Project 2: Parametric Alphabet

Progress Document
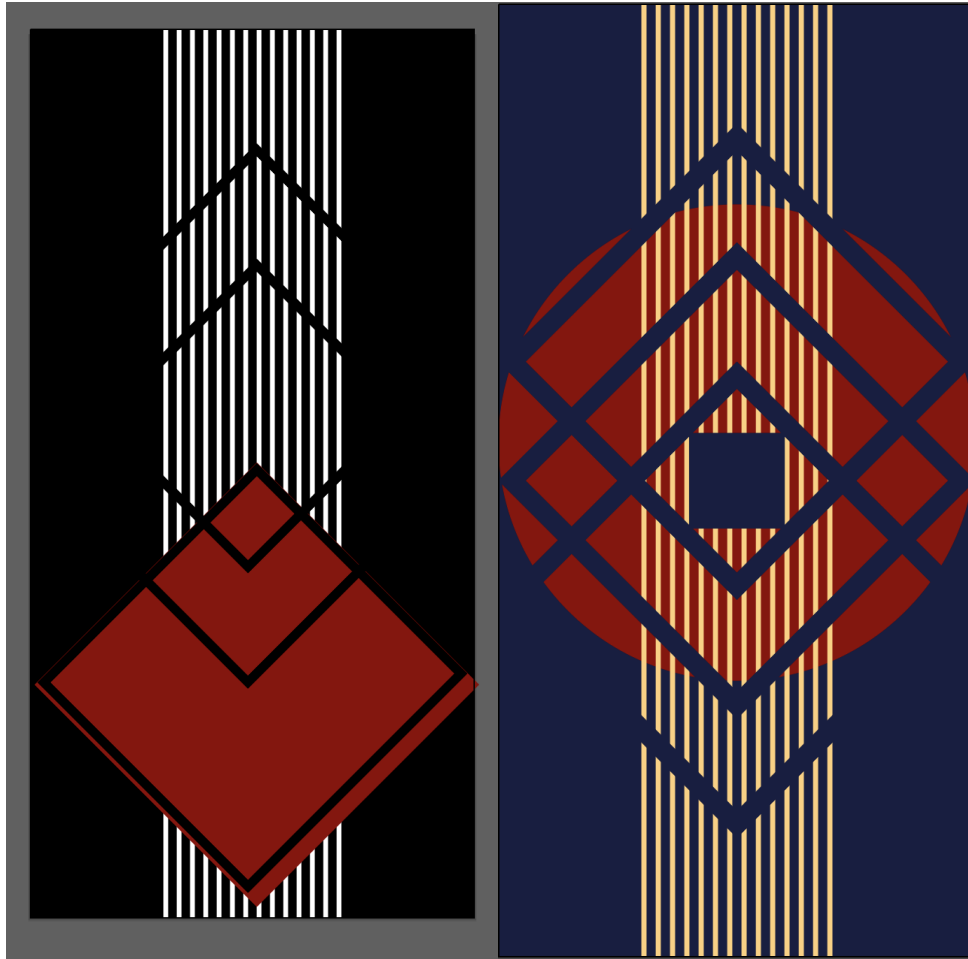
300446478

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May 14th, 2020

 I haven't found a satisfying concept for this project until today I see the classic art deco style patterns. The composition and repeat of the geometry are just wonderful. So my tone and style is basically decided. Below is my draft and planning.

My planning parameters so far including:

CR: the radius of the circle

Cy: the y value of the cirle

Cx: x position of the circle

Cy: y position of the circle

UpSquareY: the y position of the upper square

MSquareY: the y value of the middle square

BottomSquareY: the y value of the bottom square

RotateCenter: the degrees of the center square rotates: the degrees of the center square

