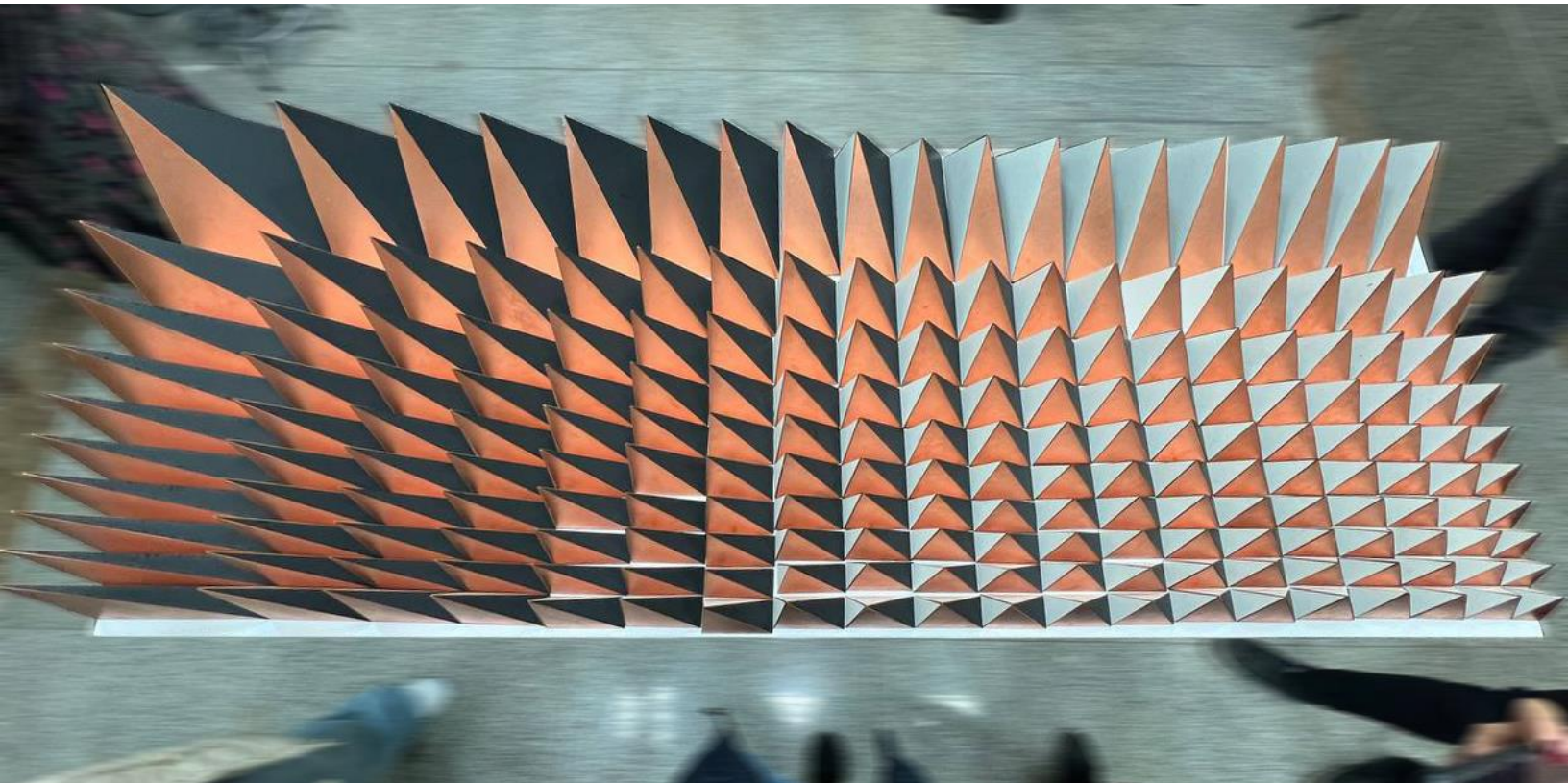


# Modeling and Prototyping

Islamic Azad University Central Tehran Branch

Professor : Mahyar Arab Bourbour

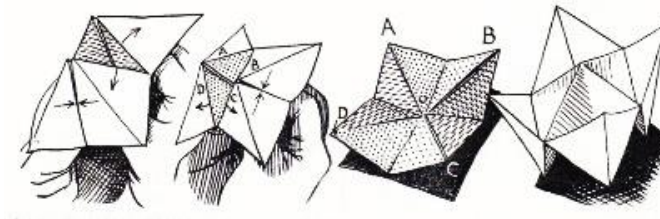
DECEMBER 2023



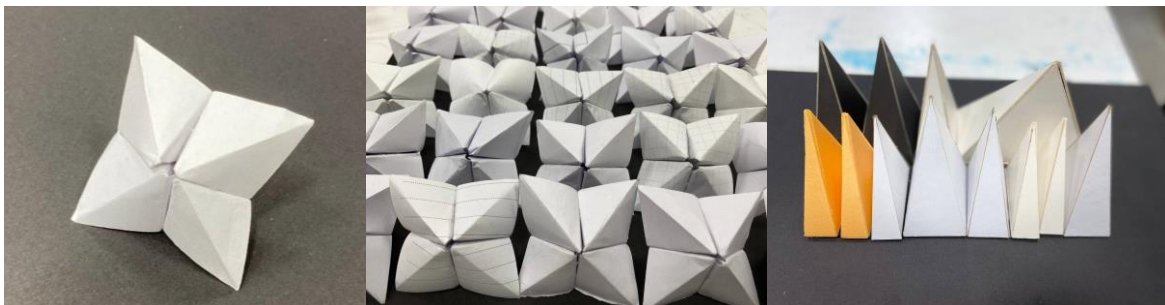
STYLE : Parametric  
Number of pieces: 1000  
Number of pyramids: 200  
Dimensions: 200X80 centimeters  
Material used: Paper cardboard  
Number of students: 20

## INTRODUCTION

The main idea of this project is pyramids of different scales placed next to each other. Essentially, they have used a game and origami called salt cellar. In this game, different job names are written on the inner sides of this salt cellar and it is moved, then the person chooses one side randomly which contains the desired job name for that person. We have used 4-sided pyramids as symbols for these salt cellars and chosen two sides white and the other two sides golden and black colors to show movement.

