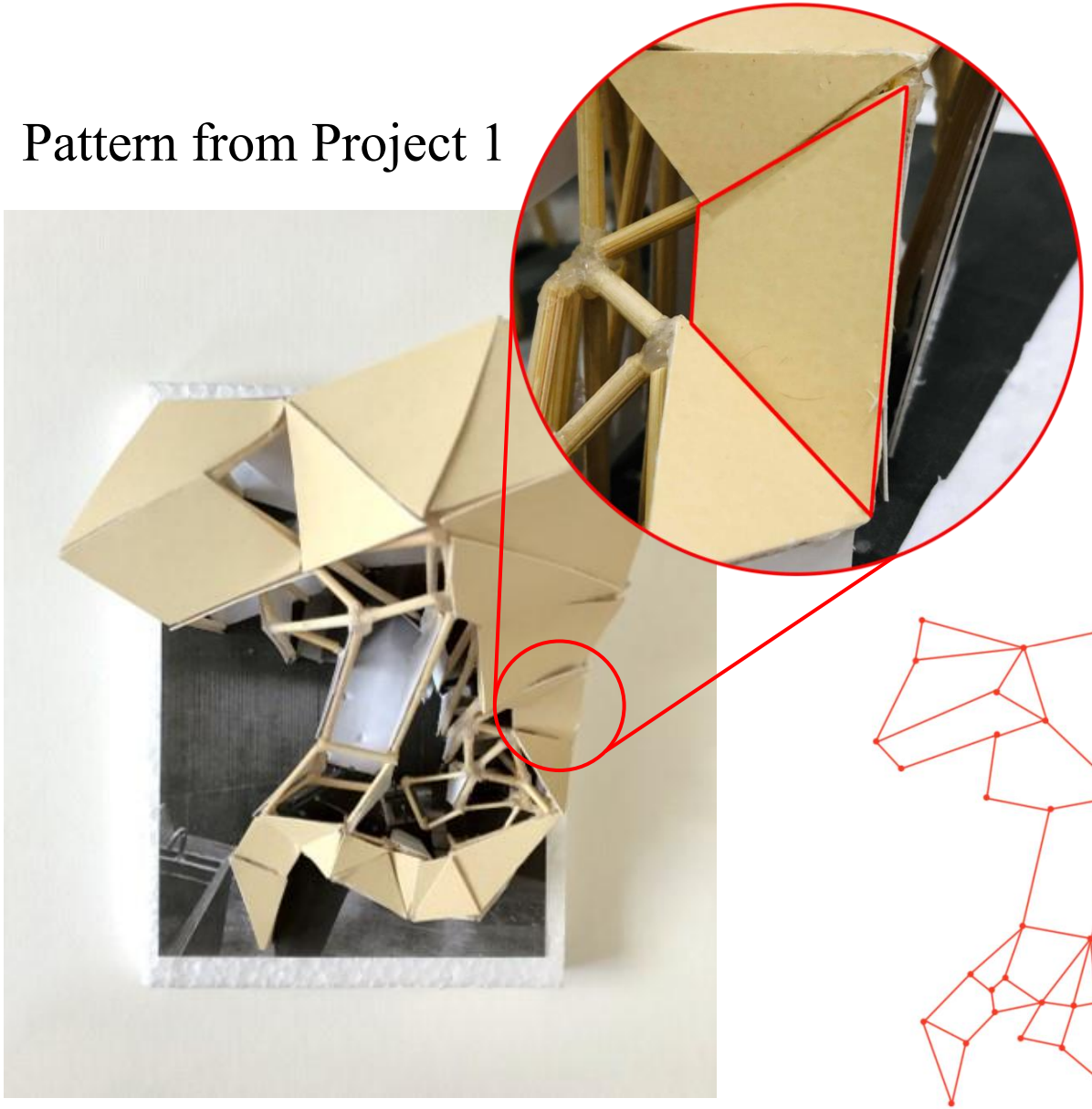
# PROJECT 2
# Design Principles

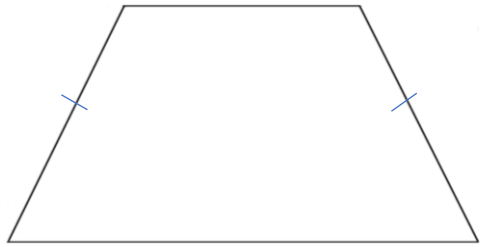
Tan Yi Yun (0345559)
Foundation in Design

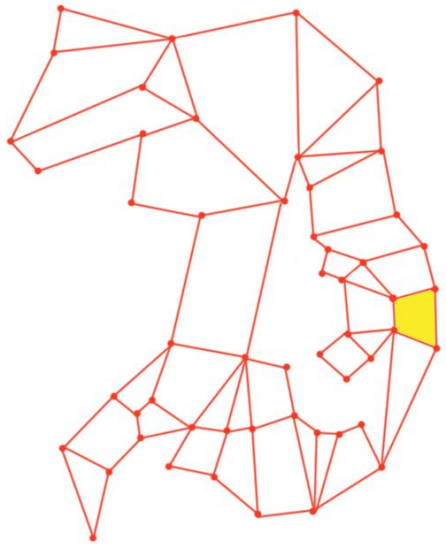
# Pattern Extraction and Shape Transformation

Pattern from Project 1



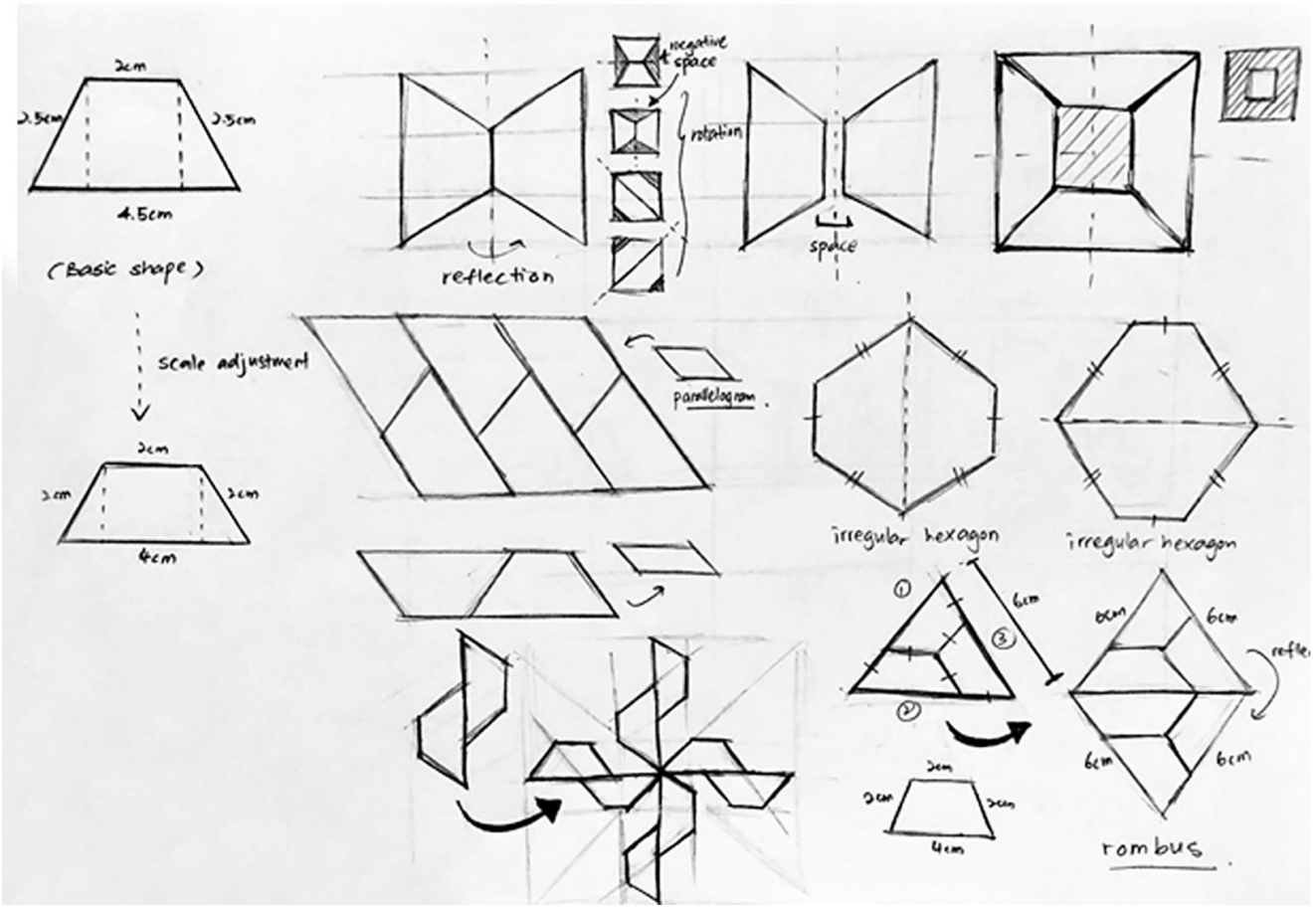
# Pattern Extraction

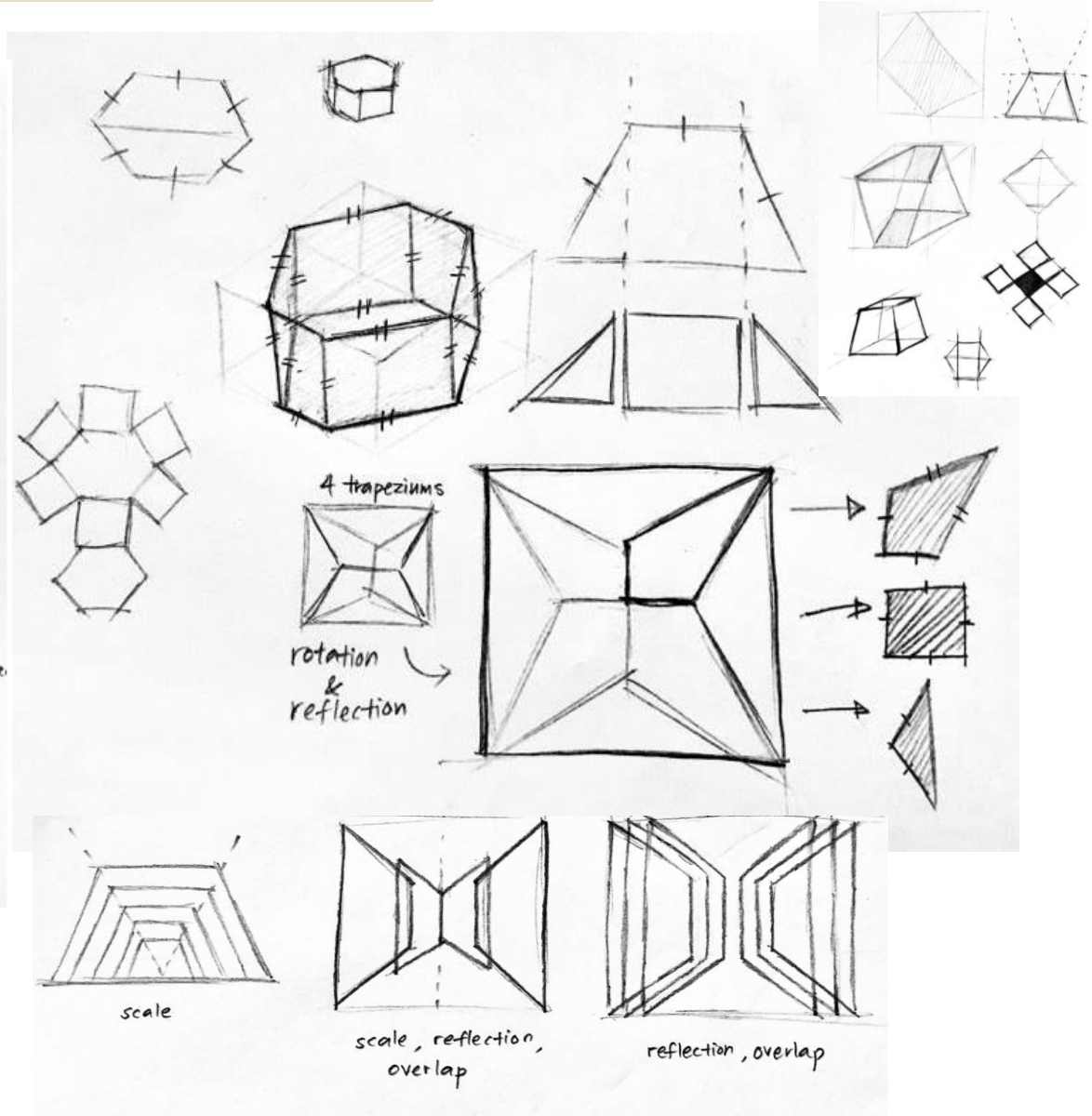




A trapezium is being extracted from the project 1. It is a isosceles trapezium with equal length of two non-parallel sides.

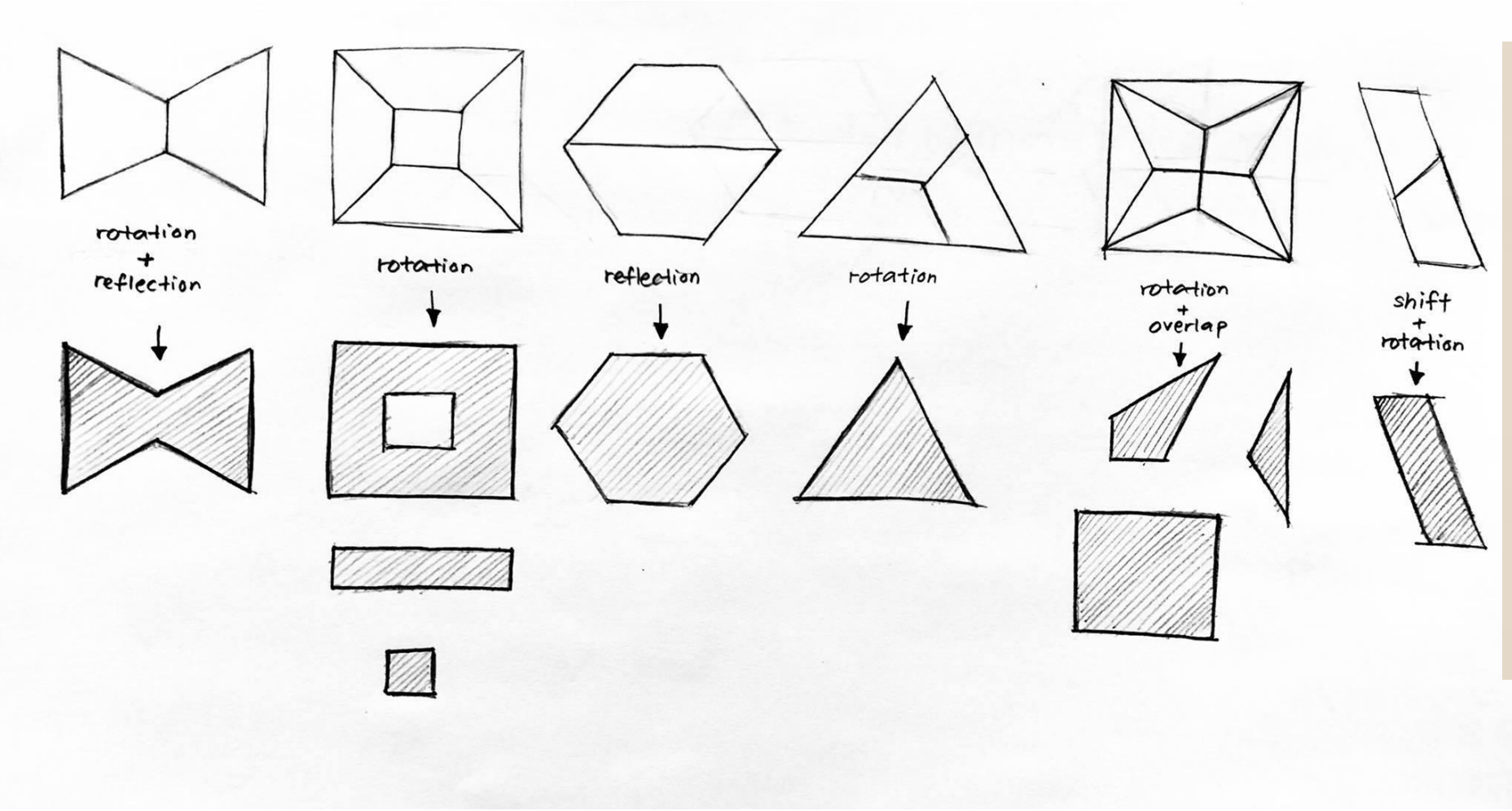
# Shape Transformation




The rough sketches show the design process of exploring the possibilities of a trapezium to create different shapes.

