Design PORTFOLIO

Haneen Nabeel Khaleel

BIO

HANEEN KHALEEL

I am an Architect and Product Designer with a **passion for computation design integrate**

Over past four years i explored aided design and manufacturing like laser cutting , 3d printed and cnc for wood

Worked as a design mentor for Souq fann , Chosen to be in a textile academy, Previous Takween Design Fellow and looking to apply my knowledge and help shaping the future for new generation to design with an impact.

Master at Universiti Sians Malaysia
Bachelor degree :Architecture Engineering
Graduated on :February /2020
From Alahliya Amman University in Jordan

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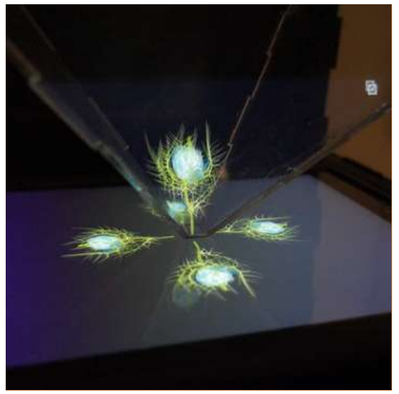
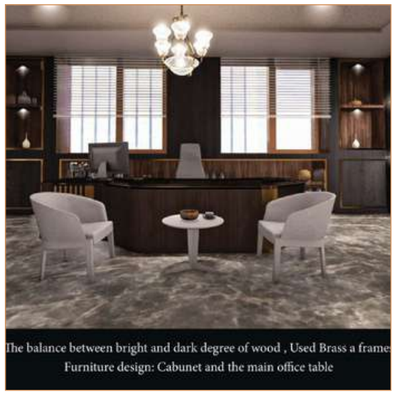




CRYSTALIZATION

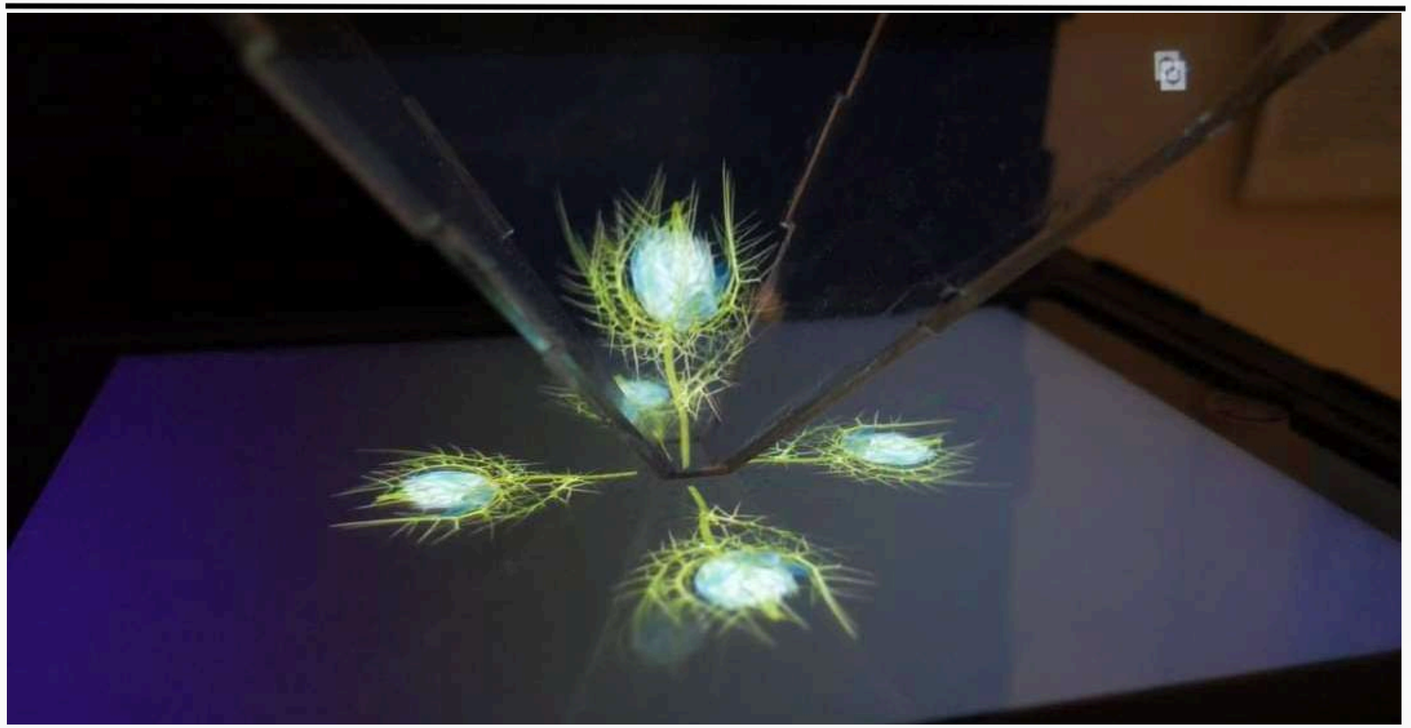
A process to make biomaterials in lab from some initial ingredients and test it under the heat.
the bio crystals will grow and keep growing as a live creature until it takes the right shape you molded in within a week.

In this process i avoided harm using for crystals on beach especially dead sea and this is exactly could be tested on more things to **make affordable materials to build with in architecture even if shelters or a pavilion and in furniture pieces from a material against harm use for nature** resources and harm cutting for trees.

PRODUCT DESIGN FEELOWSHIP TO PRESENT MY WORK LINE WITH:

HOLO – FELLOWSHIP

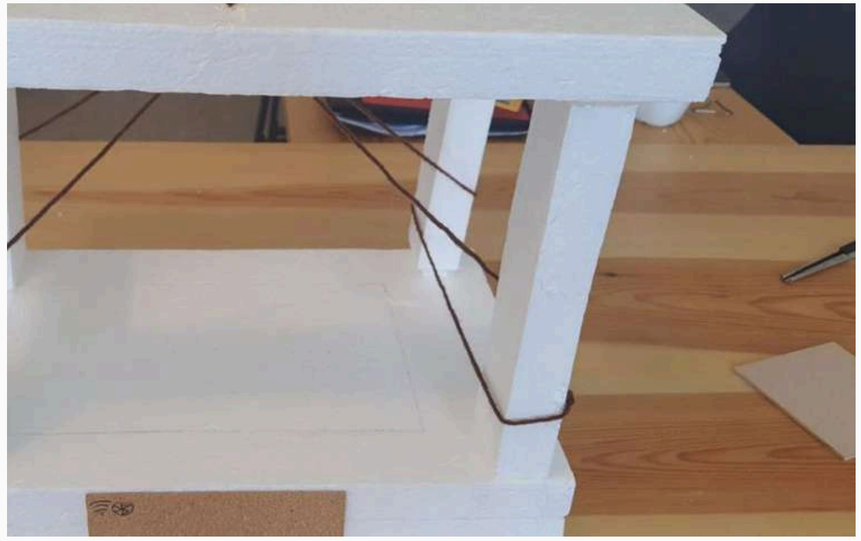
Iworked during 5 months on a hologram devicedisplay duringmy fellowship withthe German Gothe Institute and i had participated inTakween Exhibitionin Jordan to show my work of the hologram prototype on October /2022.
I worked on a research, business thinking, fabrication (Layzer cutting and CNC) and design

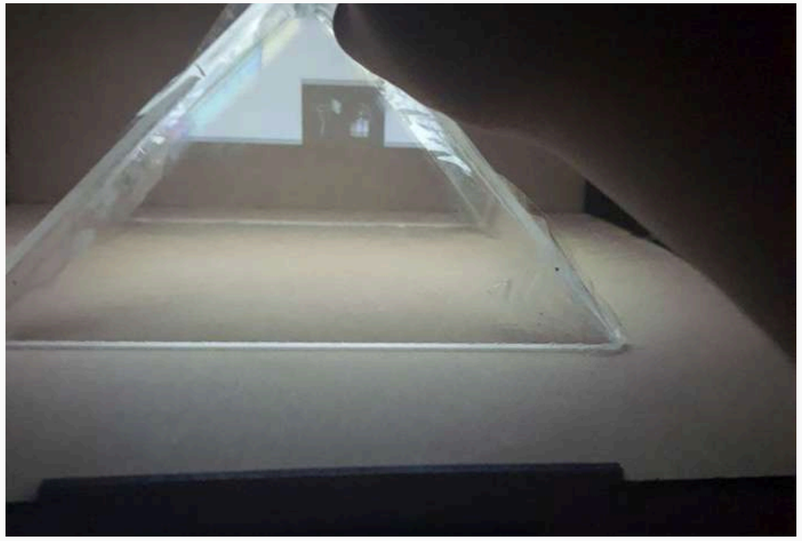


2022

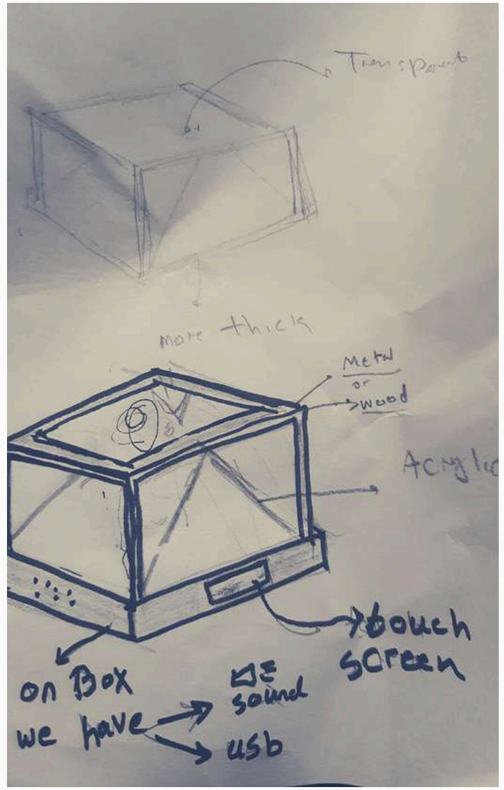
Some visual animation has displayed during exhibition

