

Unlimited Product Design Using NX 5/6

by

Stephen Samuel

of

**DESIGN
VISIONARIES**



"We make progress"

2008 PLM World Users Conference

Design Visionaries Overview

- Design Engineering (80%)
- Custom NX, Teamcenter and Advanced Simulation Training
- Books (NX4, NX5, Teamcenter, Advanced Simulation Nastran)

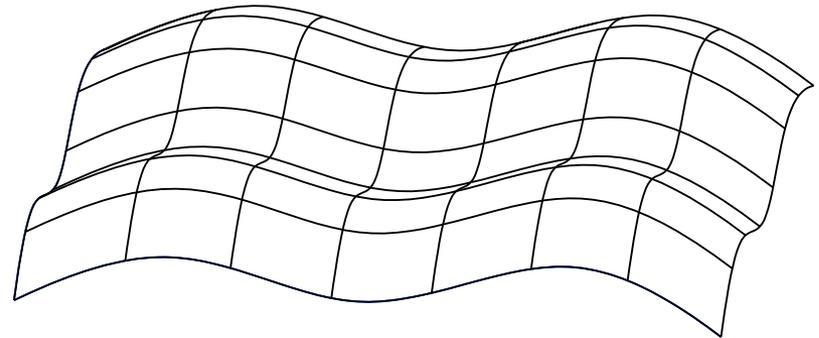
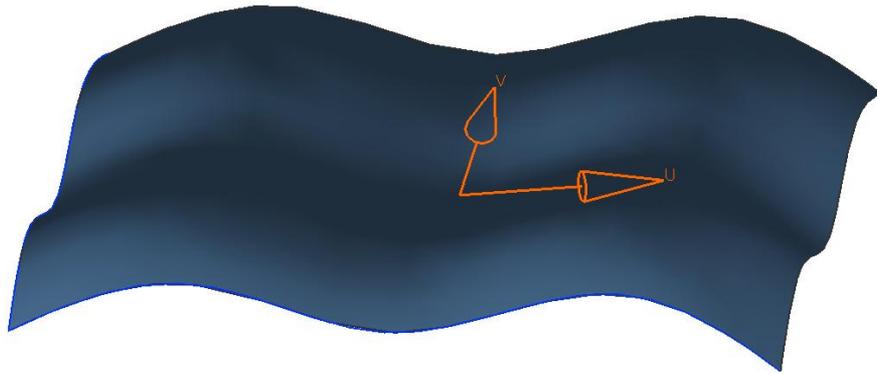


- It's a continual honor and pleasure to perform this speech for you.

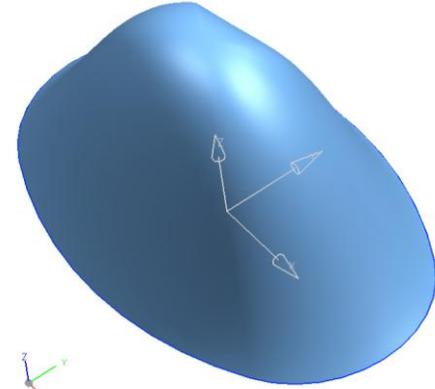
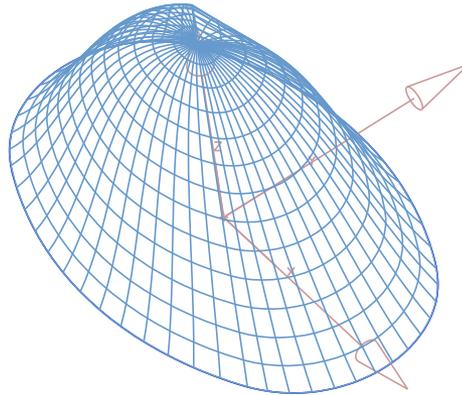
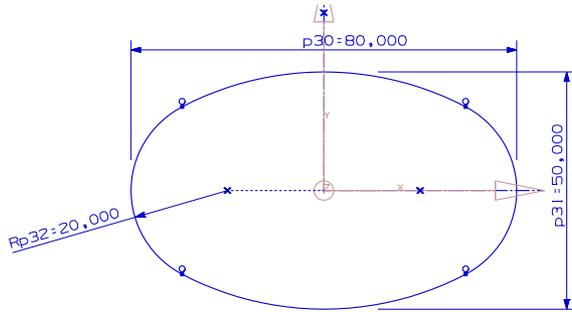
Overview of speech