# Shape Transformation




The transformation techniques applied include rotation, reflection, scale, overlap and shift.

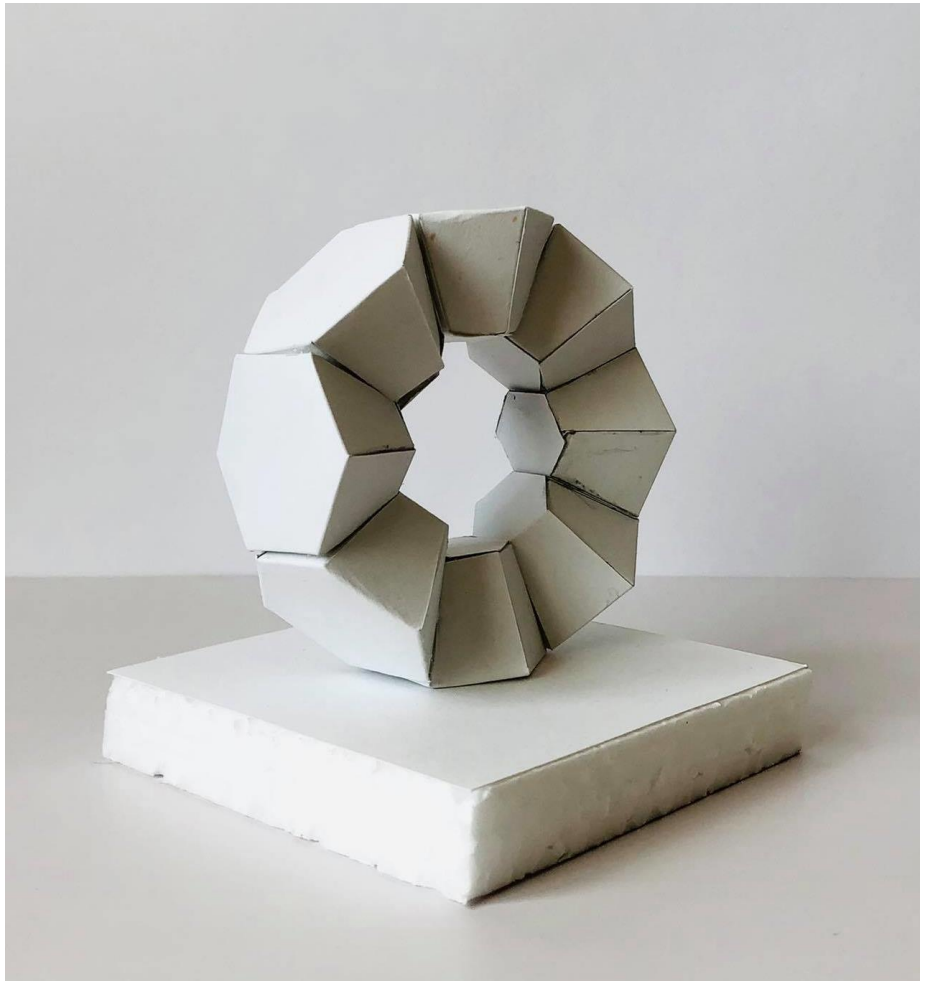
Various new shapes are formed from the original shape, trapezium.

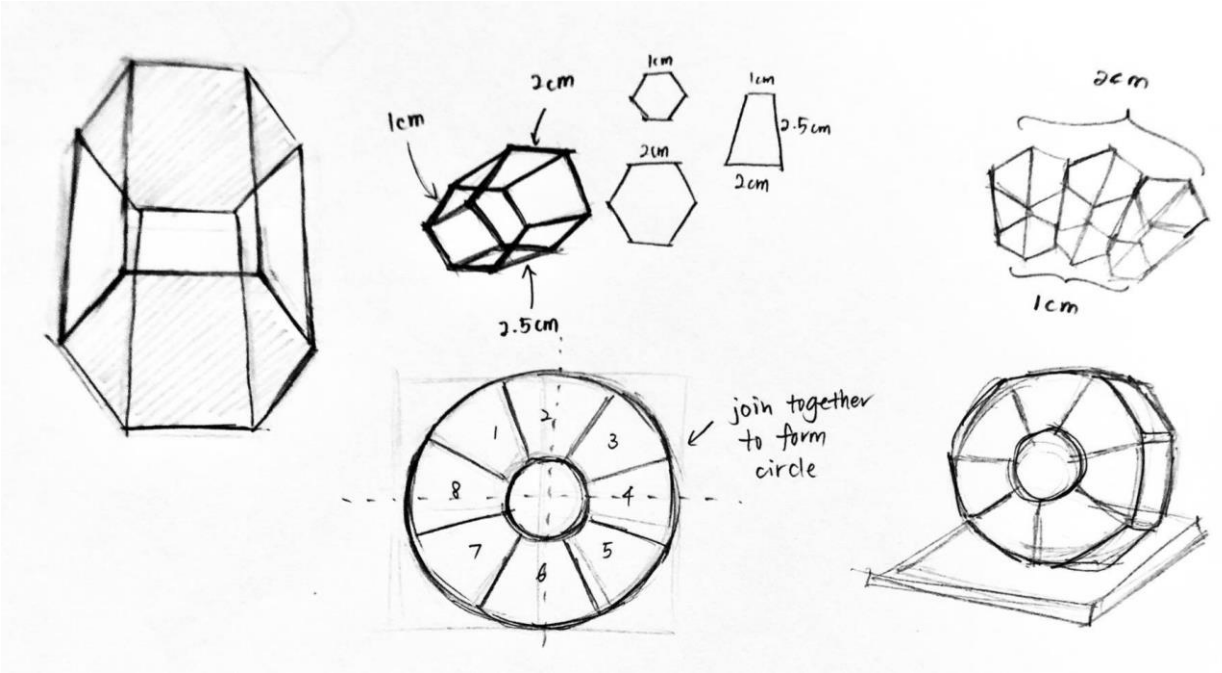
# 8 Design Principles Model Making

Design Principle #1

# BALANCE

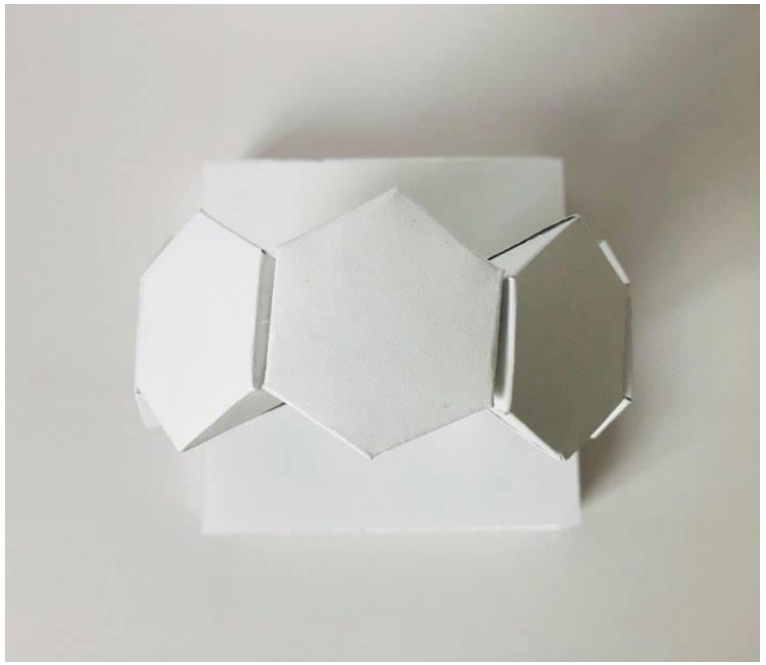
**PERSPECTIVE VIEW**






This is a symmetrical balance model, with equal weight on each side of the centre line. The concept is to join 8 hexagonal prisms with smaller planes facing inwards, forming a symmetrical ring.

**TOP VIEW**



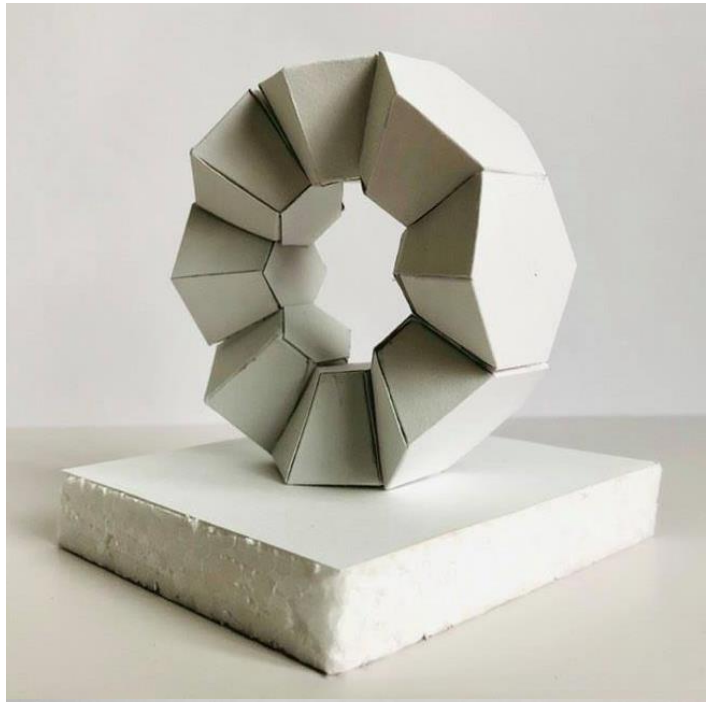
**FRONT VIEW**

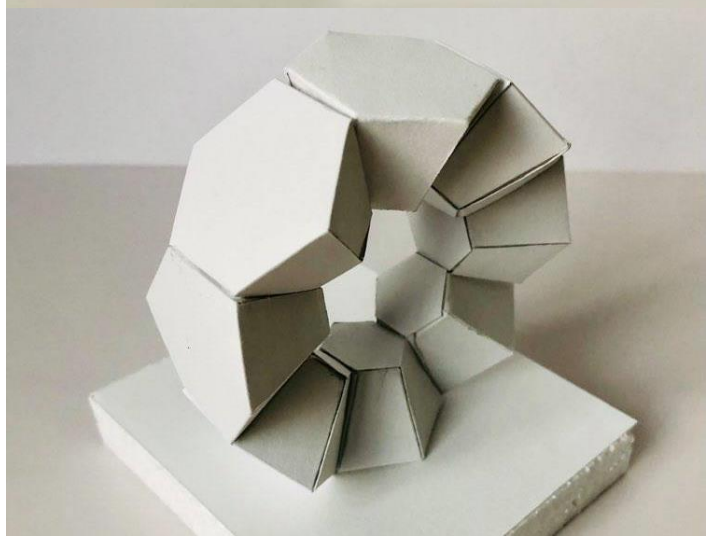
**REAR VIEW**

**LEFT VIEW**

**RIGHT VIEW**

**PERSPECTIVE VIEW**





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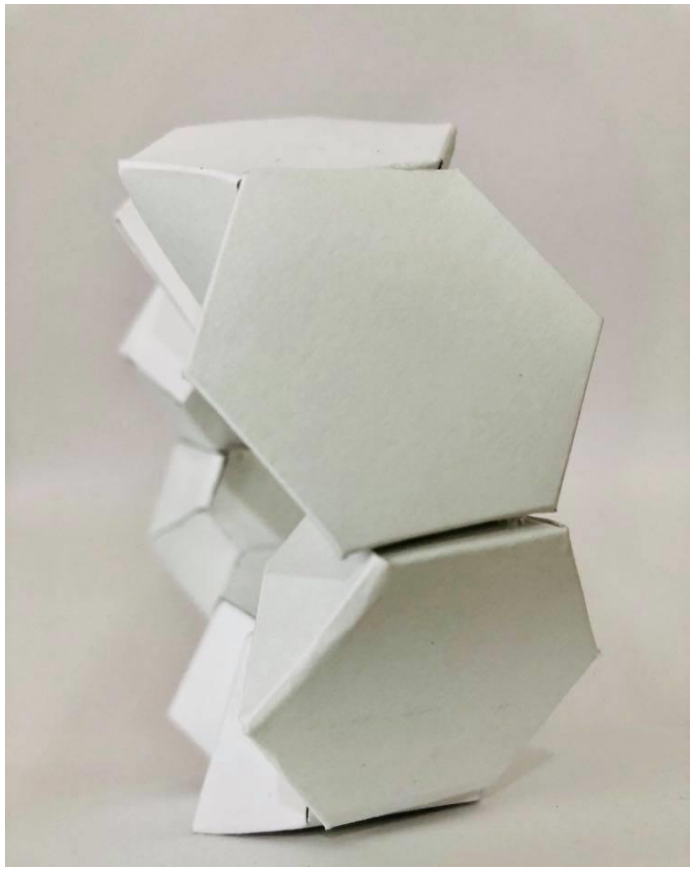
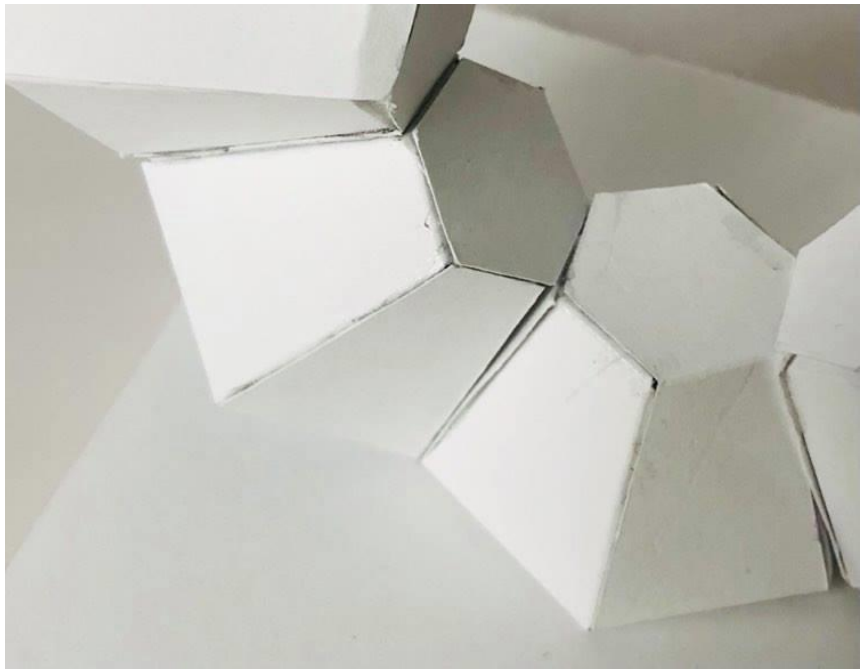
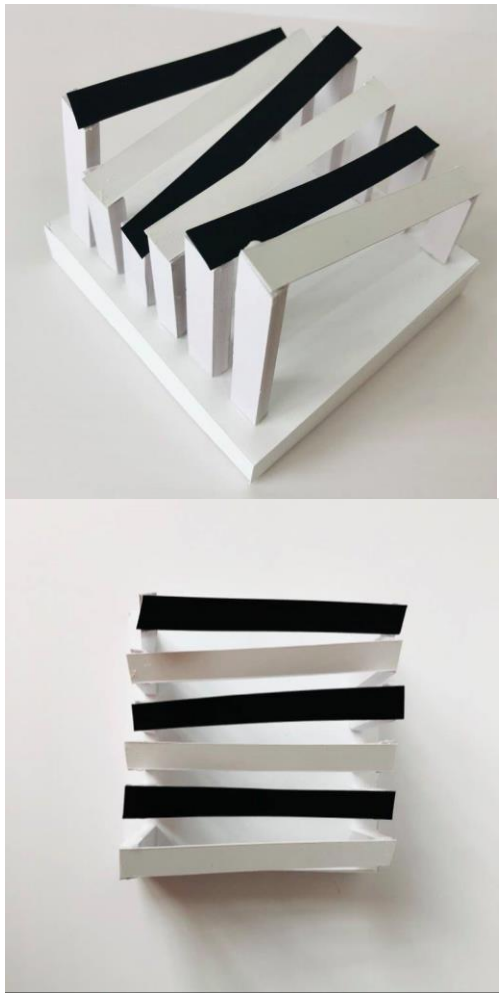


