



## SIGGRAPH 1994

*21st International Conference  
On Computer Graphics and  
Interactive Techniques*

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## Course Notes

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### DESIGNING REAL-TIME GRAPHICS FOR ENTERTAINMENT

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# *Architecture and Performance of Entertainment Systems*

*James Helman  
Silicon Graphics Computer Systems*

*Designing Real-Time Graphics for Entertainment  
SIGGRAPH '94 Course*

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*In the beginning there was the Drive In  
And Walt said, "Let there be a Park."  
And lo, there was Pirates of the Caribbean  
Thus did Walt beget the Experience Industry  
And Walt saw that it was Good...*

*- Michael Krantz Figure [Krantz94]*

## *1 Introduction*

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The use of real-time 3D computer graphics in interactive entertainment has grown dramatically recently. These applications include better arcade games, more sophisticated multiplayer games for location-based entertainment (LBE) centers, virtual actors on TV driven by puppeteers and motion capture devices, and even virtual interactive theatres where the "player" can assume the role of a character in a story and alter the course of the plot.

This chapter of the course notes tries to provide a general background into the elements that go into creating a real-time 3D graphics entertainment application and the basic performance levels required to meet human factors requirements. Subsequent chapters fill in the details of content generation and graphics techniques that can be used to meet those performance requirements.