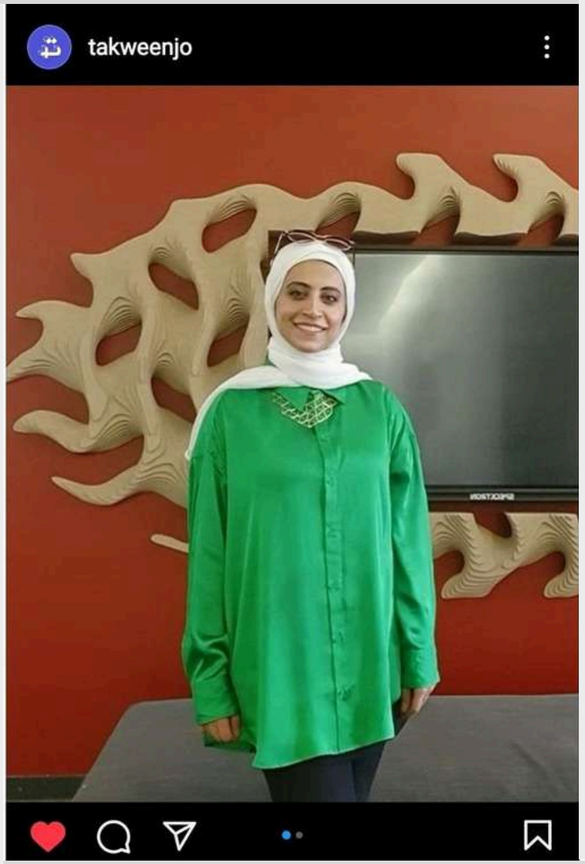
Prototype





A process of design and testing
from low fidelity prototype from foam and sketches to eligible prototype to display and test the angle of reflection



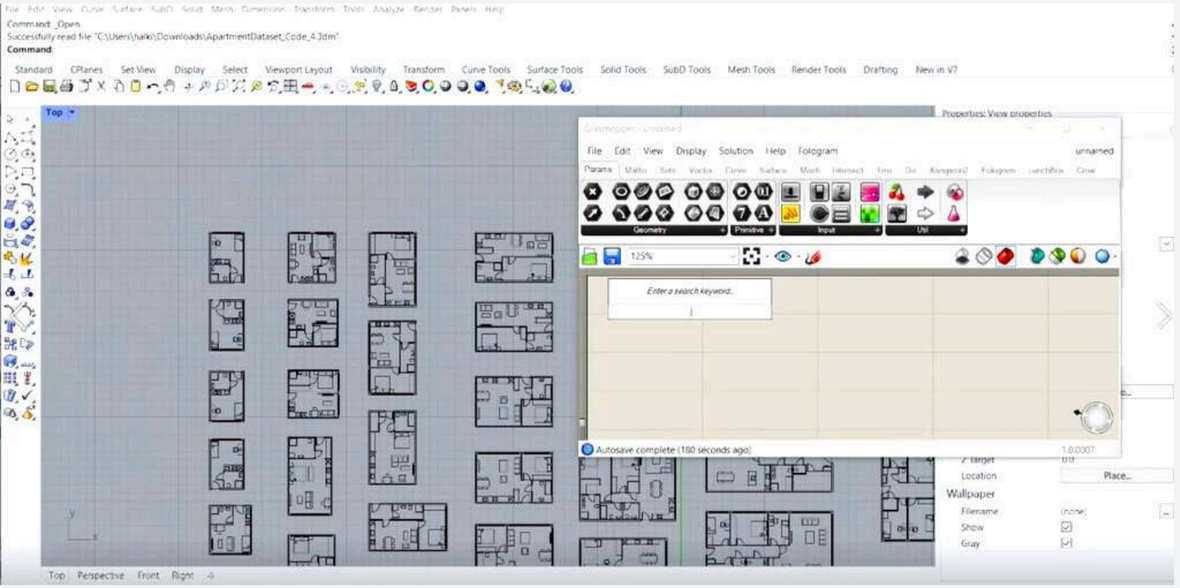


A shared photo from Takween to tell about me and my project on social media

AI + DESIGN

TRAINING SUPERVISED LEARNING MODELS

MACHINE LEARNING

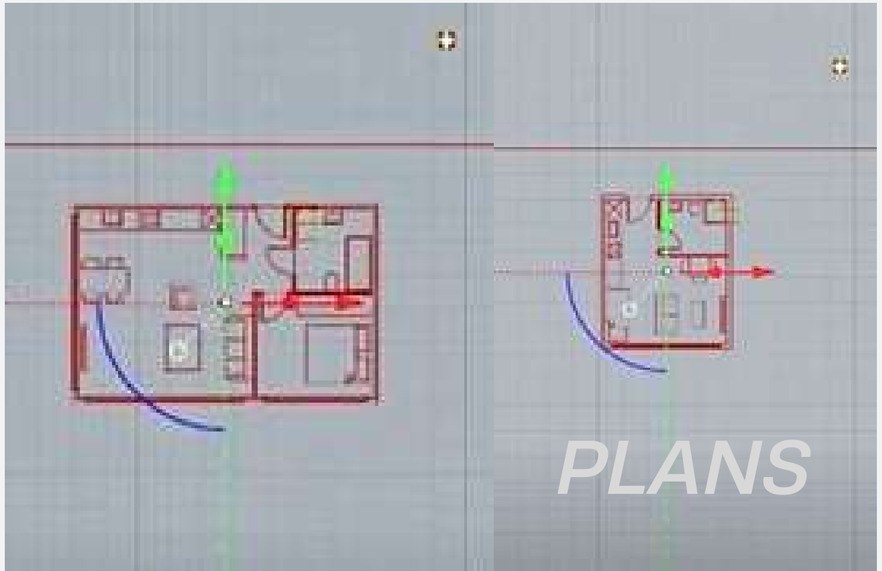


ACHIEVING BY FEED FORWARDING NEURAL NETWORK

WHICH HELP TO TRAIN THE MODEL WITH DATA " PLANS" TO GENERATE DEFFRENT DESIGN PLANS

FOLLOWING AREAAND FUNCTION

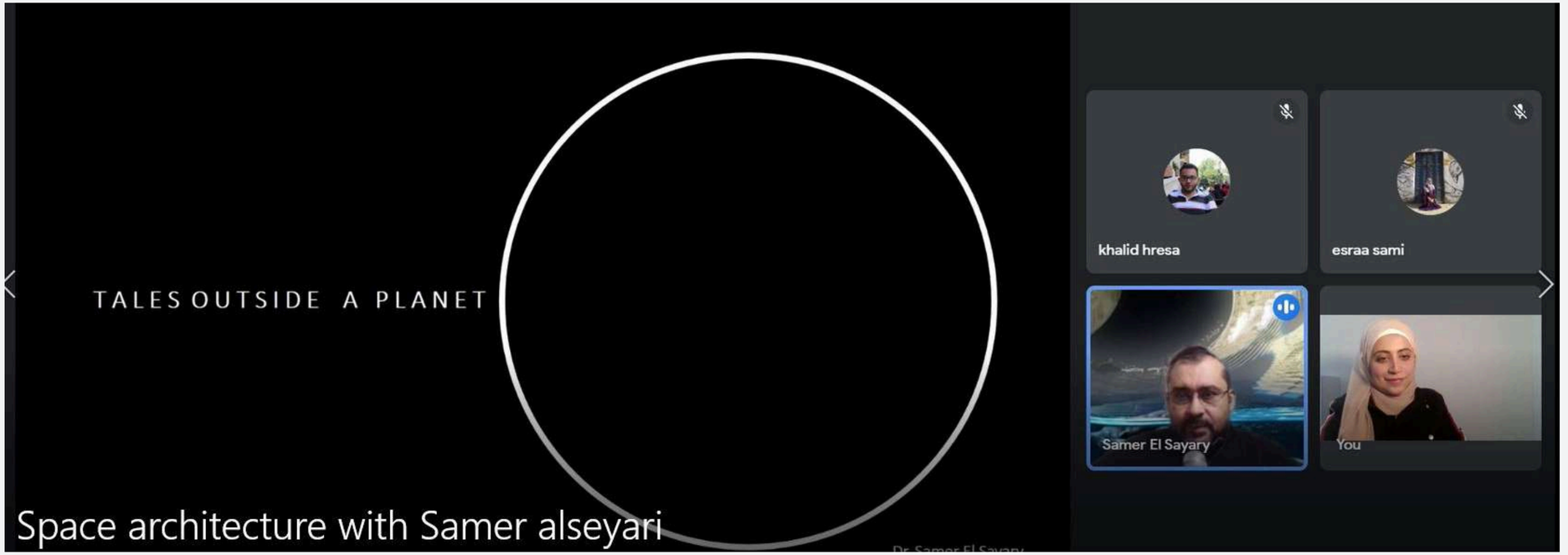
- DOORS ON DATAPLANS WERE THE REFERANCE FOR GENERATED