**CLOSE-UP**



**TOP VIEW & PERSPECTIVE VIEW**



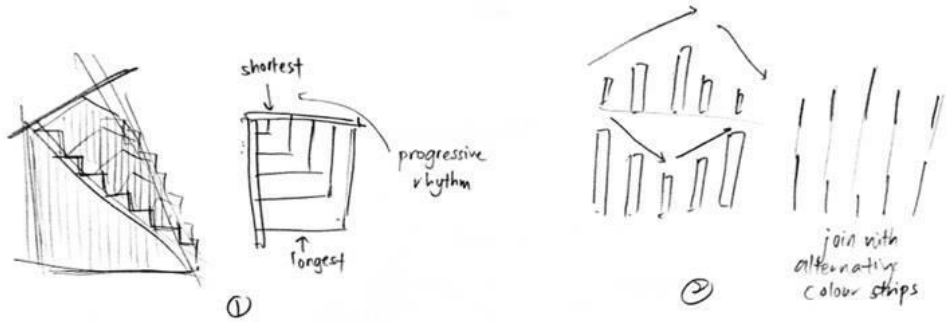
***1st Attempt***

**PERSPECTIVE VIEW**

***2nd Attempt (Final)***

Design Principle #2

# Rhythm

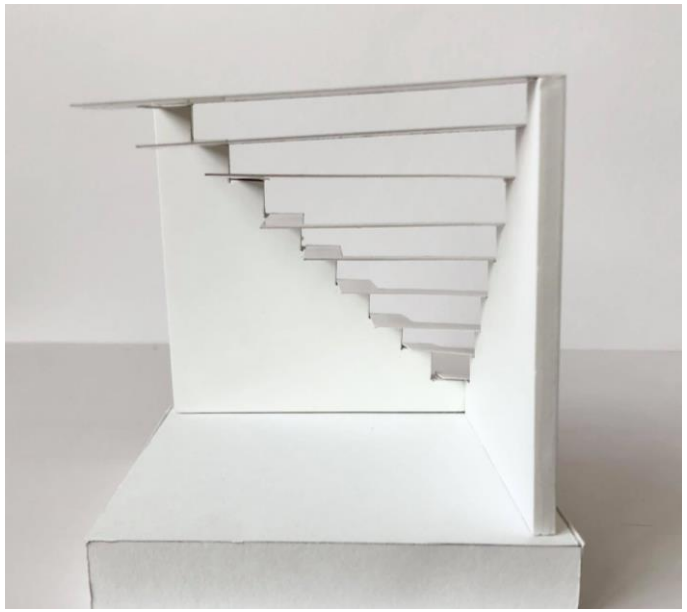



Rhythm is a design principle that suggests movement of action, which can be seen in repetitions of lines and forms. The 2nd model shows a progressive rhythm, in which the length of the lines joining two points (the repeating elements) to decrease gradually.

## TOP VIEW

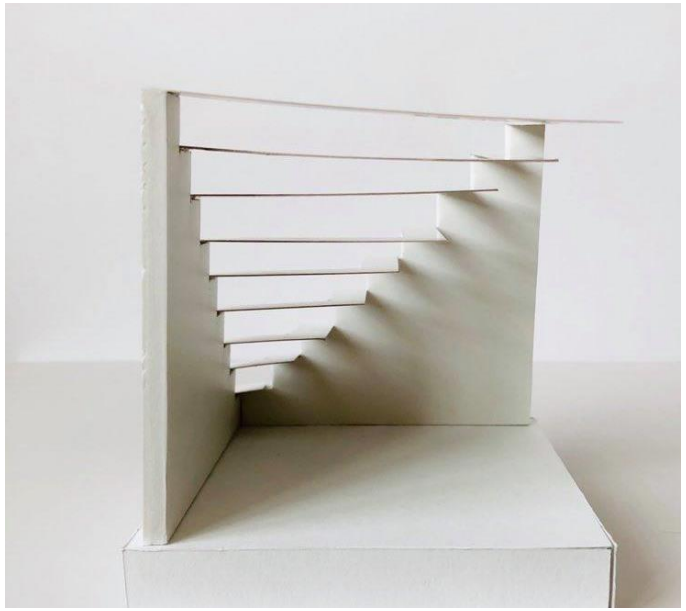
## FRONT VIEW

## REAR VIEW



## LEFT VIEW

## RIGHT VIEW



**PERSPECTIVE VIEW**

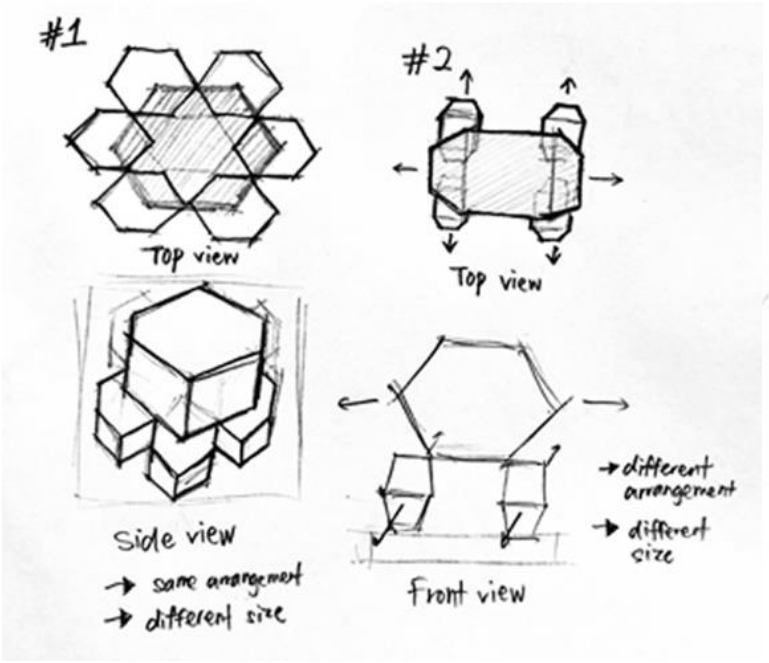
**PERSPECTIVE VIEW**

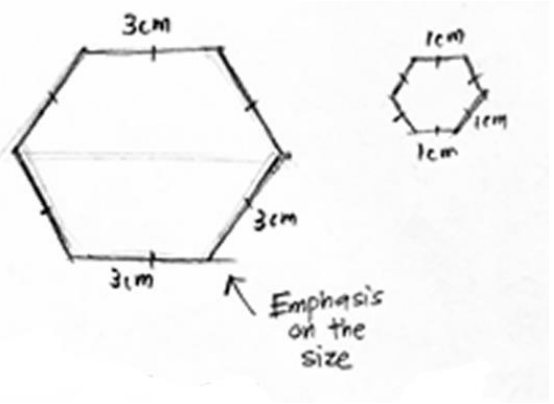
**CLOSE-UP**

**PERSPECTIVE VIEW**

Design Principle #3

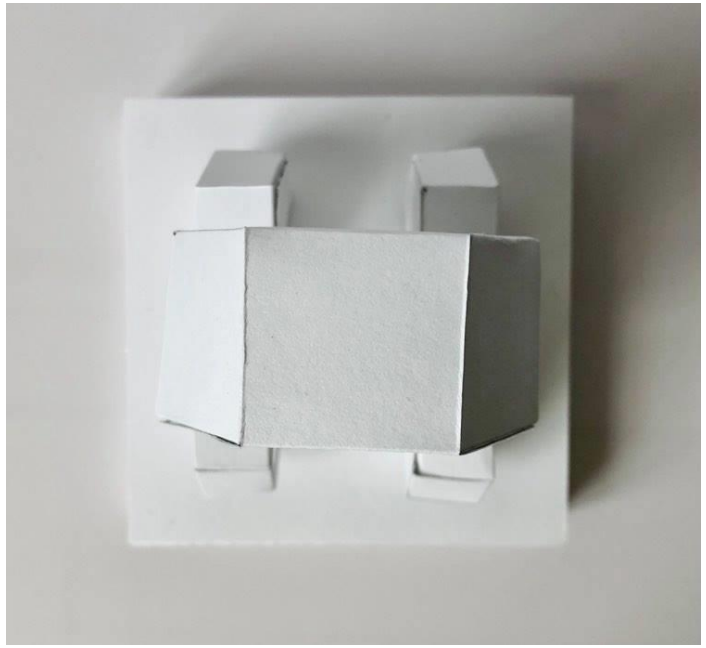
# EMPHASIS




Emphasis is a strategy that attract viewers' attention to a specific part. The larger hexagonal prism on the top is the focal point, which stands out because of its larger size and the opposite arrangement.

**TOP VIEW**



**FRONT VIEW**

**REAR VIEW**

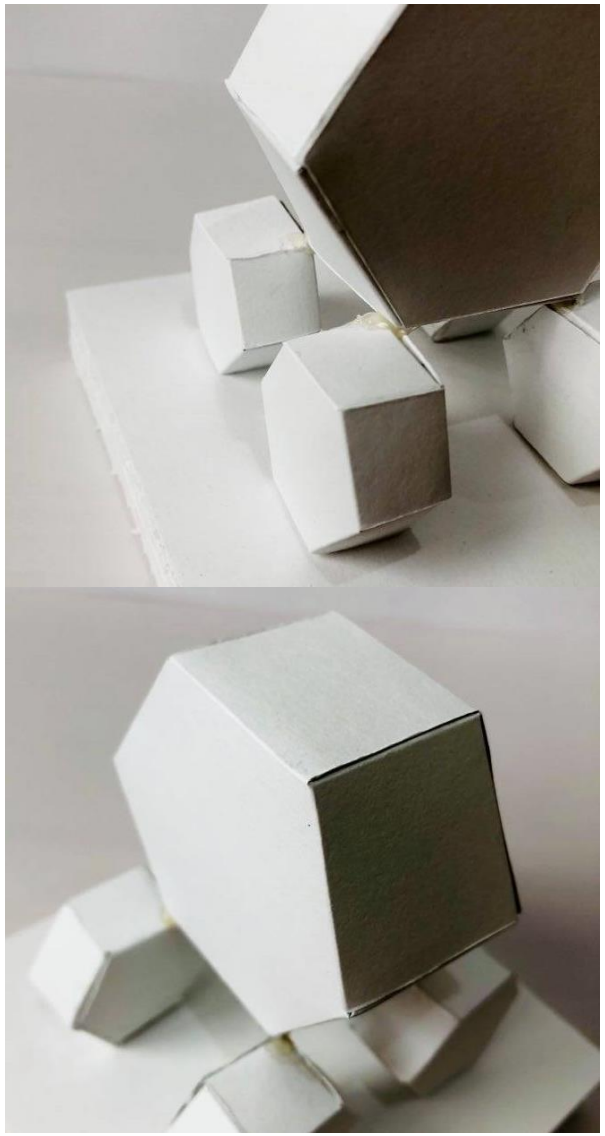
**LEFT VIEW**

**RIGHT VIEW**

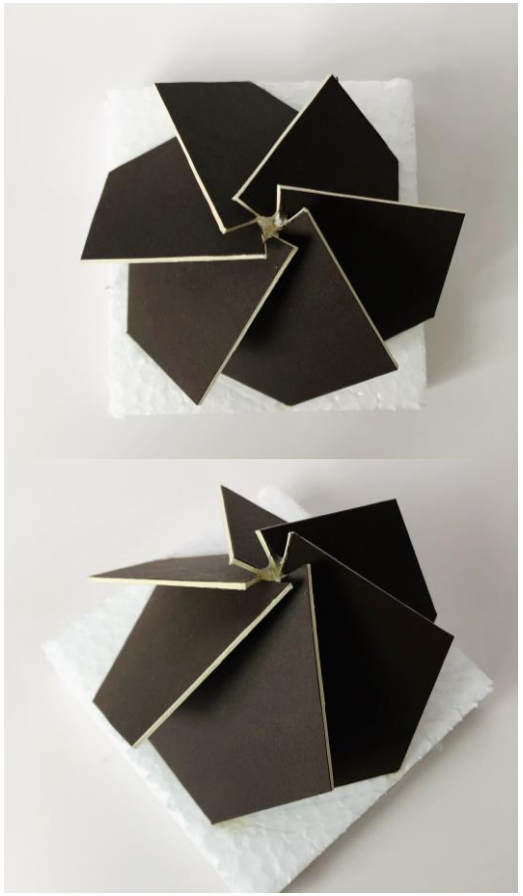
**PERSPECTIVE VIEW**

**PERSPECTIVE VIEW**

**CLOSE-UP**



**TOP VIEW & PERSPECTIVE VIEW**



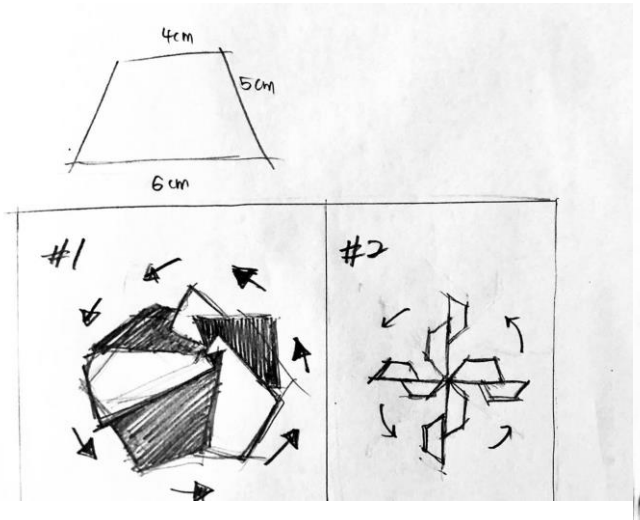
*1st Attempt*

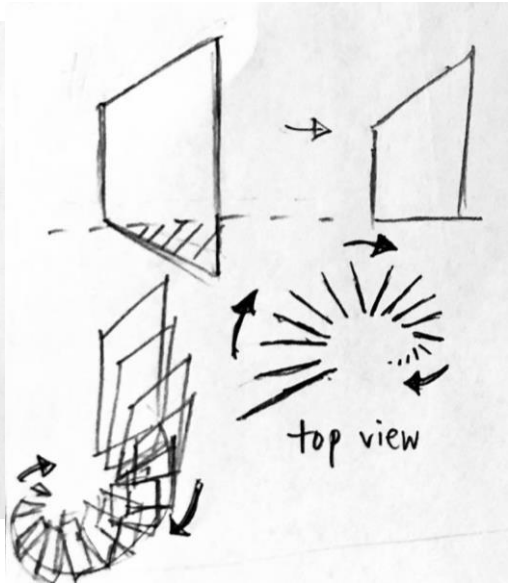
**PERSPECTIVE VIEW**

*2nd Attempt (Final)*

Design Principle #4

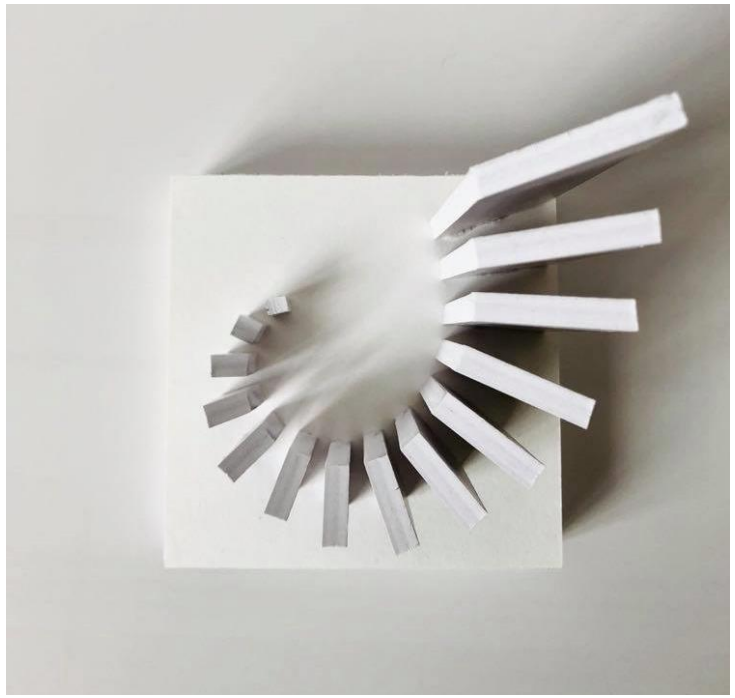
# MOVEMENT




Movement is the path the viewers' eyes take through the art. This model follows the golden ratio, which directs the eyes from the highest point to the lowest point. The right trapeziums are arranged vertically, vary in height and width.

