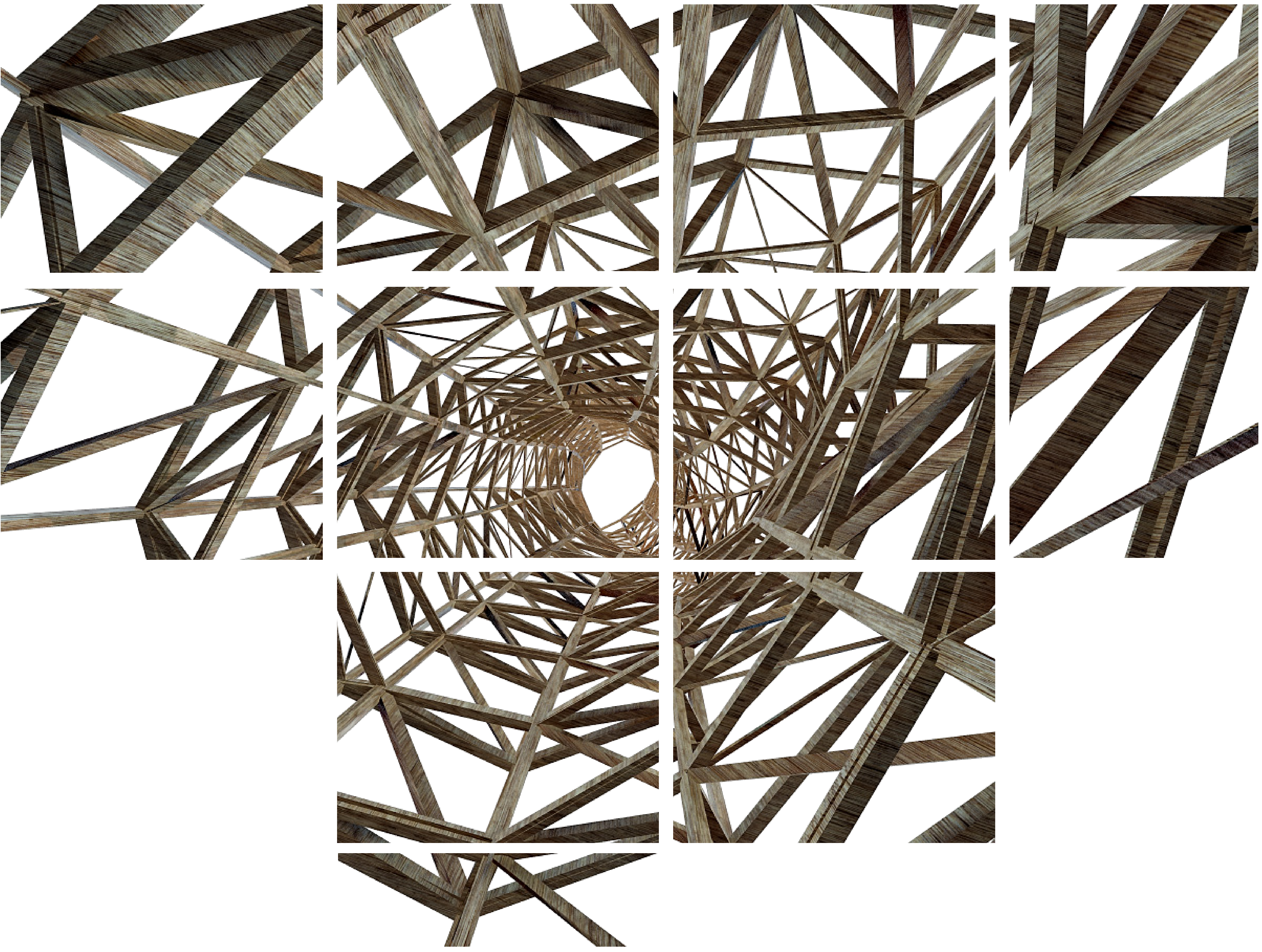

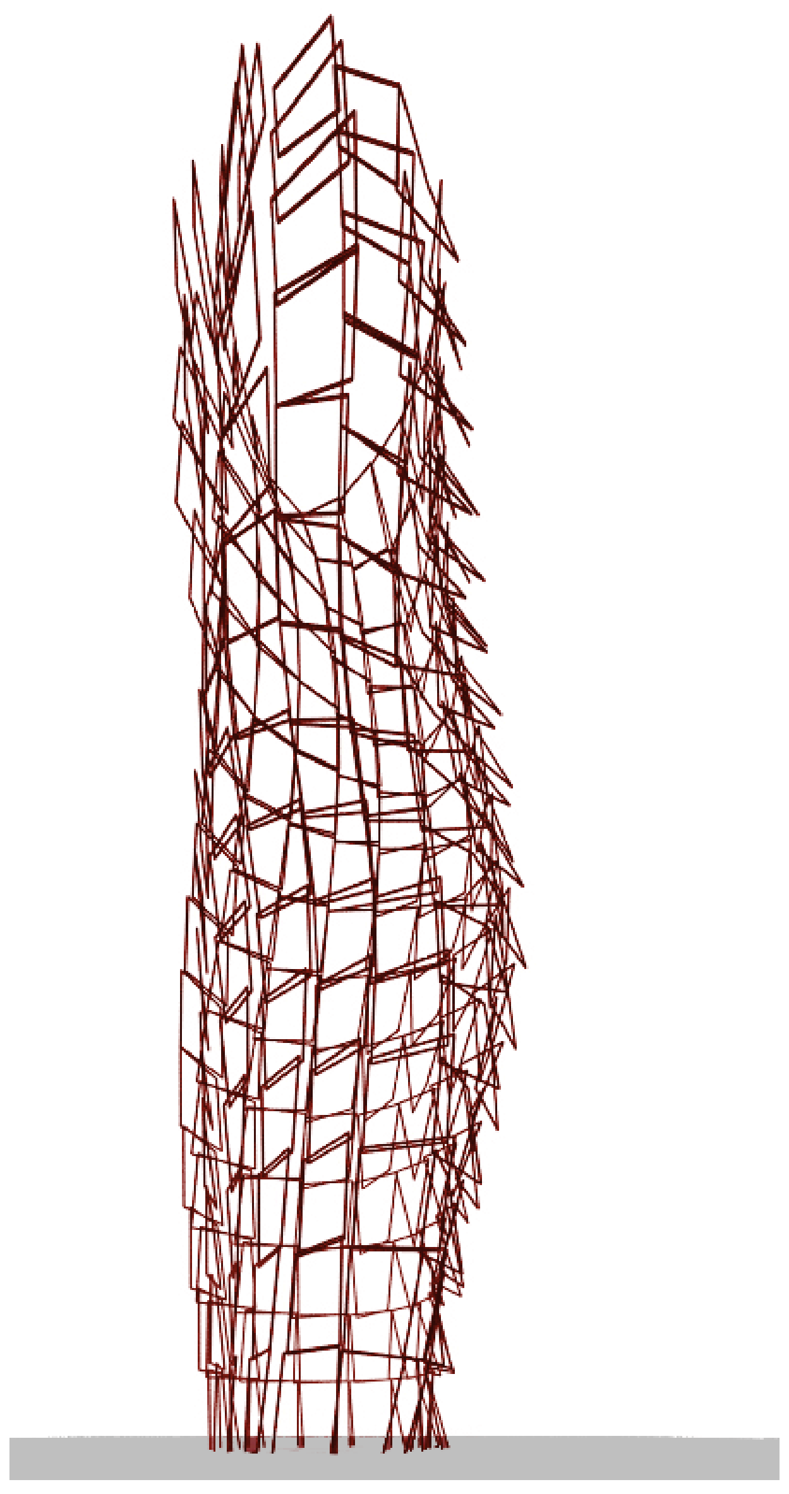

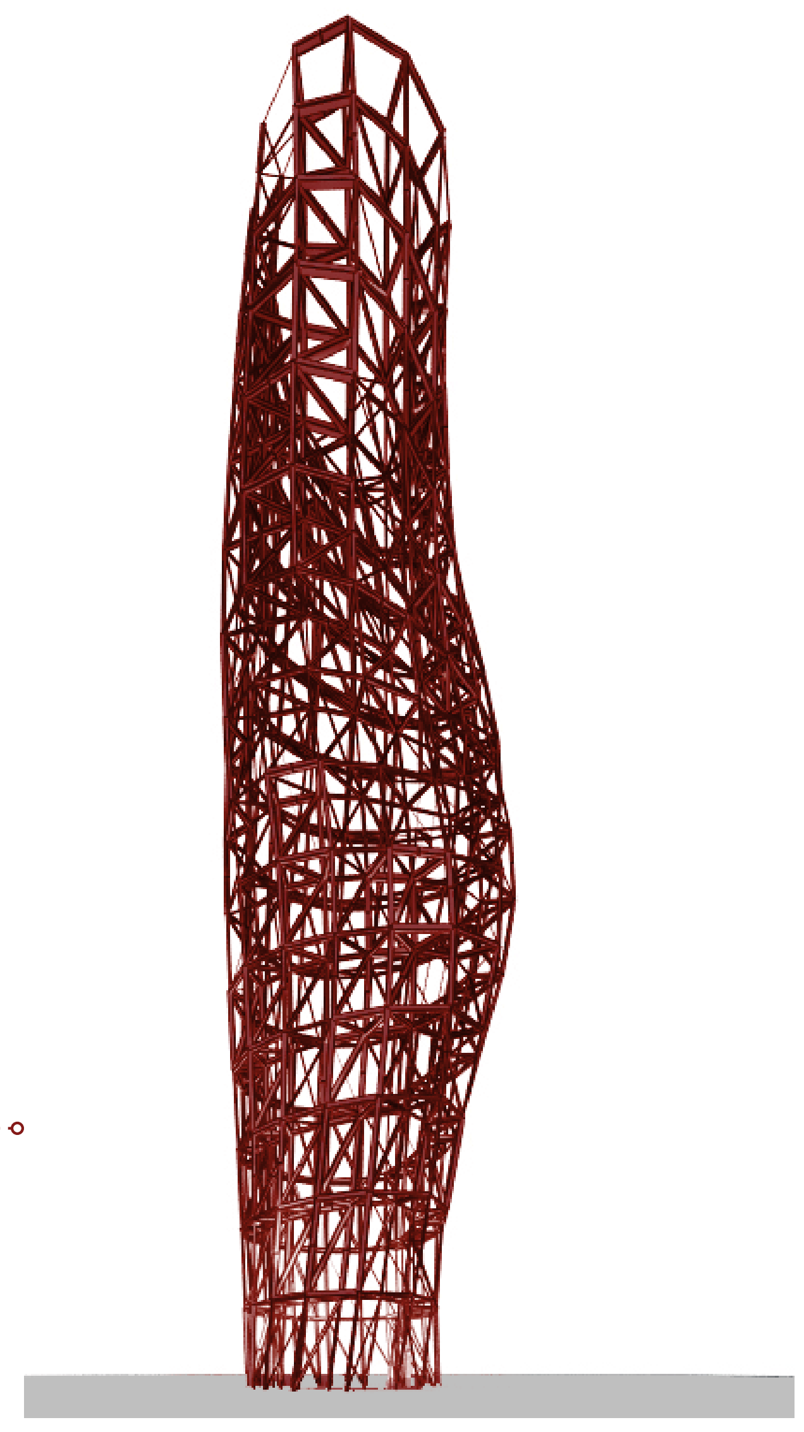

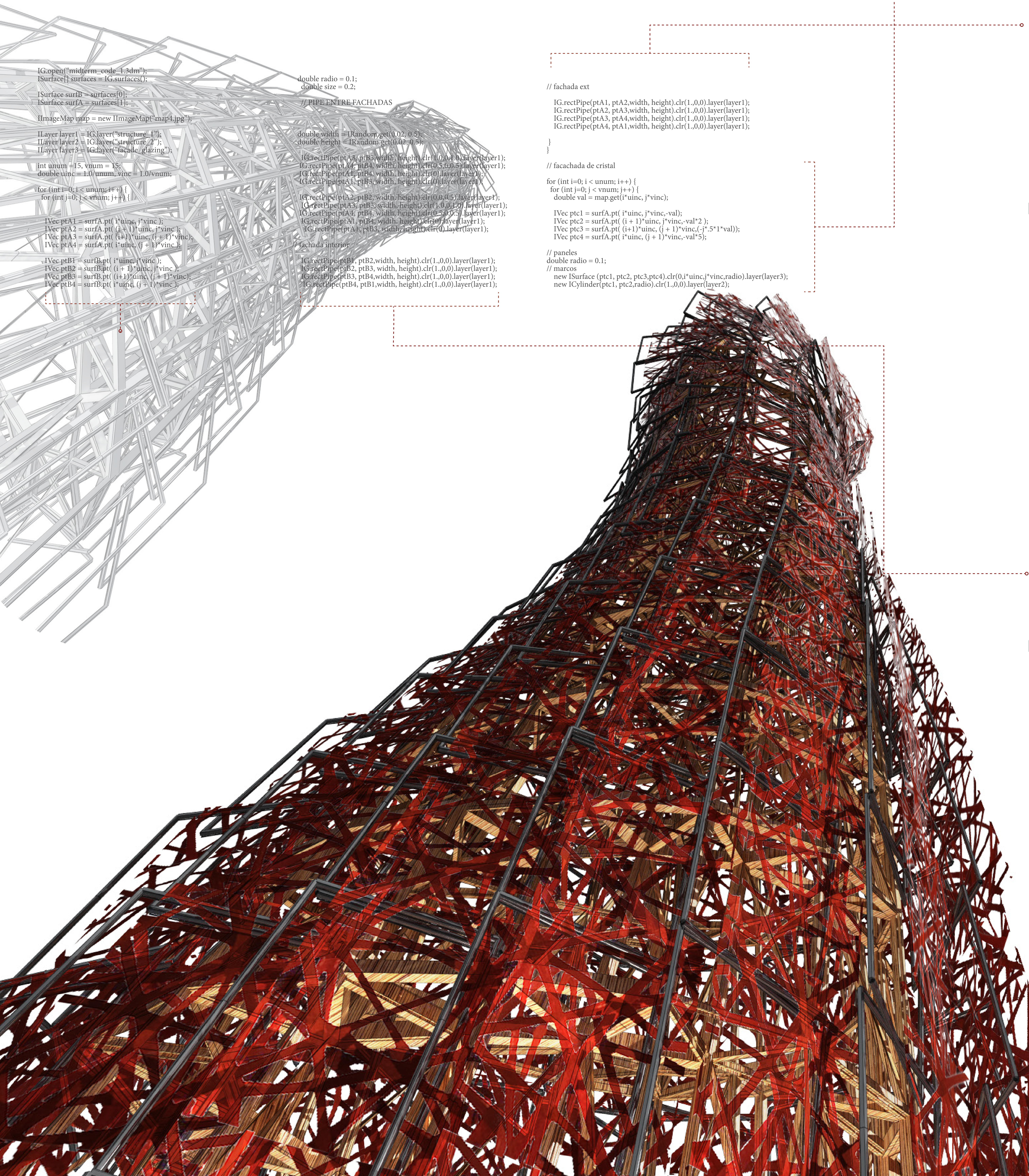

```
IG.open("midterm_code_1.3dm");
ISurface[] surfaces = IG.surfaces();

ISurface surfB = surfaces[0];
ISurface surfA = surfaces[1];

IImageMap map = new IImageMap("map4.jpg");

ILayer layer1 = IG.layer("structure_1");
ILayer layer2 = IG.layer("structure_2");
ILayer layer3 = IG.layer("facade_glazing");

int unum =15, vnum = 15;
double uinc = 1.0/unum, vinc = 1.0/vnum;

for (int i=0; i < unum; i++) {
 for (int j=0; j < vnum; j++) {