May 15th, 2020

I make sure the final design element and parameters to change them. The left is for the number and the right one is for alphabets. I drew them in Illustrator first so it will be convenient for me to get the precise data. Here's the settles:
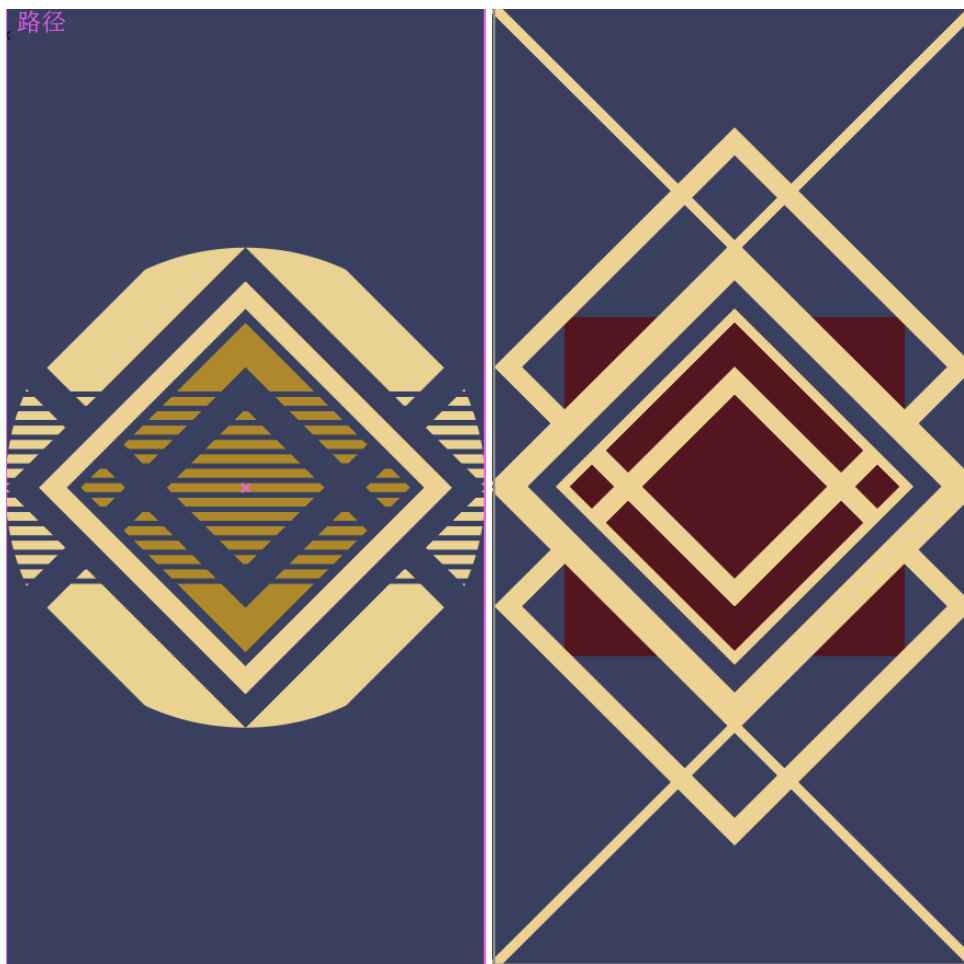
rectMode(RADIUS)

"y1": y position of the top square   50～150

"r1": radius of the top square   0～100

"tsw": Stroke weight of the top square   None

"y2": y position of the middle square   50～150

"r2": radius of the middle square   0～100

"msw": stroke weight of the middle square   None

"y3": y position of the bottom square   1~100

"r3": radius of the bottom square

"bsw": Stroke weight of the bottom square

"r4": the radius of the center square   0～100

"csw": Stroke weight of the center square   None

"RotateC"：Degrees of the center square　0〜90　（This range is set like this just because there is no difference when you turn a square to 90 degrees or 180 degrees in radius mode)

"colorR"：radius for the color sqaure　0~100

"RotateR": Rotation of the color square　0~90

Totally, there are 12 parameters.
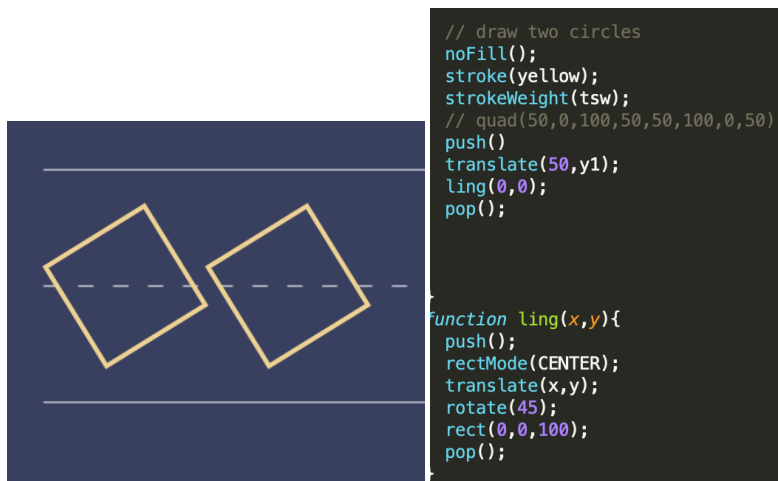
Color:

blue: #384061

Yellow: #F2D28A

There will be no movement on x axis. The whole change will happen on y axis and rotation themselves. Next, I will first adjust the editor to those parameters and then try out each arrangement for each alphabet and number.