- You should only be limited by what can be manufactured not what you can model...
 - Rectangularly parameterization of surfaces
 - N-sided surface
 - Join curve to help reduce surface patches
 - G3 curvature and various applications
 - Blending challenges are easier than ever
 - Advanced simulation helps the design process immediately

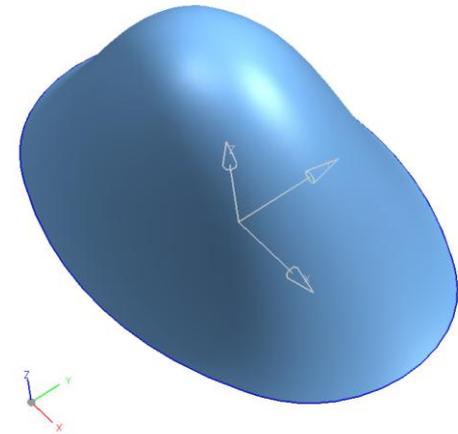
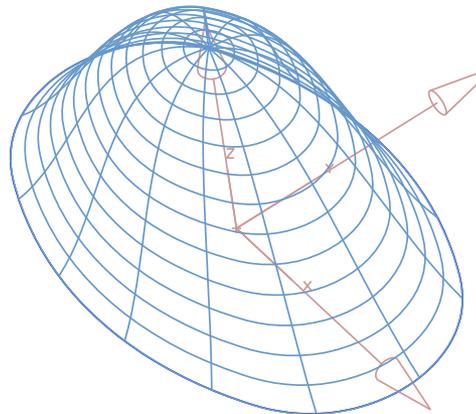
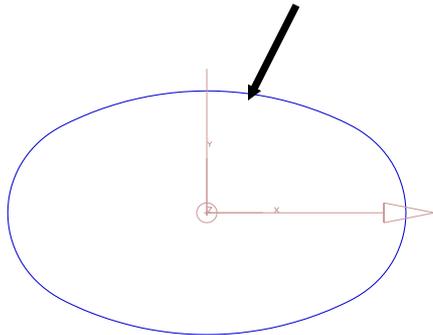
U and V parameterization