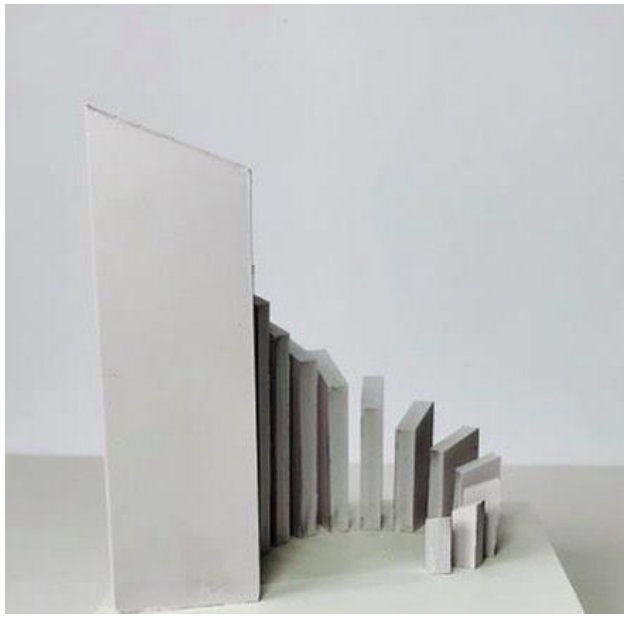
**TOP VIEW**



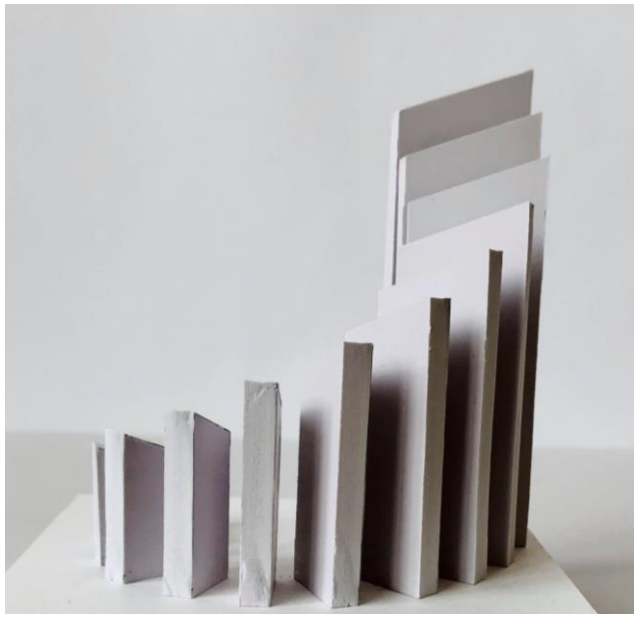
**FRONT VIEW**

**BACK VIEW**

**LEFT VIEW**

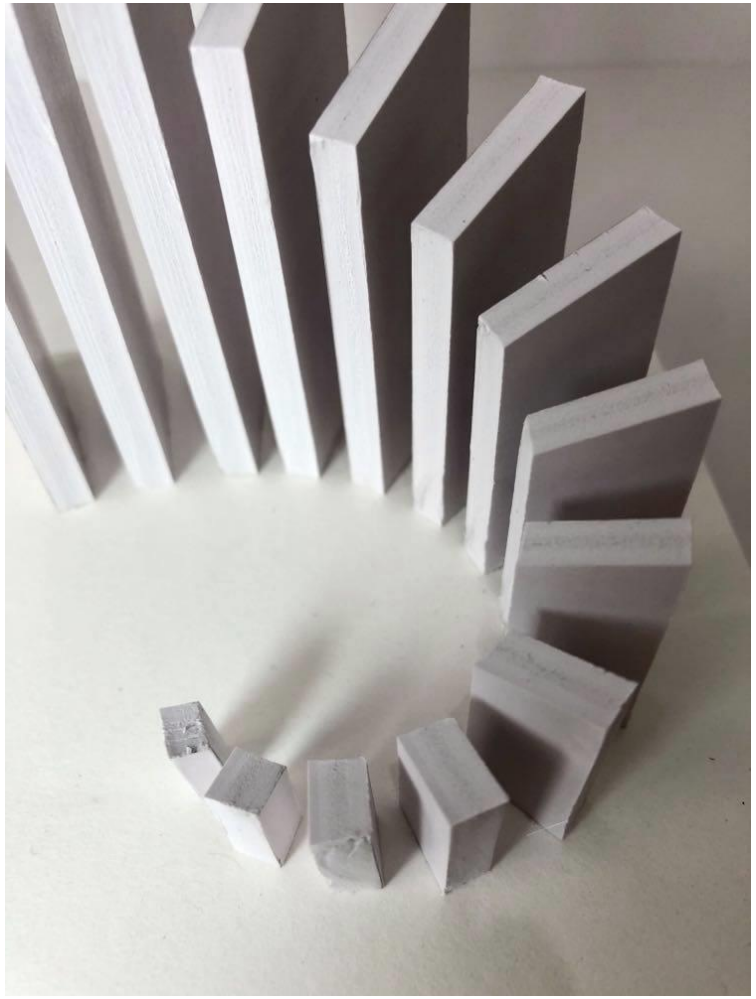


**RIGHT VIEW**

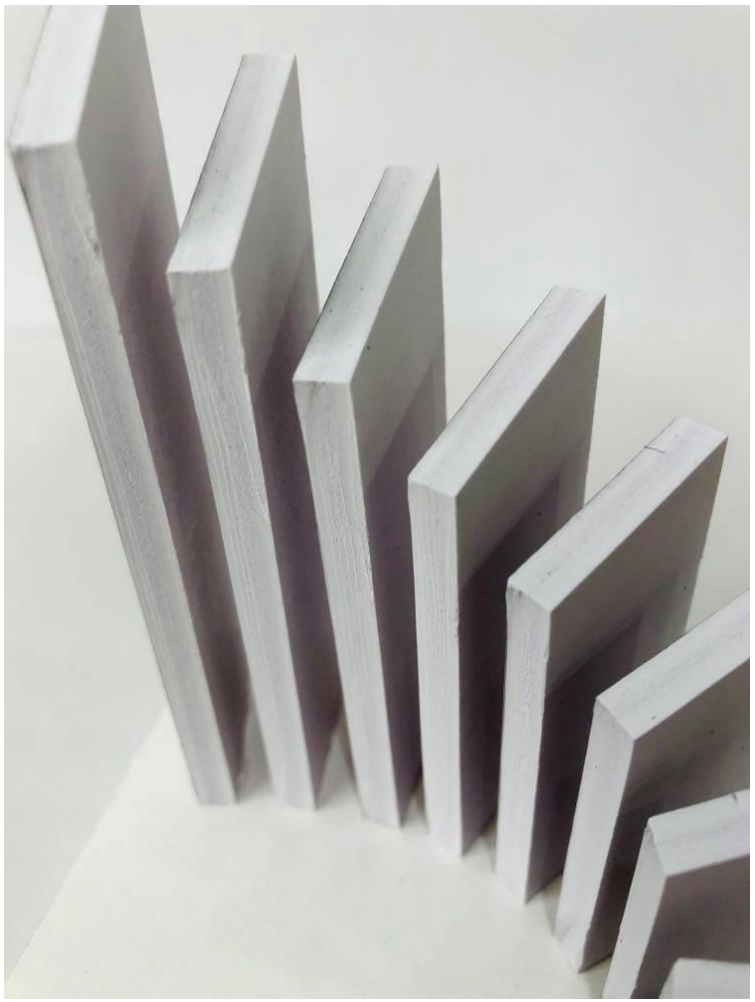


**PERSPECTIVE VIEW**

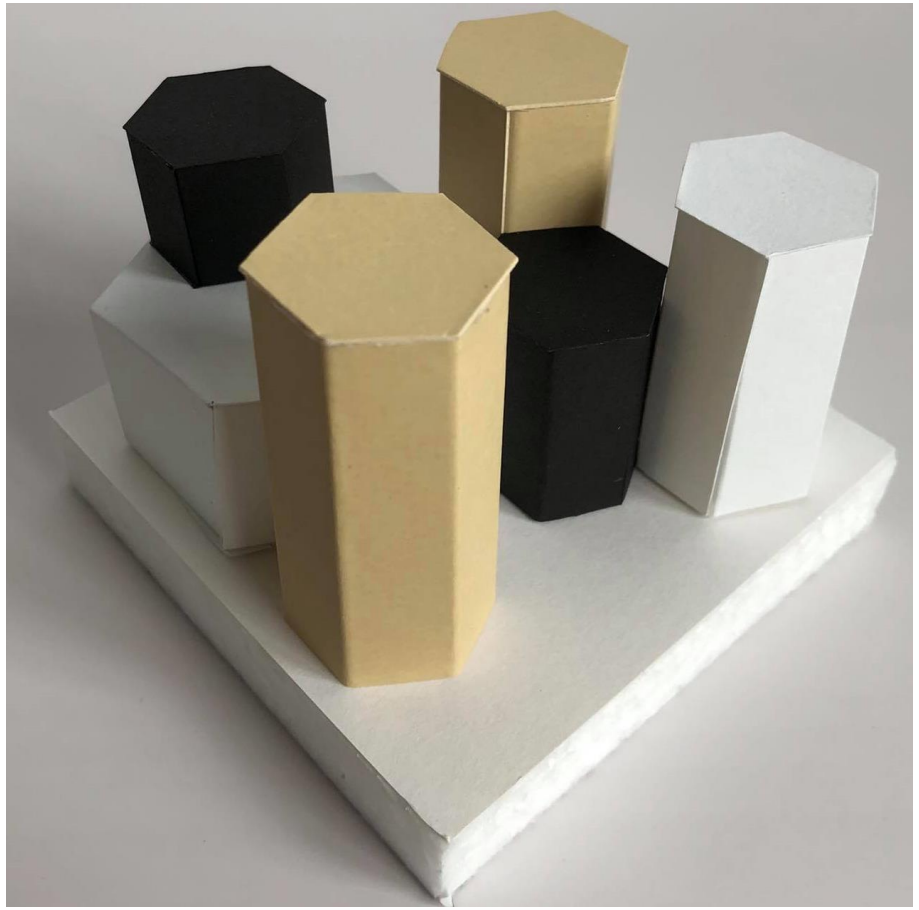
**CLOSE-UP**



**CLOSE-UP**

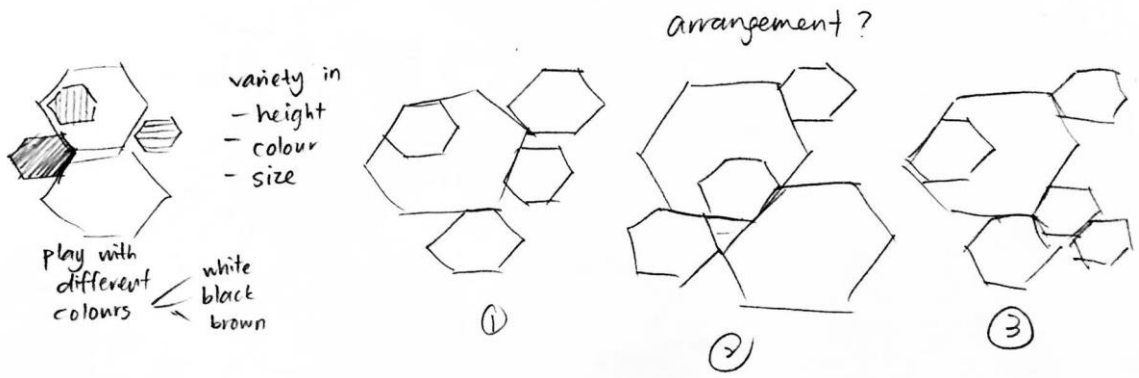


**PERSPECTIVE VIEW**



Design Principle #5

# Variety




Variety is the use of several elements of design to add visual interests to an art. In this model, variety is created in several ways, in terms of colour, size, and height.

## TOP VIEW

## FRONT VIEW

## REAR VIEW

## LEFT VIEW

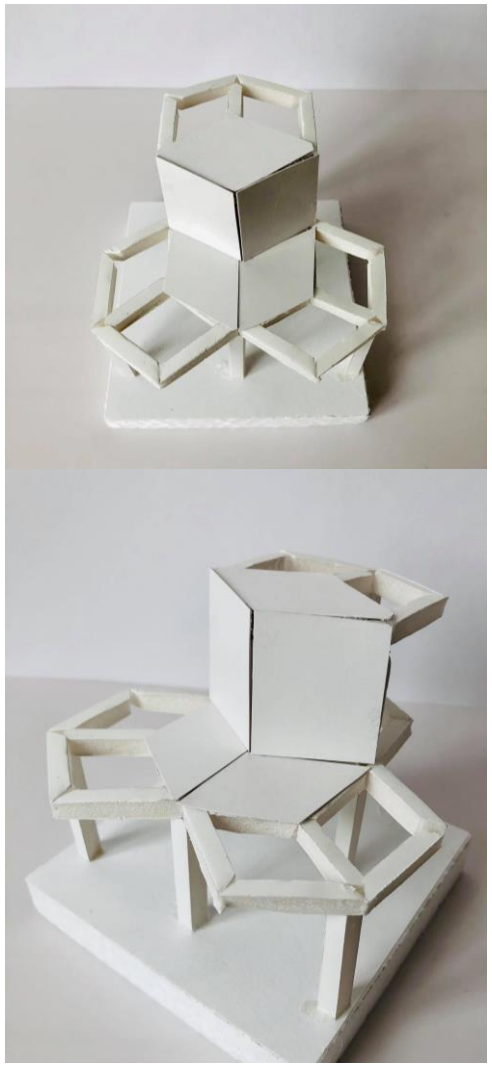
## RIGHT VIEW

**CLOSE-UP**

**CLOSE-UP**

**CLOSE-UP**

**PERSPECTIVE VIEW**



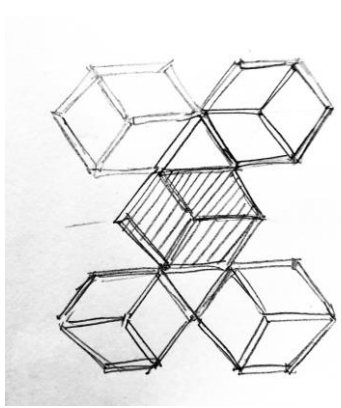
*1st Attempt*

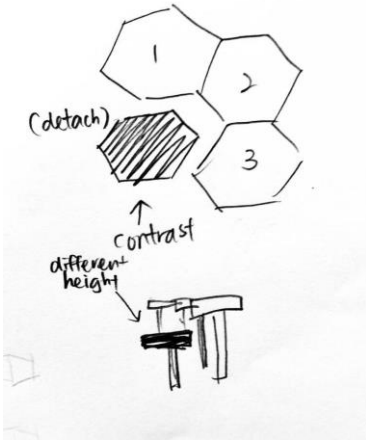
**PERSPECTIVE VIEW**

*2nd Attempt (Final)*

Design Principle #6

# CONTRAST






The purpose of contrast is to differentiate similar elements from each other in a composition. In the second model, the black hexagonal shape with a lower height is the contrasting element which grabs the attention. It is also detaching from other regular pattern.

