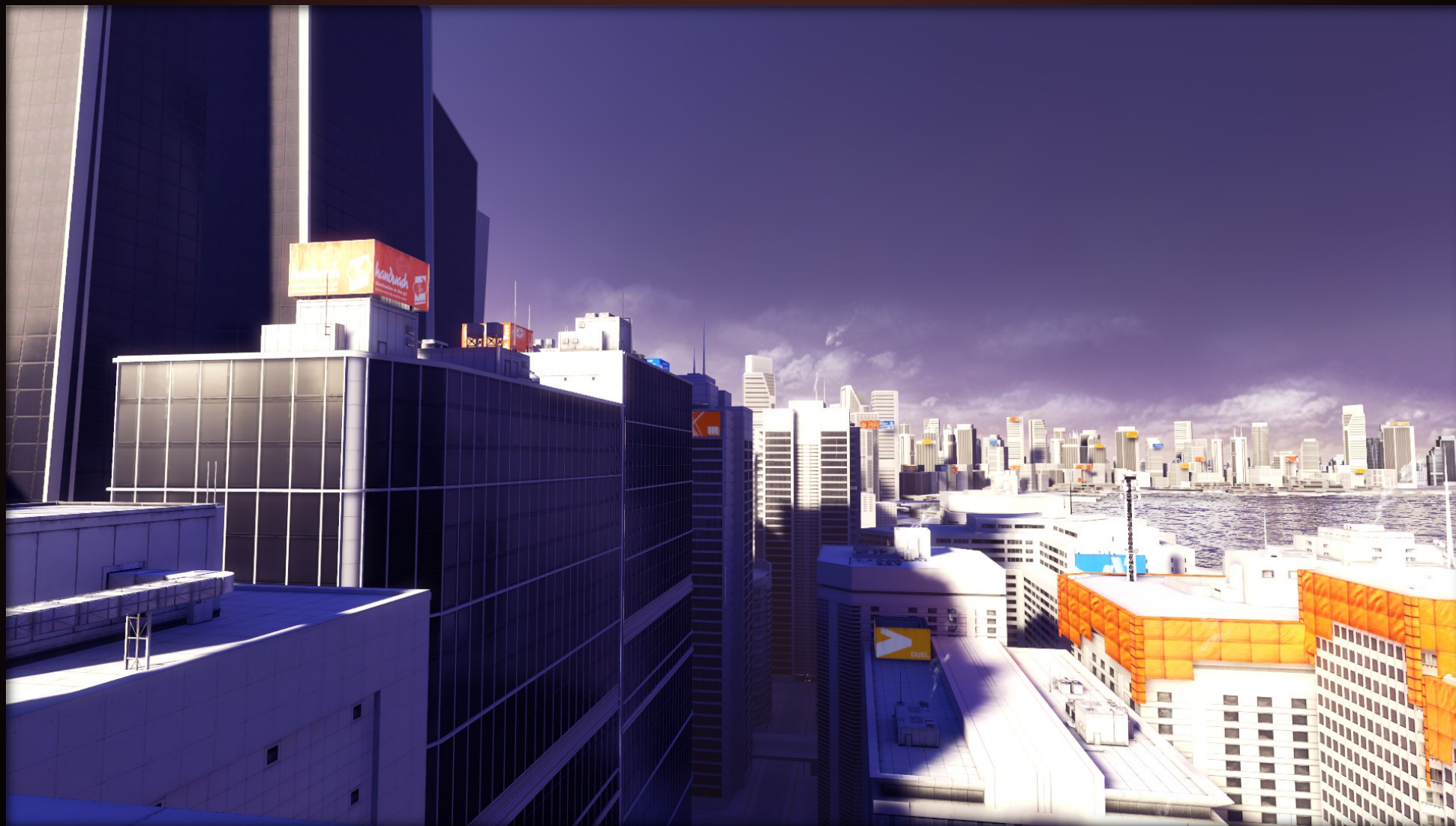
MIRROR'S EDGE

MIRROR'S EDGE

CONCEPTUALISING
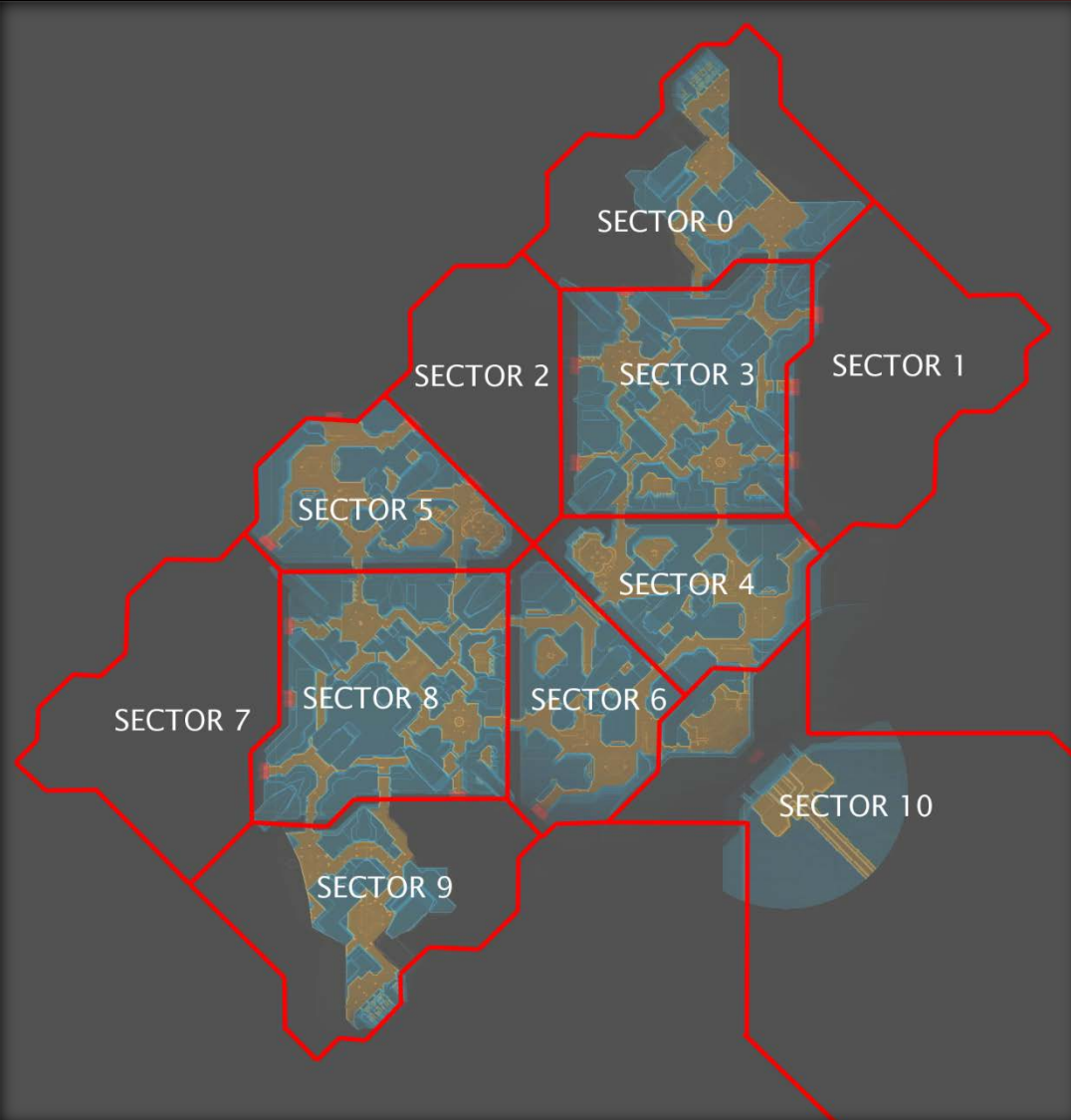
The city is divided into small sectors which contain a reasonable amount of buildings.

