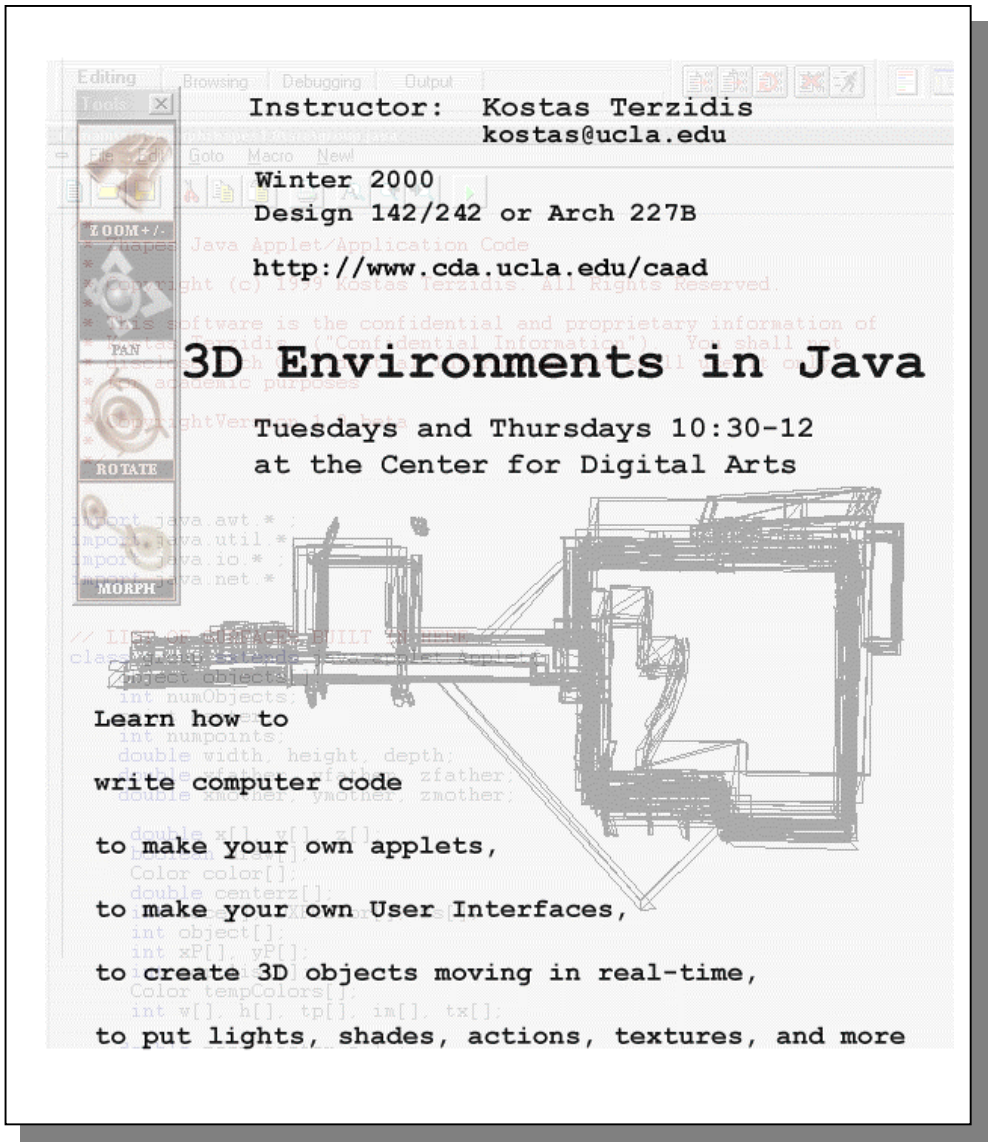
Arch 227B: Introduction to Geometric Modeling - {3D Environments in Java}

[Winter 2000] Tue and Thu 10:30 - 12:00pm CDA Lecture Room
[Instructor]: Kostas Terzidis 1124D Perloff Hall tel. 825-8004
[E-mail]: kostas@ucla.edu
[Class Notes]: http://www.cda.ucla.edu/caad
[Prerequisites]: Arch 227A or knowledge of Java language
T.A. **Yoshihiro Kobayashi** **sunp@ucla.edu**



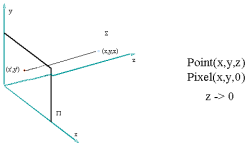
{SCHEDULE}

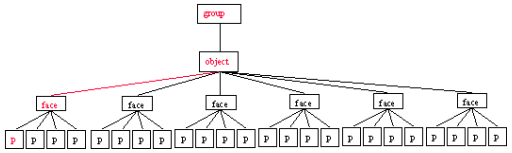
[Week1]: Java basics/Café J++ basics:

- How do we compile, debug, include libraries, setup multi-file code.

[Week2]: Projection systems:

- What is projection, 3D space, perspective and how to setup graphics and screen





[Week3]: Object creation/internal representation:

- How do we represent a point, segment, face, solid, hole, and group as classes.

[Week4]: Transformations:

- What are matrices and how do we use them for translation, rotation, scaling or reflection.

[Week5]: User interface:

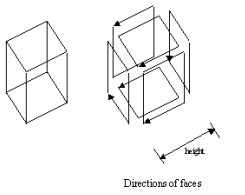
- How to create graphics user interfaces (GUIs) using working plane, snapping, zoom, and pan.

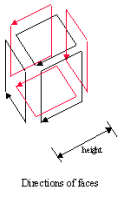
[Week6]: File I/O:

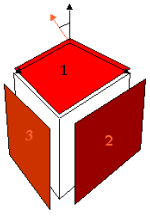
- How to stream data over operating systems or networks and how to read and write DXF and VRML file formats.

[Week7]: Hidden line/Shading/Light:

- What is a vector and how do we use it to calculate the light and shade on faces using sorting, matching and color tables.







[Week8]: Topological editing/morphing:

- How do we alter the geometry and topology of points, faces, objects and groups.

[Week9]: Texture mapping:

- What is an image and how to map it to a polygon in 3D space.

[Week10]: Simple 3D animation:

- What is multitasking and how to use threads to create real-time animation using parallel processing.