## TOP VIEW

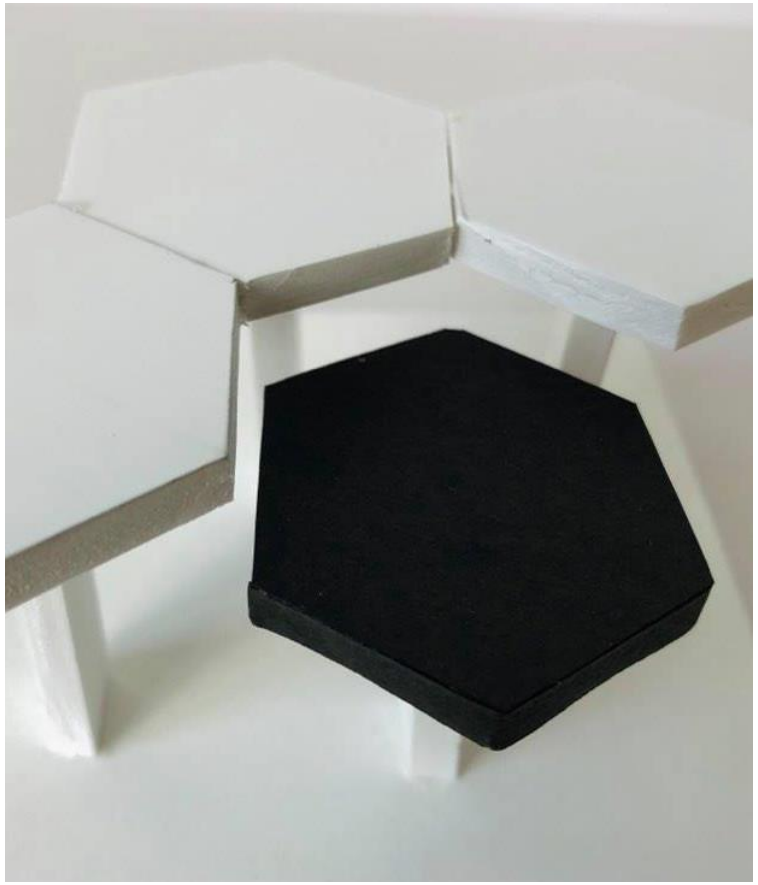
## FRONT VIEW

## REAR VIEW

## LEFT VIEW

## RIGHT VIEW

**CLOSE-UP**



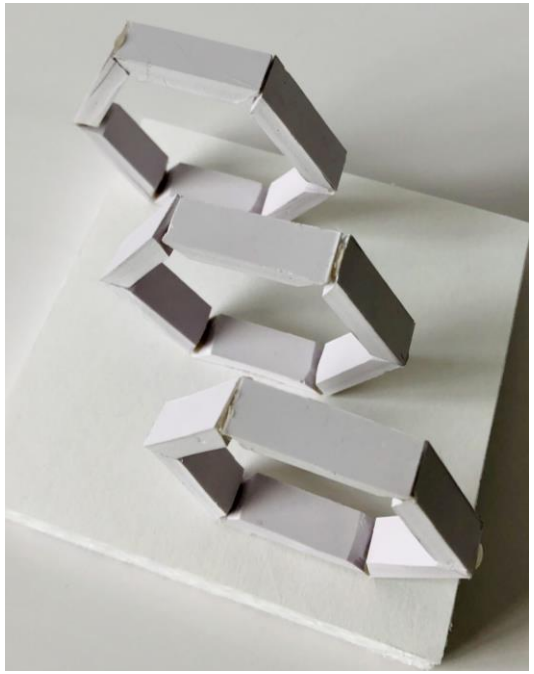
**PERSPECTIVE VIEW**

**PERSPECTIVE VIEW**

Design Principle #7

# HARMONY

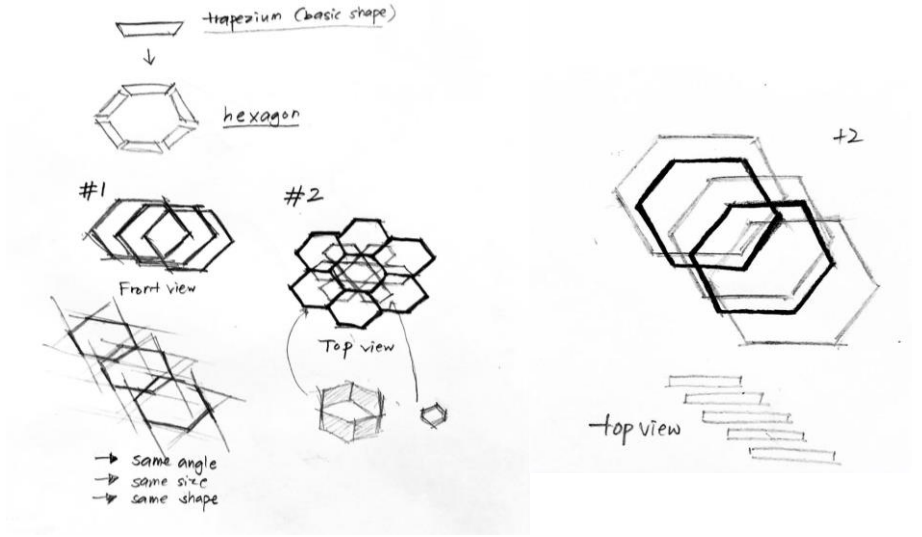
**PERSPECTIVE VIEW**



*1st Attempt*

**PERSPECTIVE VIEW**

*2nd Attempt (Final)*




Harmony is the principle of art that creates cohesiveness by stressing the similarities of separate but related parts. The repetition of hollow hexagons with same size, colour and thickness create a sense of togetherness amongst otherwise separate parts.

## TOP VIEW

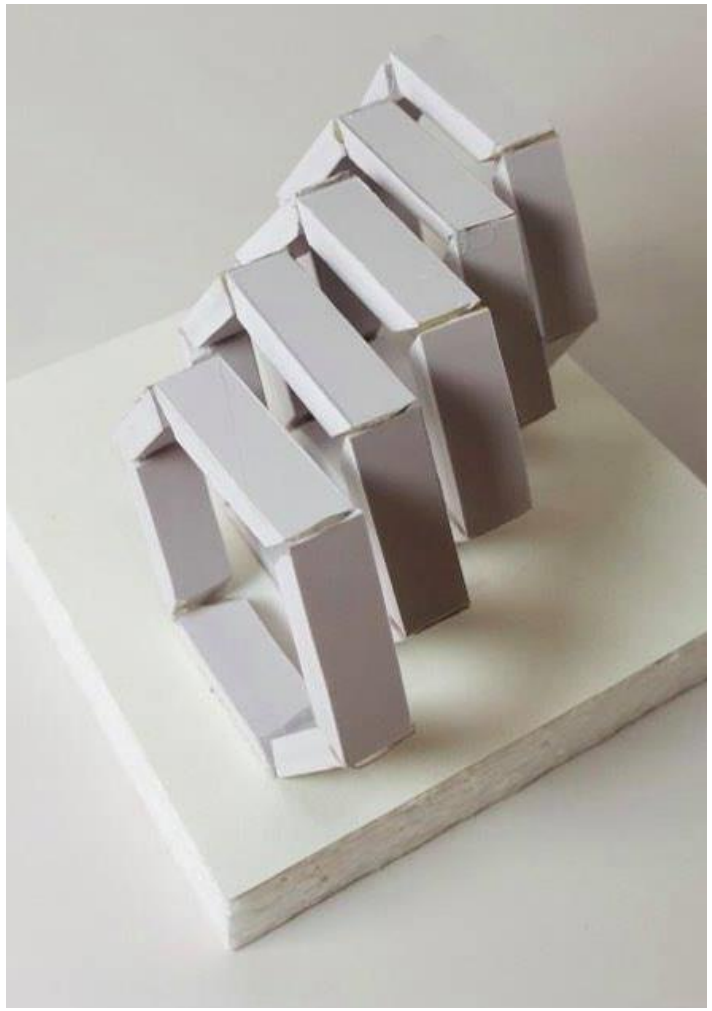
## FRONT VIEW

## REAR VIEW

## LEFT VIEW

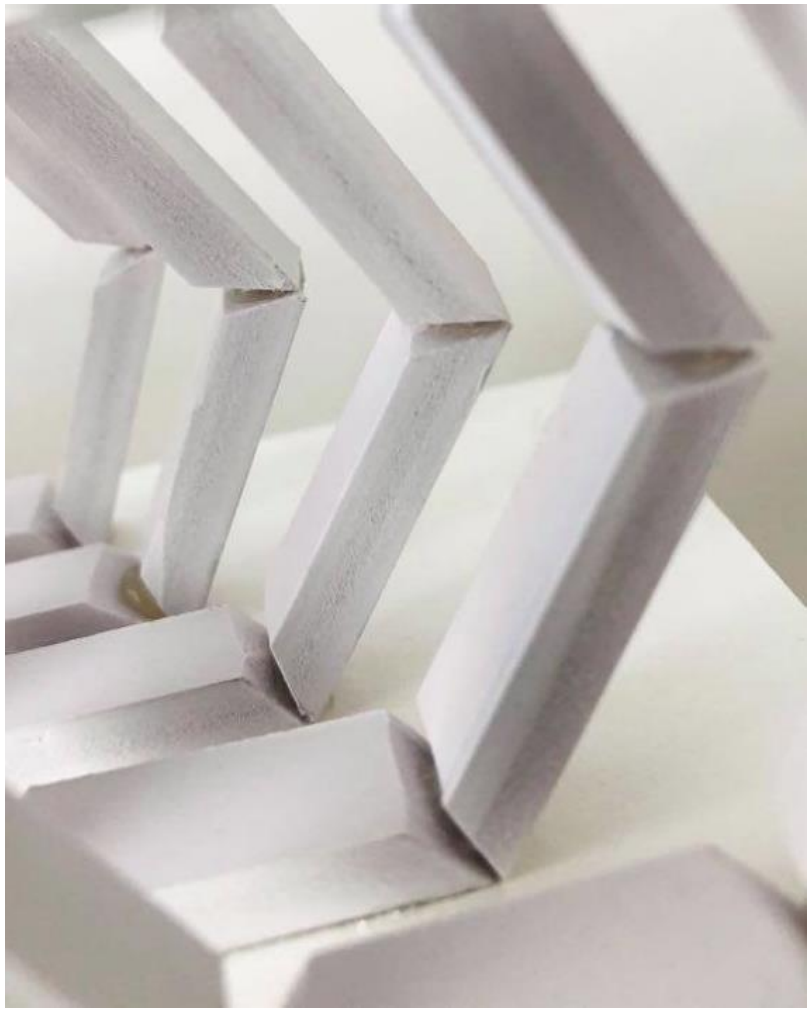
## RIGHT VIEW

**PERSPECTIVE VIEW**



**CLOSE-UP**

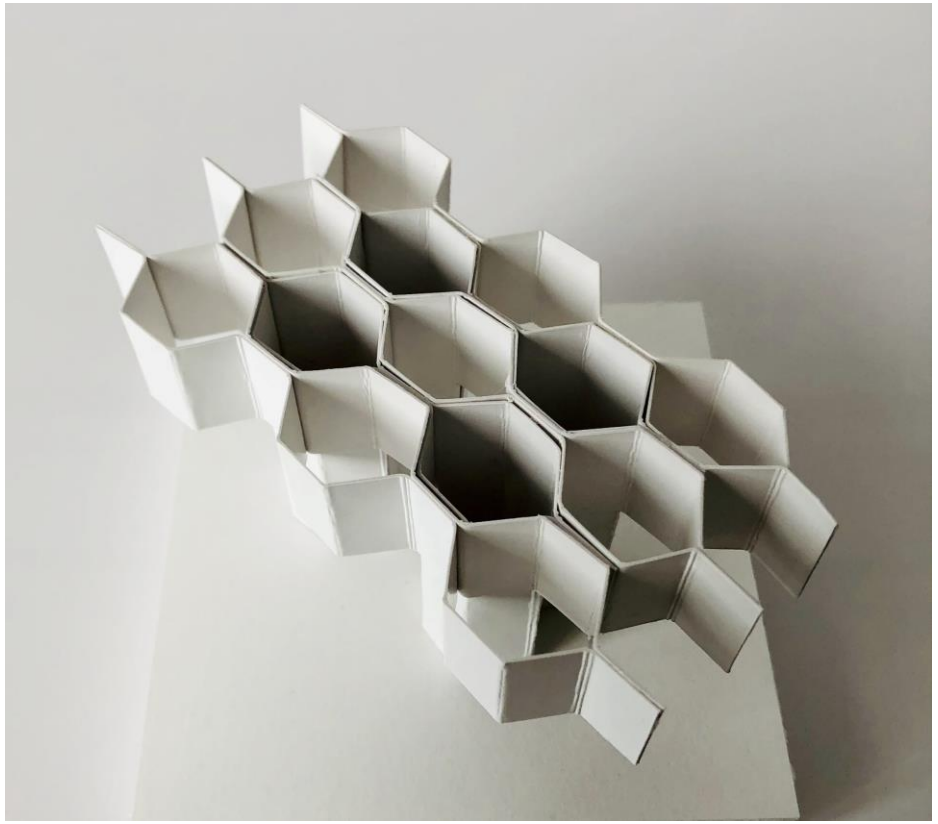
**CLOSE-UP**

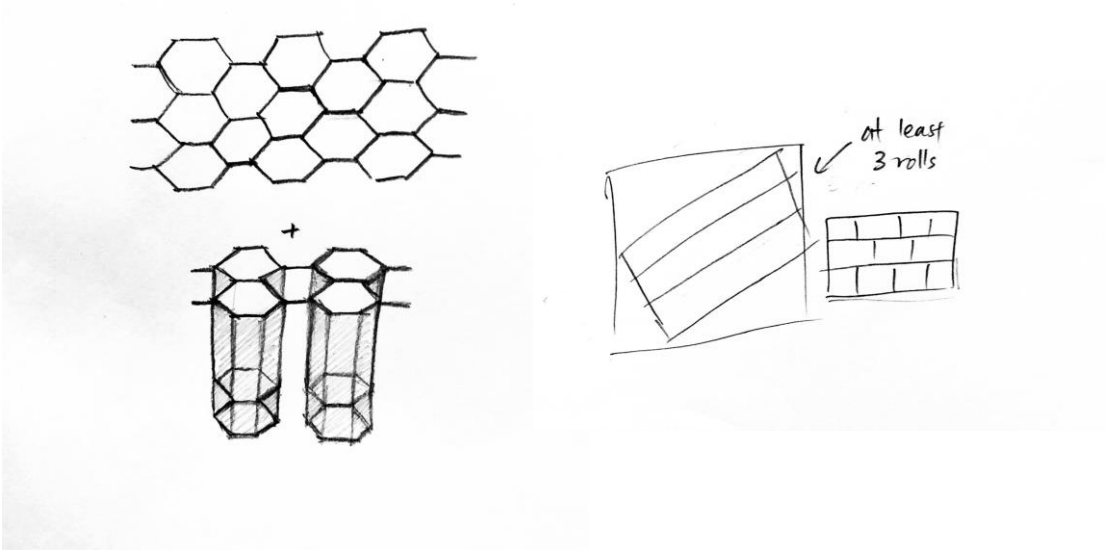


Design Principle #8

# UNITY

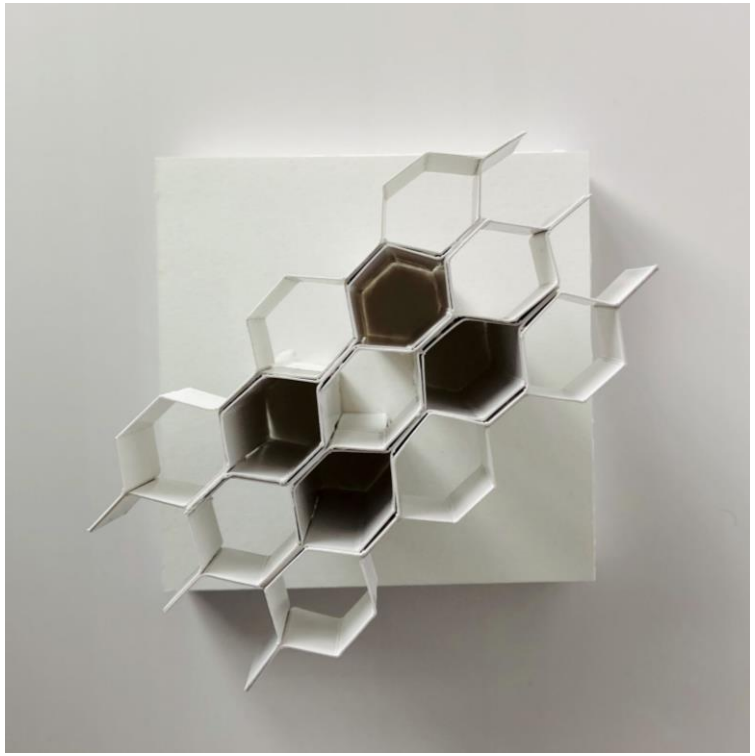
**PERSPECTIVE VIEW**





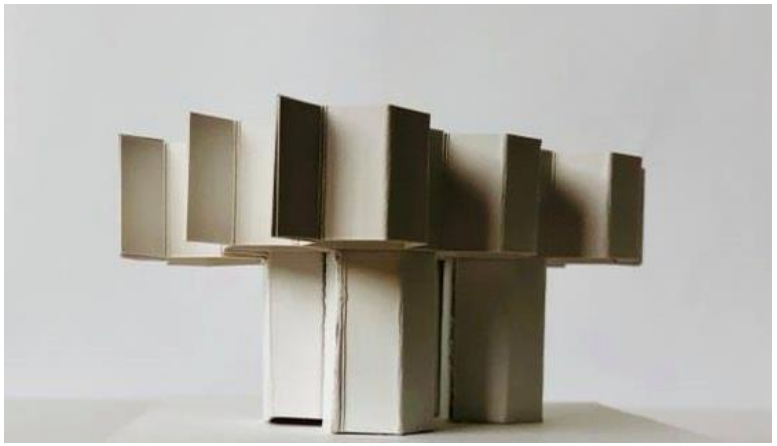

Unity allows each individual element to coexist with one another to form aesthetically pleasing design. The honeycomb pattern shows oneness because of its arrangement which creates a sense of order and completeness.