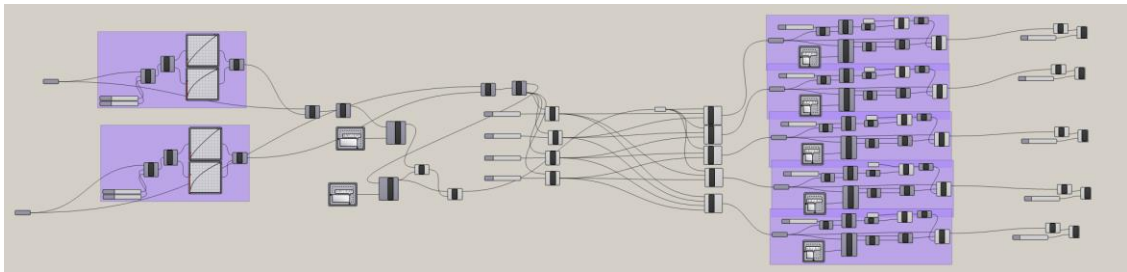
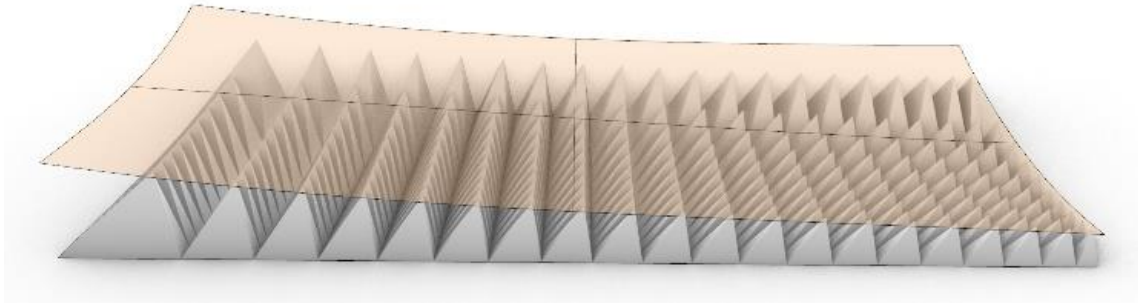


In the next step, we made some small scale models of salt cellars and then started modeling it in Grasshopper. We transformed the initial idea of the salt cellar into pyramids of different scales in height, length and width with a wavy surface



This course has two parts, an introductory part of 5 sessions where students will get to know volumes, materials, modeling tools and techniques. After that is a 10 session part of which 3 sessions are informal. In this part, a total of 20 students were divided into 5 main groups in the following sub-categories:

- Modeling and Software** Group led by Elnaz Penahi and Pouya Abbasszadeh  
 In this stage, volumes are initially created using Grasshopper, expanded and then prepared for laser cutting and finally placed on 100x70 centimeter sheets in a way that occupies minimum space.