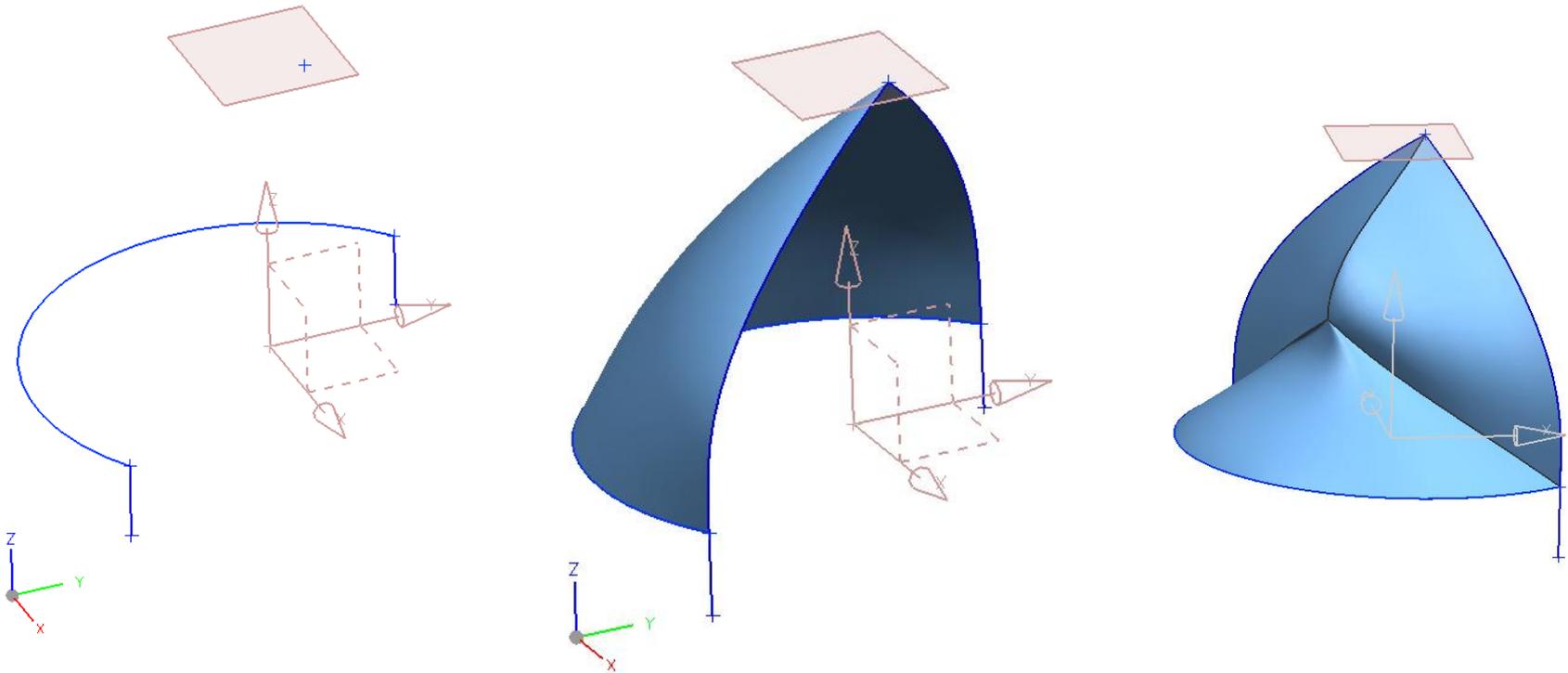
Curves Make a Huge Difference



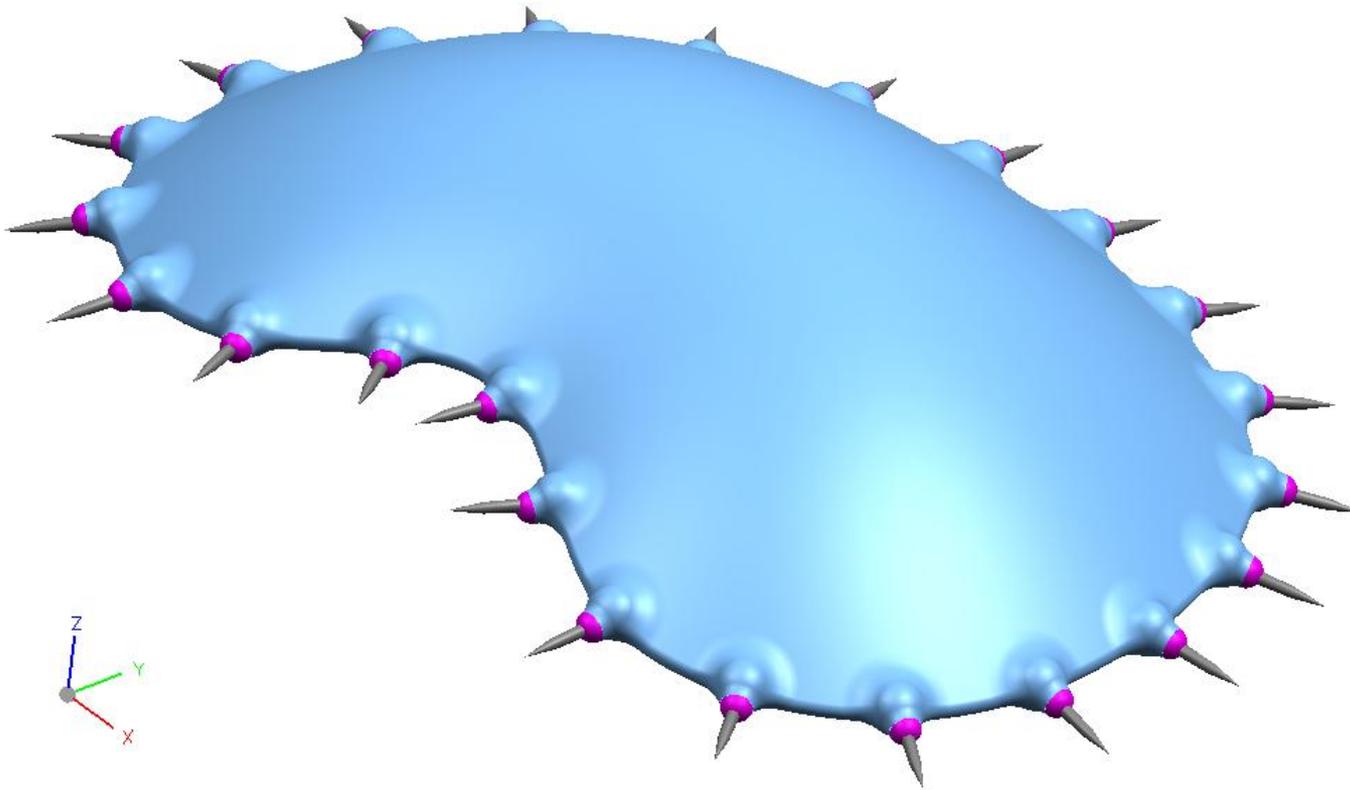
Joined Curves



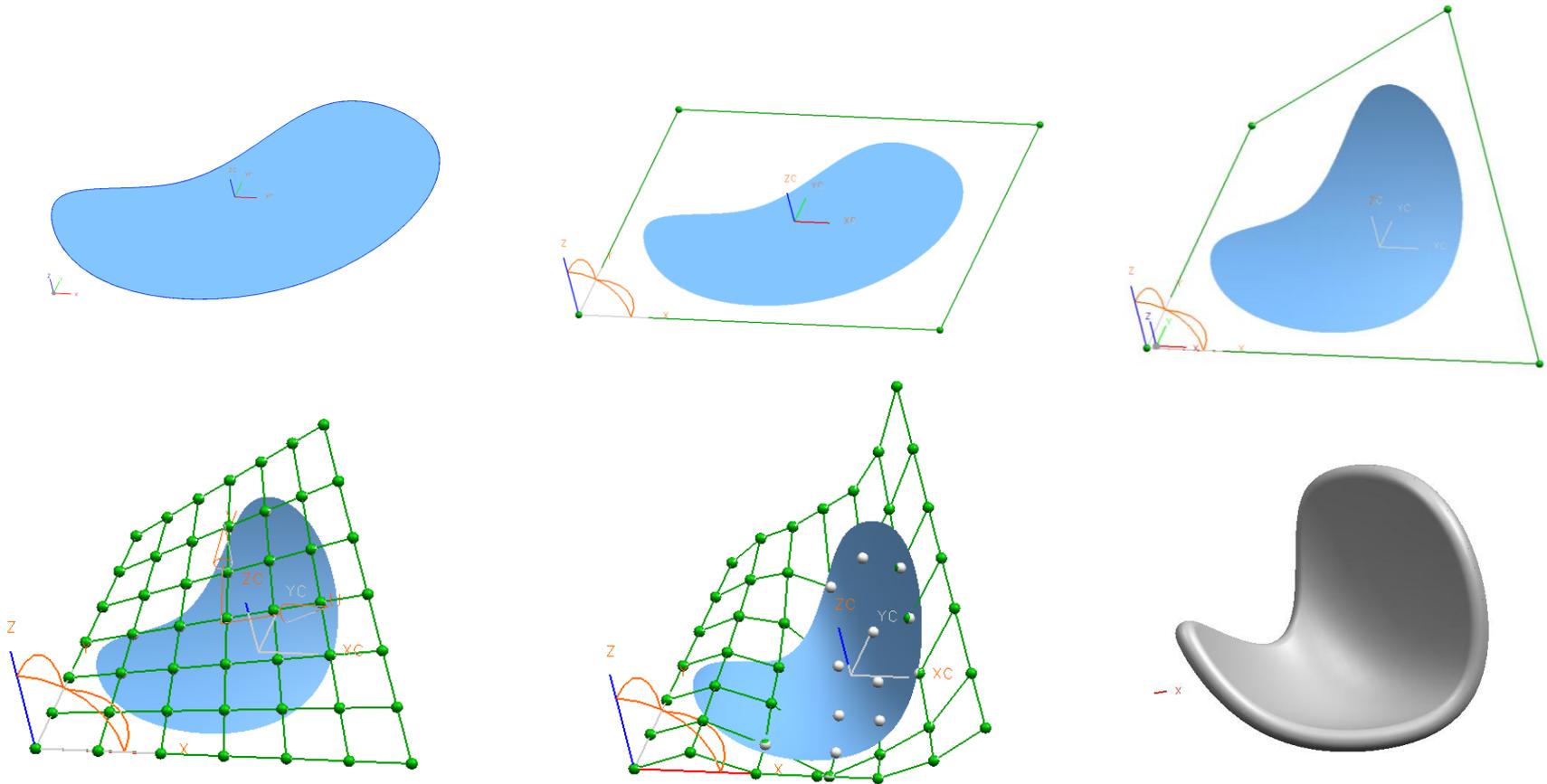
