

POLYHEDRA

WRITTEN BY: Donald Kiel, Department of Math and Computer Science, Cal State, Los Angeles (dkiel@neptune.calstatea.edu)

CATEGORY: Computer Graphics

APPLICATION:

This application demonstrates the drawing of the 5 regular (Platonic) polyhedra, i.e.- the tetrahedron, the hexahedron (cube), the octahedron, the dodecahedron, and the icosahedron. The application rotates the given polyhedron and assumes that the light source is directly behind the viewer. The polyhedra are defined in terms of vertices and faces. The normal vector is computed for each face and used to determine whether or not to draw that face. If it is drawn, the dot product of that normal vector with the viewing vector is used to determine the "color" of that face.

USES: Graphics classes to illustrate animation and normal vectors..

DEVELOPMENT :NeXTSTEP 2.0