- Laser Cutting** Group led by Parssa Hajieh: (Daniel Samedzadeh - Parnia Ghane)  
 In this stage, first the required material for cutting sheets (1.4 mm thick Dutch cardboard) is selected and the important point here is the placement of sheets so that the numbers are on one side and the colored cover is on the opposite side. After cutting the sheets that need coloring, they are painted with acrylic paint and finally packaging and sorting is started to present to the groups.

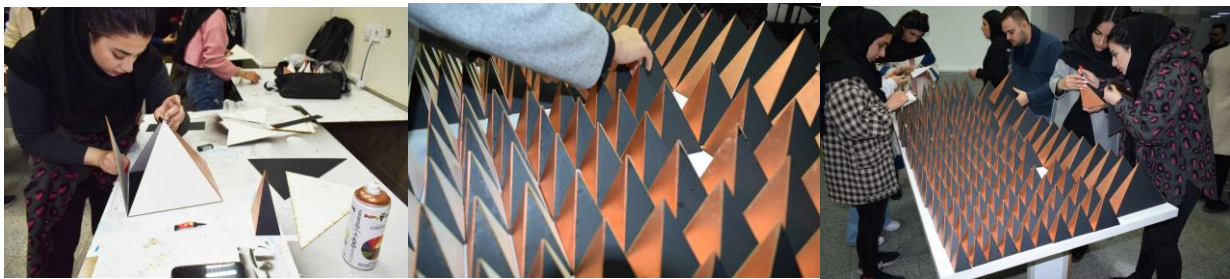




- **Installation** Group 1 led by: Mabina Nikkhah (Parnia Soleimani - Shaghayegh Tousi - Amirhossein Karimi - Atousa Gharaei)
- Installation Group 2 led by: Dorsa Zare (Yekta Pourokashfi - Sharareh Bagherpour - Mohammad Mokhtari - Farnaz Jabbareha - Zahra Broomand)
- Installation Group 3 led by: Bahareh Dowlati (Maideh Anbarsani - May Gol Ali Dadi - Mahnaz Ibrahimnejad)

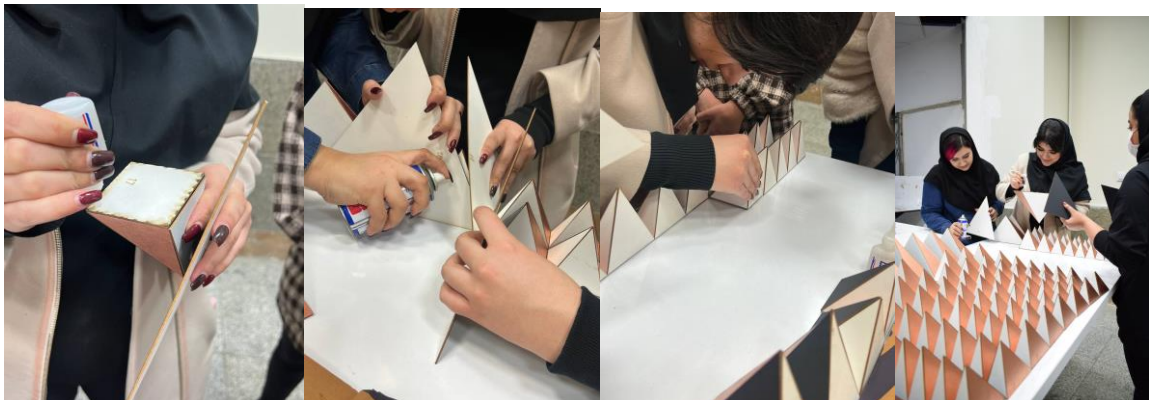
## Step 1

All three groups initially place the parts next to each other under the group leaders and with regard to the thickness of cardboard and its impact on placement and choice of glue and method of gluing, start gluing the pieces with their subgroups.

