Using Technology to Create Face Time

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The Technical University of Denmark
Founded in 1829, by H.C. Ørsted.
11000 enrolled students,
63 programmes (BEng, BSc Eng, MSc Eng),
2000+ faculty.

Using Technology to Create Face Time

- How?
  - Through fewer lectures and faster and better assessment
  - By reaping the fruits of digitalization (after college)

Store type: brick and mortar
Product: information
Status: closed

Store type: brick and mortar
Product: information
Status: open for business

What is a University?

- A physical store selling information...
- Why has this model not been disrupted?

What is a University?

- A physical store selling information...
- Why has this model not been disrupted?
- Let me guess
  - the presence of fellow students
  - one-on-one discussion with faculty
    - especially during projects

Two Faces of eLearning

- Solitary
- Self-paced
- Assessment oriented

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- Self-paced
- Assessment oriented
- Enables distance learning
- Lets you ignore students?

Disclaimer: I care little about that

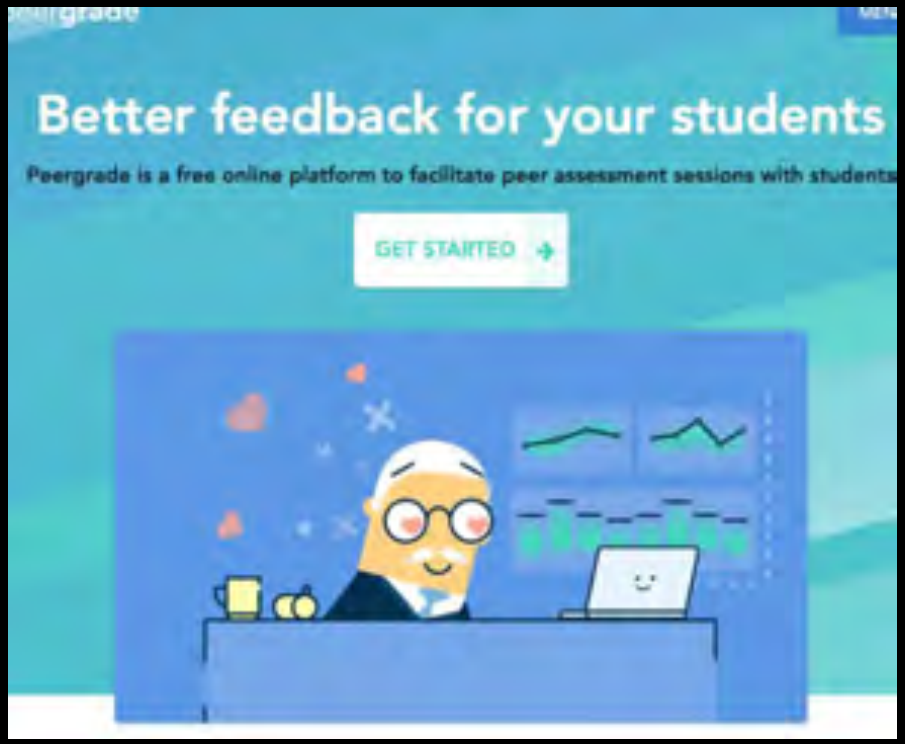
Two Faces of eLearning

- Promotes peer-instruction
- Frees up time for one-on-one

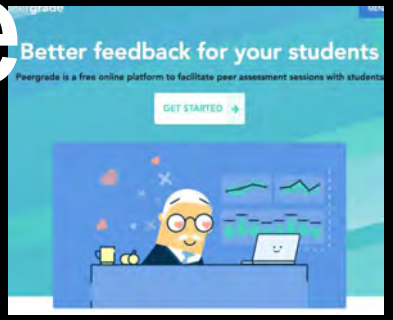
- Solitary
- Self-paced
- Assessment oriented
- Enables distance learning
- Lets you ignore students?