I am dying... I am gonna drop some unnecessary parameters...

May 16th, 2020

After long time experiment in the code, I failed in trying to let the rectangles be exactly the same as what I drew in the illustrator. The rotation could not get to the right place I don't know why it just could not get to the right place. I decided to use circle and arc to take the place of rectangles.


```
// draw two circles
noFill();
stroke(yellow);
strokeWeight(tsw);
// quad(50,0,100,50,50,100,0,50)
push()
translate(50,y1);
ling(0,0);
pop();


function ling(x,y){
  push();
  rectMode(CENTER);
  translate(x,y);
  rotate(45);
  rect(0,0,100);
  pop();
}
```

I found the way to control my rectangles by an accident. Now I can use just three parameters to control the shape movement by using quad and symmetrical math way. And the angle will not be changed. Although this finding is great and exciting, my heart hurts for had been drawing new plans for hours.

```
quad(50,y3,x1,y4,50,200-y3,100-x1,y4);
```

By only using x1, y3 and y4 to control the size, position and the angles of the whole shape...First plan baby I am coming back to you! Then I am reaching whether there is a way to simplify and fix the angle by only using one parameter. This is not coding...This is math...Anyway happy to find out...

New parameters(hopefully the last version):

"x1"

"vy1"

"hy1"

"sw1"

"x2"

"vy2"

"hy2"
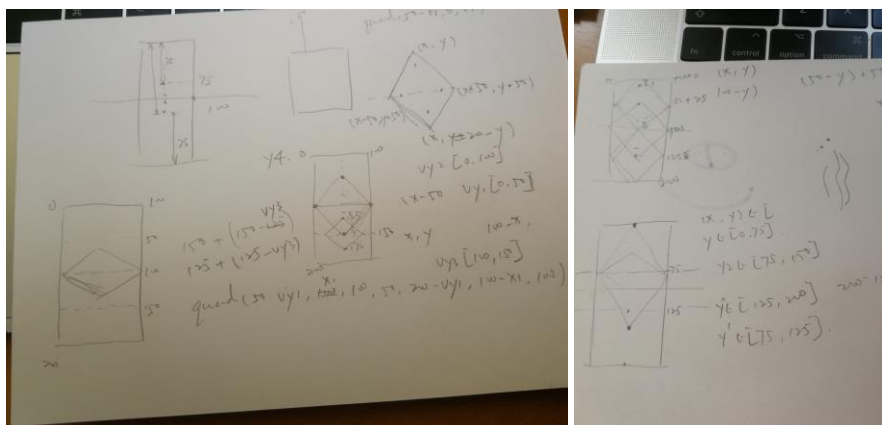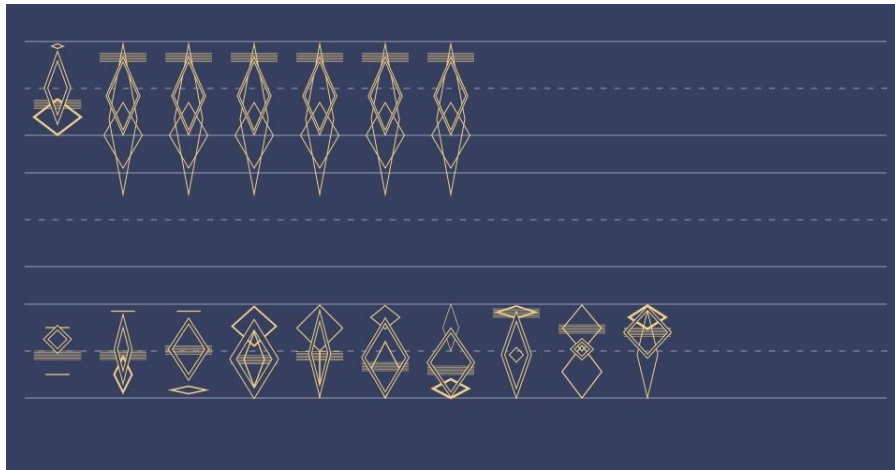
"sw2"