Controlling Triangular Surfaces



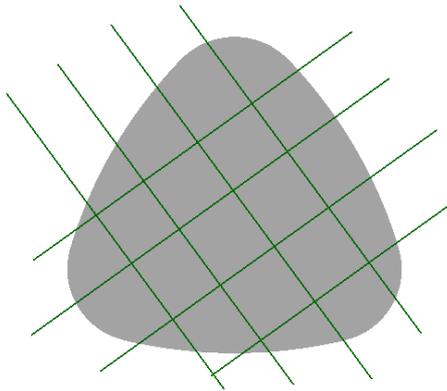
Blown surface



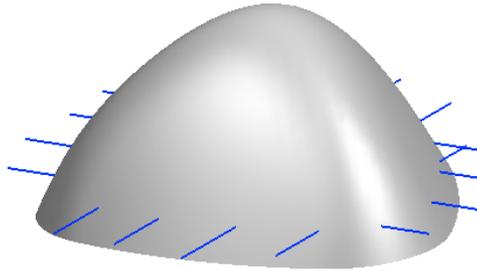
X-Form



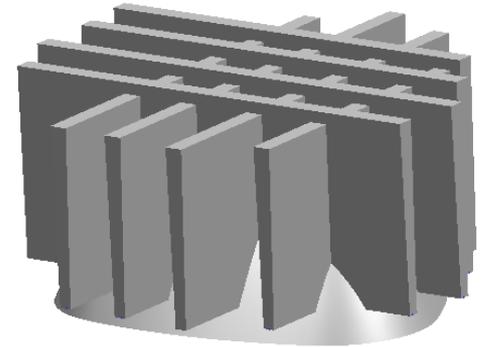
Difficult ribs



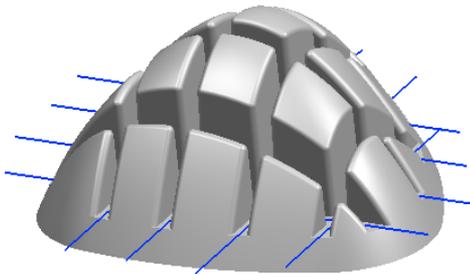
Step 1: Create a series of lines on the bottom face of the extracted solid. Each line will become a rib.