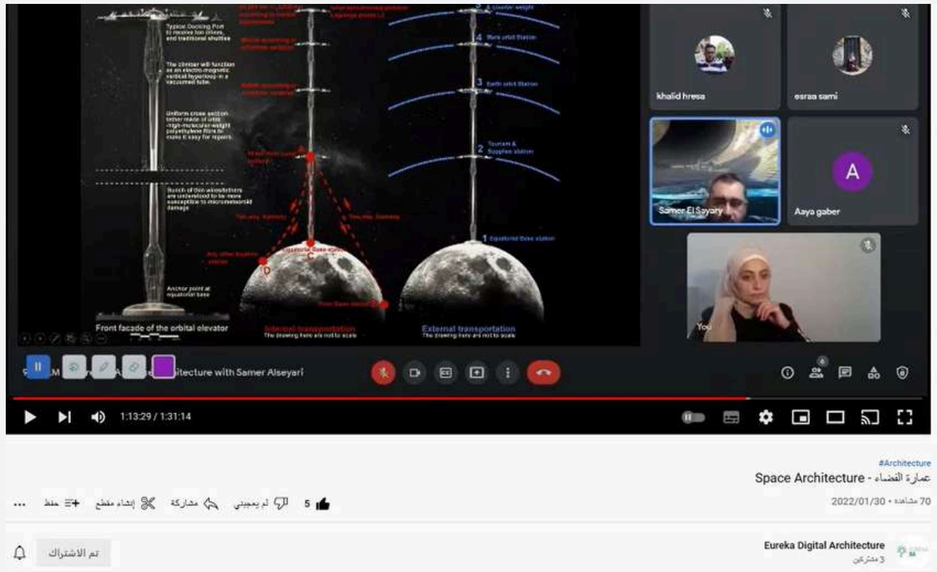
Mid Journey

Using AI to interpret our words to visuals . And here i was thinking about Integrated Bio Mimicry with sea architecture ,as one of the furture architecture is a bout space and sea architecture

Conclusion:
As i noticed we could use this experiment as inspiration, and we even could use a specific generated shape and re model it and make it able to be designed on real world



SCAN ME



EUREKA DA

Eureka Digital Architecture

I am the founder forthisresearch lab for Architectureanddesign in

a digitalera

this is seed labindevelopment to host moremeeting and workshops in fabricationanddesign and testing algorithmandmaterial

In Eureka DAwebelieve that the onlylimit is your imagination

A scholarship i got from
AA visiting school
to achieve
project by using
algorithmic coding
and physical material
testing by 3D printing

AA VISITING SCHOOL TORONTO
SUMMER 2021

F^2

MORPHOLOGICAL EXPERIMENTS BETWEEN FORM AND FORCE

DIRECTORS

ALI FARZANEH
VAHID ESHRAGHI

UNIT TUTORS

DAVID CORREA
ISABEL OCHOA
JAMES CLARKE-HICKS
JAMES DALESSANDRO
NICHOLAS ALEXANDER LEE

Architectural Association
School of Architecture

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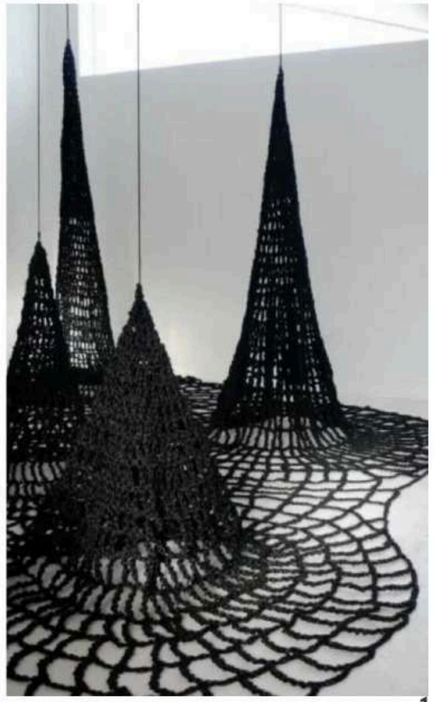
TECHNOLOGY CENTERS

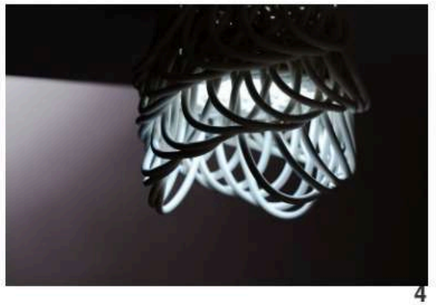
2.0 CONTEXT



1

2

3



4

5

6

1 & 2
initial research reference of draped fabric wearables which could be printed by clay

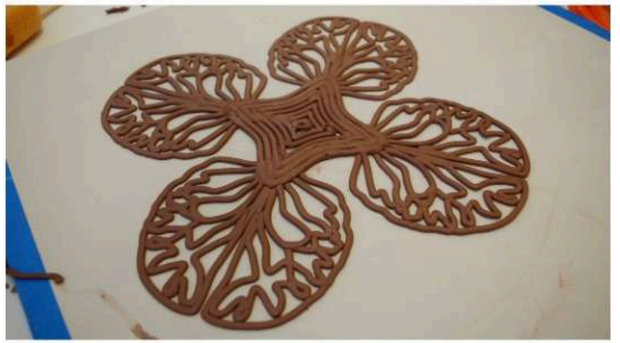
3 & 4
project reference from Isabel Ochoa on printing 'draped' clay patterns

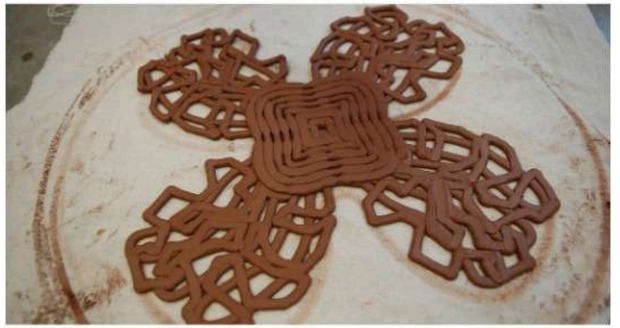
5 & 6
project reference of hollow vases with polar arrayed patterns from bottom centre point

The context of the project evolved from two initial conditions stated in the group brief, to make a vessel based on biomimicry features extracted from a specific species. The group through early stage research moved away from the vessel, and focused more on the biomimicry pattern and the plastisity of the printed wet clay.

This then developed into the idea of 'draping' the clay print onto organic surfaces which led to the first few printed material testing. The testing process ultimately led the group to slump-moulding clay pattern printed on a single flat surface onto a mould form, yeilding a prototype with the shape of a vessel. Thus the final artifact is designed to be a poriferous vase created out of a slump-moulded pattern of clay.

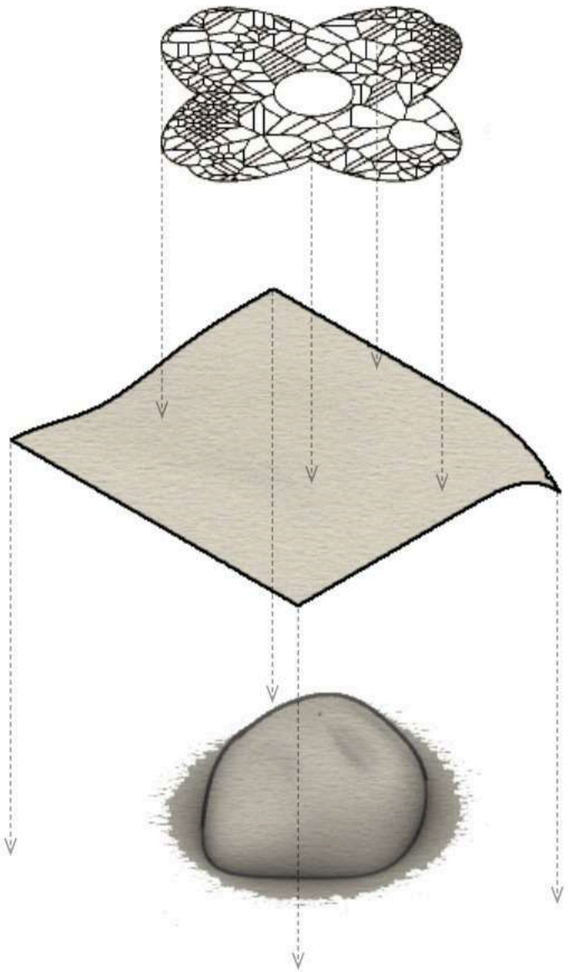
3.0 SCOPE (1/3) - PROPERTY OF MATERIAL





Initially, as the draping effect was from extruding the clay in mid air and let the extruded strip of clay fall to the underneath geometry. The tensile streghth of the clay extrusion holds it in shape without breaking.
Another method was experimented, a single complex pattern is printed onto a 2D surface, it is then let to dry for a bit before being slumped onto a mould.