May 17th, 2020

I found the way to use less parameters to control the quads.
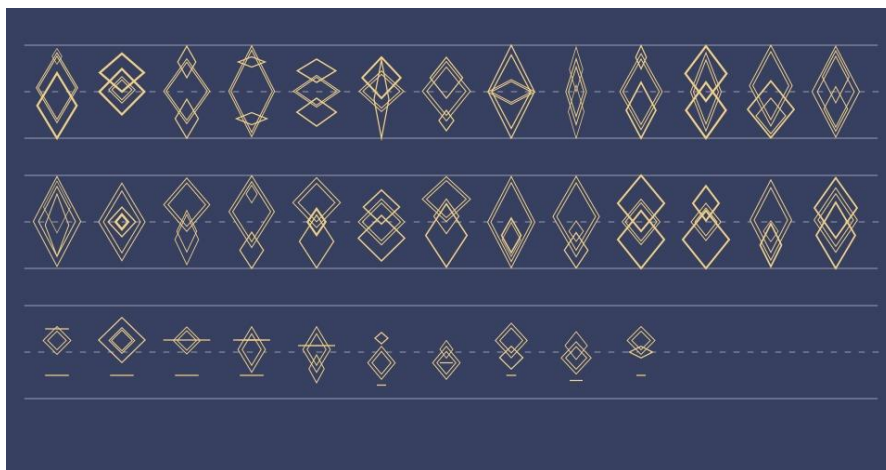
```
quad(50,y1,x1,hy1,50,hy1*2-y1,100-x1,hy1);
```

The trick is to use symmetric math calculating. The hy1 and the hy1*2-y1 take the advantage of the existed parameter to control another point of the quad.
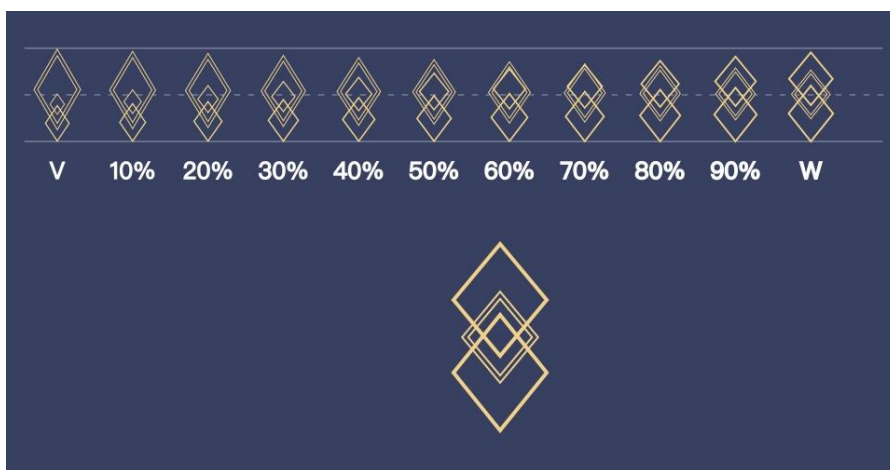

My exhausting process of calculating...But it is good to see overcoming this problem.
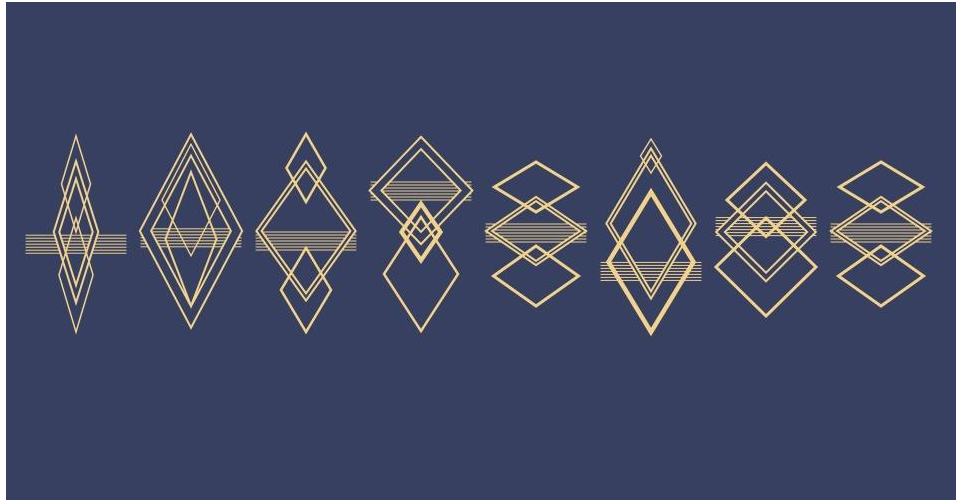
The numbers from 0 to 9 has been finished. They just need more detail adjustment.
May 18th, 2020

I finished my alphabets and my interpolation. It is nice to see them transiting to another.