## TOP VIEW



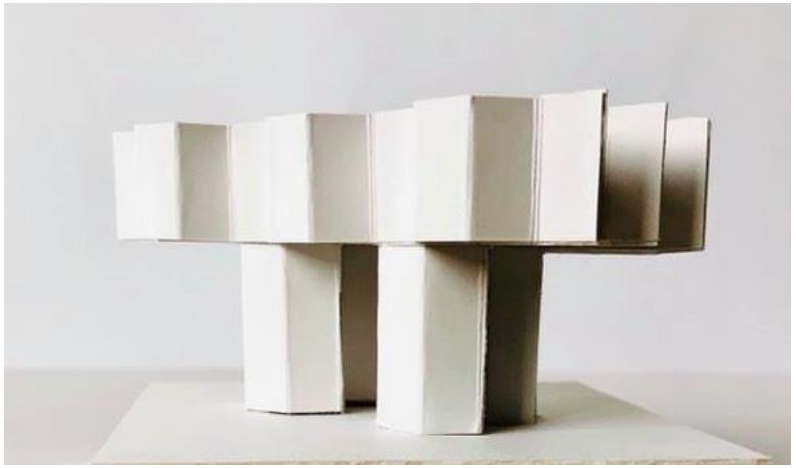
## FRONT VIEW

## REAR VIEW

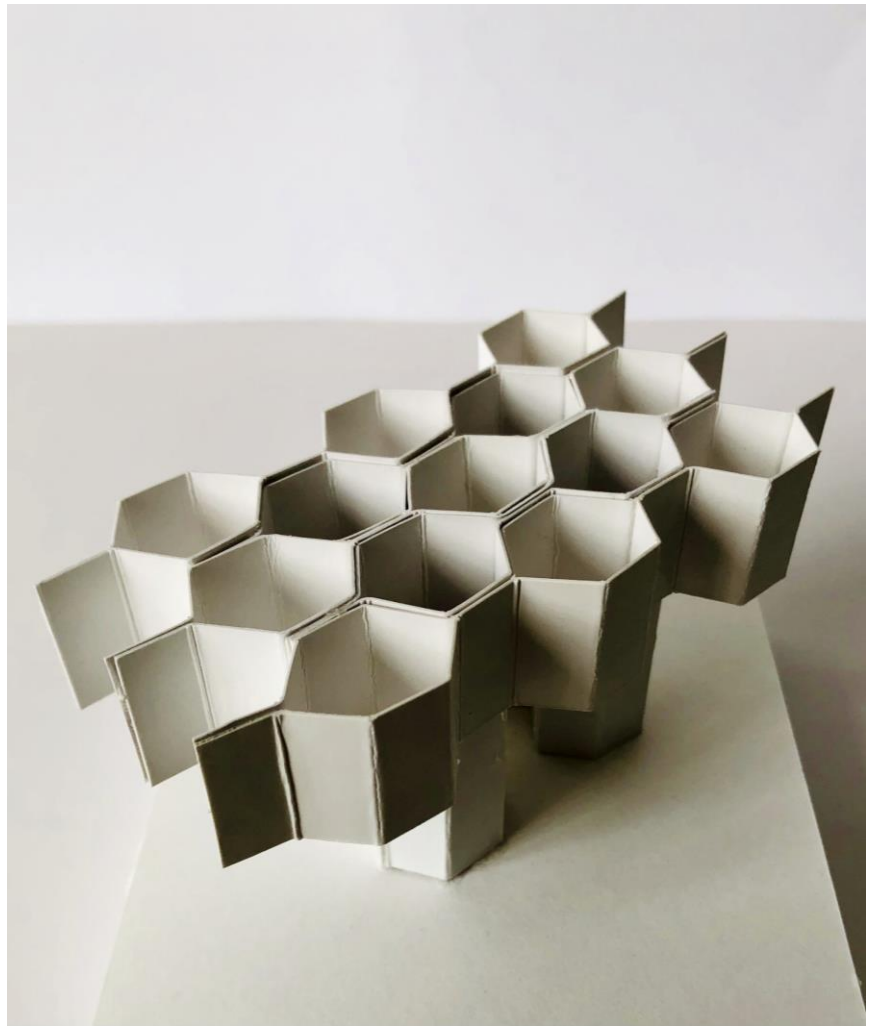


## LEFT VIEW

## RIGHT VIEW

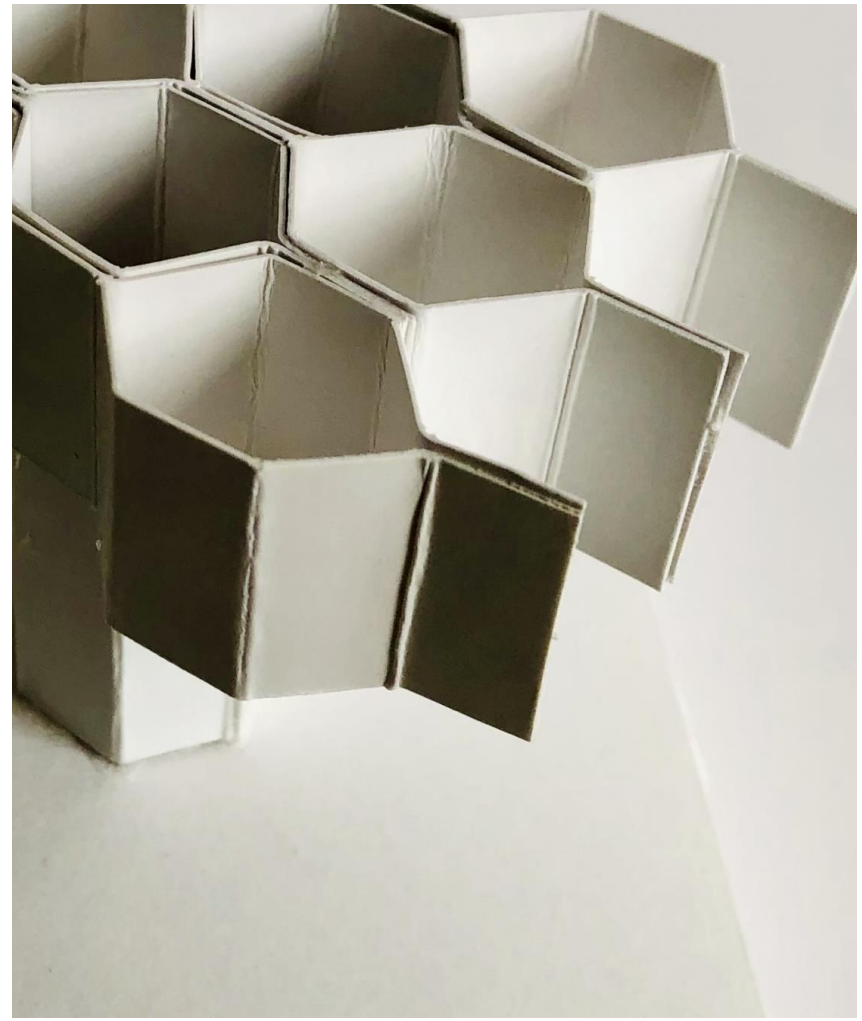


**PERSPECTIVE VIEW**



**CLOSE-UP**

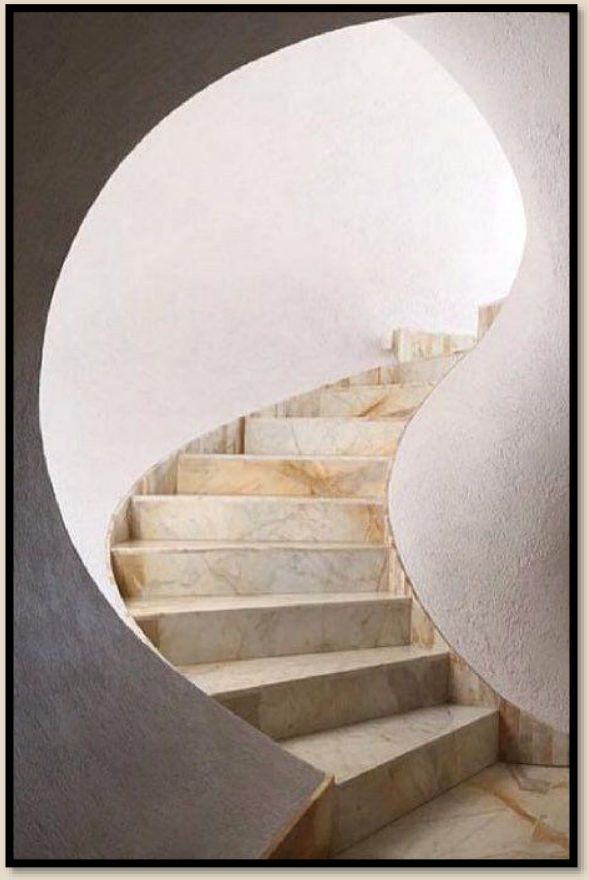
**CLOSE-UP**



# 3 Design Principles Hybrid Model

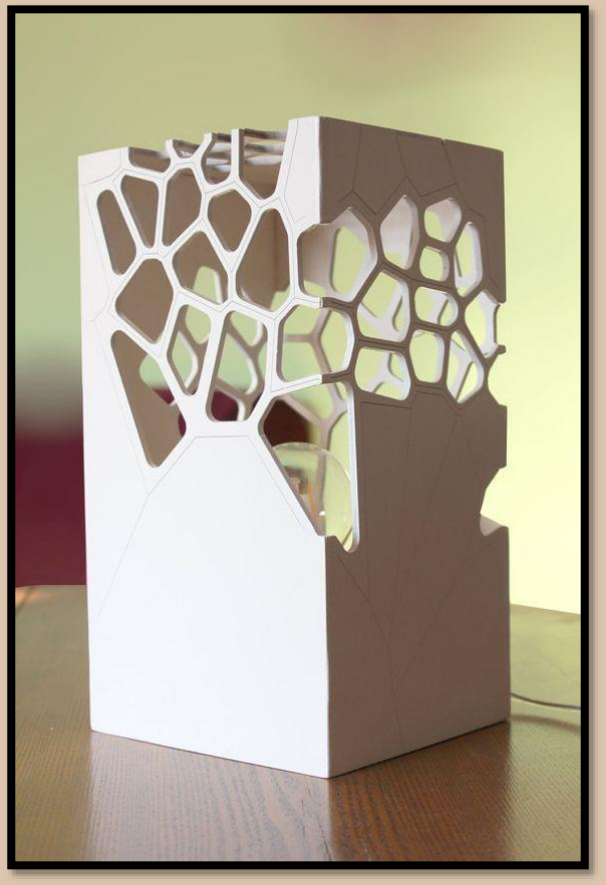
# Inspiration

## Curved Staircase



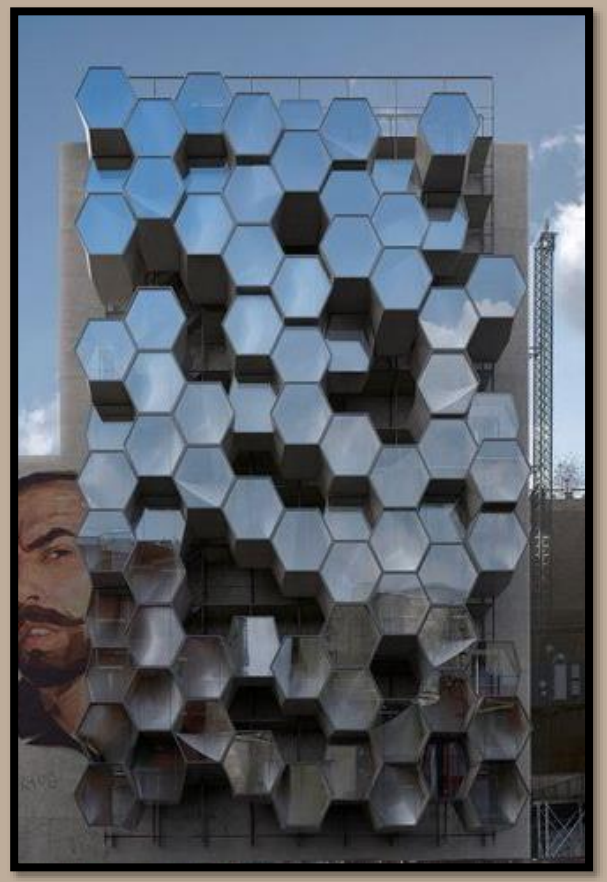
A curved style staircase has no landings. Instead, the stairs are continuous, following the bend of the banister to make a striking architectural statement.

## Spiderweb/ Honeycomb Concept



Spider web-like / honeycomb structures had found widespread applications in various fields, including architecture.