3.0 SCOPE (2/3) - FABRICATION



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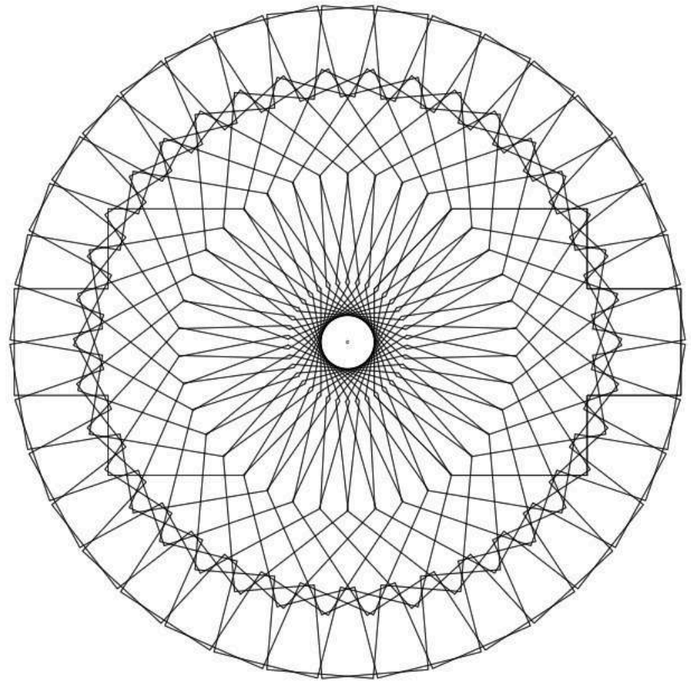


4

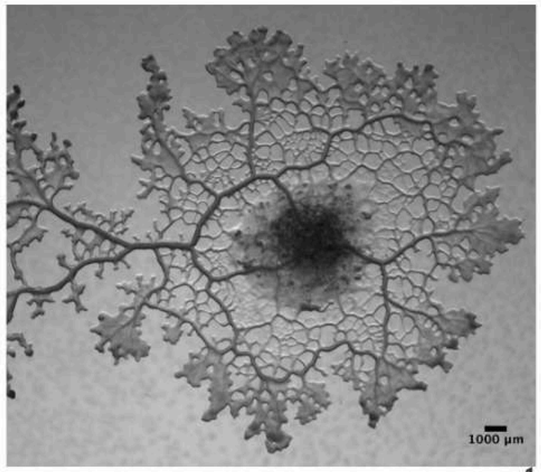
1
Diagram of the formation of slump-moulding method. The printed 2D pattern is layered on top of a piece of cloth, which was previously wrapped around the mould

2
Dried outcome of first iteration of slumped pattern

3
Photo of slumped pattern drylining on top of cloth-wrapped mould

4
Digital pattern in Rhino 3D, in comparison with printed prototype in image 2 & 3

3.0 SCOPE (3/3) - BIOMIMICRY



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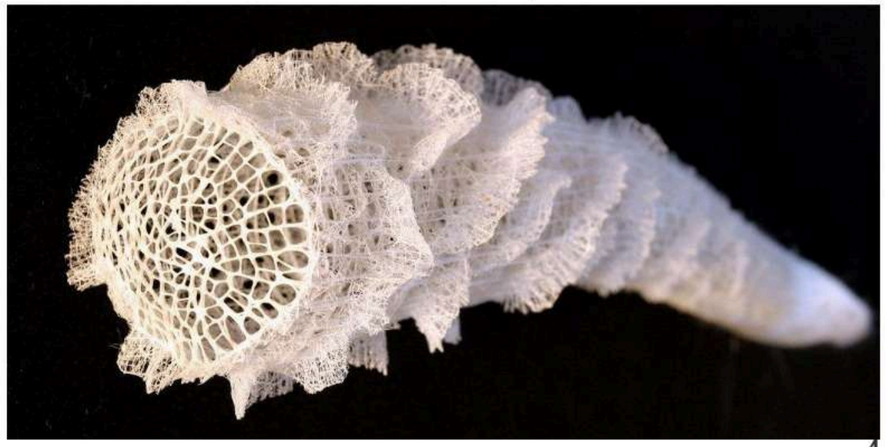
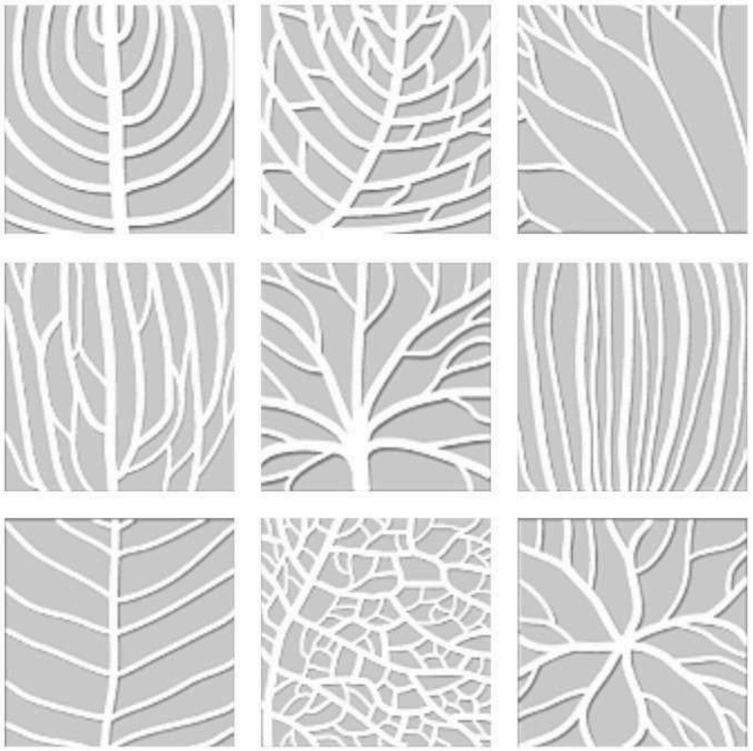


4

1 - 4
(in numeric order) Slime mould grouth and connection pattern, sea anemone tenticle on base form, trailing plants form, sea sponge voronoi skeleton pattern

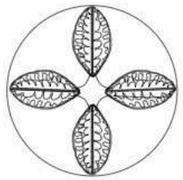


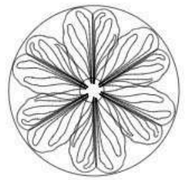
5

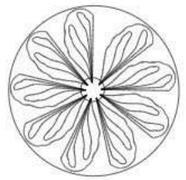
Leaf vine venation pattern and its variations

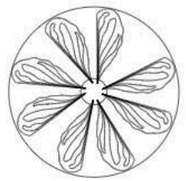
The species of which the design pattern was extracted from had gone through several changes, as the limitations of the clay-printing technique and the development of the design combined have driven this evolution.

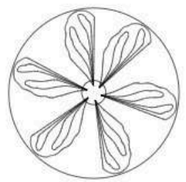
4.0 METHODS (2/2)

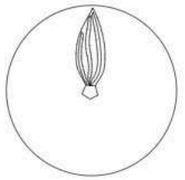


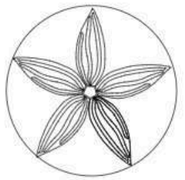






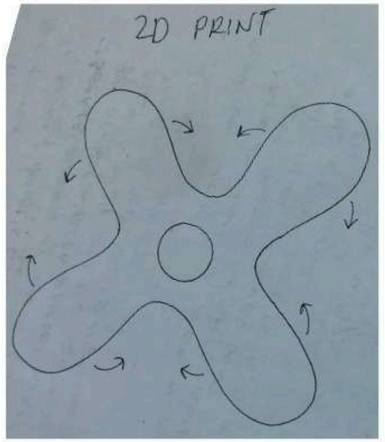


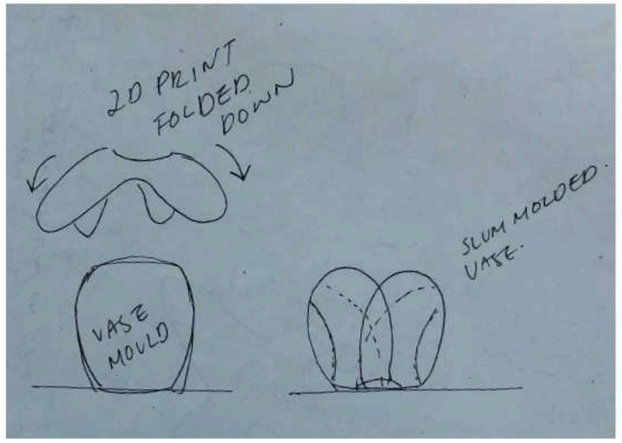




The many iteration to generate more prototypes.
The fabrication approach developed further to print each 'pedal' seperately onto the same 2D surface in one print, then slump them manually over various moulds.

