

Artist Name: **Kendra Raczek**

Title: **Precious**

Medium: Generative Drawing and Sound Visualization

Size: 1200px x 1200px

Artist Statement:

Precious is a spacey futuristic visualization of the song Precious (Overture) by the K-Pop group ATEEZ (에이티즈).

Much of the work reacts instantaneously with the amplitude of the various frequencies of sound input, used as parameters for size, numbers of elements, and speed. Certain elements focus on higher-pitched (frequency) sounds, while others are affected only by the volume of the bass tones. Precious mixes these sound-dependent elements with smooth and constant lines floating around the screen, creating a busy composition that draws the eye into a new universe. The color palette was chosen to align with ATEEZ's album aesthetic, as well as the translated lyrics of the song,

*It's already at the end
We need more light
Along the route we've been through so many times
We're standing in front of a new beginning*

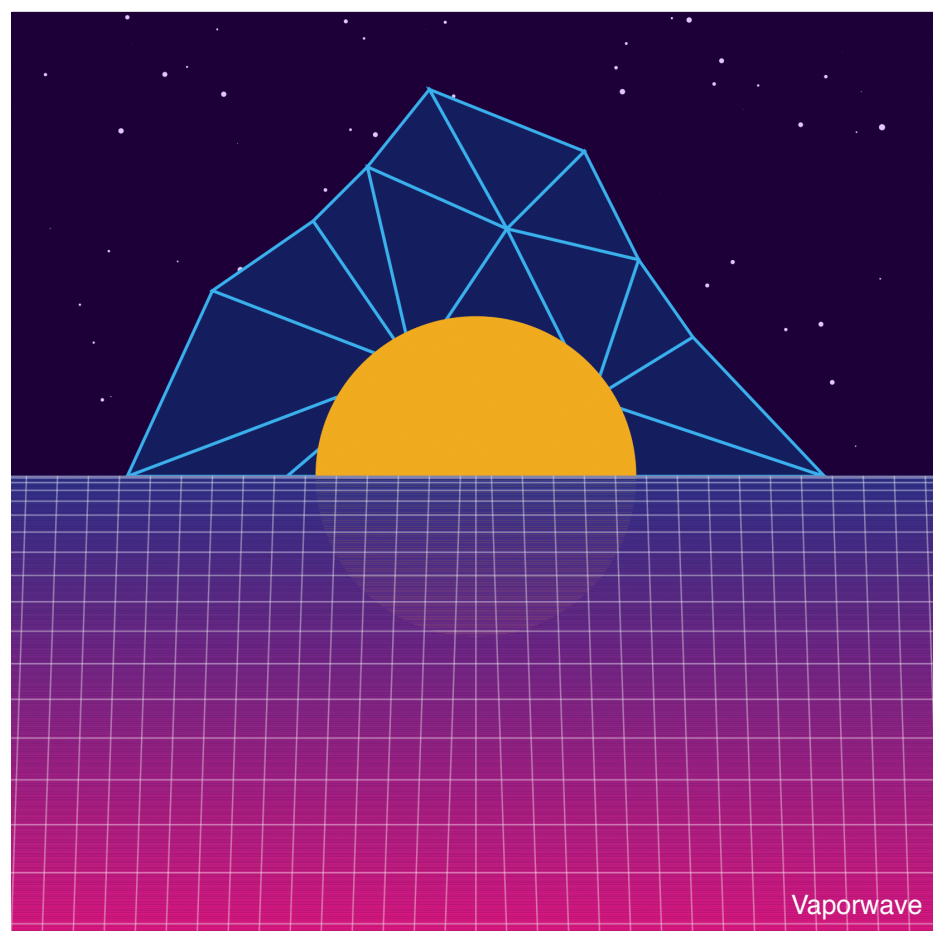
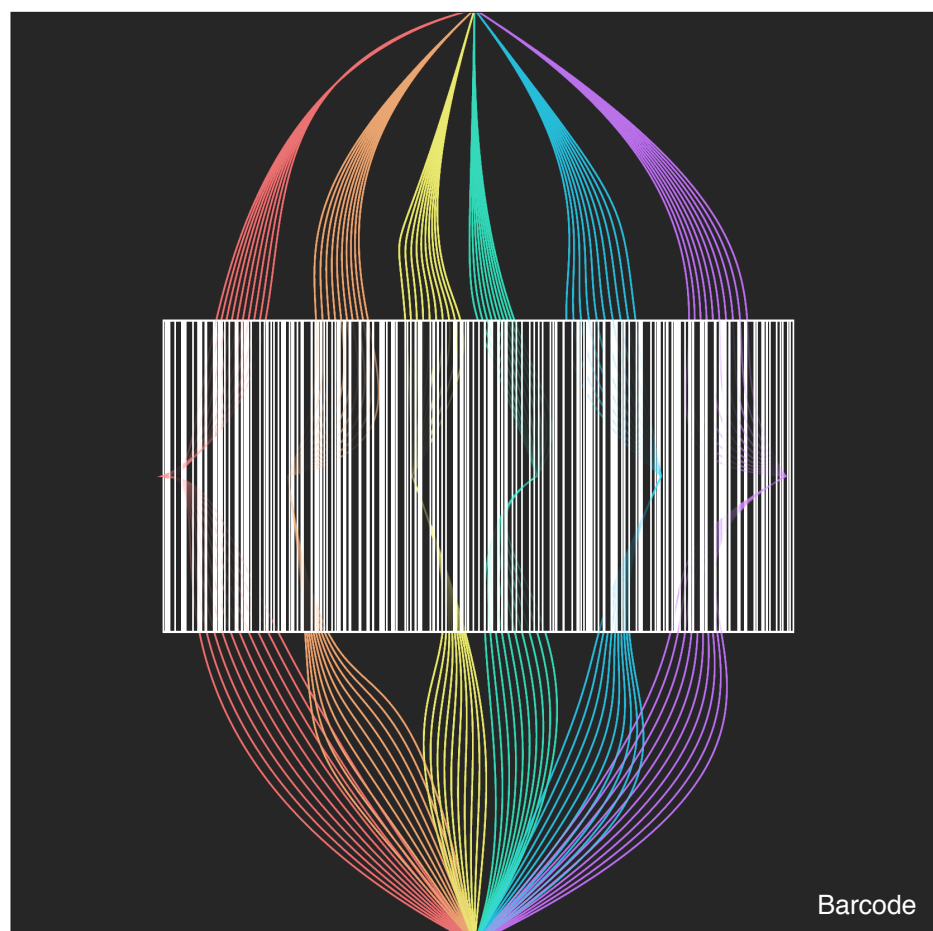
*Yeah, the lights gathered produce this color
Follow your dreams. We run endlessly
Put your feet together in front of the journey and put your hands up to the end...*

