Nanyang Technological University

Lab 4 Report: Implicit Solids

CZ2003 Computer Graphics and Visualization

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| Above is the snapshot of “Implicit Solids.wrl” which define by following equation:  ellipse=min((1-(x/0.4)^2-(y/0.4)^2-(z/0.5)^2),-z);  cone=min((((z-1)/1)^2-(x/0.7)^2-(y/0.7)^2),z);  cylinder=min(min((0.2^2-x^2-y^2),-0.5-z),z+1);  cylinder2=min(min((0.05^2-x^2-(z+0.6)^2),y+0.7),0.7-y);  sphere=0.08^2-(x-0.35)^2-(y+0.2)^2-(z+0.1)^2;  sphere2=0.08^2-(x-0.35)^2-(y-0.2)^2-(z+0.1)^2;  final=min(min(max(max(max(cone,ellipse),cylinder),cylinder2),-sphere),-sphere2);  This graph is consisting of one cone, one half ellipse, two cylinders and minus two spheres.  The diffuseColor is defined by "r=cos(0.5\*u\*pi); g=sin(0.5\*v\*pi); b=0;” |