4.0 METHODS (1/2)





1 & 2
Sketch of 'pedal' strategy to fomr a vase with one layer of printed clay. Hence the shift of biomimicry into leaf venation

3 & 4
Dryling and dried flipped prototype from the second iteration

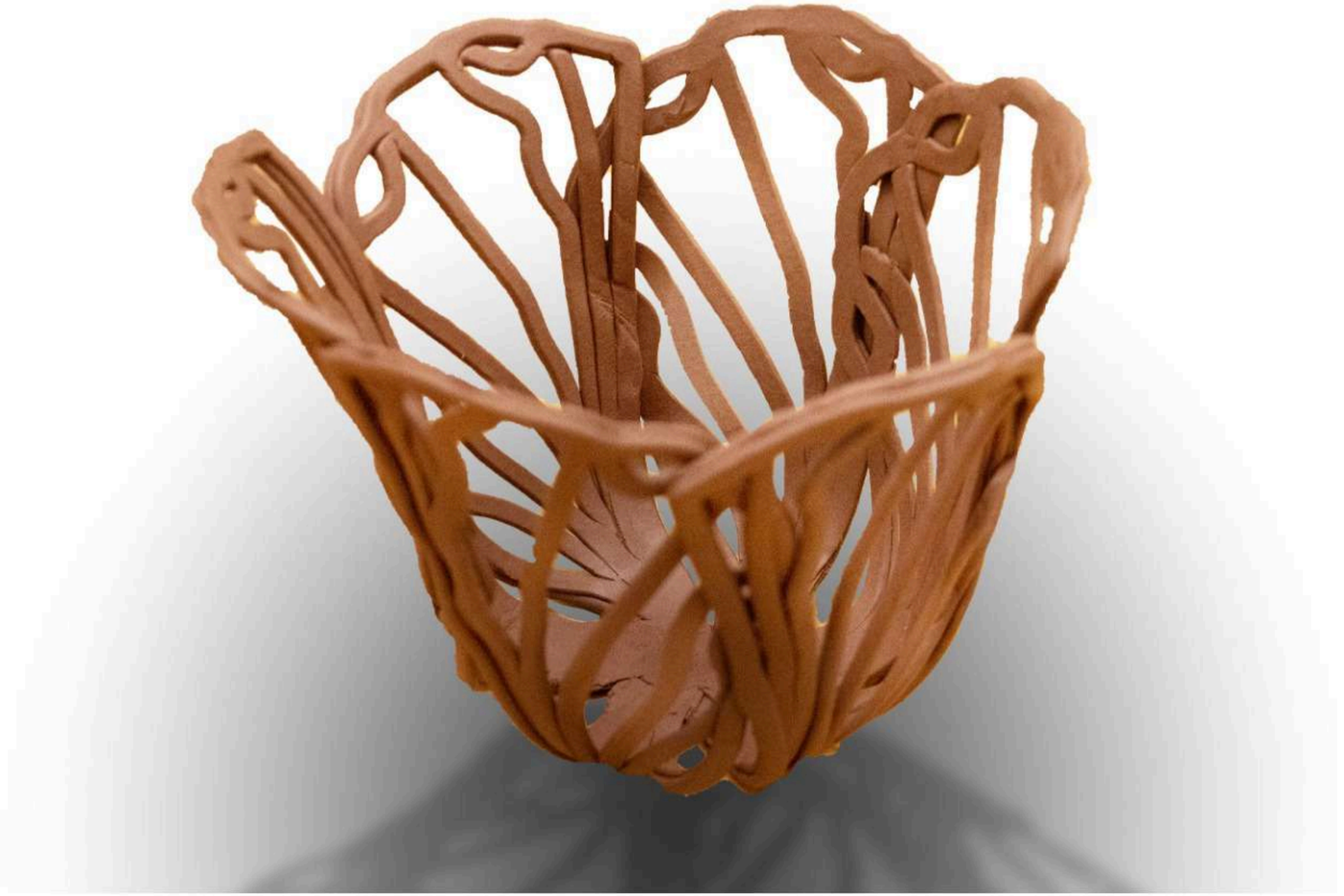
For the second iteration, the group reviewed the form-creating potential of the 2D pattern and decided to fabricate a vase with the developed method, using a single layer of printed clay.

The methodology of fabrication of this vase is involves a significant amount of analog process, with the post-printing modifications. The Maya/Bifrost tool is less applicable as the clay is printed to a 2D surface and geometrically varies little to the digital path. The group could've used Bifrost to simulate the thickness and aesthetics of the 2D pattern. In this project we could print the pattern within 5 - 10min, thus the Bifrost tool would be more applicable if the prototypes are larger with denser patterns.

5.0 FINAL ARTIFACTS

The final artifacts at this stage are a series of vases in hand-held size. These were all slumped onto a single simple mould, the project holds more potential as the mould could be more irregular and have the twisting of the 'pedals' be more expressive.

5.0 FINAL ARTIFACT



MORPHOGENATIC INTEGRAL DESIGN

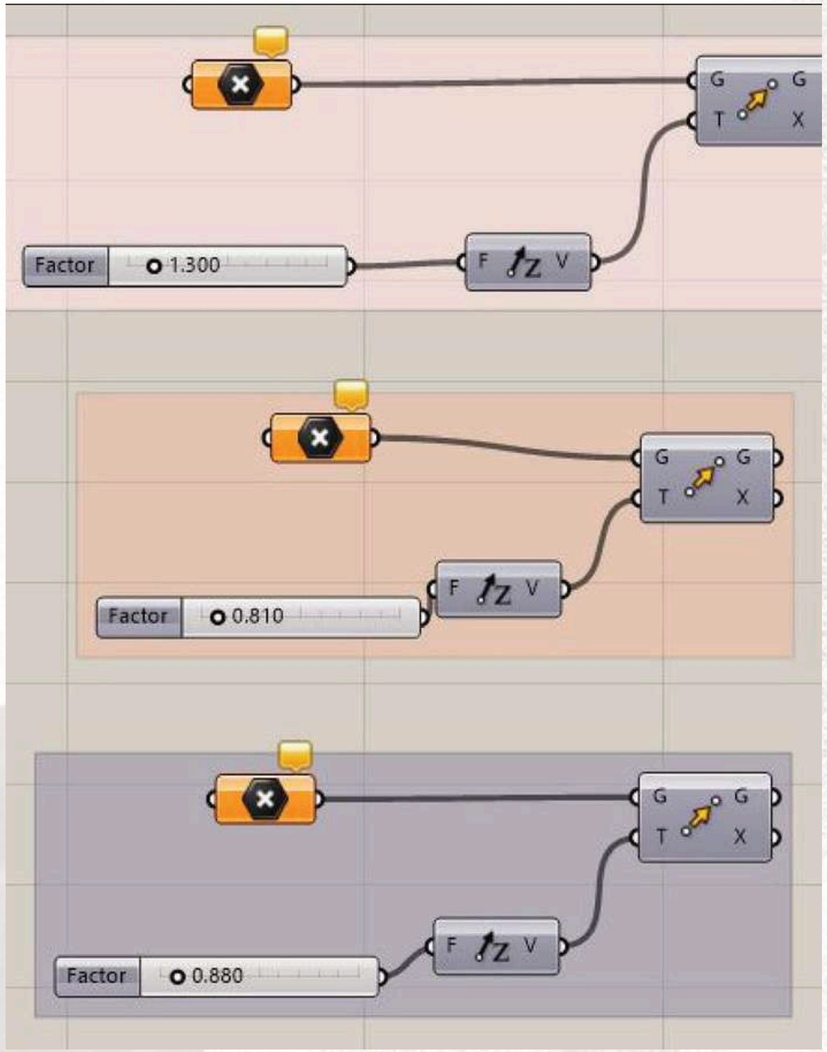
It is Bottom-Up design Process make us search for a pattern /texture and structure from nature, working on design evolution with AI and coding.

On this design process we study the pattern (strength and weakness for it is pattern) and by using mathematical equations from nature numbers we achieve unpredicted results,

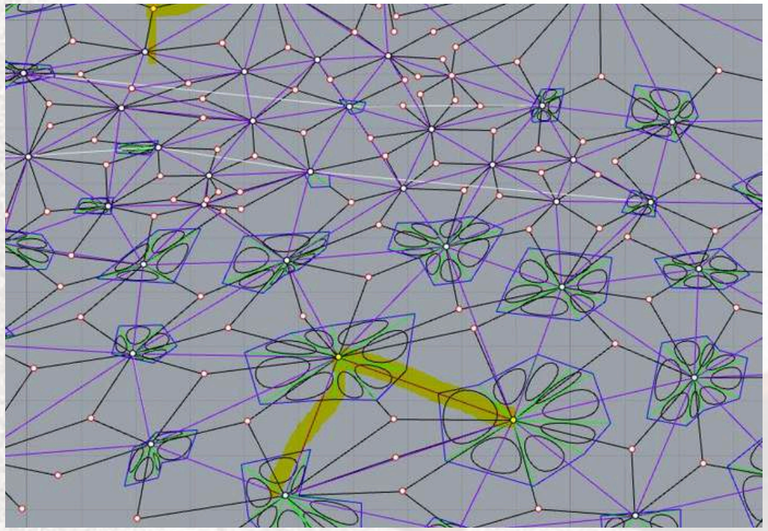
Then we could use the result on different prototypes.