The first step was to try create a top-down plan of the intended area.

CONCEPTUALISING
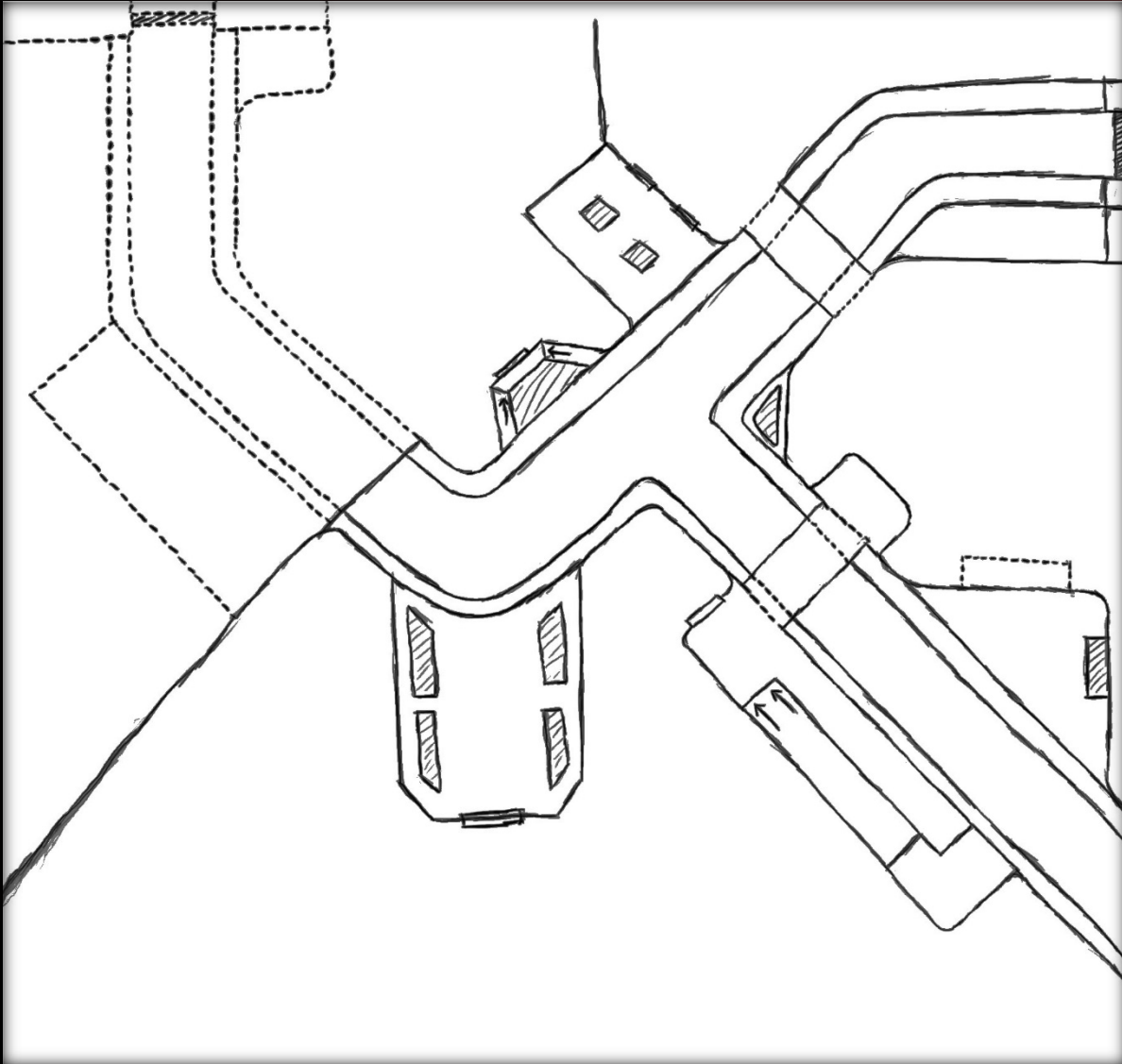
Top-down plan:

- Layout of buildings

- Shape of buildings

- Building connections

- Space for city objects and features

- Lifted sections of the game

Intention: get a general feel for the city layout and scale.

