Cinematography

Overview

• Virtual Camera Terminology
• First-Person Perspective
• Third-Person Perspective
• Aerial Perspective
• Context-Sensitive Perspective

• Based on Adams and Rollings, 2007, "Fundamentals of Game Design"

Virtual Camera Terminology

• Moving Camera
  – Dolly: Forward/Backward (follow avatar)
  – Truck: Lateral (side-scroller)
  – Crane: Vertical (up/down)

• Stationary Camera
  – Pan: Swivel about vertical axis (heading)
  – Tilt: Swivel to look up and down (pitch)
  – Roll: Rotate around forward axis through lens
First-Person Perspective

First-Person Perspective

• Advantages
  – Fewer animations needed.
  – No AI needed for camera control.
  – Easier for users to aim at things.
  – Sometimes better for navigation and interaction.

First-Person Perspective

• Disadvantages
  – No fun customizing or evolving an avatar.
  – No avatar expressions visible.
  – No cinematic camera angles for dramatic effect.
  – Sometimes worse for navigation.
  – Motion sickness.
Third-Person Perspective

• Camera Behavior when Avatar Turns
  – Always behind avatar (chase view)
    • Can always see where the avatar is going.
    • You never see avatar side or front.
    • Can produce motion sickness during quick movement.
  – Camera reorients behind avatar more slowly
    • You can see avatar side or front sometimes.
    • Less dizzying.
  – Camera reorients behind avatar only at stopping
    • Least dizzying, but can’t see obstacles or enemies in the avatar’s way!

Third-Person Perspective

• Intruding Landscape
  – Render the landscape semitransparent
    • User becomes aware of the blocking environment
  – Move closer to avatar, crane up and tilt down
    • Shows the area around the avatar
  – Place camera immediately behind avatar’s semitransparent head
    • User can see what is in front
Third-Person Perspective

- User Adjustments
  - Manual adjustment often with left and right buttons that circle the camera around the avatar.
  - Just a quick fix, not a real solution.

Aerial Perspective

- Gives priority to the environment as a whole rather than one particular avatar. More common in "strategic" environments.

Aerial Perspective: Top-Down

- Advantages
  - Familiar "map" type of perspective.
  - Easy using 2D graphics.
- Disadvantages
  - Only one angle: Roofs. Tops of heads, ...
  - Distances user from the events:
    More like a simulation than a real place.
Aerial Perspective: Isometric

- Advantages:
  - Shows all three dimensions at once.
  - Brings user closer to the environment.
  - People become more visible.
- Disadvantages
  - Distorts reality – not real perspective.
  - Only allows trucking or dollying camera moves.

Aerial Perspective: Free-Roaming

- Advantages
  - True perspective.
  - More freedom for the camera.
- Disadvantages
  - Difficult to implement camera control.
  - May be hard to teach users to do manual control.

Context-Sensitive Perspective

- Intelligent camera movement
  - Based on what is going on in the environment or story.
  - Based on mood and required dramatic effect.