

CS 551/651

Advanced Graphics

Introduction to Animation
Technical Background

Principles of Computer Animation

- John Lasseter, "Principles of Traditional Animation Applied to 3D Computer Animation", **Computer Graphics**, pp. 35-44, **21:4**, July 1987 (SIGGRAPH 87).
- Ollie Johnston and John Lasseter, Course 1 at SIGGRAPH 94, "Animation Tricks".

Comments from Lasseter

Keyframing

- Computers are stupid
 - Worst case, keyframe require for every frame
- John discovered that some degrees of freedom (DOFs) require more keyframes than others to look natural
- You must start with a clear idea of the motion you desire
- Plan actions with thumbnail sketches and plot timing on exposure sheet
- Refer to sketches/timing frequently