CONCEPTUALISING

CONCEPTUALISING
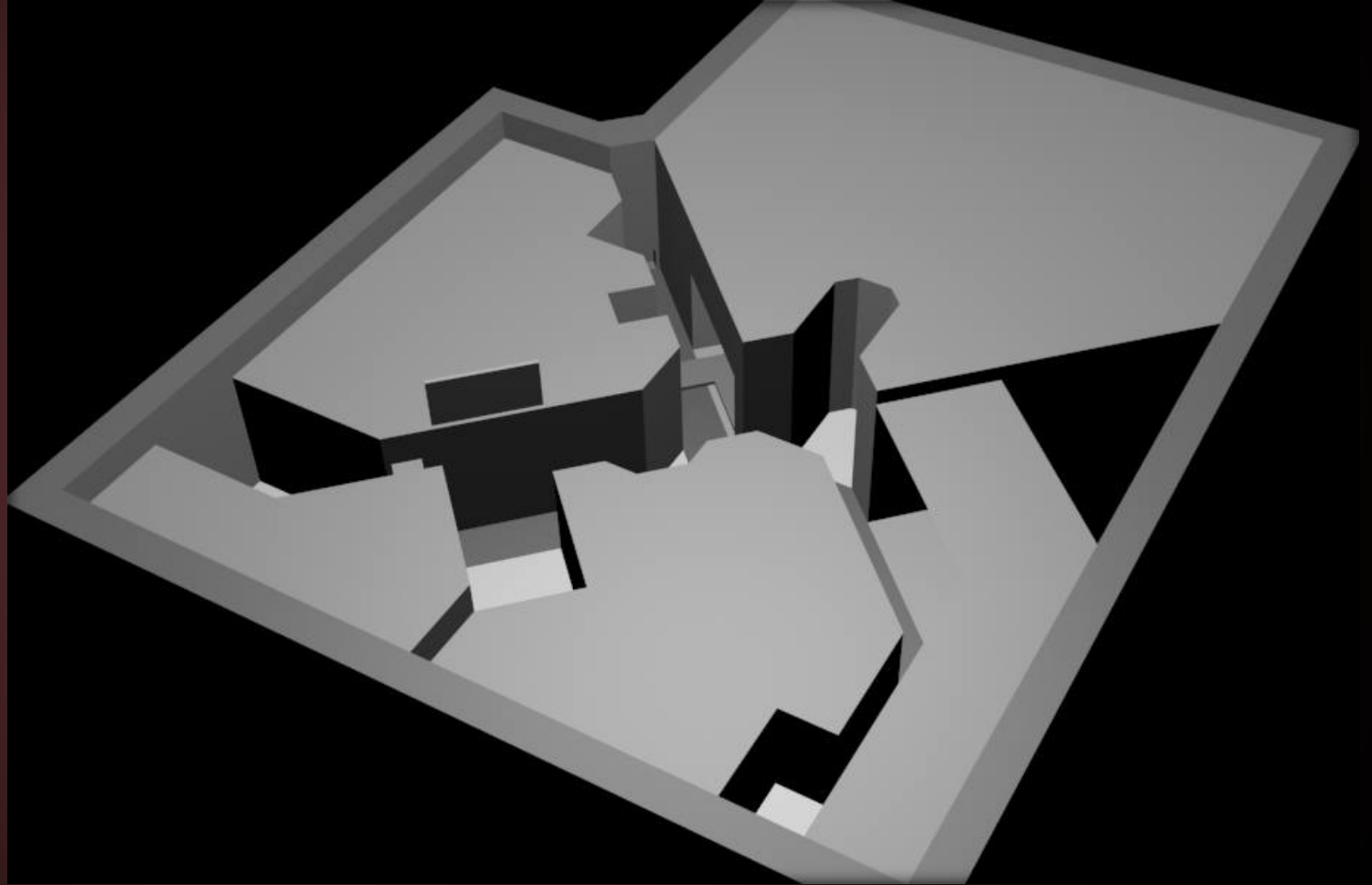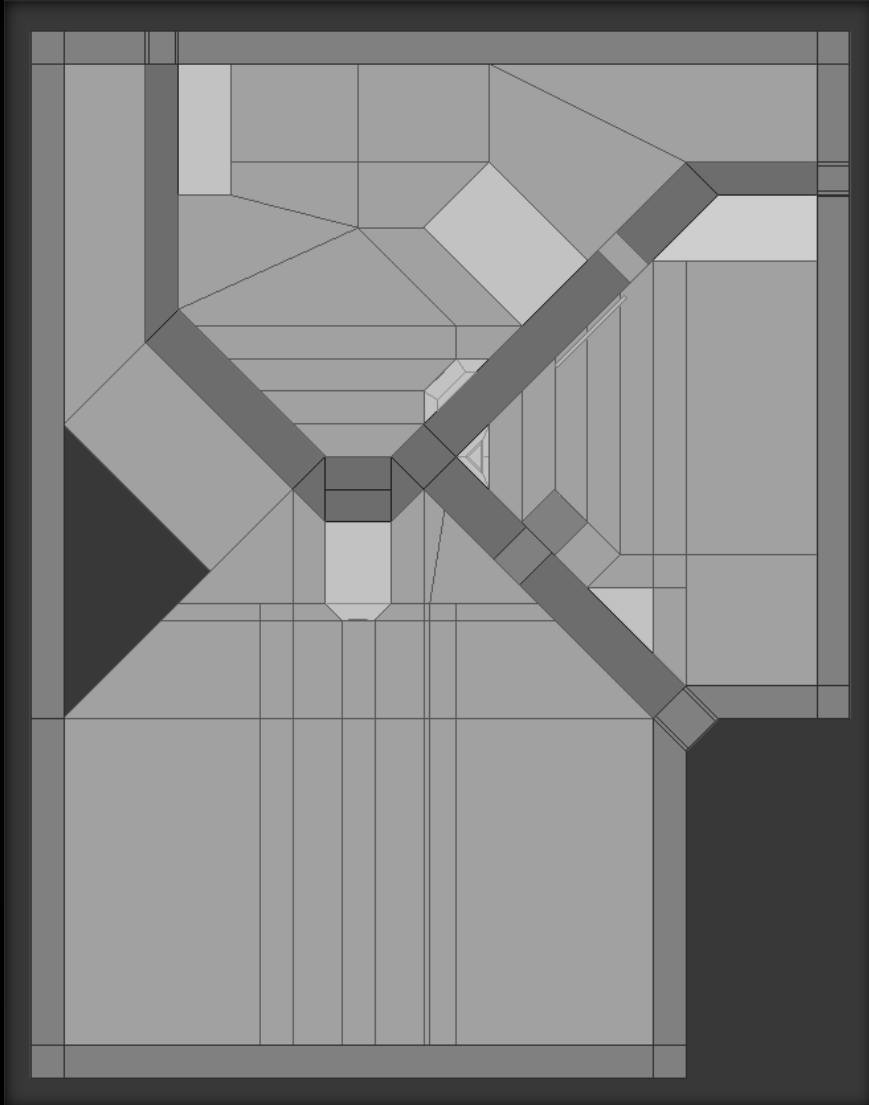
Primitive blockout of the city was useful

APPROACH AND METHOD

- **Modular approach to buildings as far as it can go**
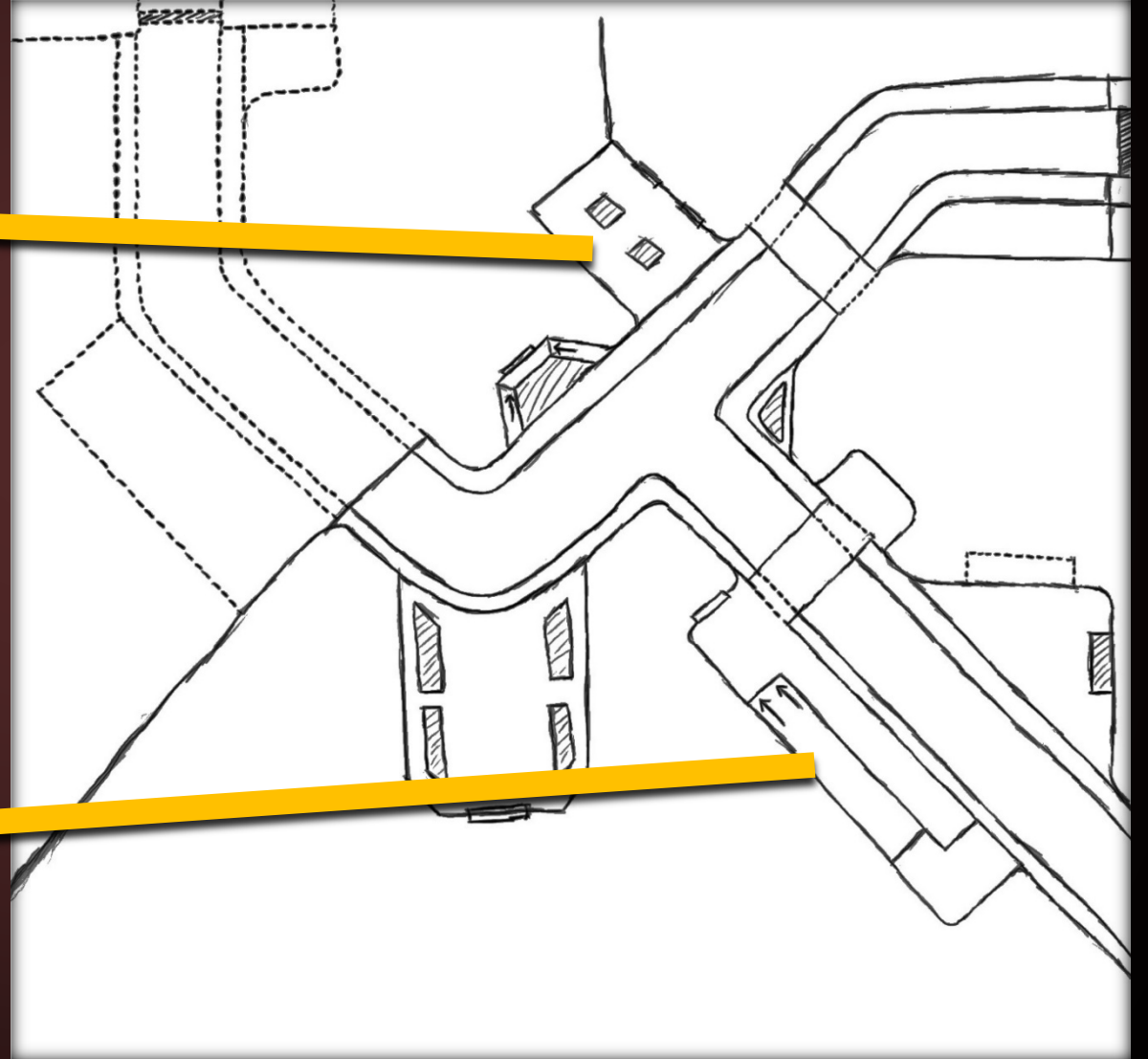
- Can save time instead of doing buildings manually

- Iterative: can experiment and adjust with ease

- Requires <u>A LOT</u> of precise planning

- Could conform buildings to a texture atlas

- City environments tend to re-use assets frequently

There is a set of tutorials on Digital-Tutors that covers this approach and workflow!