I like the way that the quads move smoothly towards their next position. This wat to move can enforce my art deco style feeling.

The exhibition looks great, but I think there are still some poses that need to be carefully considered such as the alphabet F and H.
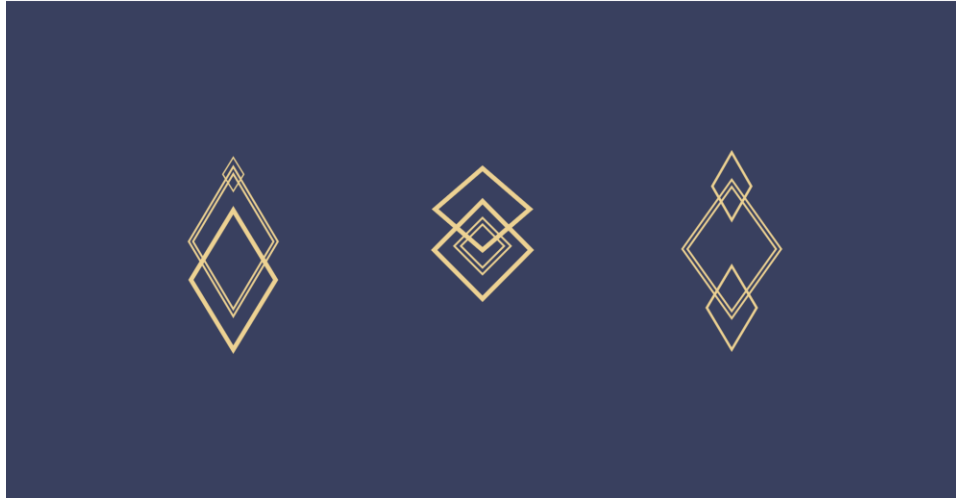

The sketch seems that there are some problems... I don't know why this happens.

May 19th, 2020

Thanks for Hazel's help, the sketch page is now working normal.

But my lines aren't shown up. Let me check what's wrong.

Oh I didn't initialize it in my code. I should write the code more carefully.
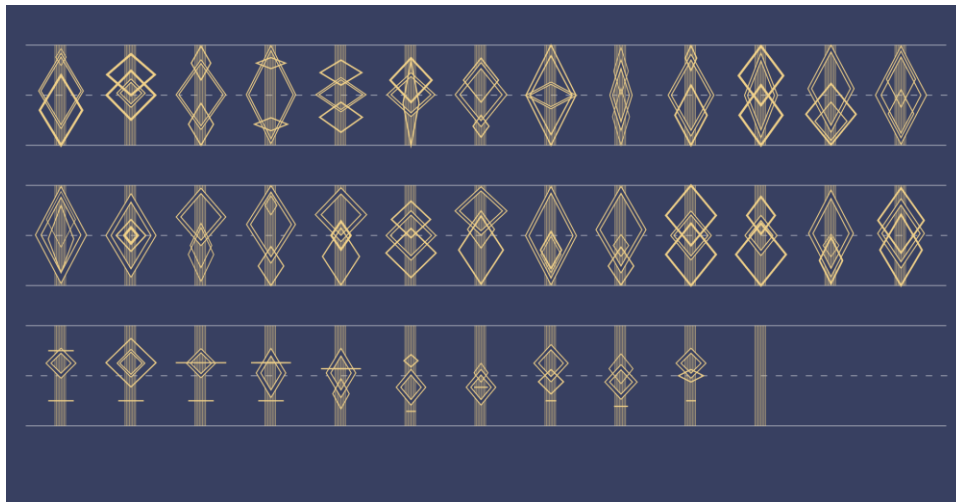
I tried the vertical lines effect. It seems that the vertical lines can make each single letter look neat and tidy, but relatively, the stroke of quads need to be thicker to enforce the weight and the sense of existence or they blur in those dense lines.
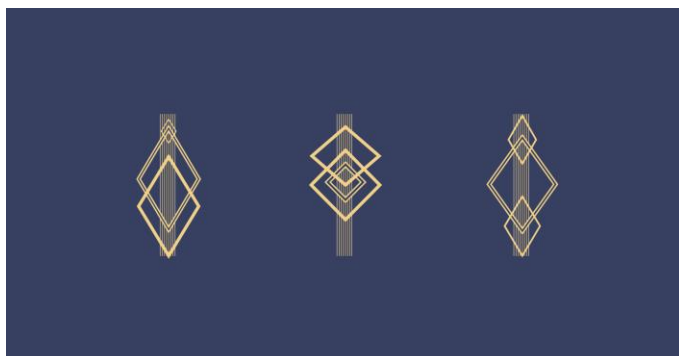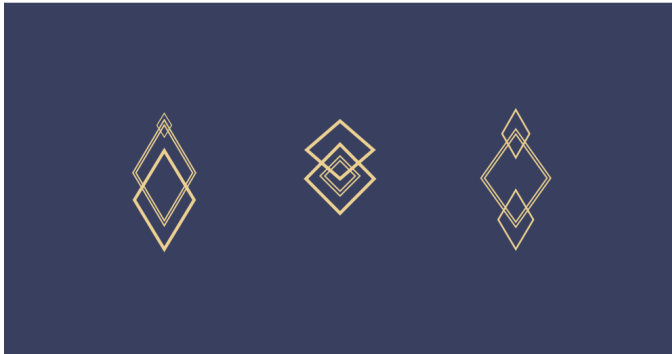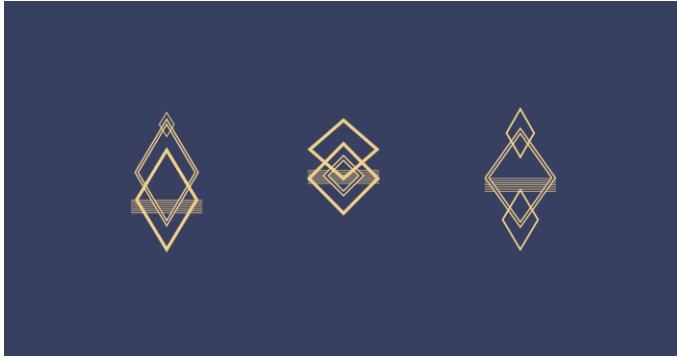
Compare those three effects, I think the one with horizontal lines is the best. The one with vertical lines look like being stabbed on a pillar on the exhibition page.

