
2011 INTRODUCTION TO GRAPHICS NOTES

ADDITIONAL NOTES AND EXERCISES

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LECTURE 1: INTRODUCTION TO GRAPHICS

PIPELINE

The fundamental distinction in computer graphics is between modelling and rendering. One model might exist, but several renderings of that model. The data model is *traversed* by a rendering pass (implementing, perhaps a Visitor pattern) which calls the API in order to generate renderings. Note that graphics APIs can often operate in *retained* mode or *immediate* mode. In retained mode, the traversal occurs just once, and the renderer stores an internal representation of the data structures required to generate the picture. Such APIs are common when bandwidth is limited. An immediate mode API retains no model of the data and the rendering traverse must happen whenever the picture needs refreshing.

ADDITIONAL SOURCES

See Java2D (Knudsen) for a longer description of the pipeline. Refer also to the material in Coursework 1.