APPROACH AND METHOD

Specific objects will have to be created separately for the city

- **Benches**
- **Terminals**
- **Signs**

- **Lamp Posts**
- **Billboards**
- **Bins**

- **Planters**
- **Roadblocks**
- **Lights**
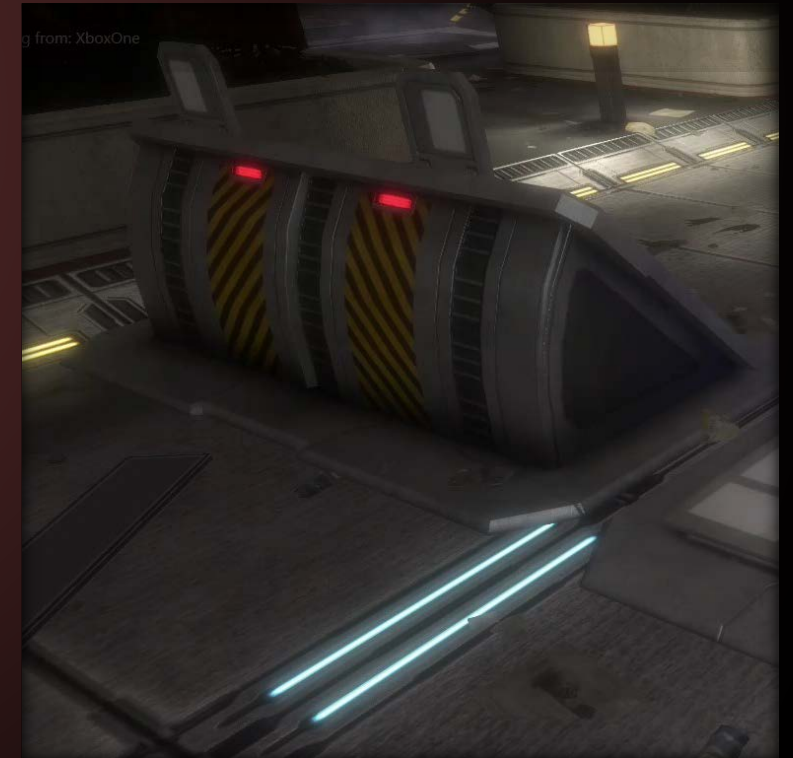
- **Special care will need to be taken for the roads due to their curved form**

- **Can be created in a modular form as pieces**
- **Splines could also be used to manipulate the path**
  - **Path Deform modifier is useful too!**

TARGETS

- **Assemble and render in realtime using Unreal Engine 4**

- **Can remain realistic and nice if utilised properly**

- **Modern PBR workflow**

- **Good practise with game engine pipeline**

- **Post-processing, particles and other effects**

- **First-person exploration**

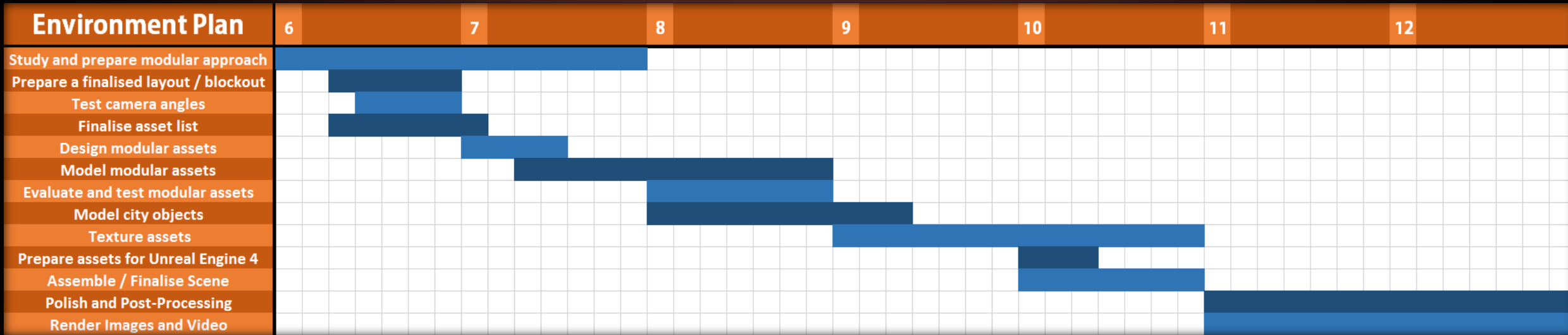- **Decal and spline tools**

- **Simple animation for video**

UNREAL ENGINE

TARGETS

Gannt Chart

Environment Plan	6		7		8		9		10		11		12
Study and prepare modular approach													
Prepare a finalised layout / blockout													
Test camera angles													
Finalise asset list													
Design modular assets													
Model modular assets													
Evaluate and test modular assets													
Model city objects													
Texture assets													
Prepare assets for Unreal Engine 4													
Assemble / Finalise Scene													
Polish and Post-Processing													
Render Images and Video													

- **If the modular approach is unsuccessful, then all allocated time can be dedicated to the buildings individually**

