Nanyang Technological University

Lab 3 Report:

# Visual Mathematics

## CZ 2003 Computer Graphics and Visualization

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# Experiment 3: Parametric Surfaces and Solids

|  |  |  |
| --- | --- | --- |
| **3d-plane.wrl** | **3d-triangle.wrl** | **Brief Report** |
|  |  | * When the resolution decreases, the curve will be less smooth. * **Q6：**   When converting surface to solid object, a third parameter should be added to control the distance between the sample points in the surface and the origin. Hence, the inner parts are filled in. |
| **cone.wrl** | **cone.wrl (Decreased Resolution to 10)** |
|  |  |
| **bilinear-surface.wrl** |  |
|  |  |
| **epllisoid.wrl** | **sphere.wrl** |
|  |  |
| **solid-box.wrl** | **solid-cone.wrl** |
|  |  |
|  | **Resolution Changed** |
| **solid-cylinder.wrl** | **solid-sphere** |  |
|  |  |  |

**Use curve y=sin(x) for making a solid by applying rotational and translational sweepings together.**

x=(0.1\*v\*cos(pi \* 2 \* u)+ 0.7 +0.3\*w) \* sin(w\*6\*pi + pi/2);

y=-0.5+sin(2\*u\*pi)\*0.2 + w;

z=(0.1\*v\*cos(pi \* 2 \* u)+ 0.7 +0.3\*w) \* cos(w\*6\*pi + pi/2);