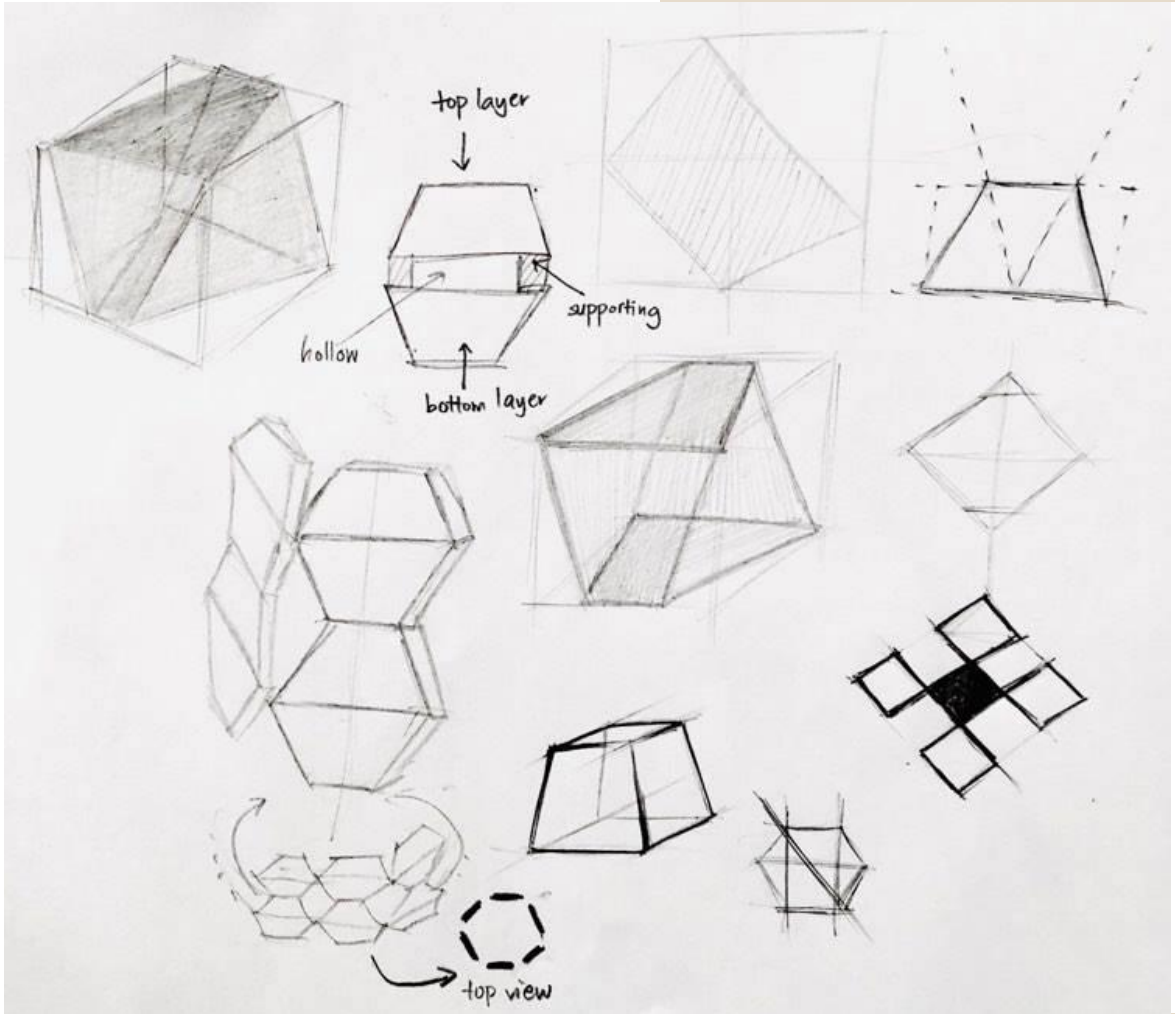
## Parasitic Architecture

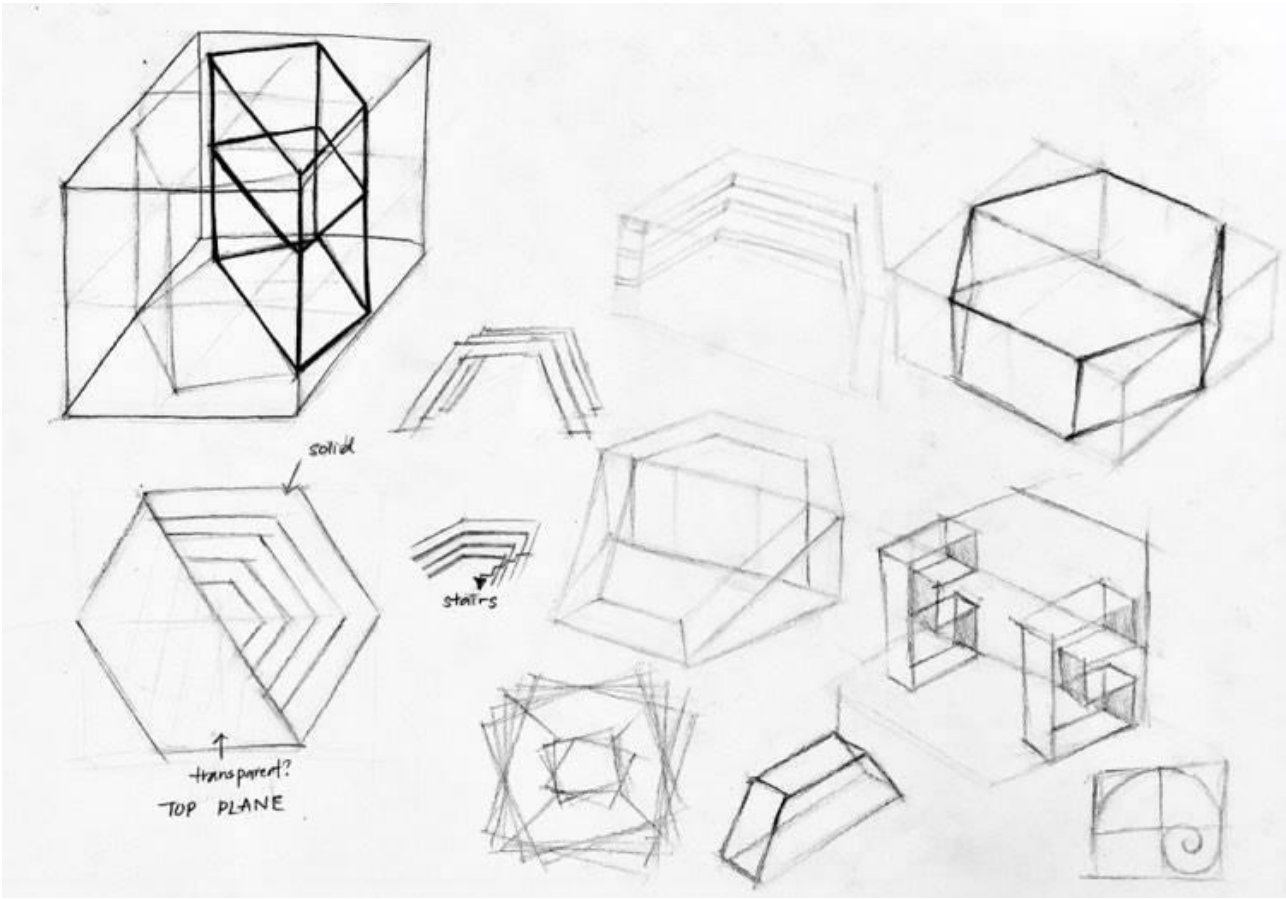


Parasitic architecture is defined as a building that is attached to an existing larger structure.

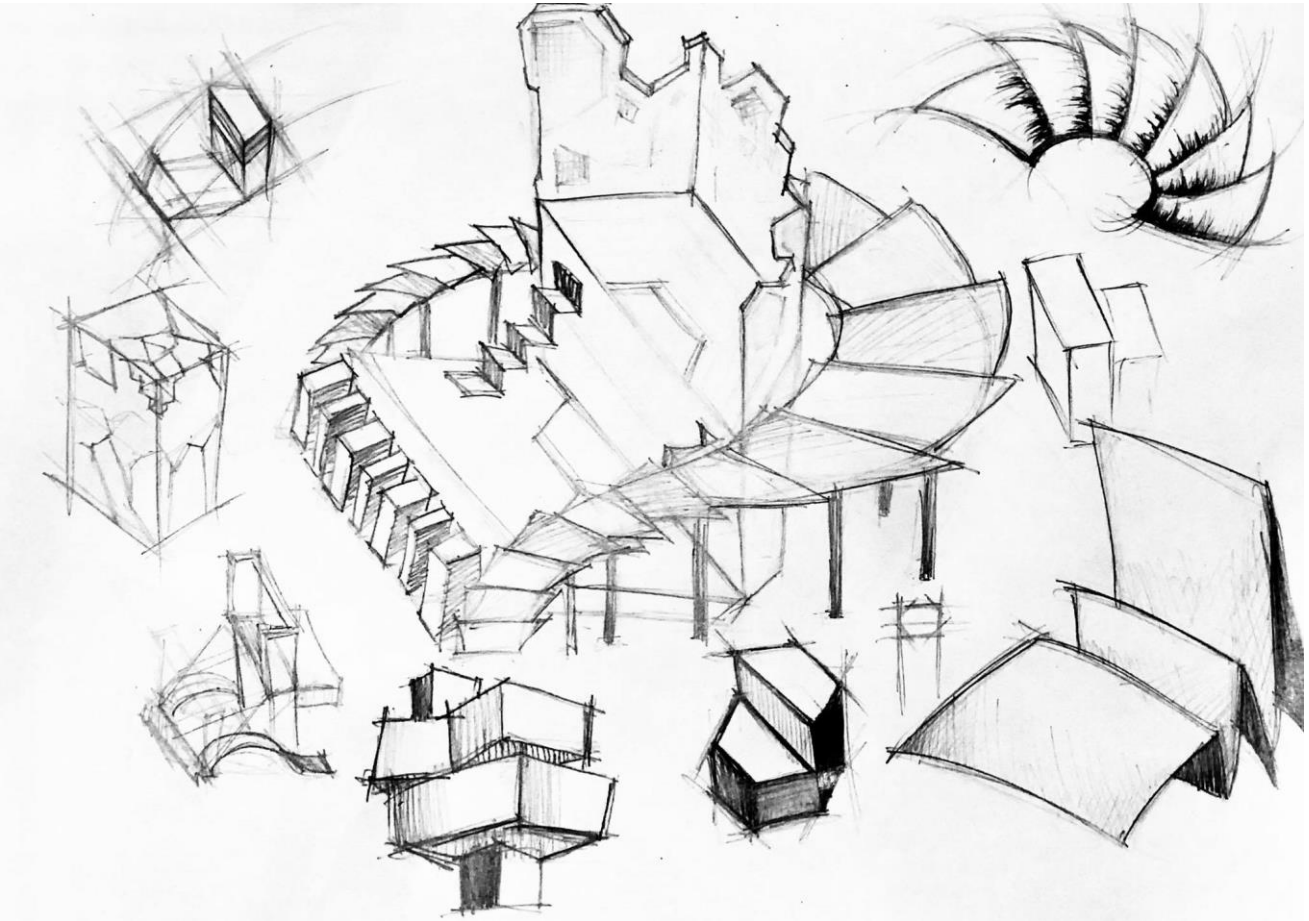
# Design Development

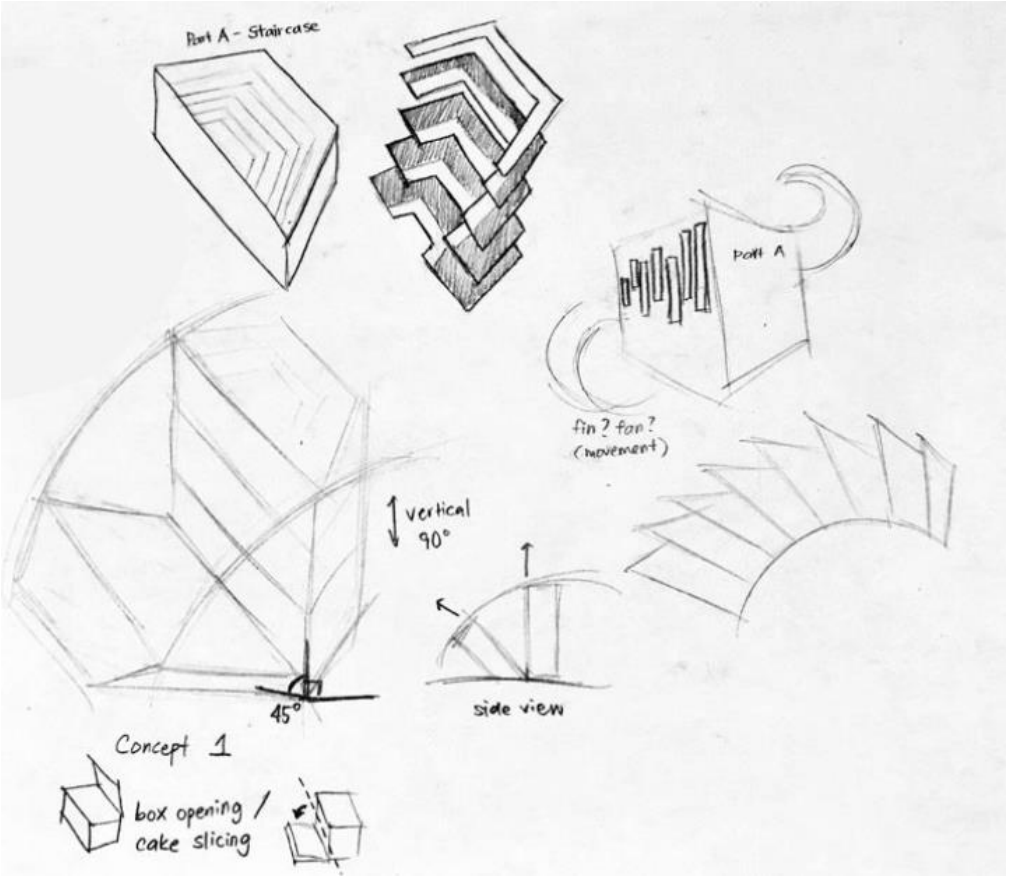
# Design Strategies




- Brainstorming possible main structures -



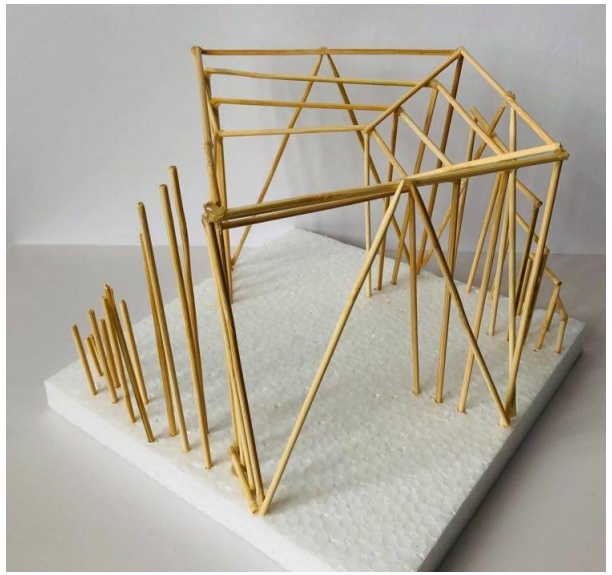



Chosen 3 principles : Rhythm, Movement, Contrast

Exploring the composition to join different elements as a whole to create oneness.

# Mock-up Models

**TOP VIEW**



**PERSPECTIVE VIEW**

**PERSPECTIVE VIEW**

## 1st attempt

Play with bamboo sticks to construct the main structure.