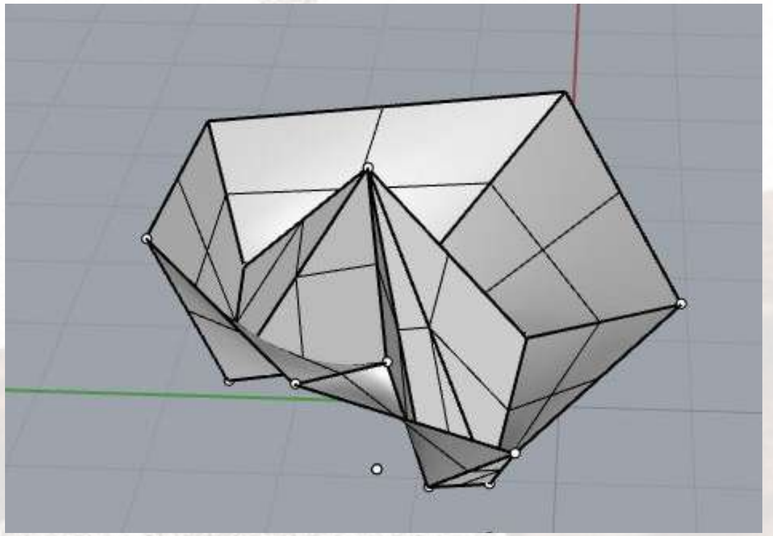
On this animal Pattern the variational of polygon sizes is depending on its place on the body because it is indication for the hard parts of the body, which is not about to move a lot, we find big polygons and on more flexible parts of body we find small polygons

PARAMETRIC CODING ON GRASSHOPPER

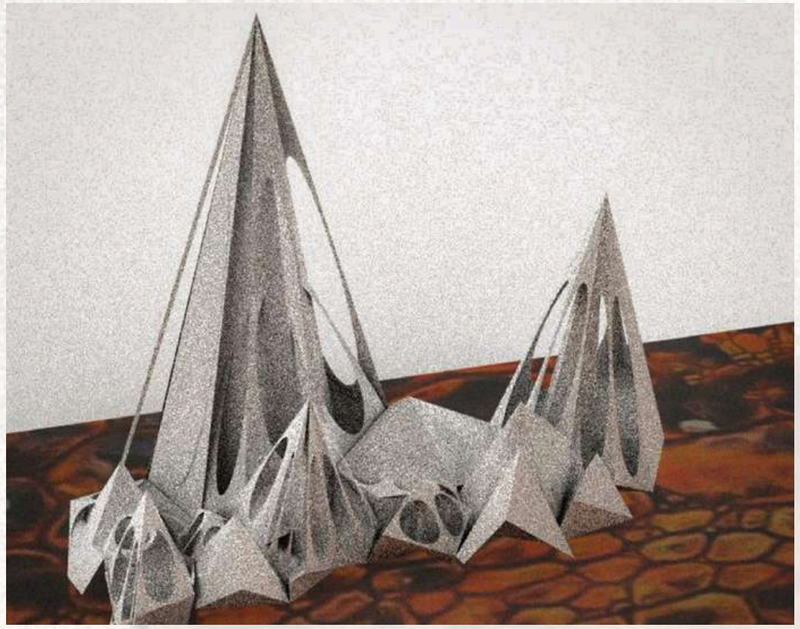


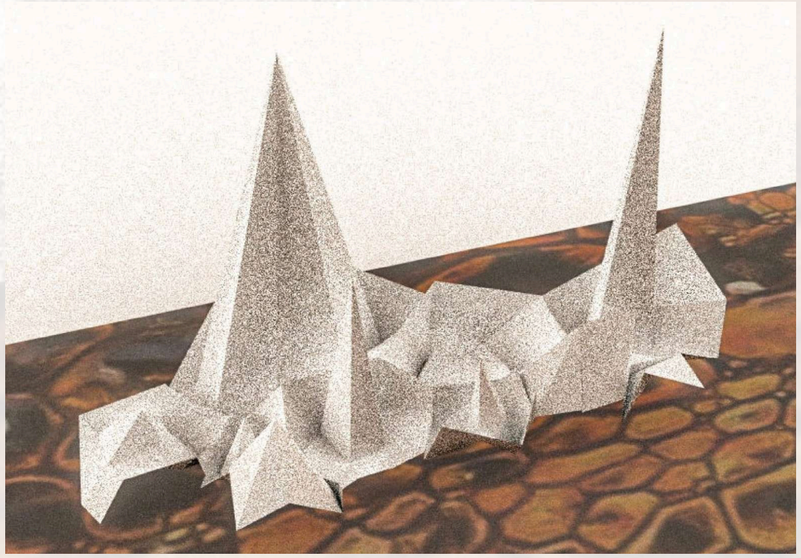
APROCESS TO INTERSECT 2D LINES FROM PATTERN UNTIL REACH 3D GEOMETRIES





EVOLOVED 3D SHAPES





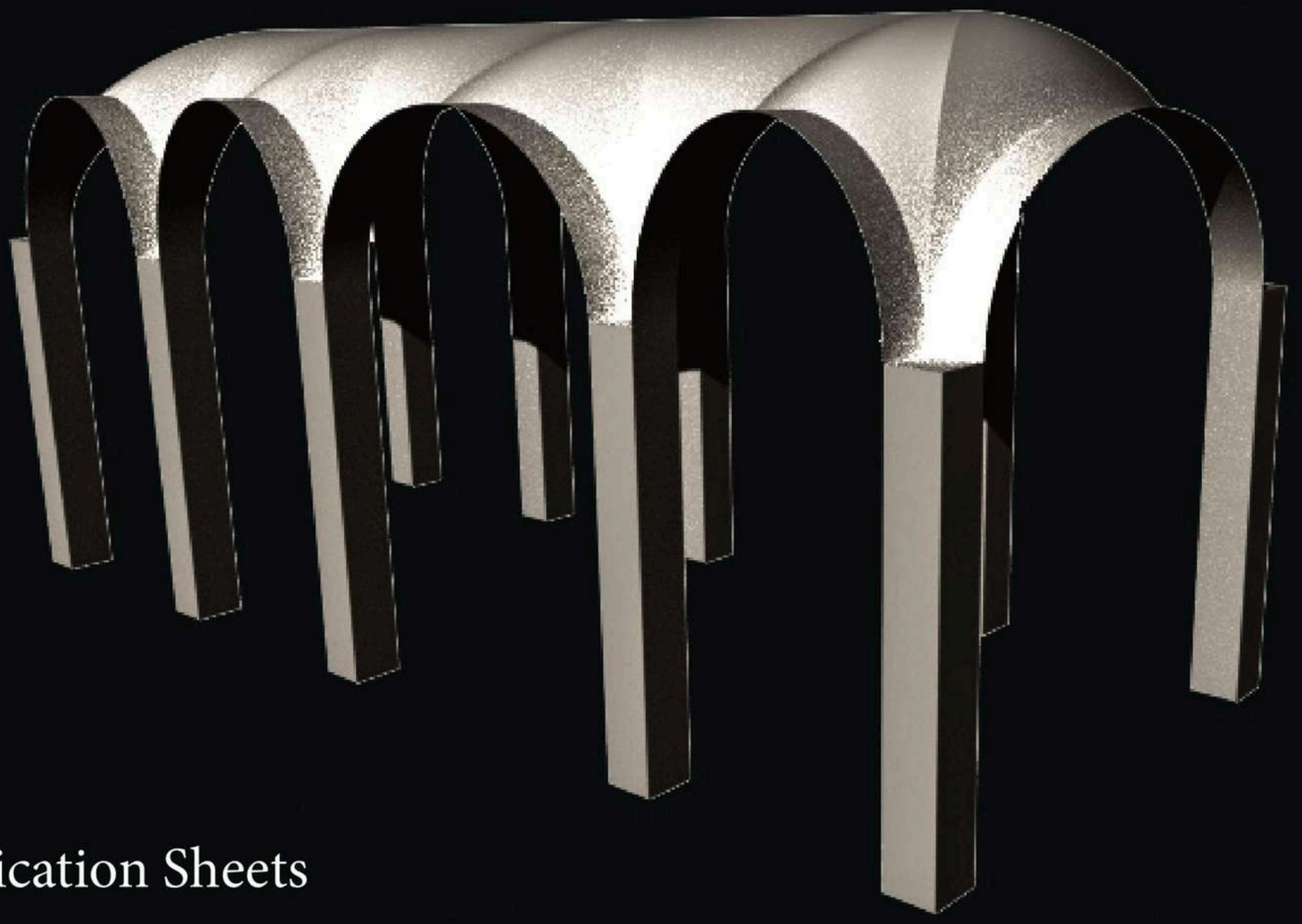
FABRICATION FOR INTERIOR

I worked with RUM Atellier team on fabrication for 120 rooms in Katar Hotel , i worked on fabrication sheets on rhino and rhino models and 2D on auto Cad

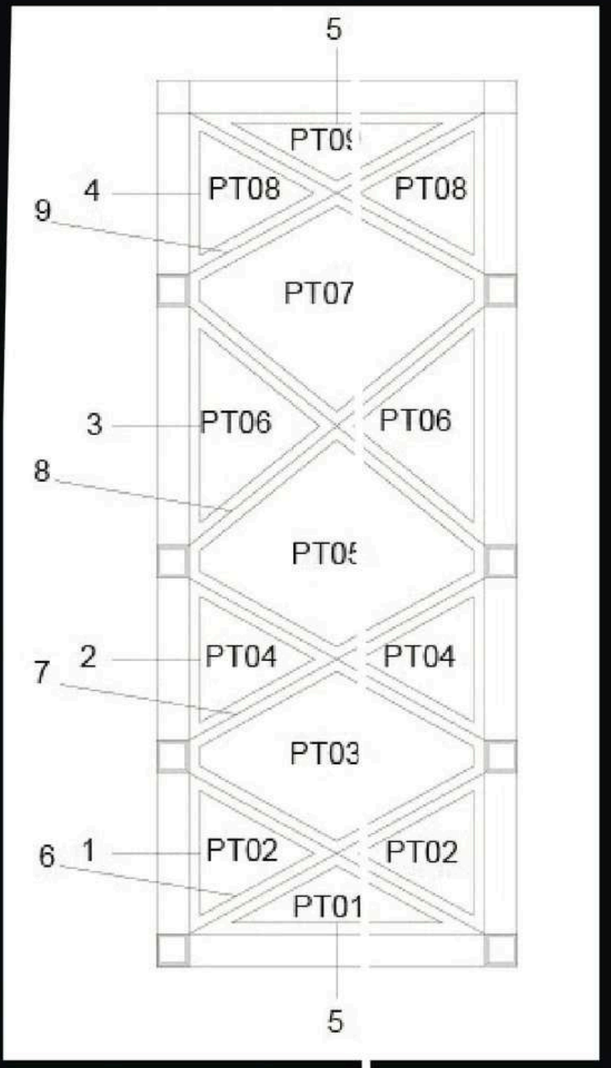
FABRICATION WORK
Location: Qatar/Doha
Katara lusail Hotel