eLearning tech. from DTU Compute

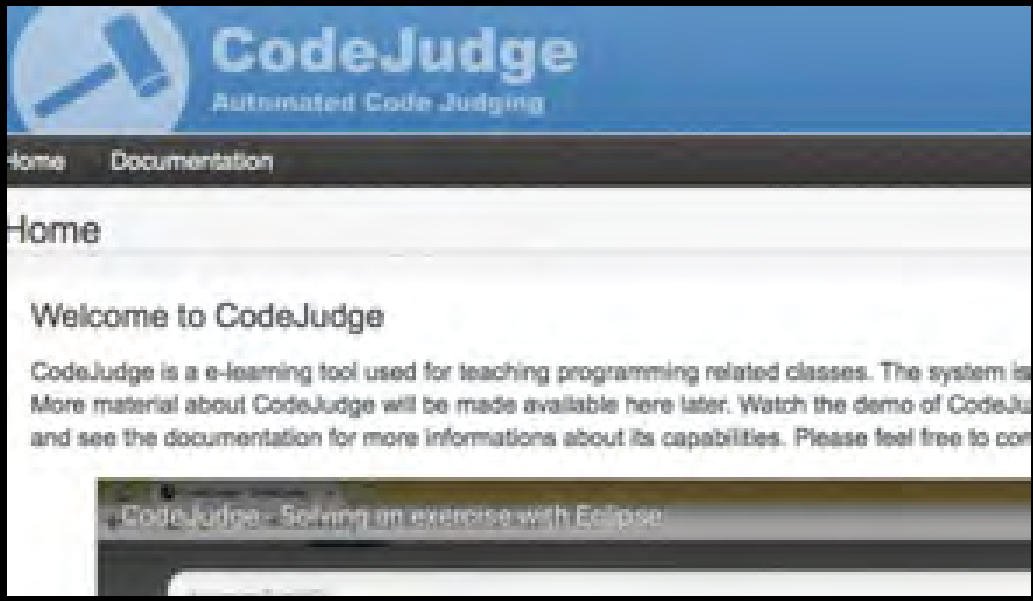
- PeerGrade.IO



eLearning tech. from DTU Compute



- PeerGrade.IO
- CodeJudge



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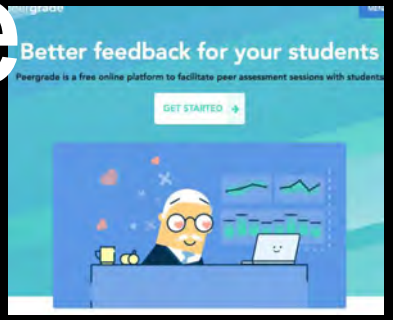
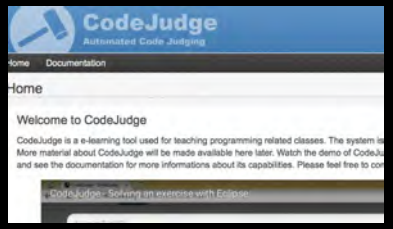




- Students love this? Right?!
- No. Some do, some don’t!
- Students
  - are conservative
  - like to see us work
- Work on matching of expectations needed!

