



# CHAPTER 14

## LECTURE OUTLINE

### Computer Science Illuminated, Seventh Edition

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## Simulation, Graphics, Gaming, and Other Applications

### 14.1 What Is Simulation?

- Complex Systems

- Models

- Constructing Models

### 14.2 Specific Models

- Queuing Systems

- Meteorological Models

- Computational Biology

- Other Models

- Computing Power Necessary

### 14.3 Computer Graphics

- How Light Works

- Object Shape Matters

- Simulating Light

- Modeling Complex Objects

- Getting Things to Move

### 14.4 Gaming

- History of Gaming

- Creating the Virtual World

- Game Design and Development

- Game Programming

### Summary

### Ethical Issues: Gaming as an Addiction

### Key Terms

### Exercises

### Thought Questions