- **The time for polish, post-processing and rendering is combined as polish is dependant on the time left**
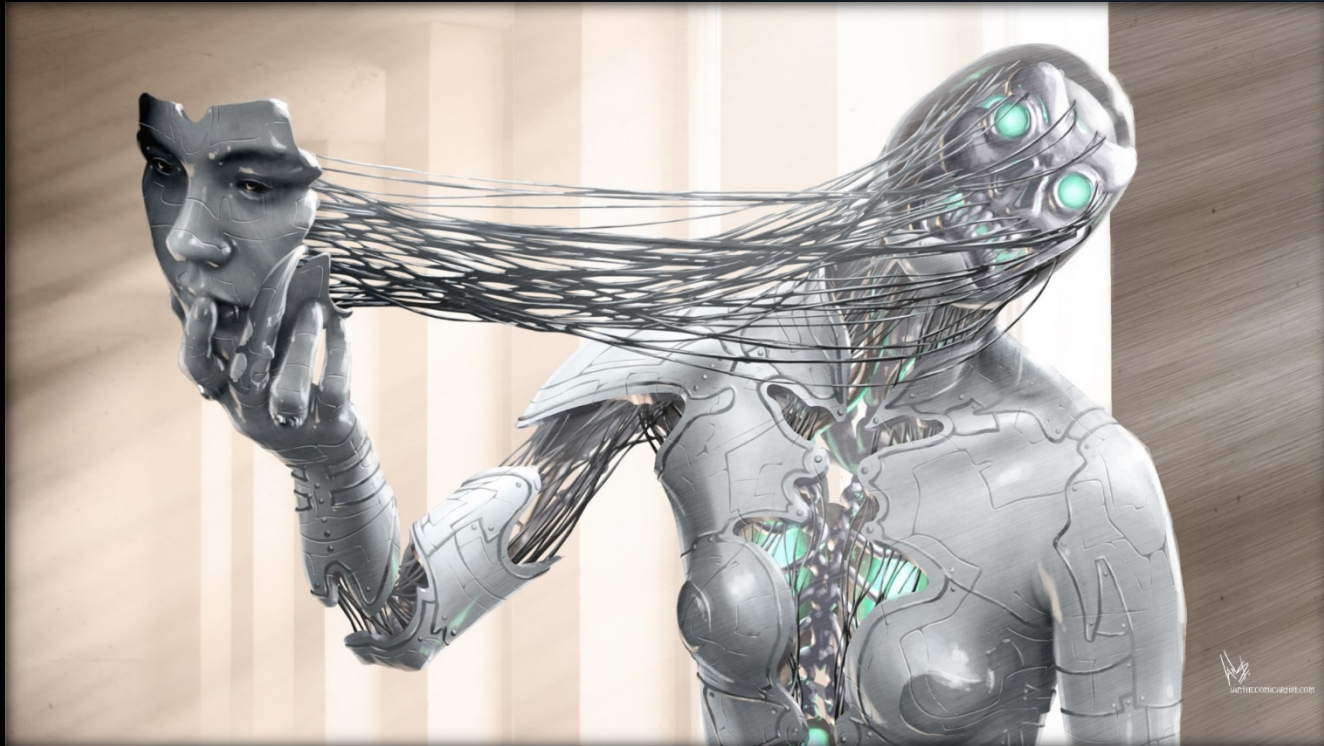
MONSTER ➡ ZOMBIE ➡ ROBOT

Unique	**Monster**	**Human-like**
Open	**Human**	**Creative**
Creative	**Horror**	**Horror?**
Horror	**(...done to death)**	**Zombie?**

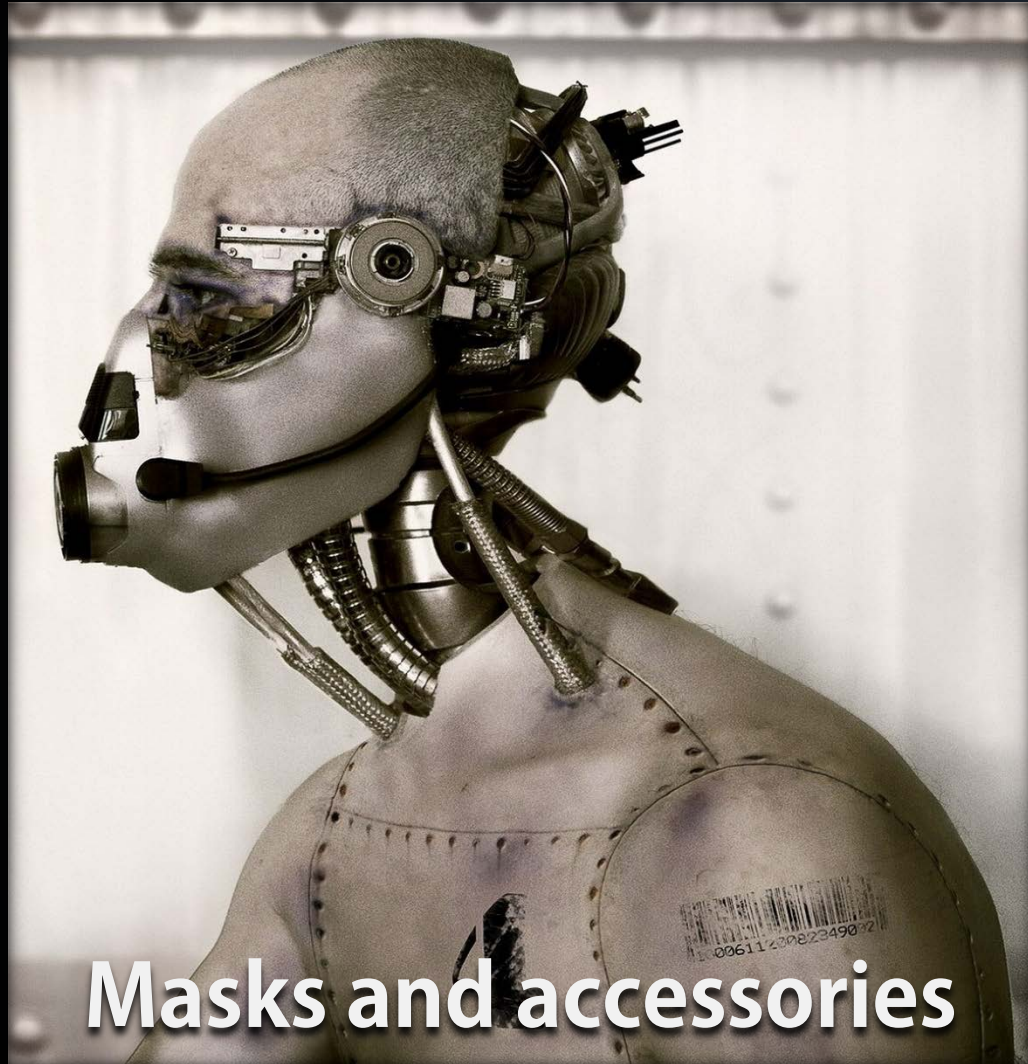# SOURCES & INSPIRATION

Mixing solid with damaged

SOURCES & INSPIRATION

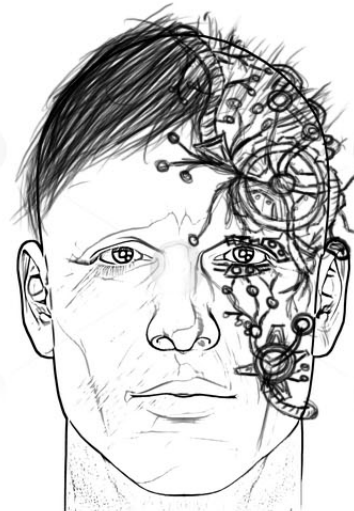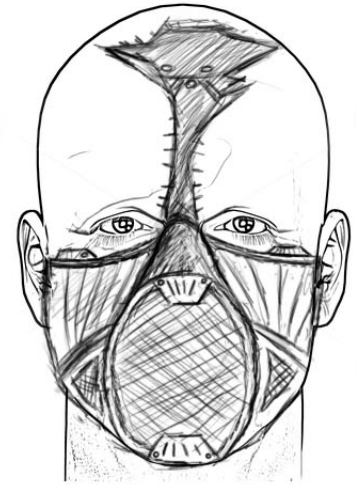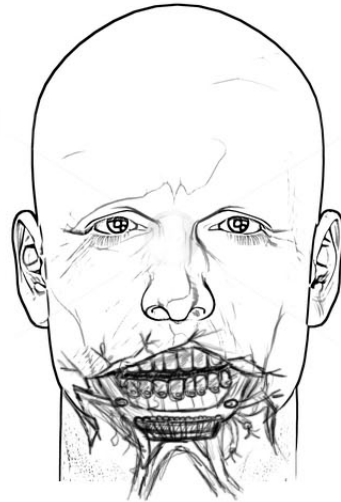**Masks and accessories**