   IVec ptA1 = surfA.pt( i*uinc, j*vinc );
   IVec ptA2 = surfA.pt( (i + 1)*uinc, j*vinc );
   IVec ptA3 = surfA.pt( (i+1)*uinc, (j + 1)*vinc);
   IVec ptA4 = surfA.pt( i*uinc, (j + 1)*vinc );

   IVec ptB1 = surfB.pt( i*uinc, j*vinc );
   IVec ptB2 = surfB.pt( (i + 1)*uinc, j*vinc );
   IVec ptB3 = surfB.pt( (i+1)*uinc, (j + 1)*vinc);
   IVec ptB4 = surfB.pt( i*uinc, (j + 1)*vinc );
```

```
double radio = 0.1;
  double size = 0.2;

  // PIPE ENTRE FACHADAS


double width = IRandom.get(0.02, 0.5);
double height = IRandom.get(0.02, 0.5);

  IG.rectPipe(ptA3, ptB3,width, height).clr(1.0,0,1.0).layer(layer1);
 IG.rectPipe(ptA4, ptB4, width, height).clr(0.5,0,0.5).layer(layer1);
 IG.rectPipe(ptA1, ptB4, width, height).clr(0).layer(layer1);
 IG.rectPipe(ptA1, ptB3, width, height).clr(0).layer(layer1);

 IG.rectPipe(ptA2, ptB2, width, height).clr(0,0,0.5).layer(layer1);
  IG.rectPipe(ptA3, ptB3, width, height).clr(1.0,0,1.0).layer(layer1);
 IG.rectPipe(ptA4, ptB4, width, height).clr(0.5,0,0.5).layer(layer1);
  IG.rectPipe(ptA1, ptB4, width, height).clr(0).layer(layer1);
   IG.rectPipe(ptA1, ptB3, width, height).clr(0).layer(layer1);

// fachada interior