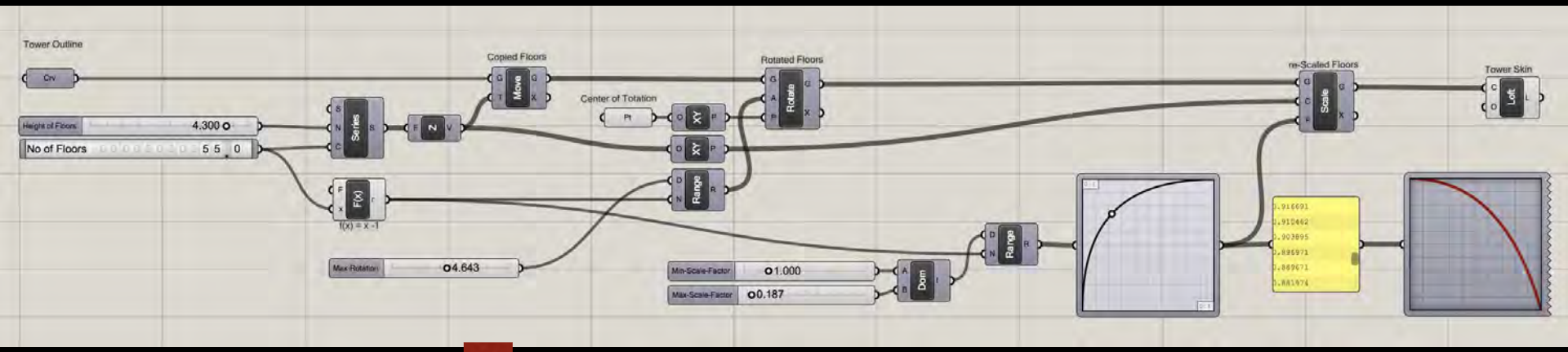
About the freed up time …

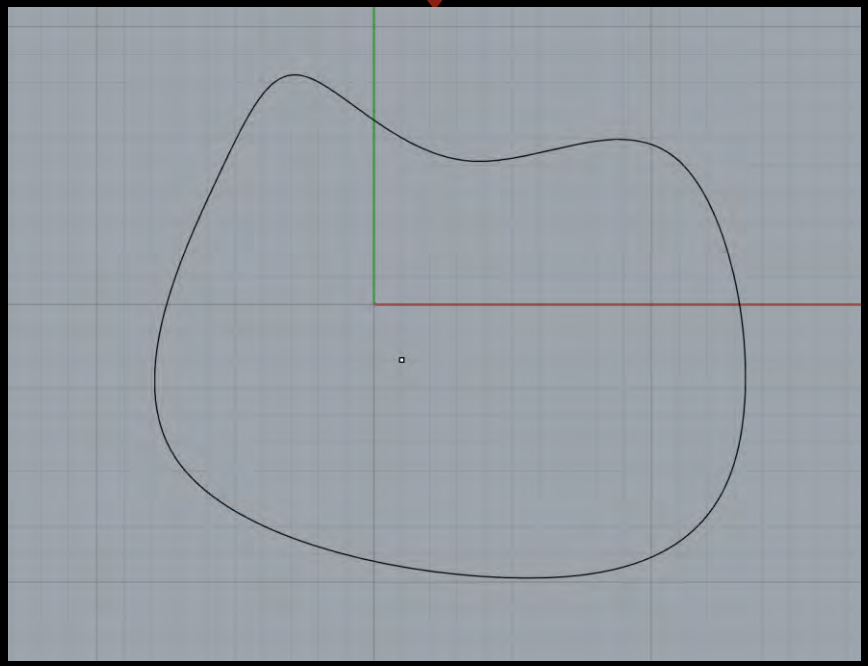
- In the future, advising students is going to be more important.
- DTU has an open door policy
- But plan the supervision of students

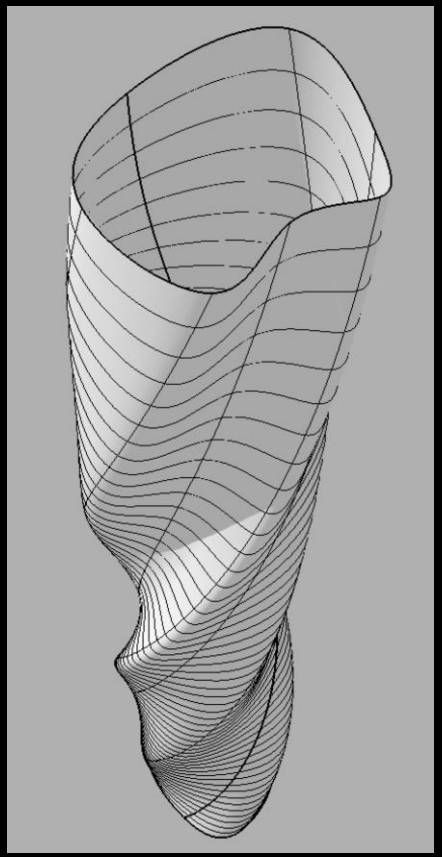
The Advisory Process

The Advisory Process

Computer Programming

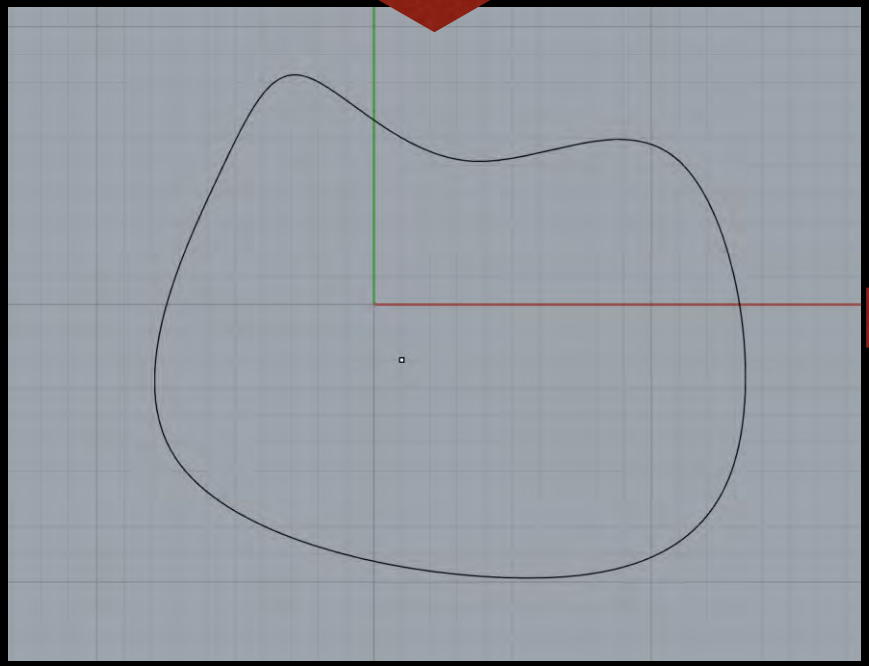

Tower Outline
Crv
Height of Floors
4.300
No of Floors
5 5 0
Series
Z
Copied Floors
Move
Center of Totation
Pt
XY
XY
Rotated Floors
Rotate
F(x)
f(x) = x - 1
Range
Max-Rotation
4.643
Min-Scale-Factor
1.000
Max-Scale-Factor
0.187
Dom
Range
re-Scaled Floors
Scale
Tower Skin
Loft