Exposed mechanics
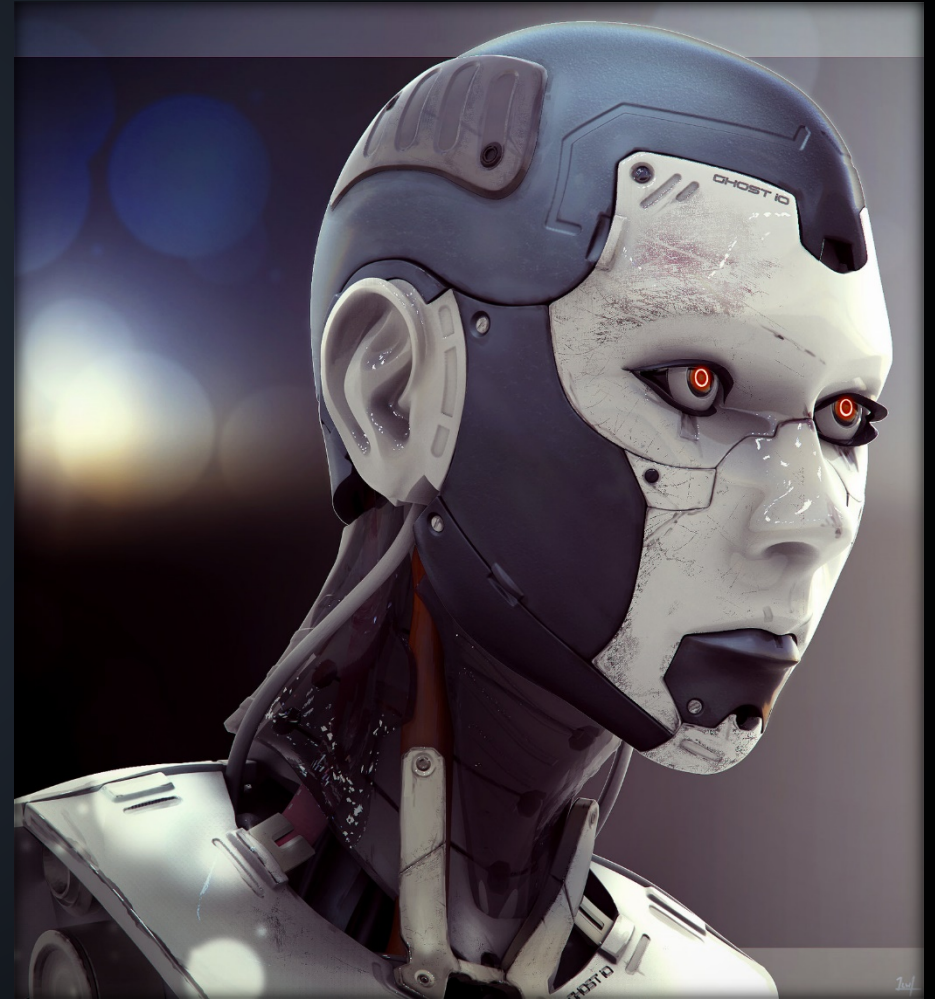
SOURCES & INSPIRATION

Switch organic with mechanical

CONCEPTUALISATION

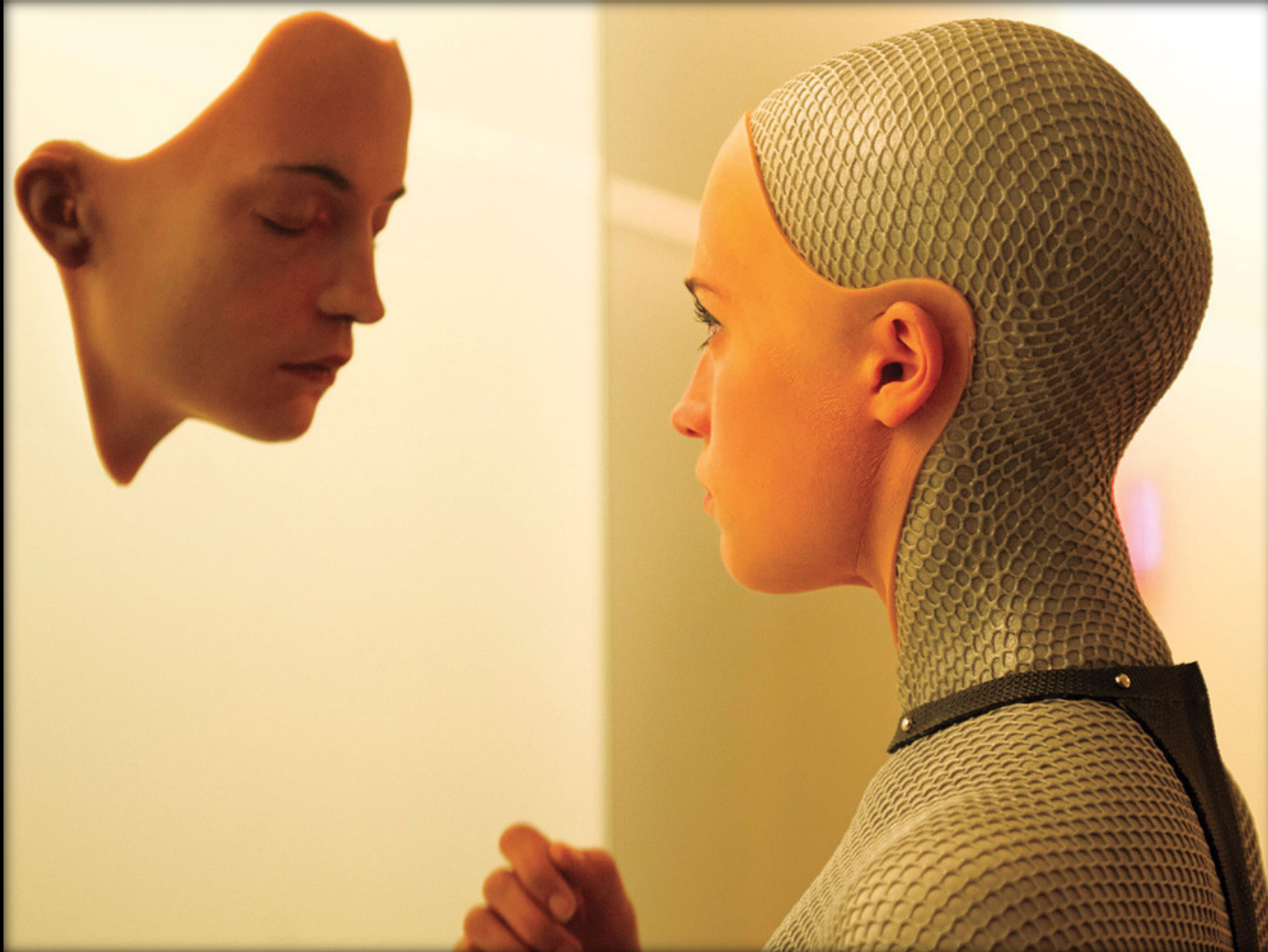**Tried mixing up a destroyed look with a robotic / mechanical style.**