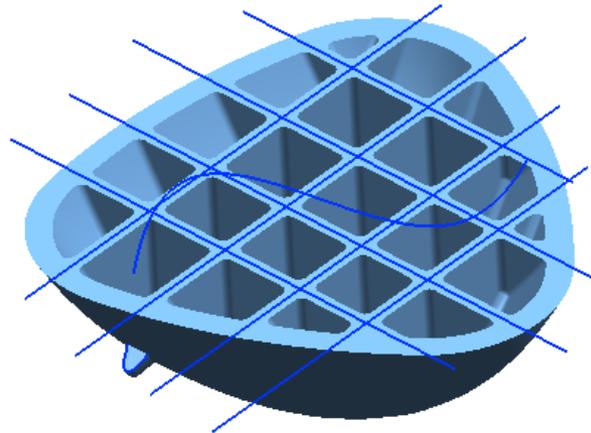
Step 2: Create an offset on the bottom face to go beyond the sketch plane.



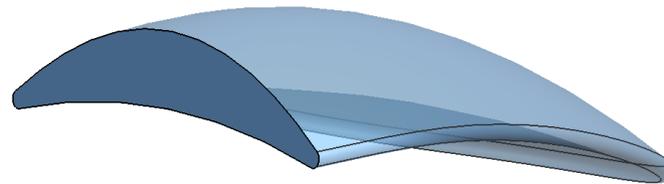
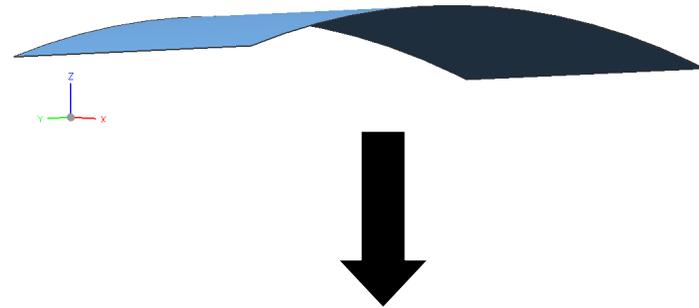
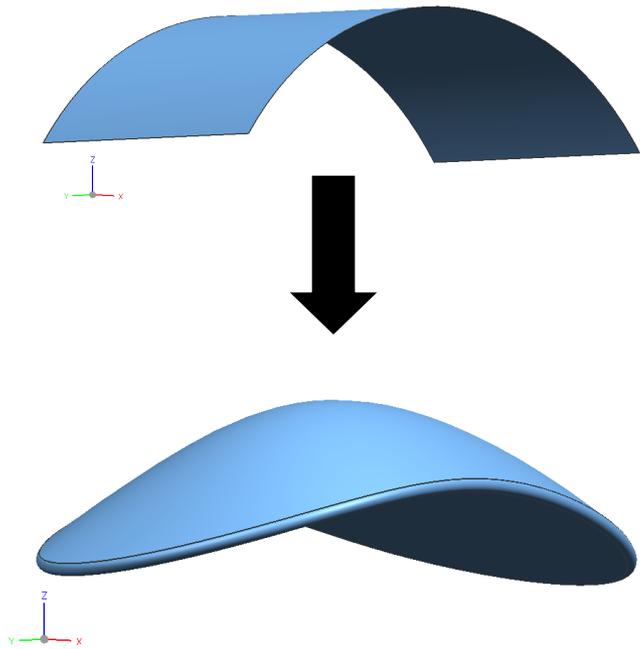
Step 3: Extrude each line with a two sided offset (+1 to -1) and a 1 degree taper angle.