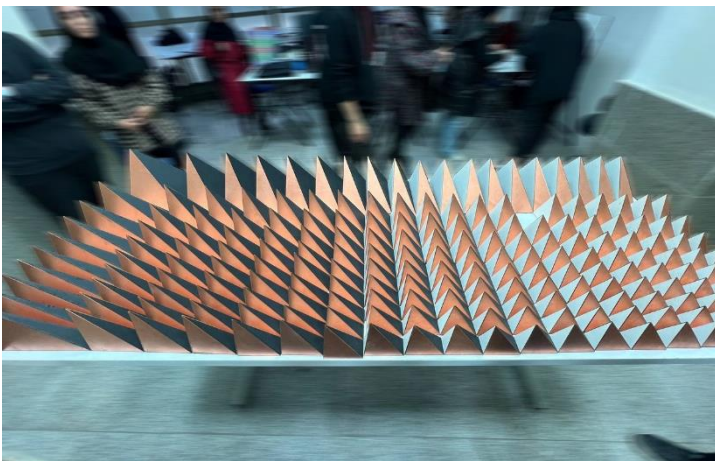
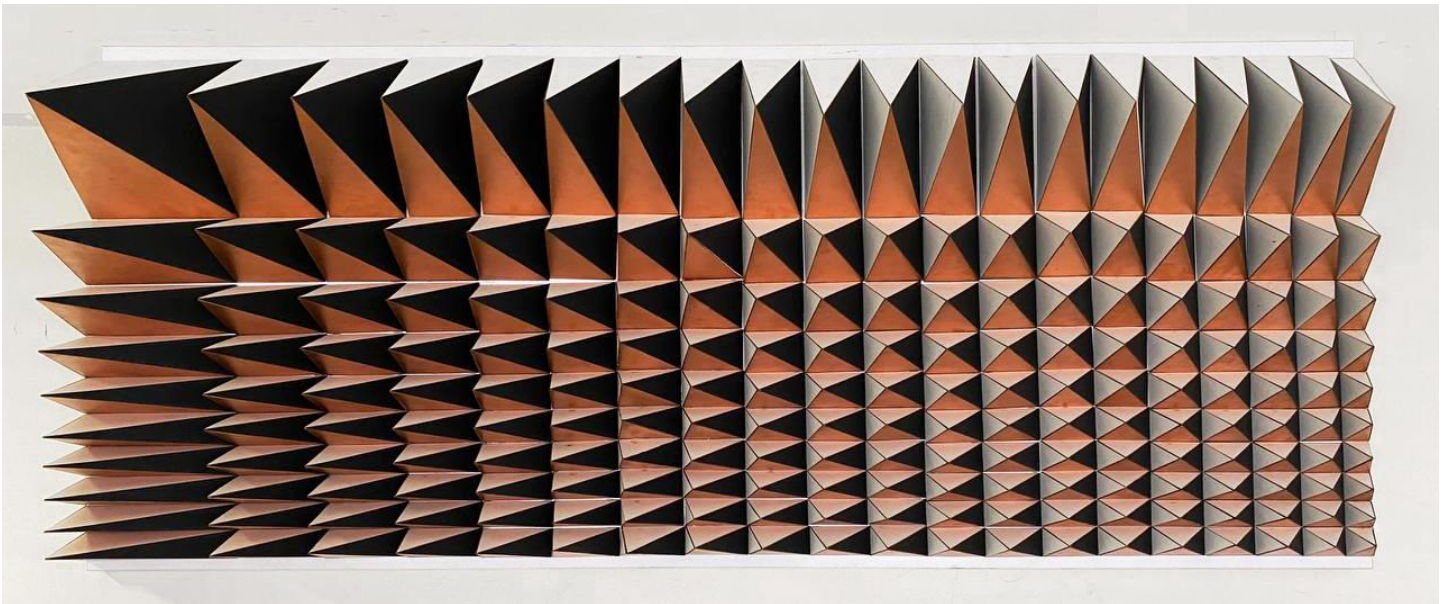


## Step 2

In this stage, the groups connect 200 pyramids consisting of 1000 pieces together and finally place the pieces experimentally on the main 200x80 centimeter board and then install the pieces in their proper places.



The location of this work is in the illuminated hallway so that the viewer has the opportunity to look at it and also show the different color schemes of their work.