Technical Statement:

It used Processing, a language and development environment created by Casey Reas and Ben Fry. To analyze frequency and amplitude from the mp3 file, I used the Minim sound library with Processing. I incorporated AudioPlayer, FFT (Fourier Transform), as well as Audio Input and Output from the Minim library into the generative drawing. In the composition itself, I created a particle class for the numerous "stars" that move toward the audience and rotate. I captured Precious in both a screencapture video, and in PDFs generated in Processing.

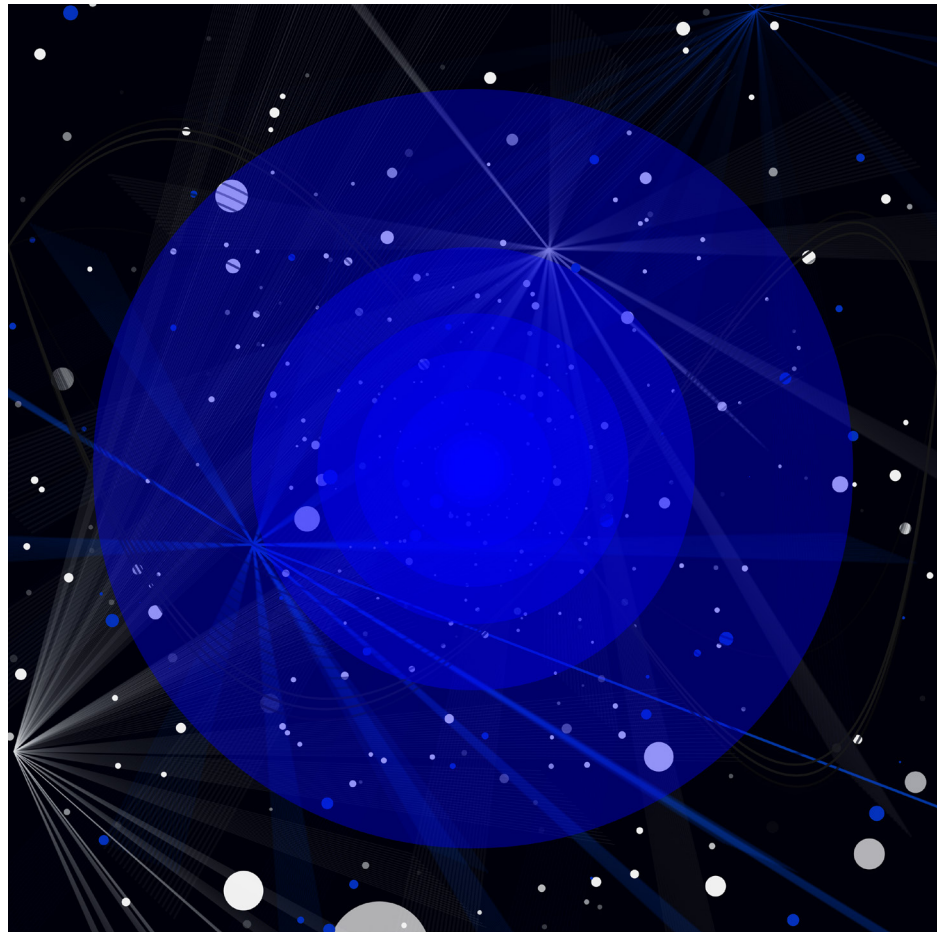
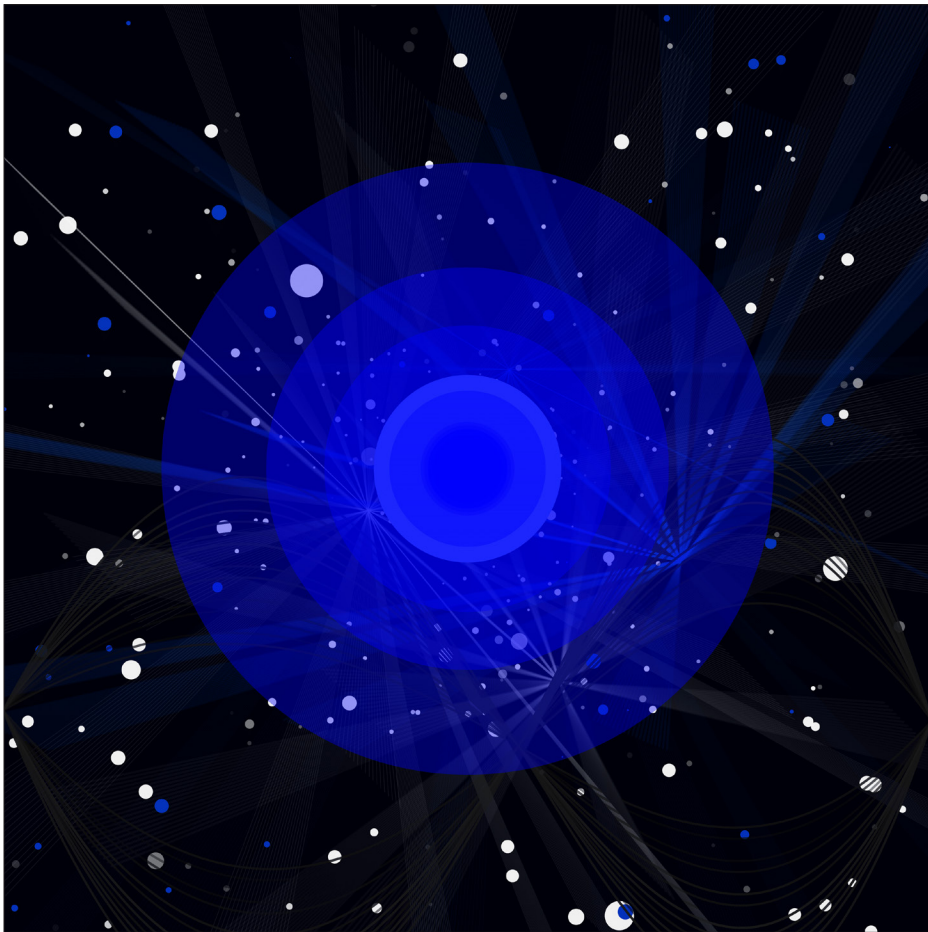
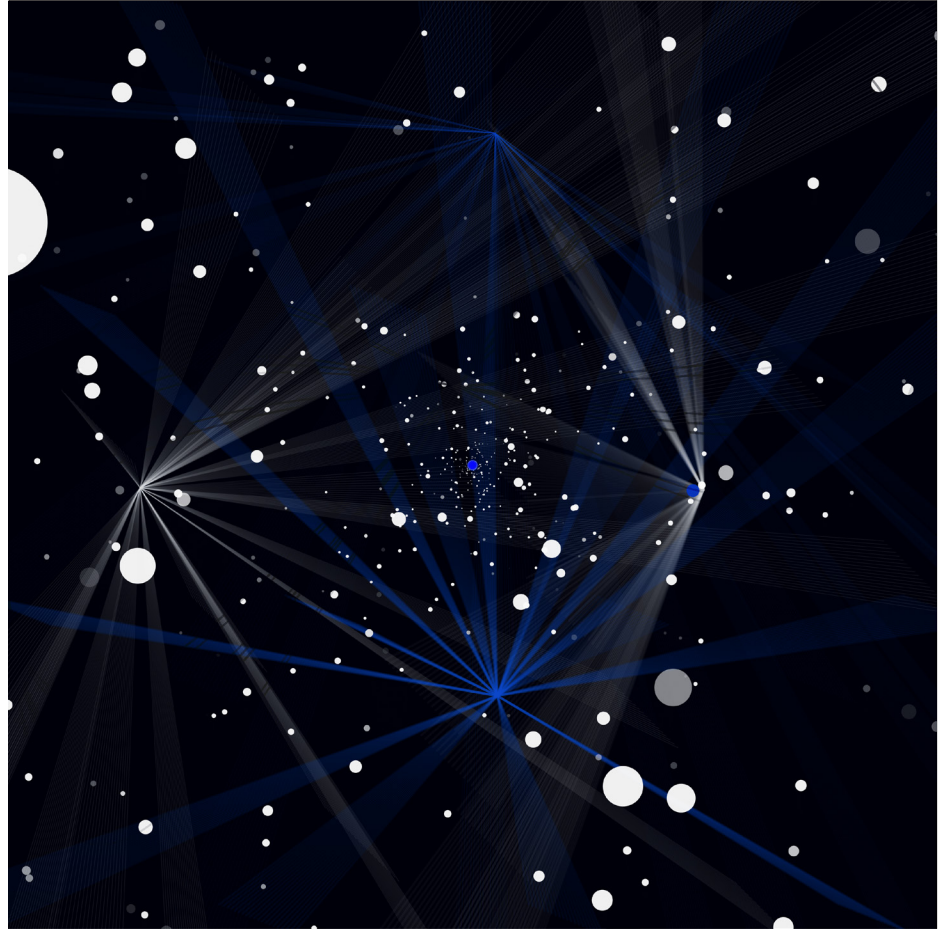
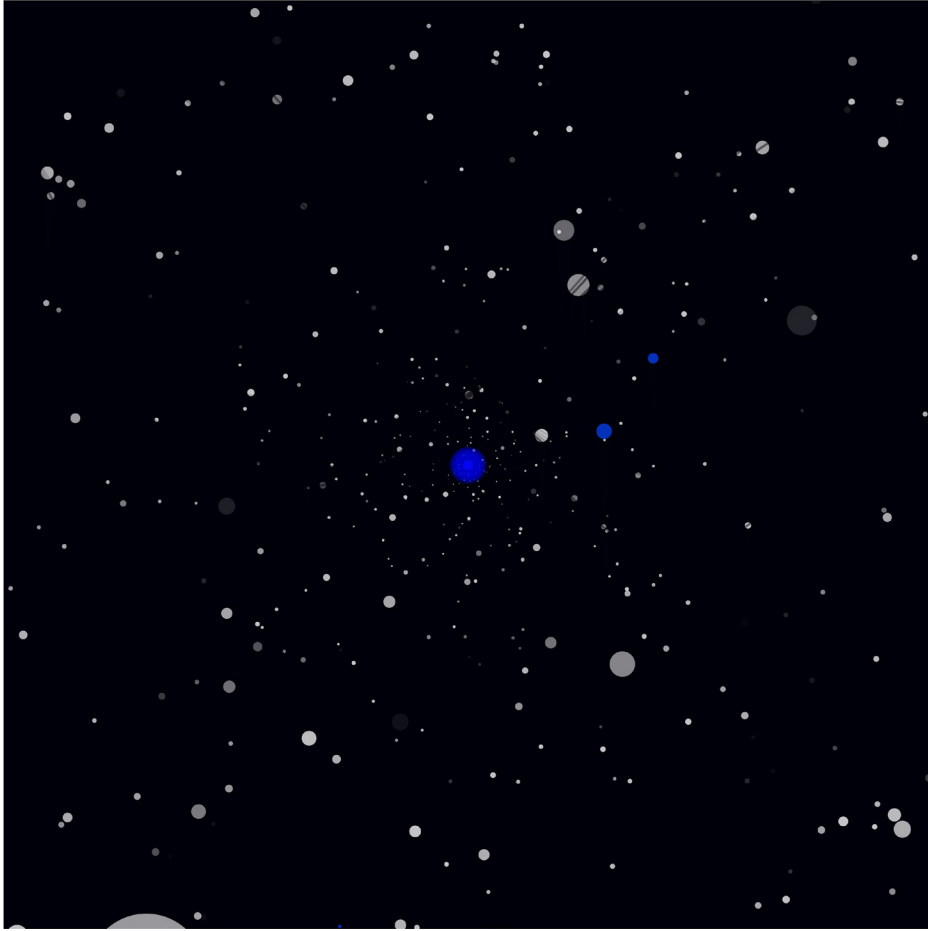
1. Computational Drawings