KATARA TOWERS, LUSAIL MARINA

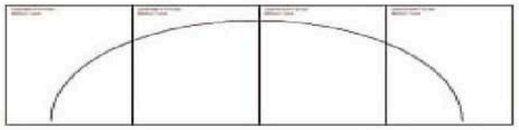
3D model for fabrication
on vault of interion room

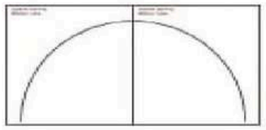


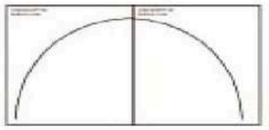
Key Plan

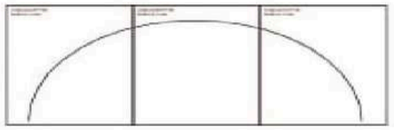


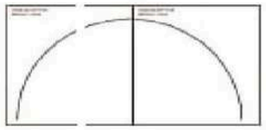
Fabrication Sheets











OFFICE INTERIOR DESIGN

Location: Qatar
Company: Fusion

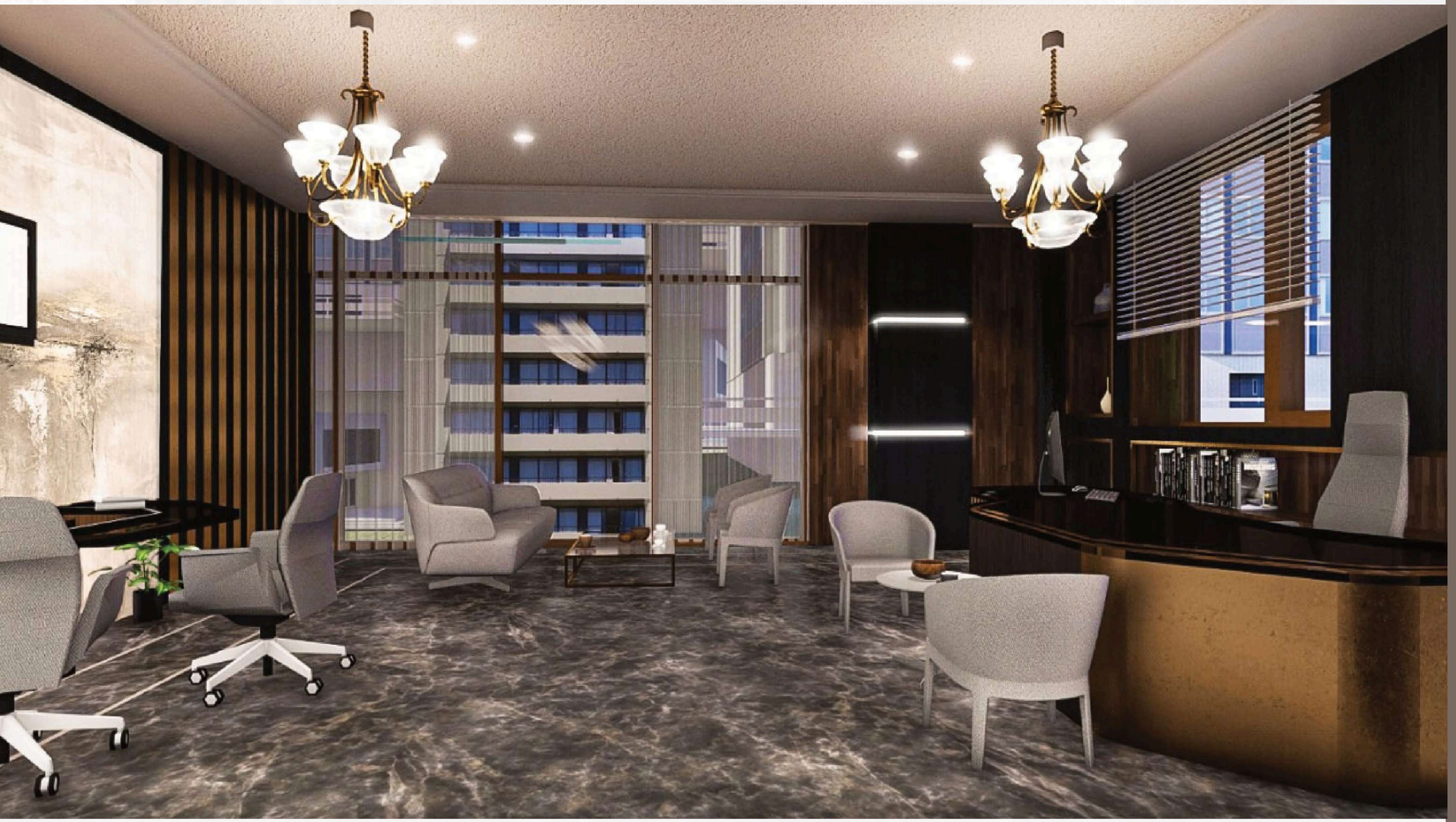
luxury design for main office room for a company founders and i designed a custom furniture piece.

This Project i designed in Rum office in Jordan

OFFICE INTERIOR DESIGN

On This office i depend on making a contrast between dark colors with gold and light

