Lab 5 Report

Morphing

CZ2003 Computer Graphics and Visualization

Nanyang Technological University

By Trifena Caroline

**NANYANG
TECHNOLOGICAL
UNIVERSITY**
SINGAPORE

Shape 1

Shape 1 has the following parametric equation

$$x = 2 \left(\cos \left(\frac{8 \Pi u}{4} \right) \right)^3 \left(\sin \left(\Pi v \right) \right)^5$$

$$y = 2 \left(\sin \left(\frac{8 \Pi u}{4} \right) \right)^3 \left(\sin \left(\Pi v \right) \right)^5$$

$$z = 2 \left(\sin \left(\Pi v \right) \right)^5 \left(\cos \left(\Pi v \right) \right)$$
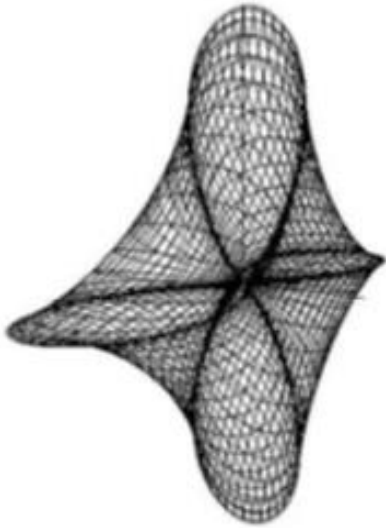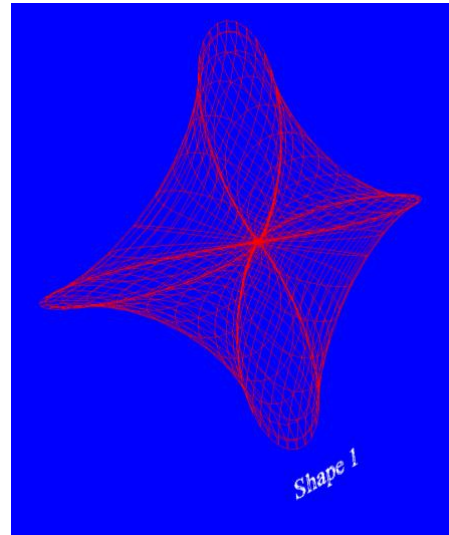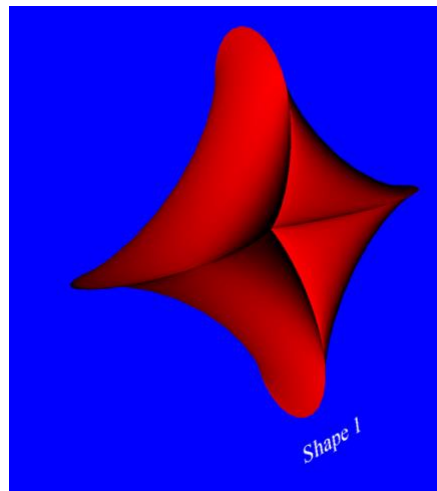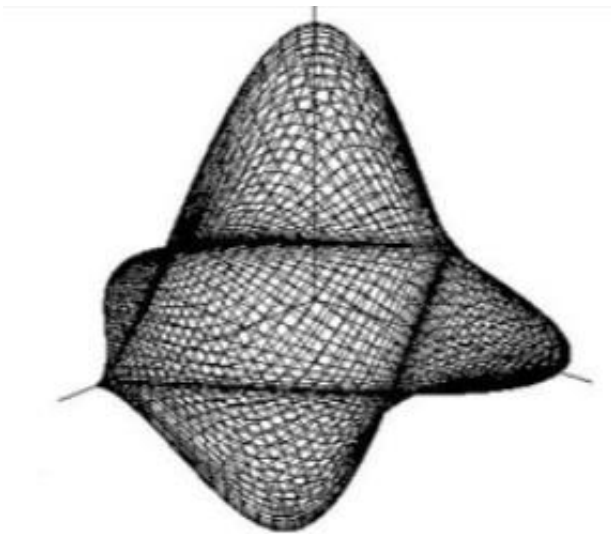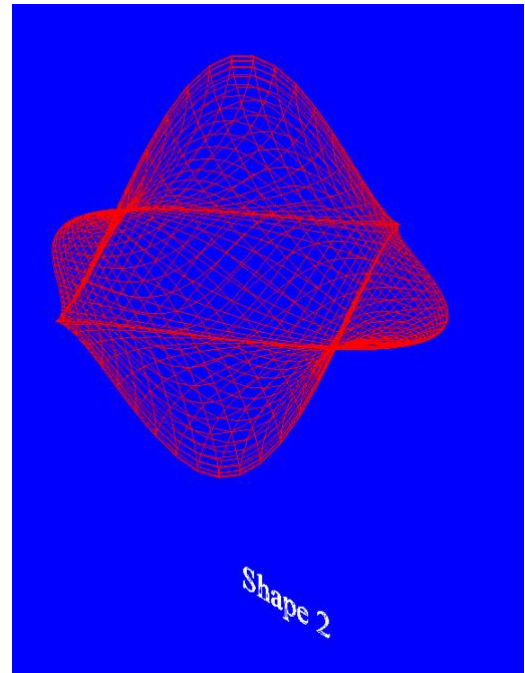
$$u, v \in [\, 0 \quad 1 \,]$$