Initially, I created forms that were unrelated to Precious, but had a focus in explorations of color and geometry. Barcode, when its code is ran, generates constantly-shifting bars, creating unique "barcodes" every frame. Vaporwave is a static drawing that recreates the 80s digital aesthetic, with geometric forms and gradients.



2. Sound Visualization

Precious is the final output of this data-driven, generative project, being an active moving journey throughout the course of the song.



Code Excerpts

```
pushMatrix();
noFill();
strokeWeight(1);
strokeJoin(ROUND);
strokeCap(ROUND);

translate(width/2, height/2);

t = (float)frameCount/maxFrameCount;
theta = TWO_PI*t;
theta2 = TWO_PI*t*2;

for ( int x= -800; x <= 801; x += 400) {
  for (int y= -800; y <= 801; y += 400) {

    float offSet = 400;
    float pos1 = map(sin(-theta+offSet), 0, 1, 0, (x+y/4));
    float pos2 = map(cos(-theta+offSet), 0, 1, (x+y/4), 0);
    float pos3 = map(cos(-theta2+offSet), 0, 1, -(y), 0);
    float pos4 = map(sin(-theta2+offSet), 0, 1, 0, y);
    float pos5 = map(cos(-theta+offSet), -1, 1, -300, 300);
    float pos6 = map(sin(-theta+offSet), -1, 1, 300, -300);

    for(int i=0; i<20; i++) {
      stroke(#E0E8EB, 20);
      line(pos6-300, pos5+300, x-pos2+5*i, y+pos1+5*i);

