Lecture 9 Outline

Reading: White, §22, 23

Assignments due:
- Lab #4 (“Microsoft Powerpoint”) due Feb. 1 at 11:55PM
- Lab #5 (“Building a Simple Web Page”) due Feb. 8 at 11:55PM

Midterm on Feb. 10 in class

“Spew” paper due Feb. 17 in class

Question for the Day: How trustworthy do you think digital evidence is (such as digital photograph, audio recordings, or printouts of emails)?

1. Greetings and felicitations!
   a. Office hours for Tuesday, Feb. 1 are moved to 11:00AM–12:00 noon.

2. Brief history of computer games
   a. 1961: Spacewar
   b. 1971: Star Trek
   c. 1972: Hunt the Wumpus
   d. 1974: Maze War
   e. 1975: Adventure
   f. 1980: Rogue
   g. 1980s: Pong, Pac-Man, etc.

3. Joystick
   a. x-axis, y-axis, r-axis; buttons
   b. Force-feedback

4. Game pad (PlayStation, GameBoy, etc.)
   a. D-pad
   b. Analog sticks
   c. Action buttons
   d. Feedback

5. Video cards
   a. ATI vs. NVIDIA
   b. Rendering, rasterization
   c. Scissors rendering
   d. Supertiling
   e. Shader is on chip, adds texture, etc.
   f. Frame buffers

6. 3D graphics
   a. Polygons and 3-D objects
   b. Geometry engine

7. Rendering engine of the GPU creates 2D rasterization of 3D scene
   a. Wire frame
   b. Z-Sorting
   c. Z-Buffering

8. Filling things in
   a. Texture maps
   b. MIP mapping
   c. Perspective correction
   d. Alpha blending
   e. Fogging, depth cueing

9. Shading
   a. Bilinear filtering
   b. Shading, Gouraud shading
c. Ray tracing
d. Vertex shaders
e. Particle shaders

10. Brave New (Game) World
   a. Descendent of Dungeons and Dragons
   b. Massively Multi-Player Online Role Playing Game, or MMORPG
   c. Avatars (also called “PC” for “player character”)
   d. Mobs
   e. Client-server relationship

11. Brief history of networks
   a. ARPAnet
   b. CSNET, BITNET, SPAN, UUCP
   c. Development of Ethernet
   d. Interconnection of networks (Purdue→Stanford→Stanford gateway→Megatest)
   e. NSF backbone, leading to the beginning of the Internet
   f. World Wide Web