CS157: Computer Animation

Z Sweedyk
Spring 2006

Computer Animation

- History
- Technology I & II
- Production

Technology I: Principles

- Movement
- Modeling
- Character Animation

Movement

- Path Animation
- Keyframe Animation
- Deformations
- Particle Systems
- Physical Simulation
- Inverse Kinematics
- Etc.

Modeling

- Curves
- Surfaces
- Procedural modeling

Character Animation

- Skeletons
- Skinning
- Walking and other tricks
- Facial Animation
Technology II: Application
Maya Tutorials

• Animation
• Rendering
• Deformations
• Particle Systems
• Rigid Bodies
• Character Setup
• Painting
• MEL

Computer Animation

• History
• Technology I & II
• Production – process

Projects/Grades

• Programming projects 35%
• Paper presentation 15%
• Maya tutorials 5%
• Final Project 40%
• Class participation 5%

First 1/3 of class

• Weekly programming assignments
  - Curves
  - Motion along a curve
  - etc.

Second 1/3 of class

Paper readings/presentations

Final Project

• Technical
• Animation film
• Technical + film

• Solo
• Groups <=4
previous films

157: Computer Animation

- History
- Technology I & II
- Production

B.C. (Before Camera)

2000 BC

Zoetrope (Desvignes 1860)

Phenakistoscope (Plateau 1832)

Motion Pictures (early 1890's)

Lumiere Brothers

Edison et al.

Kodak

Special Effects (1890's)

The Vanishing Lady (1896 Melièrè)

Animation (1906)

Humorous Phases of Funny Faces (Blackton)
B.D. 1900-1921
(Before Disney)

- Keeping Up with the Jones (1915 Gaumont)
- He Resolves Not to Smoke (1915 Carlson)
- Bobby Bump Starts a Lodge (1916 Bray)
- Krazy-Kat series (1916 Searl)
- Policy and Pie (1918 LaCava)

B.D. Characters

- Felix the Cat (Messmer)
- Gertie the Dinosaur (McKay)
- Little Nemo (McKay)

Disney

- Alice's Wonderland (1923)
- Steamboat Willie (1929)
- Skeleton Dance - Silly Symphonies (1928-1939)

Disney: Color

- Flowers and Trees (1932)

Disney: First big success

- Three Little Pigs (1933)

Warner Brothers (1930's)
Warner Brothers

MGM: Happy Harmonies (1930's)

Disney: Feature Films

Snow White (1937)
Pinocchio (1940)
Fantasia (1940)

Television (1960)

1960-1964

1965-1969

Mary Poppins

Fantastic Voyage

2001: a space odyssey

Yellow Submarine
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<th>Era</th>
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<td>1970-1974</td>
<td>Fritz the Cat, Heavy Metal, Tora, Tora, Tora</td>
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<td>1975-1979</td>
<td>Star Wars, Star Trek, King Kong, Close Encounters, Alien, Superman</td>
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