I also tried two color arrangement.
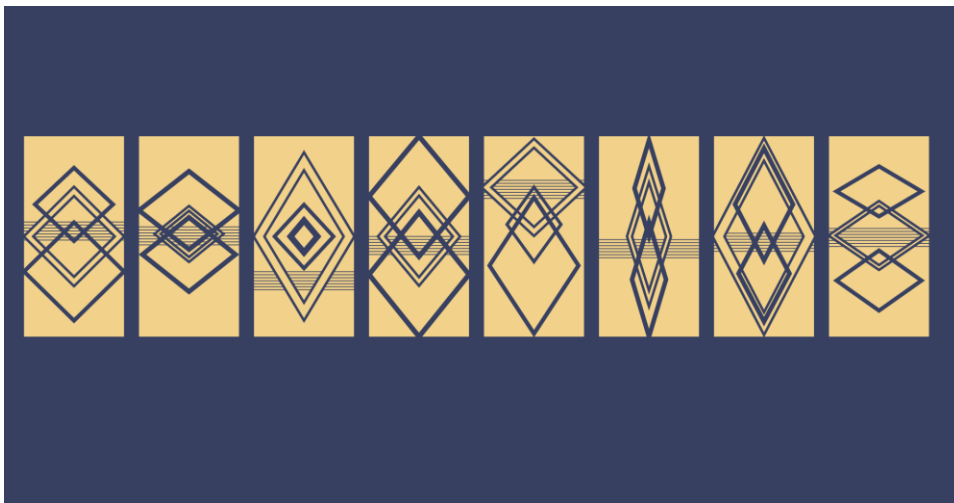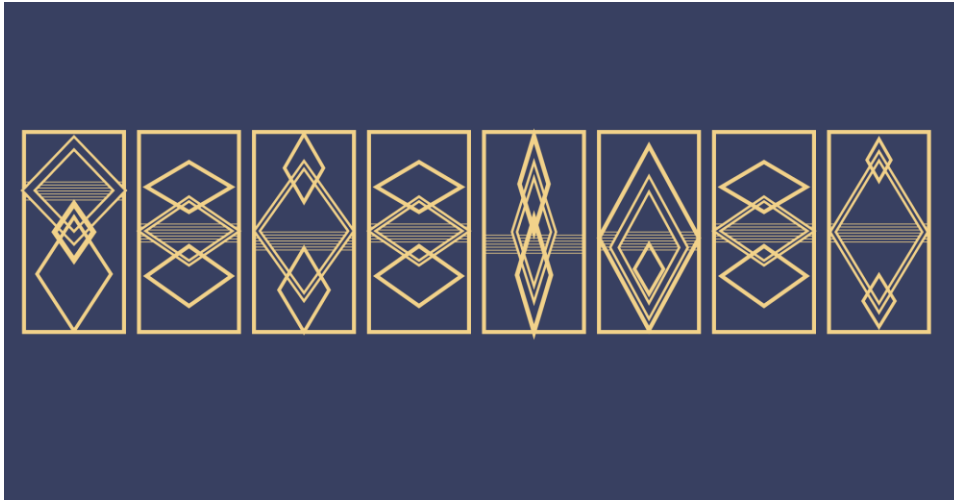
I outlined each box to make the letters look neat and like the back side of a poker card. I have to say that making a choice is the most difficult thing in the world.