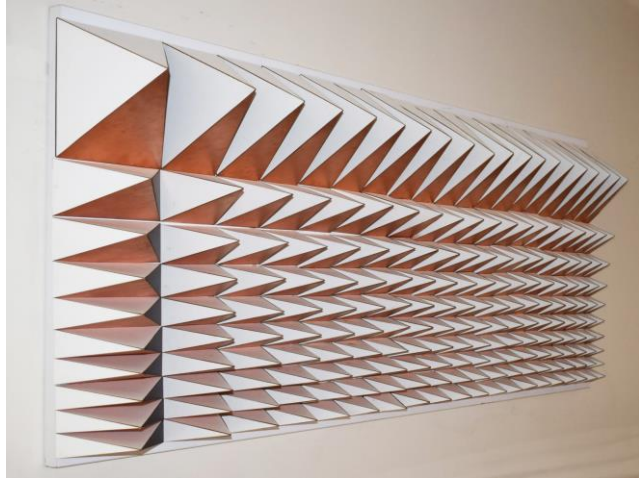




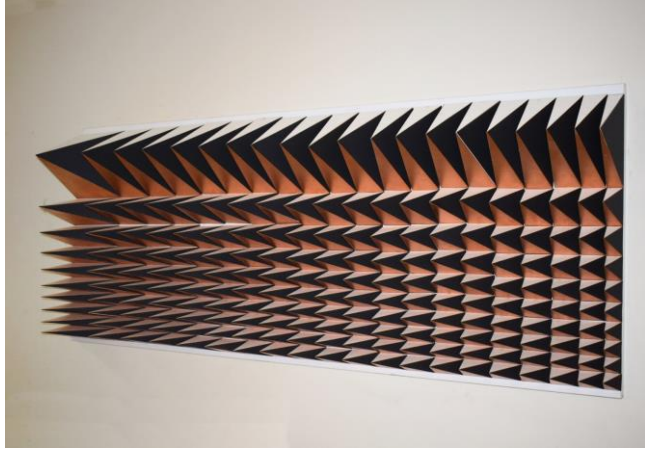
# Colors

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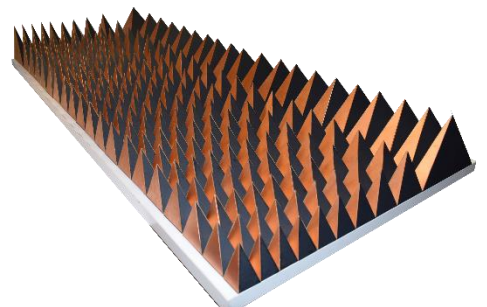
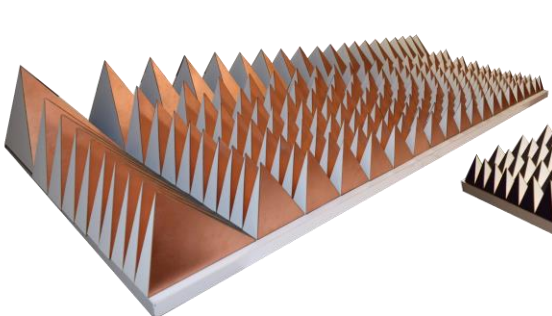
In the end, we did the color scheme in a way that when looking from the right side the mold color is black-golden and when looking from the left side the mold color is golden-white and from the direct and perpendicular angle the golden and black colors are in balance



Left View

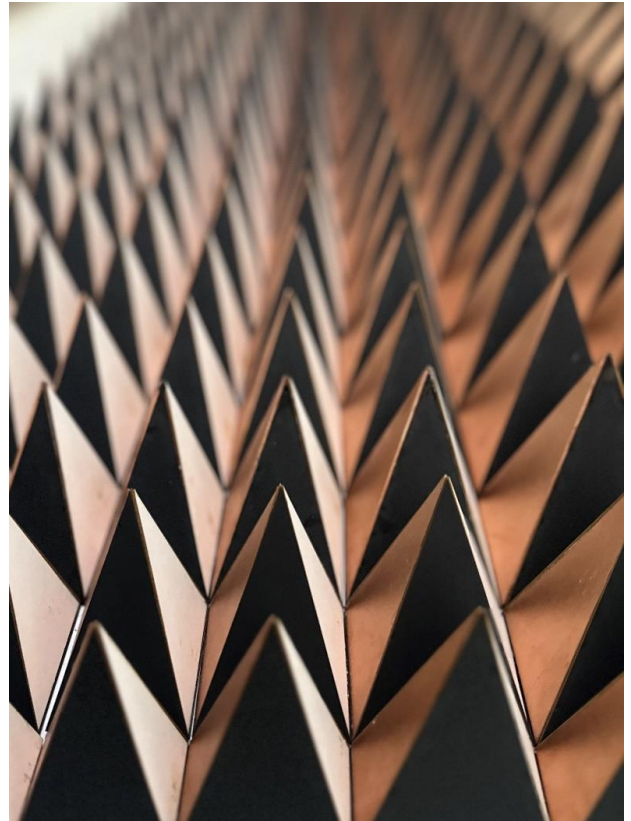


Right View



# Details

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Corridor view

