

On-Line Computer Graphics Notes

IMAGE SPACE

Kenneth I. Joy
Visualization and Graphics Research Group
Department of Computer Science
University of California, Davis

A model is reduced to a picture by systematic transformation through several coordinate systems. The user's coordinate system, commonly called world space is the highest level, while the *device coordinate system* and device space is the lowest. Image Space is the three-dimensional coordinate system that contains screen space. It is the space where the camera transformation directs its output.

Image Space

The term *Image Space* is used to define the 3-dimensional volume.

$$\{(x, y, z) : -1 \leq x \leq 1, -1 \leq y \leq 1\}$$

This volume contains *Screen Space*, which is the intersection of the xy plane with image space. Points in image space are mapped into screen space by projecting via a parallel projection, onto the plane $z = 0$ – thus, for example, any point $(0, 0, z)$ in image space will project to the center of the display screen.

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