May 20th, 2020

The letters "I" and "U" still look a little bit strange, so I make a new appearance for them.
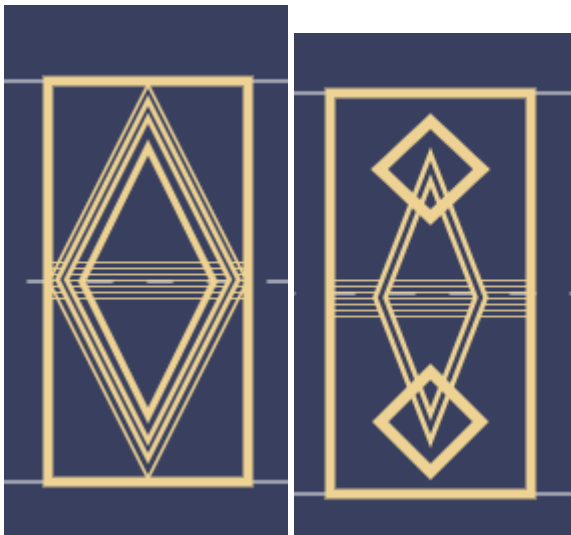
Some explorations of the background:
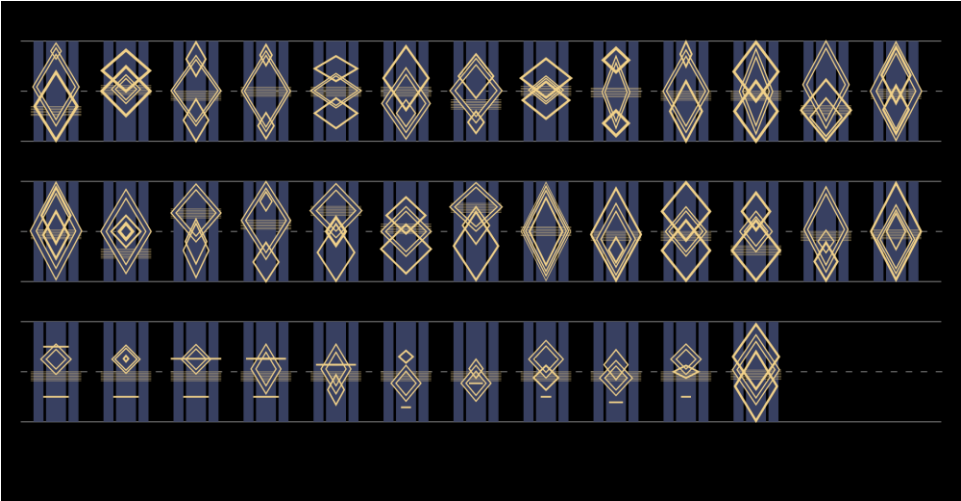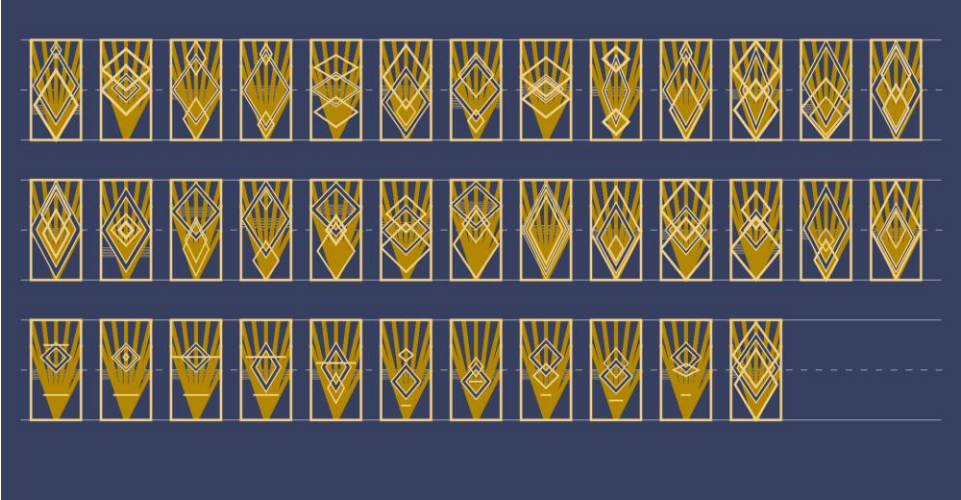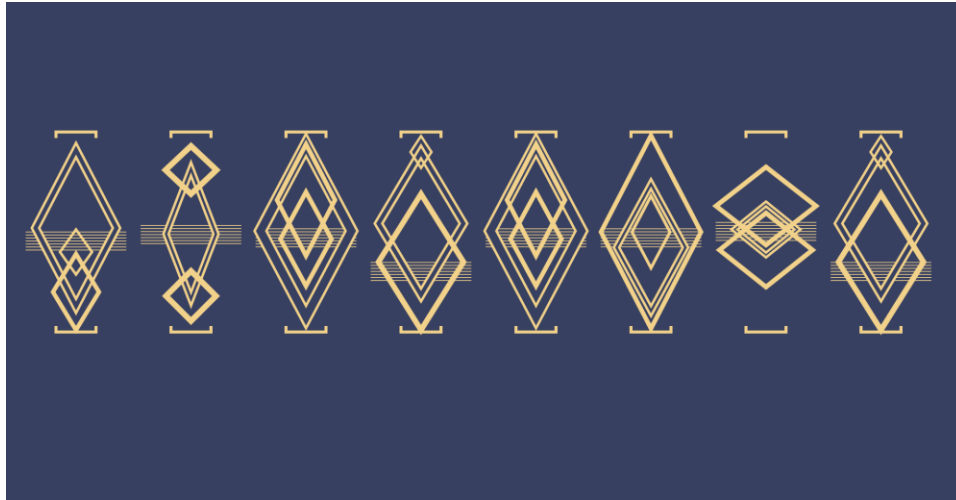
I have been experimenting a lot from the frame and the background colors. Now I am facing the choosing problem again. Between the second and the third design, I need to choose one as my final. The frame outside the letters can make the horizontal line group look tidy and neat, like the artificial products which fixes the concept of art deco.