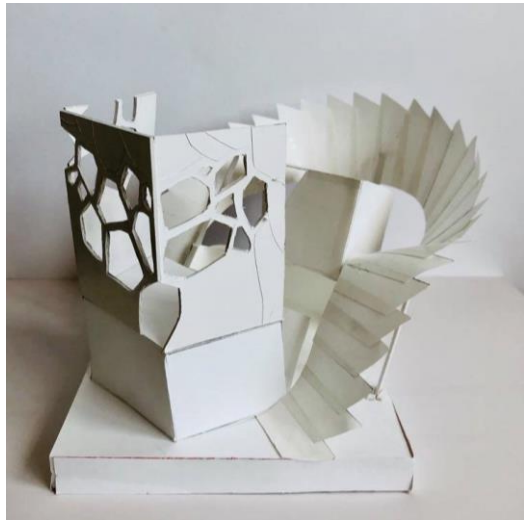
# Mock-up Models

**TOP VIEW**

**FRONT VIEW**

**REAR VIEW**

**LEFT VIEW**

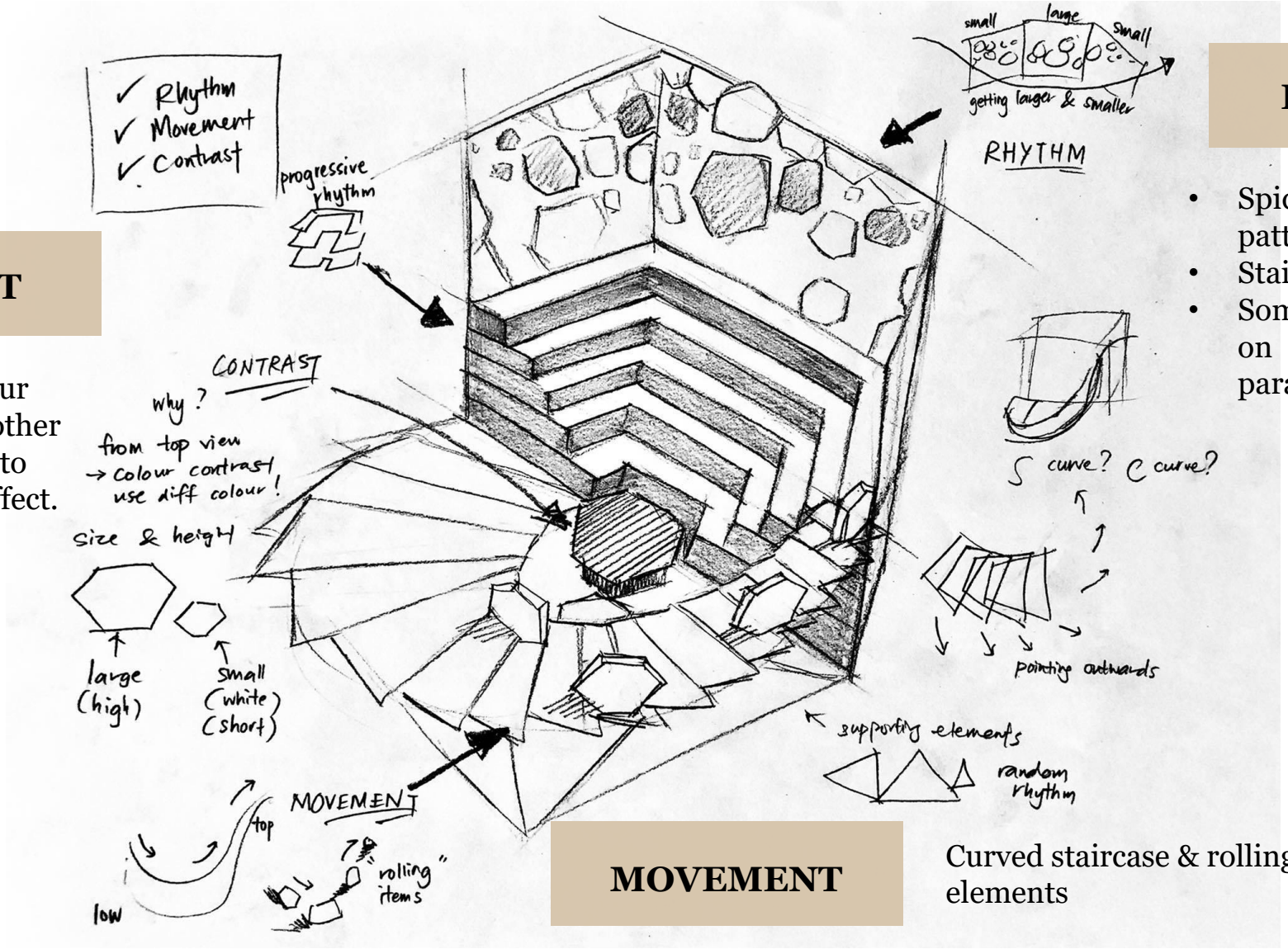


**RIGHT VIEW**

## 2nd attempt

Drawing papers and white modeling boards are used to construct the model. This serves as the experiment to observe and investigate the overall composition of the hybrid model.

# Final Sketch




## CONTRAST

Introduce colour contrast. Use another small element to strengthen the effect.

## RHYTHM

- Spiderweb/honeycomb pattern
- Staircases
- Some hexagonal shapes stick on the wall to represent parasitic architecture

## MOVEMENT

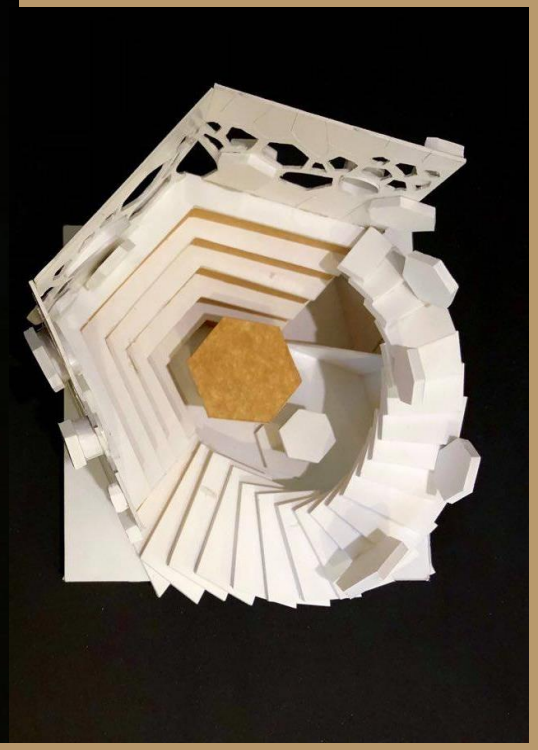
Curved staircase & rolling hexagonal elements

# Hybrid Model Presentation

# Melaleucal

*Melaleucal the concert hall* is formed with the combination of 3 design principles, rhythm, movement and contrast.

It is inspired by the spiderweb-like pattern/honeycomb, parasitic architecture and the curved staircase. The irregular hollow and protruding patterns that represent parasitic architecture create irregular rhythm. The progressive rhythm can be seen at both staircases, the curved stairs and the concert hall stairs.



The curved stairs which gradually become smaller, guide the viewers' eyes from low to top. The rolling hexagonal shapes on the curved stairs also highlight the principle of movement.

Last but not least, the contrasting element exists in the centre, which is a hexagon platform rising from the ground. The viewers can see the colour contrast from the top view, and also the size and height contrast with the smaller and shorter hexagon in white.

## TOP VIEW

## FRONT VIEW

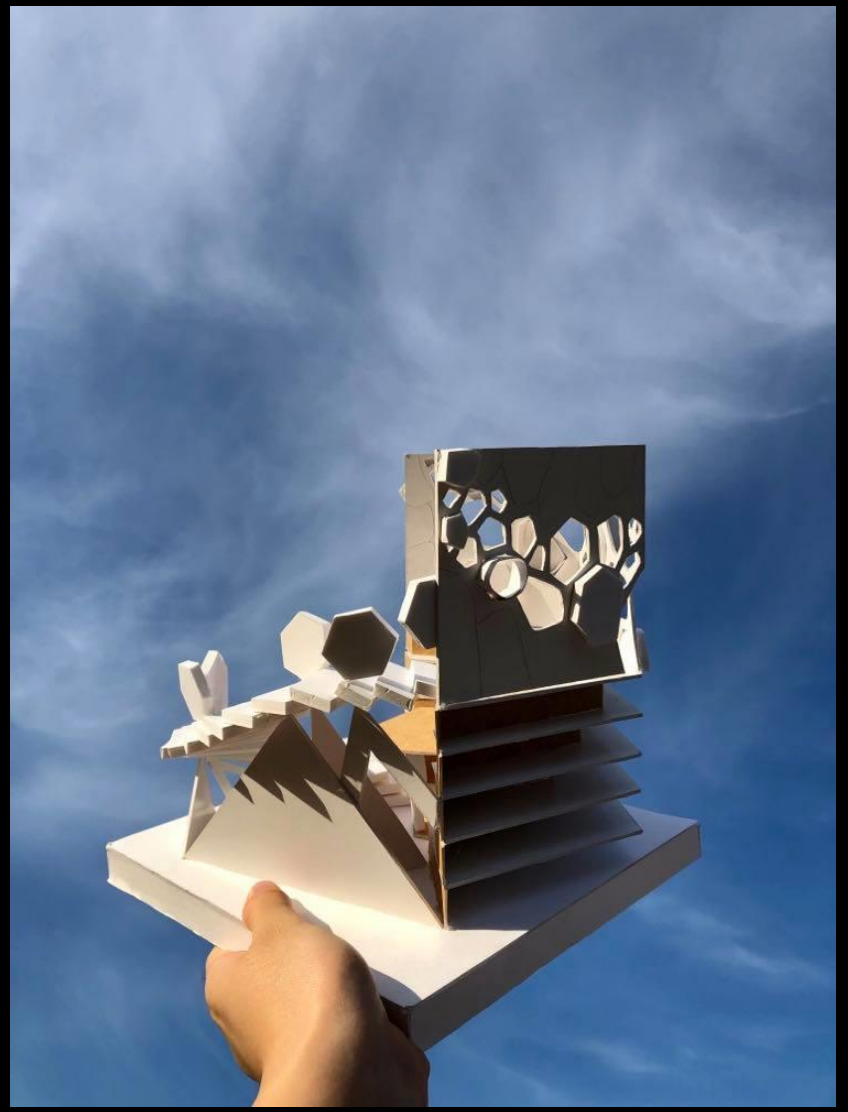
## REAR VIEW

## LEFT VIEW

## RIGHT VIEW

# UNDER THE SUNLIGHT

PERSPECTIVE VIEW



PERSPECTIVE VIEW

REAR VIEW

**MOVEMENT**

Curved staircase & rolling hexagonal elements

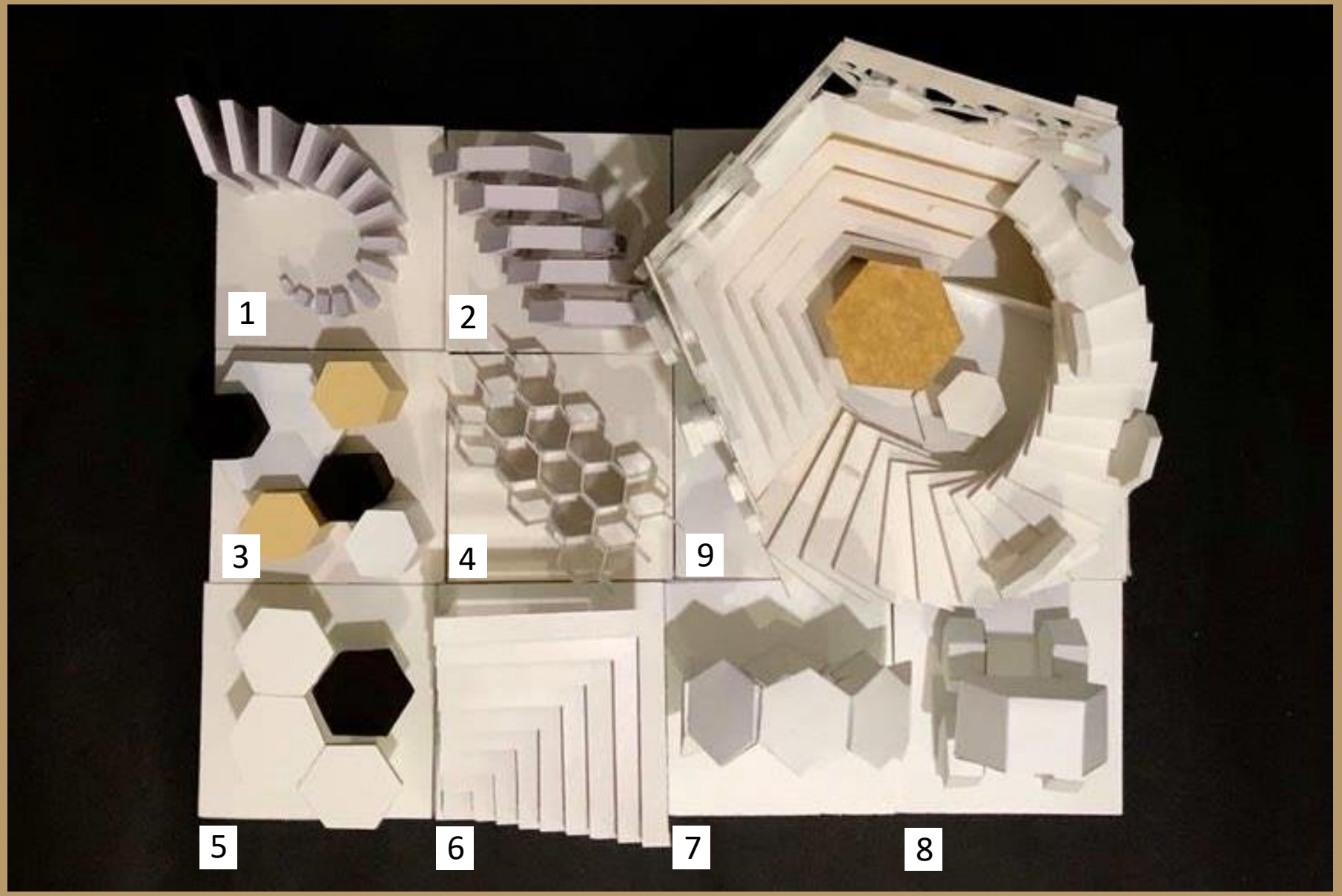
**CONTRAST**

Colour contrast, height and shape contrast.

**RHYTHM**

Spiderweb/honeycomb pattern & staircases,

# MODEL SERIES




**TOP VIEW**

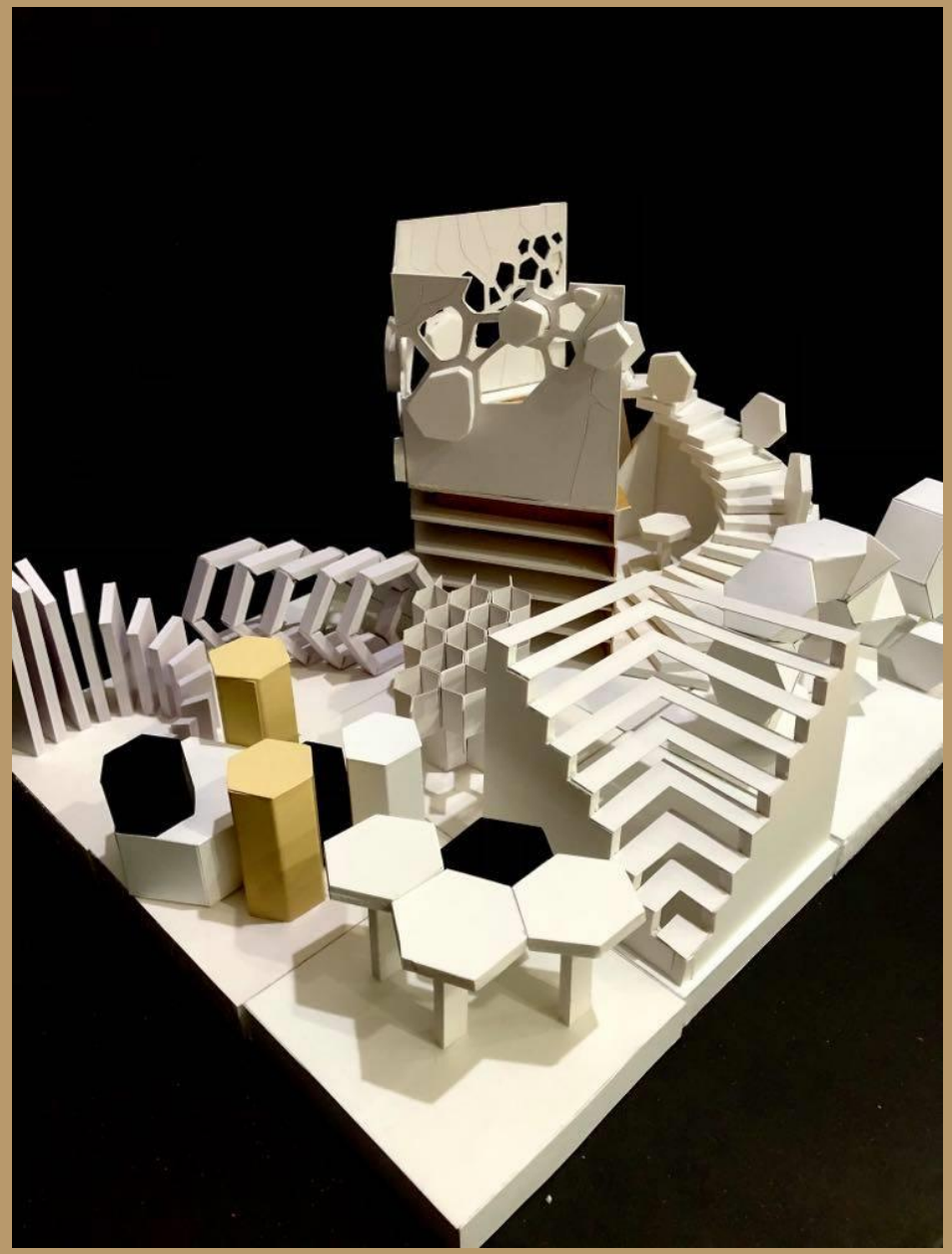
**8 DESIGN PRINCIPLES**

1 – Movement
2 – Harmony
3 – Variety
4 – Unity
5 – Contrast
6 – Rhythm
7 – Balance
8 – Emphasis
9 – Hybrid Model

**FRONT VIEW**

**REAR VIEW**

**PERSPECTIVE VIEW**



**PERSPECTIVE VIEW**

# END OF PRESENTATION