THE ROBOT PROBLEM

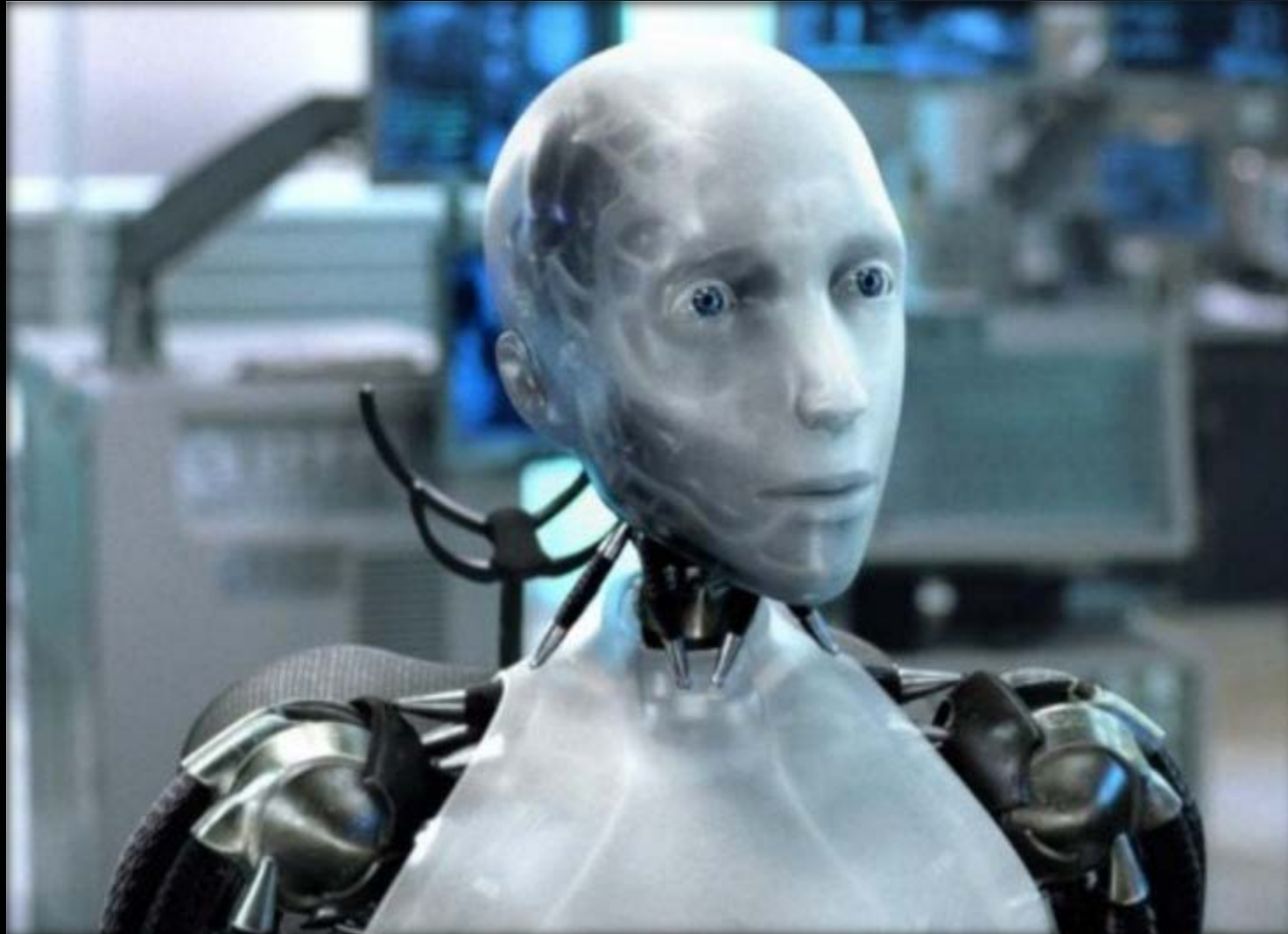There was a problem with having a solid face for the robot

THE ROBOT PROBLEM

Ex Machina

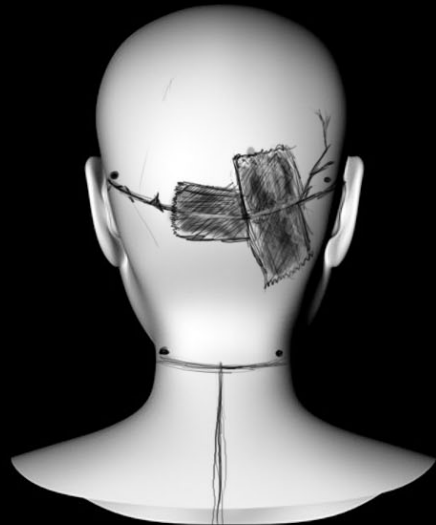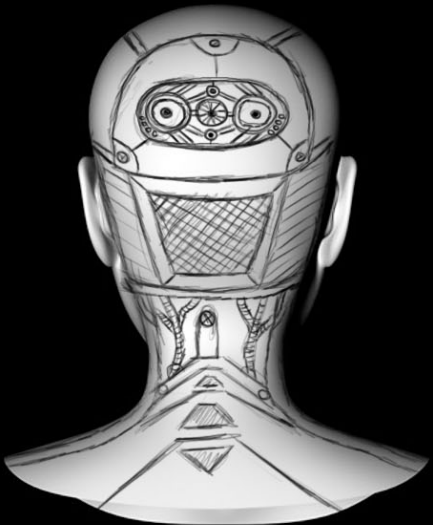**The face is a flesh-like mask and functions like a normal human face**