      stroke(#0b51da, 10);
      line(pos5+300, pos6-300, x+pos4+5*i, y-pos5+2*i);
    }
  }
}
```

```
// mid low
if (i>=10 && i<=25) {
  for (int j=0; j<30; j++) {
    stroke(30, 30, 30, fft.getBand(i));
    bezier(x1,y1, x2,y2-50*i, x3,y3+50*i, x4,y4);
    bezier(x1,y1, x2,y2+50*i, x3,y3-50*i, x4,y4);
  }
}

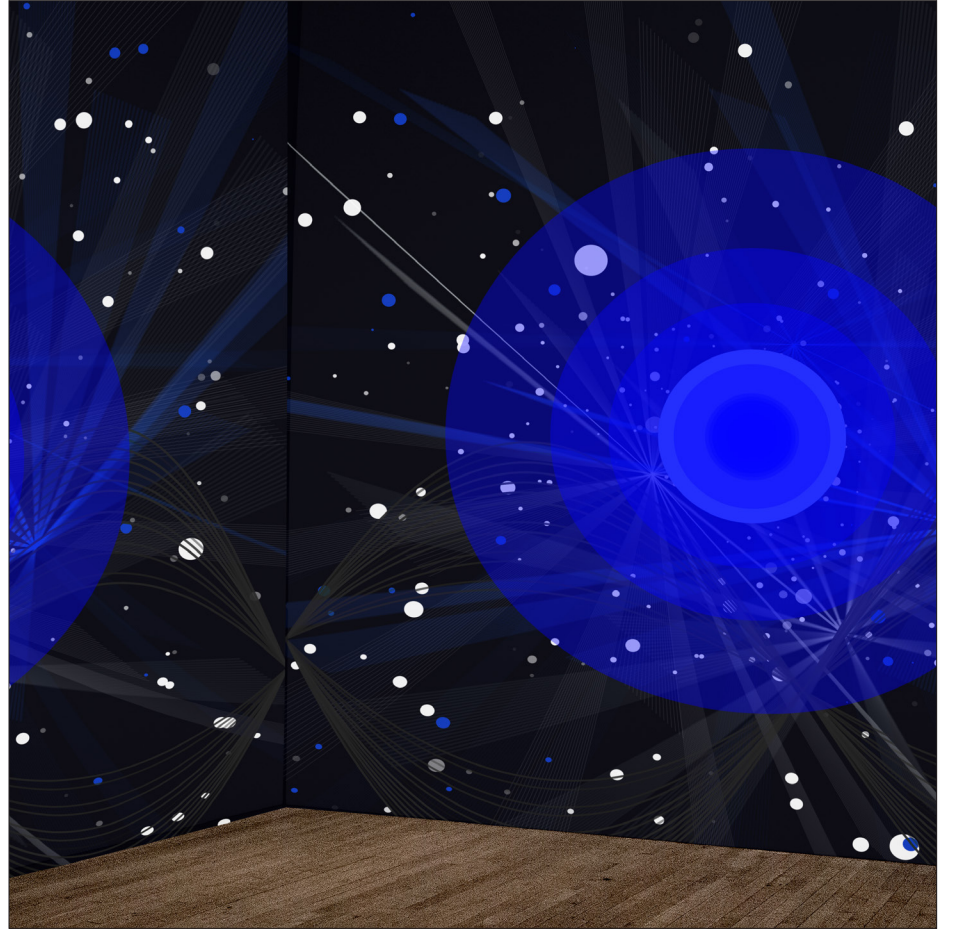
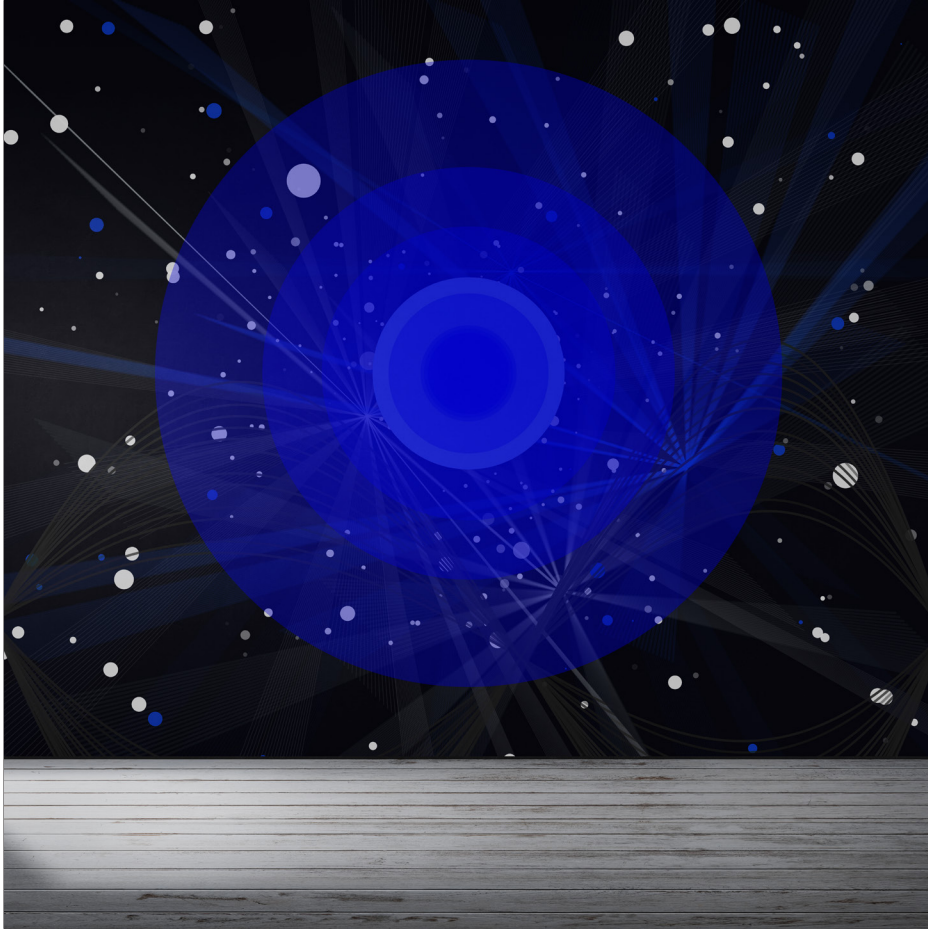
// low end
fill(0, 0, 255);
noStroke();
if (i<10) {
  fill(0, 0, 255, 100);
  circle(600, 600, fft.getBand(i)*5);
}

// mid high
if (i>25 && i <=50) {
  noFill();
  stroke(255, 255, 255, 50);
  strokeWeight(4);
}

// high end
if (i>50) {
  noStroke();
  fill(135,179,251);
  circle(600, 600, fft.getBand(i)*7);
}
```


4. Gallery Plan

Precious will be displayed through a project onto the full scale of multiple adjacent walls, intended to immerse the viewer in the generative universe. There will headphones available for the viewer to listen to the music that Precious is visualizing.



5. Applied Areas

Outside of a gallery space, Precious has potential to be a large guerrilla projection on the sides of urban buildings, especially in areas of nightlife. Its relationship with music and space also naturally lend Precious to work well commercially as lighting backdrops for EDM music stages.