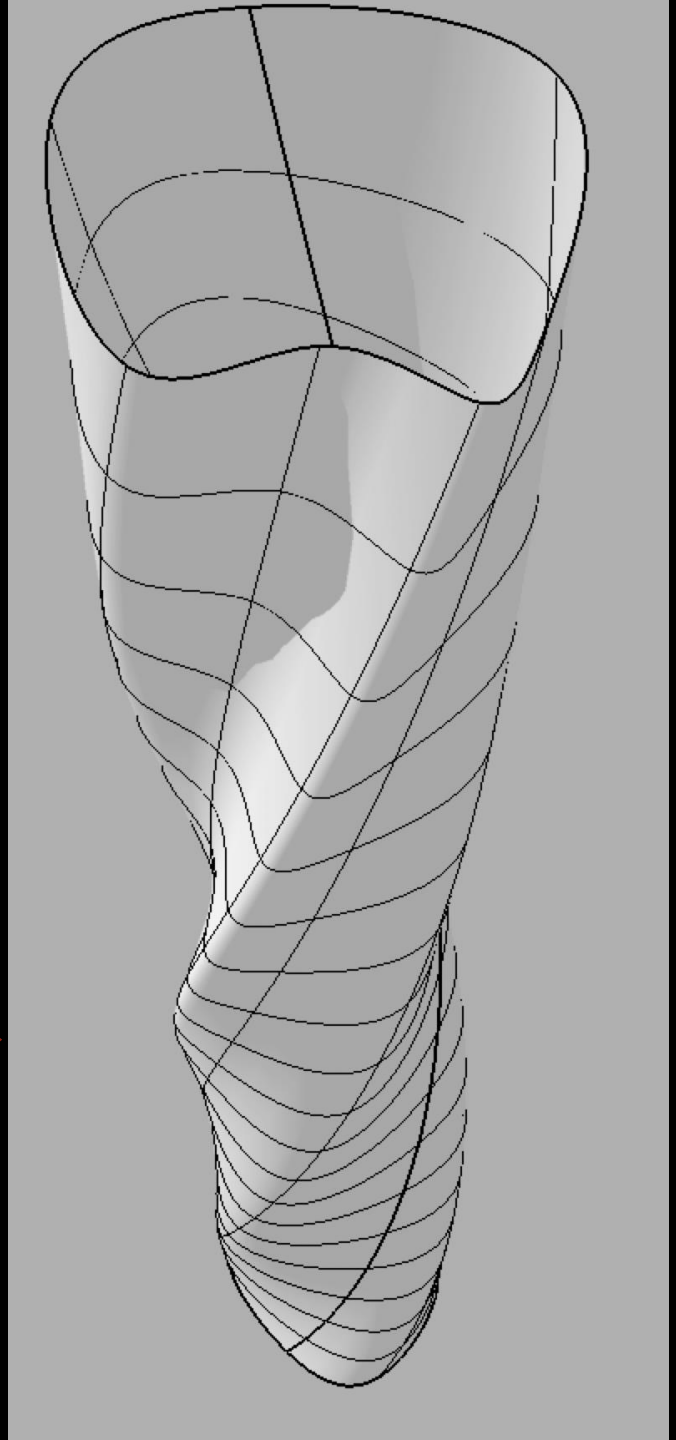




```
import Rhino
import math
import rhinoscriptsyntax as rs
import Rhino.Geometry.Point3d as Point3D
import Rhino.Geometry.Vector3d as Vector3D

curve0 = rs.GetObjects("select curve",4)
pt = rs.GetPoint("select point")
curves = [ ]
for i in range(0,100,5):
    curve = rs.RotateObject(curve0, pt, 2.4*i, None, copy=True)
    s = pow(0.997,i)
    rs.ScaleObject(curve,pt,Vector3D(s,s,s))
    rs.MoveObject(curve,Vector3D(0,0,2.4*i))
    curves.append(curve)
rs.AddLoftSrf(curves)
```





Code

- is the most concise way to instruct a computer
- yet people go to surprising lengths to avoid it
- Education can help!