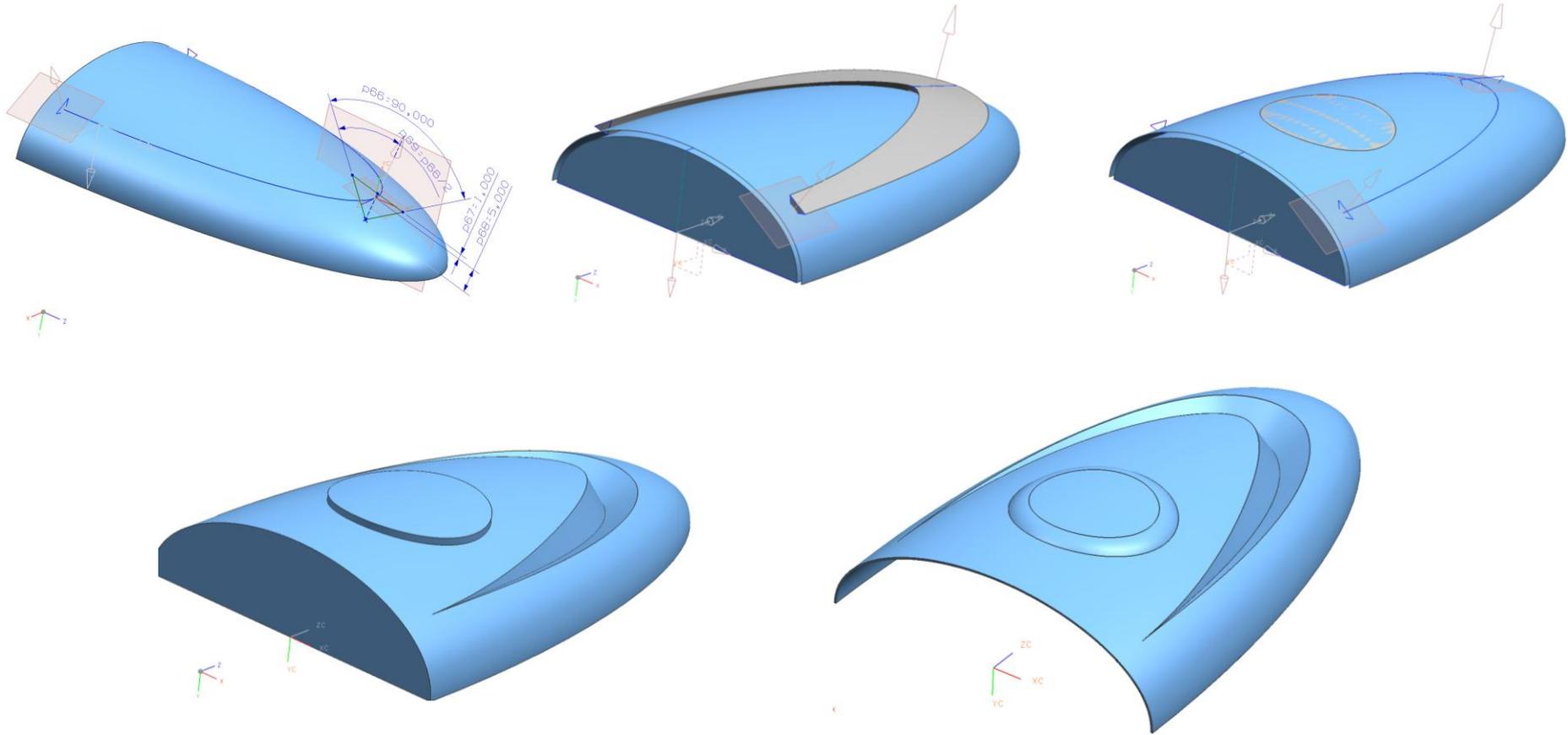
Step 4: Finally subtract the altered extracted solid from the original.