  IG.rectPipe(ptB1, ptB2,width, height).clr(1.,0,0).layer(layer1);
  IG.rectPipe(ptB2, ptB3, width, height).clr(1.,0,0).layer(layer1);
  IG.rectPipe(ptB3, ptB4,width, height).clr(1.,0,0).layer(layer1);
   IG.rectPipe(ptB4, ptB1,width, height).clr(1.,0,0).layer(layer1);
```

```
// fachada ext

   IG.rectPipe(ptA1, ptA2,width, height).clr(1.,0,0).layer(layer1);
   IG.rectPipe(ptA2, ptA3,width, height).clr(1.,0,0).layer(layer1);
   IG.rectPipe(ptA3, ptA4,width, height).clr(1.,0,0).layer(layer1);
   IG.rectPipe(ptA4, ptA1,width, height).clr(1.,0,0).layer(layer1);

 }
}

// facachada de cristal

for (int i=0; i < unum; i++) {
  for (int j=0; j < vnum; j++) {
   double val = map.get(i*uinc, j*vinc);

   IVec ptc1 = surfA.pt( i*uinc, j*vinc,-val);
   IVec ptc2 = surfA.pt( (i + 1)*uinc, j*vinc,-val*2 );
   IVec ptc3 = surfA.pt( (i+1)*uinc, (j + 1)*vinc,(-j*.5*1*val));
   IVec ptc4 = surfA.pt( i*uinc, (j + 1)*vinc,-val*5);

// paneles
double radio = 0.1;
// marcos
   new ISurface (ptc1, ptc2, ptc3,ptc4).clr(0,i*uinc,j*vinc,radio).layer(layer3);
   new ICylinder(ptc1, ptc2,radio).clr(1.,0,0).layer(layer2);
```

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