OFFICE INTERIOR DESIGN



I used a gold brass as a main color in room as indication for a luxury

Modern Hotel Room design and used online render source

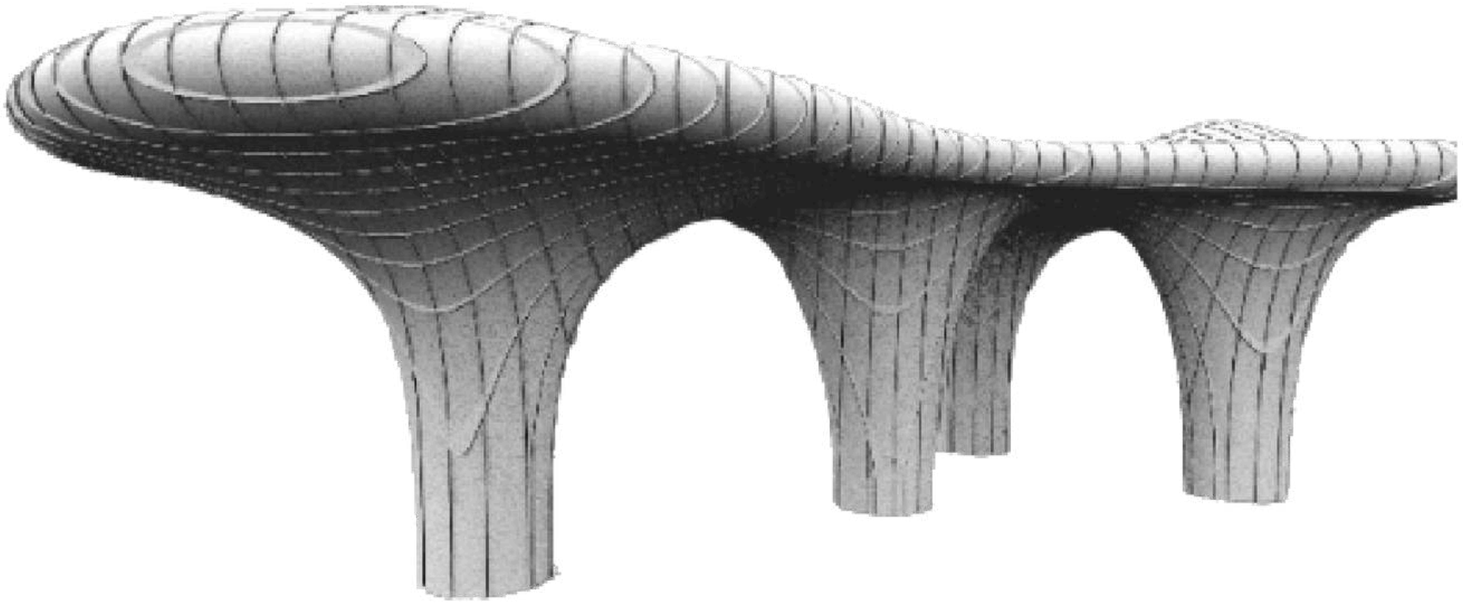
Conceptual Visualization

Used Twinmotion as a real time render engine

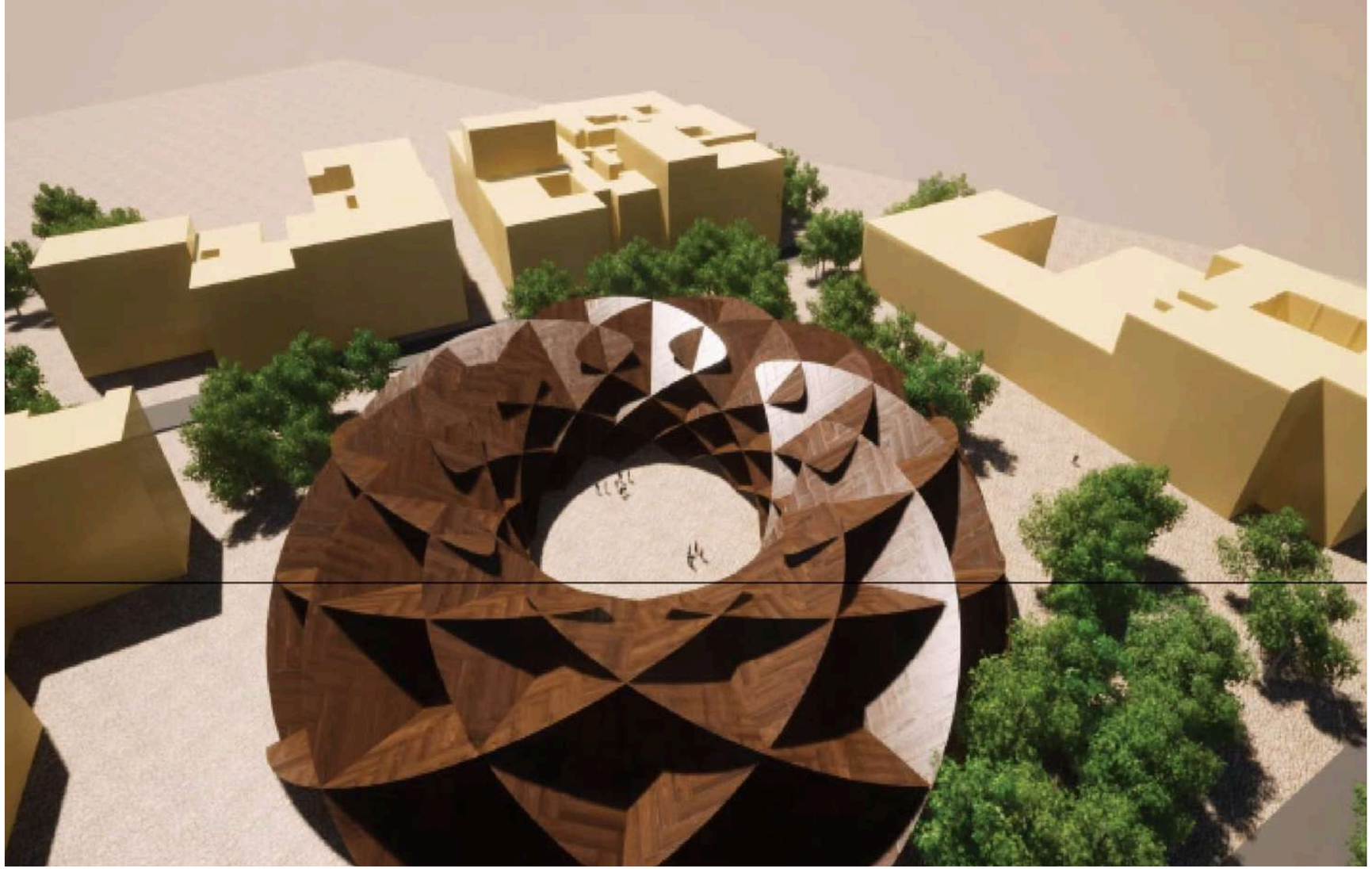
Conceptual Visualization

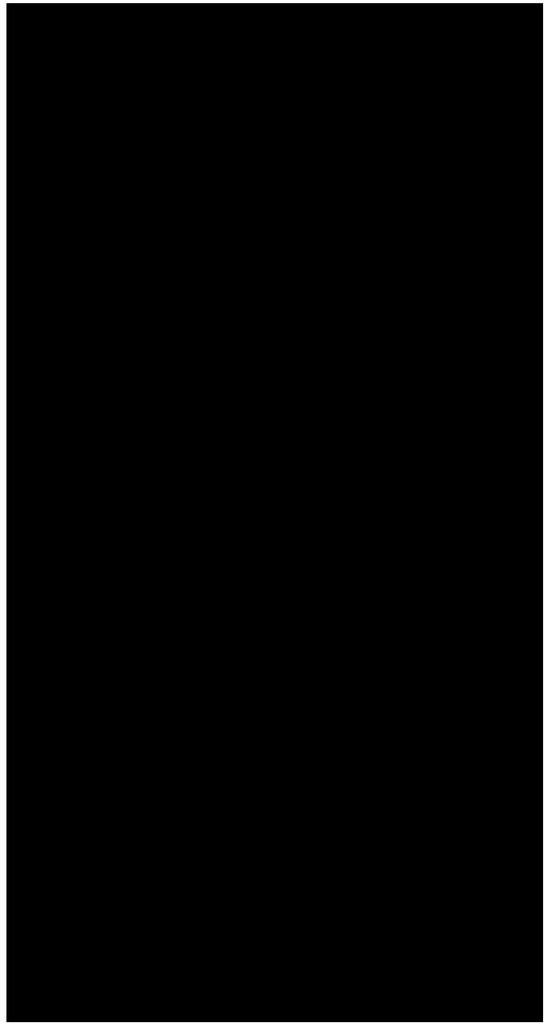
PARAMETRIC SKETCHES

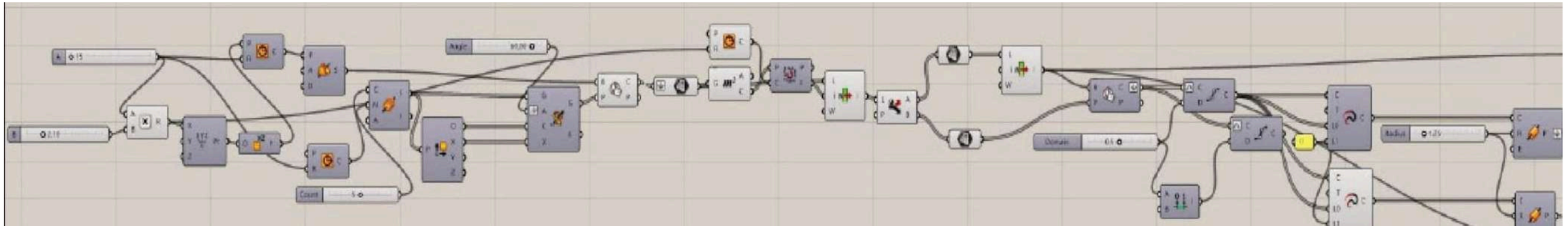
Waffle Slab on Rhino

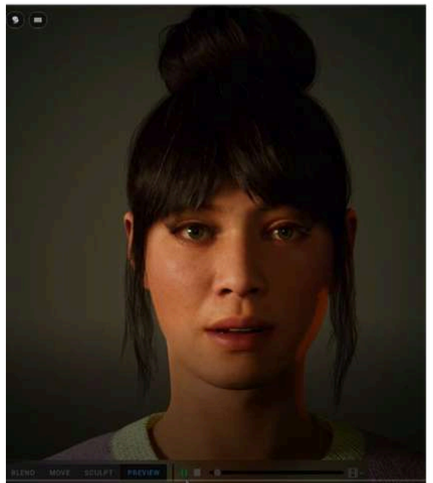


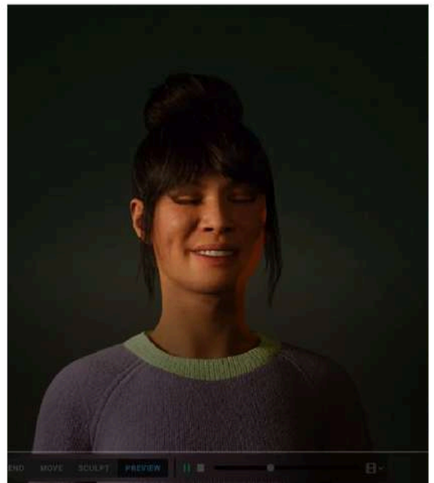
Structure (Rhino Grasshopper)
render Twinmotion

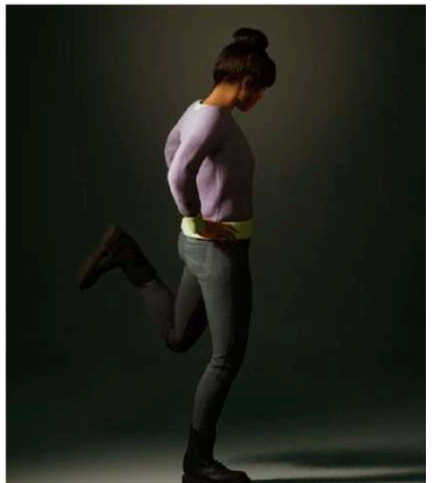












META HUMAN

Exploration for meta human which is generate new faces same as human looking by giving combination of faces and humans .

This is achieved by Unreal engine with meta human
this has a potintioalinmany places even telling stories by meta humanwhich is lower cost than Actorsospeakers ,
as well as it has a greatface and body expression

as i think in the future it may be used in metaverse as a human charachter

ENVIROMENT DESIGN

ENVIROMENT DESIGN ON UNEAL ENGINE BY
USING TEXTURES AND BLUEPRINT VISUAL SCRIPT
WITH CAMERA ANIMATION