Swoop



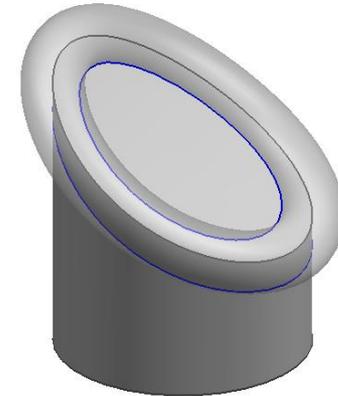
Elliptical Surfaces



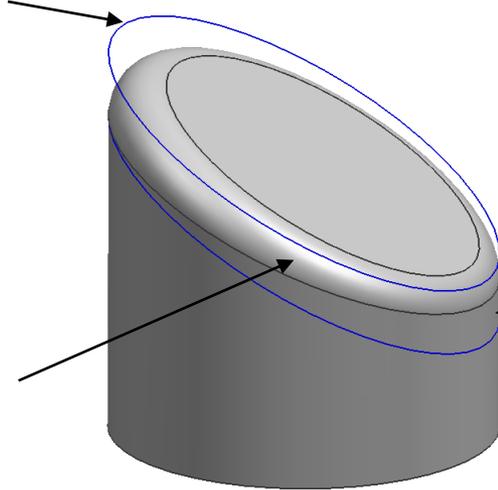
Fillets and Chamfers

Theoretical
intersection

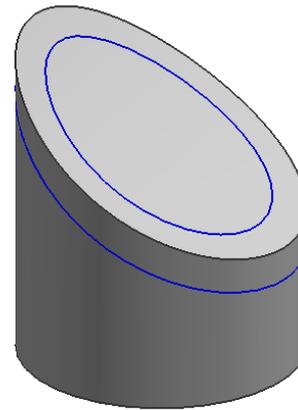
Tube surface



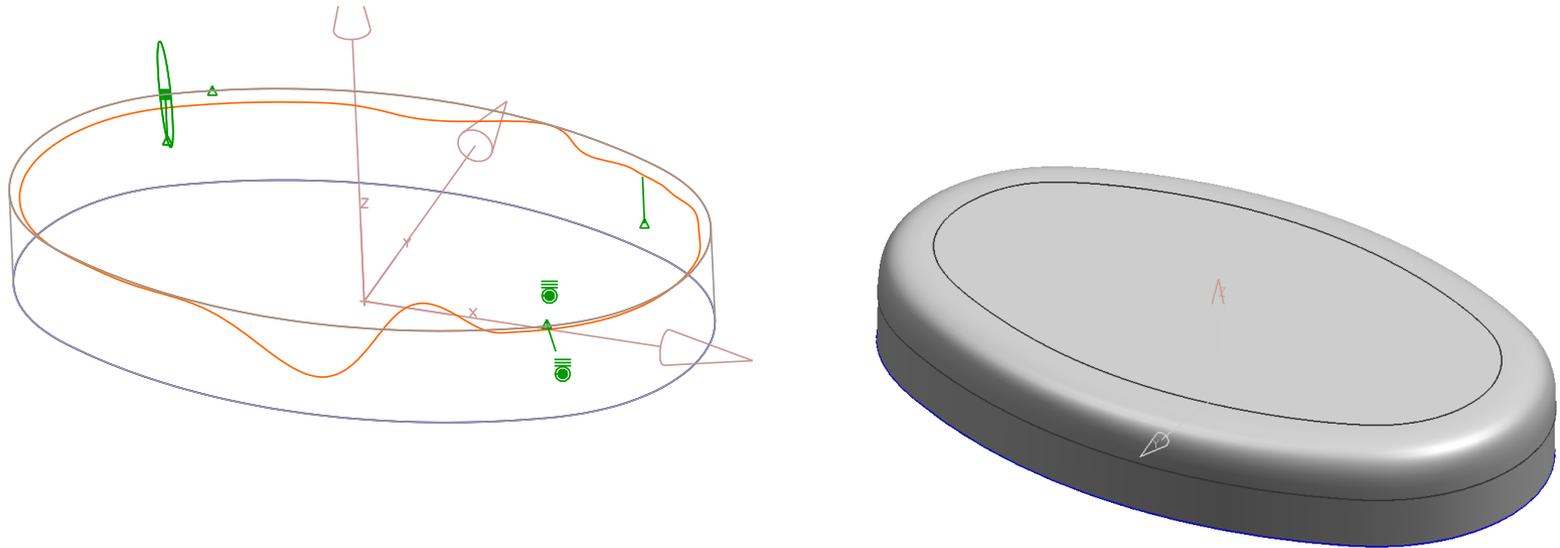
Equidistant
set back

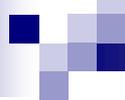


Fillet run out



G3 Curvature continuous blend





Questions and demo

- More complex surfaces
- Advanced Simulation of complex surfaced component
- Demo