Image of Shape 1 in lab manual

Wireframe of Shape 1

Smooth Graphic Mode of Shape 1

Shape 2

Shape 2 has the following parametric equation

$$x = 1.6 \, (\cos (\Pi v))^3$$

$$y = 1.6 \, (\cos (2\Pi u) \, \sin (\Pi v))^3$$

$$z = 1.6 \sin (2\Pi u) \, \sin (\Pi v)$$

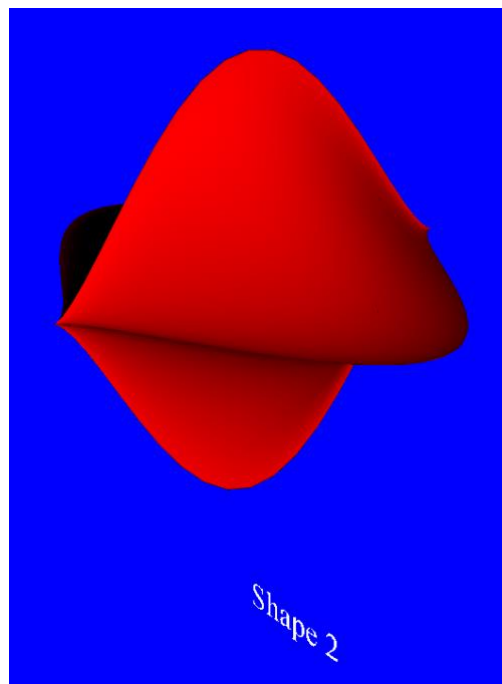$$u, v \in [\, 0 \quad 1 \,]$$
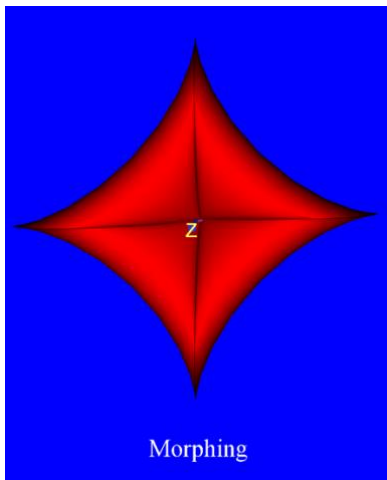

Image of Shape 2 in lab manual
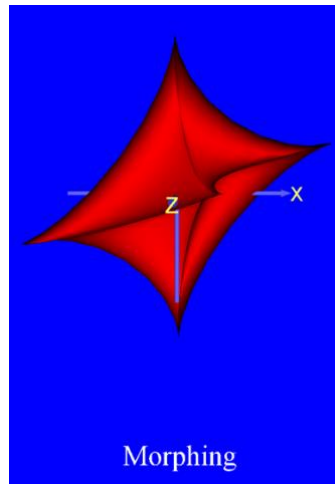

Wireframe of Shape 2

Smooth Graphic Mode of Shape 2
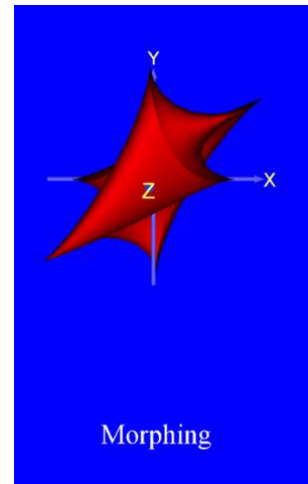
Animated Shape