Following the same ideas and separating the face and the head for sketches
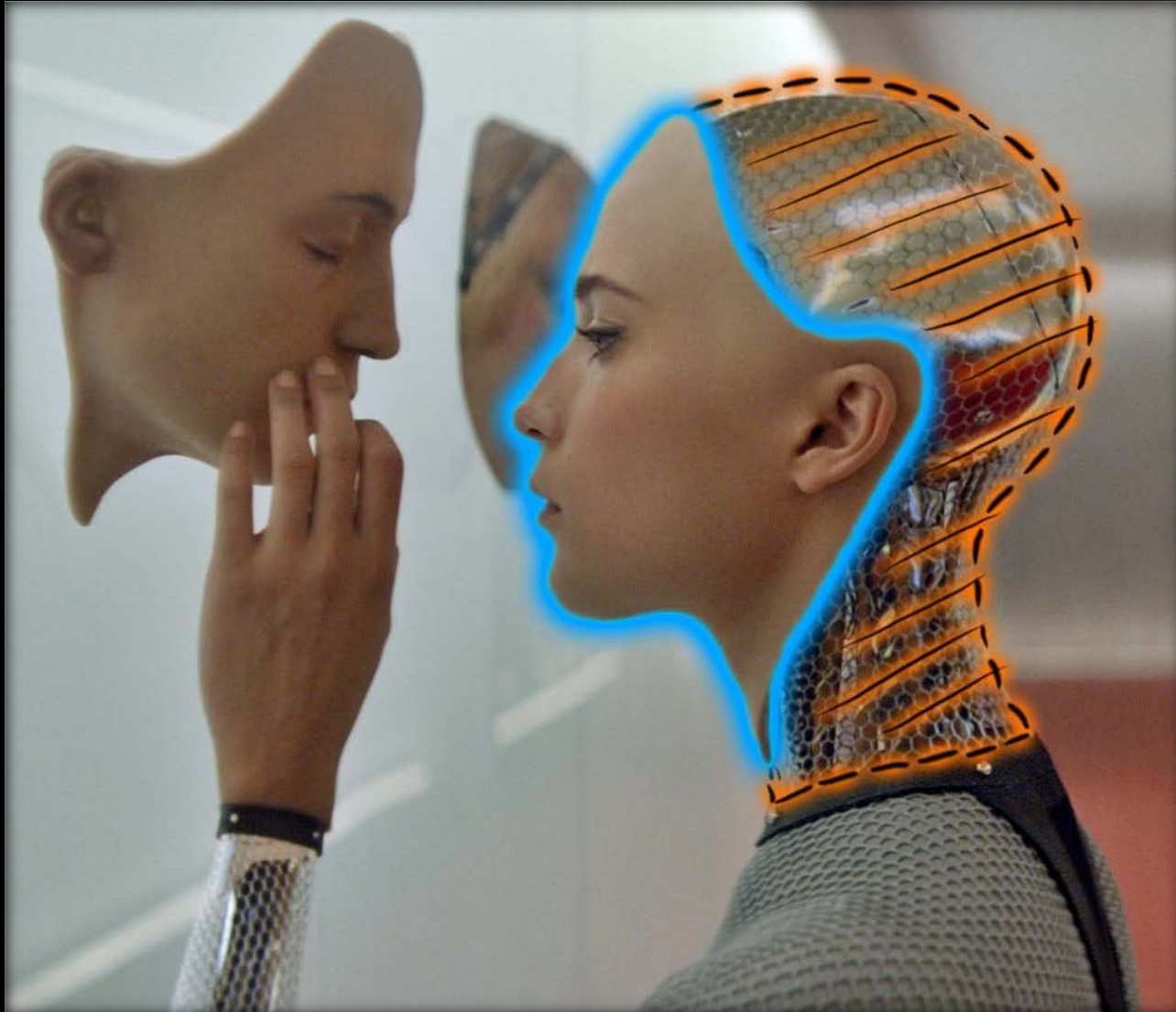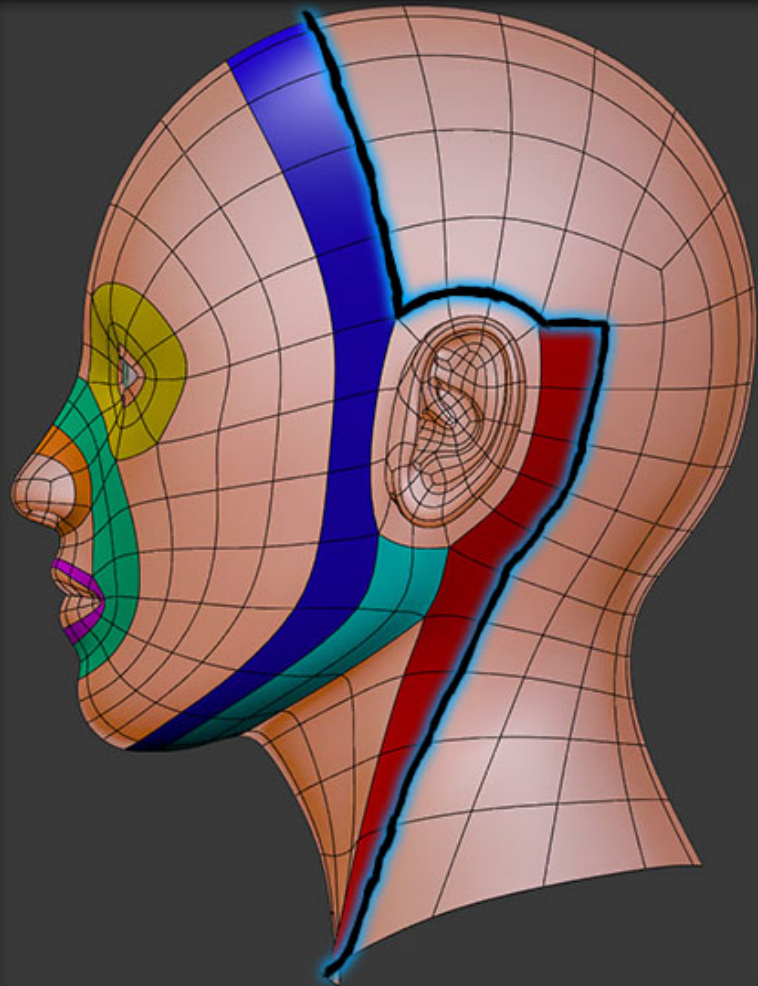
Two possible ways to approach this:

- Do the **head** and **face** as a whole, and divide afterwards

- Do a primitive **"base" head** and do the **face** separately

APPROACH AND METHOD
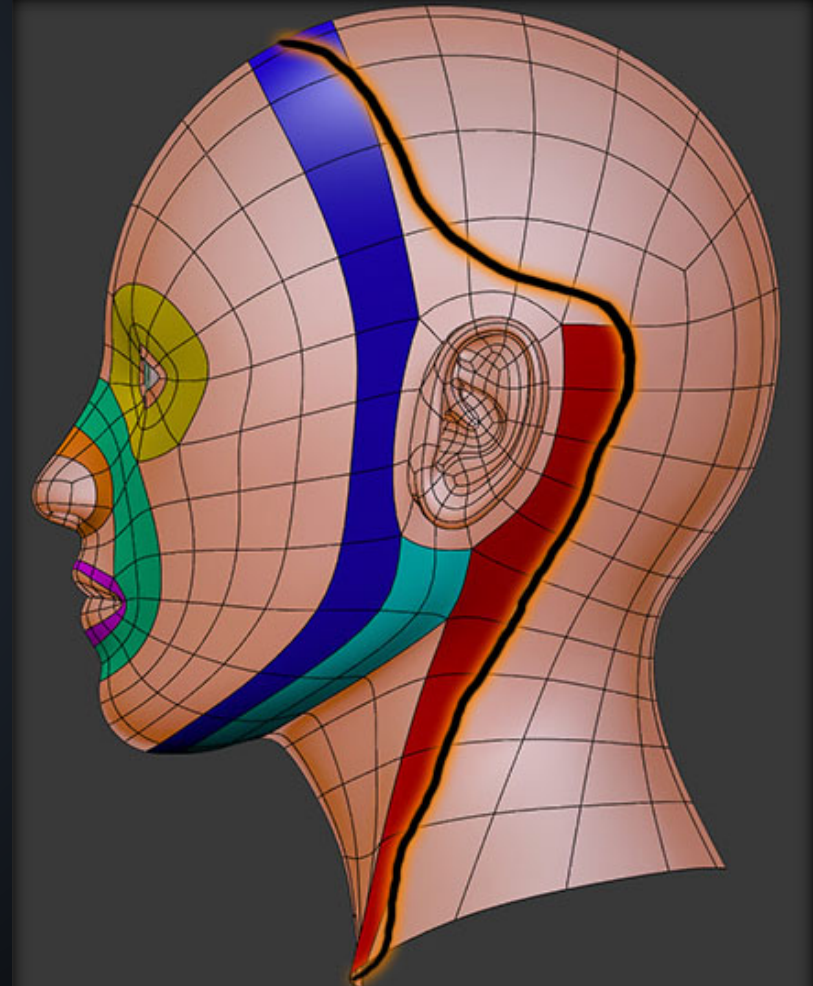
Essentially, the approach to modelling a human head will remain the main method

\+

(...with eyes, of course!)

TARGET

- **Assemble and render in realtime using Unreal Engine 4 (again!)**

- **Can be rendered in realtime and still look good**
- **Will require the extra step of setting up shaders**
  - **Tutorials available though!**
- **Even more practise with the pipeline**
- **Flexibility with rendering: faster and efficient**

U⁴ UNREAL ENGINE

TARGET

Gannt Chart

Character Plan	6	7	8	9	10	11	12
Finalise character design							
Prepare reference images / files							
Model face							
Model head							
Add detail where required							
Finalise models							
Texture design and preparation							
Texturing							
Export for Unreal Engine							
Prepare scene and lighting							
Polish and Post-Processing							
Render Images and Video							