May 21st,2020

Thanks for the advice from Lucy, I decided to use the one with simple frame. I also made adjustment for those what crossed over the frame. This is what my final work looks like:

Artist statement & Summary

For this project, my inspiration is from art deco style. I like the symmetry and the repeat how they are used in the design, which makes the workpiece a clear sense of order and unique artificial aesthetic. So, at the beginning, I searched a lot of reference of patterns of this style, and pick the basic shape, rectangles, to be the element of my alphabet for its sword-like sharp angles.

Then I started to draw my plan in Illustrator. (To be honest, the first concept popped into my mind was the pigpen cipher... I was digging into the cipher game at that time) It is convenient to simulate the grid and alter the position of squares precisely to test the effect. The color palette used the classic blue and gold contrast.

When I was coding the patterns, one problem I met is the rotation of the squares. They can be certainly easily rotated in the Illustrator by just simply entering numbers and reference, but in the p5js, I still haven't figure out how to rotate the square to the position I wanted. Therefore, I once reckoned that maybe I had to use arc to take the place of it. But luckily, I found another way to conduct my first plan. Quad function is able to do anything and because all my shapes are symmetric, I can use math to minimize the numbers of the parameters.

Although in the code I need to draw four quads, actually what shown on the screen are three quads with different sizes. The center quads with two golden lines are the main body of the alphabets, deciding the size, position and the angle. The top and bottom quads vary as the branches based on the center quad to pose the letters. For the numbers, I distinct them with lines from the alphabets, only using two quads. So the audience can easily tell from the numbers and the alphabets even if both of them are quite abstract meanwhile they share the same style.

To summarize, my alphabets look very abstract though I reference the traits of each written normal form. People can just appreciate the aesthetic of the whole scenes and ignore or forget the meaning of them. Besides the pragmatism, the design, the aesthetic that please people also

play an important role in the spirit and culture nowadays. They give more meaningful information besides than what the sentences or the words say.