Below shows shots of the transition of the animation. The order goes from Shot 1 to 5 then back to 1.
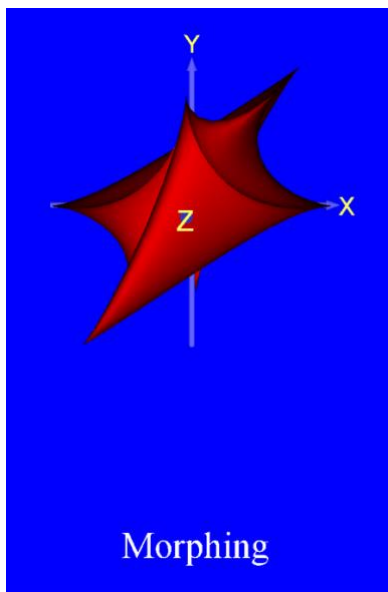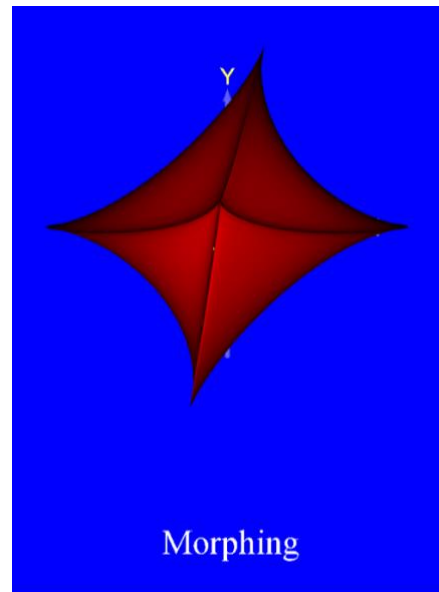

Shot 1

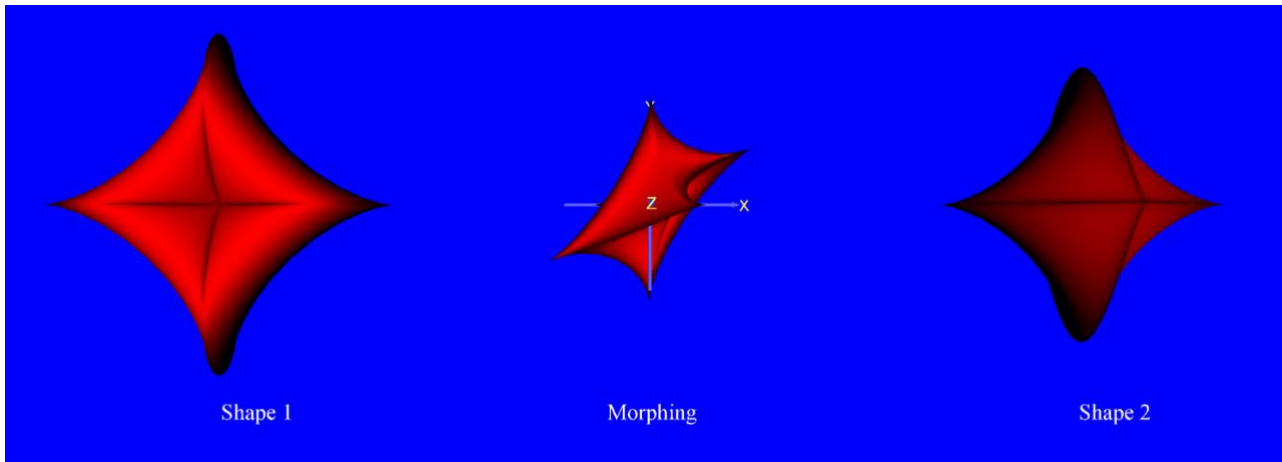
Shot 2

Shot 3

Shot 4

Shot 5

Overview of 3 Shapes

This scene renders in under 2 seconds.

Overview of the 3 shapes

Description of Files

1. morphing.wrl - Shows the above described shapes, consisting of shape 1, 2 and the animated shape