

Graphics Software Systems: Coordinate Representations

Most graphics packages use Cartesian coordinates

Objects are specified in modeling coordinates (MC)

These objects are then placed into the scene with world coordinates (WC)

World coordinates then transformed into normalized device coordinates (NC) (between 0 and 1)

Normalized device coordinates then changed into device coordinates (DC) (e.g., pixel locations)

MC → WC → NC → DC

This terminology will become more concrete when you start writing graphics programs yourself

Graphics Software Systems:

Graphics Functions

Output primitives for drawing pictures (points, lines, curves, polygons, etc.)

Attributes of output primitives (e.g., line width)

Geometric transformations scale, translate, rotate, etc. an object

Viewing transformations change the camera view

Projection of objects onto the image plane (screen)

Lots of other terminology to come, but this is enough for now :)