SIGGRAPH 2000 Session Review

Animation from Motion Capture

Reviewer: Christian Graf,
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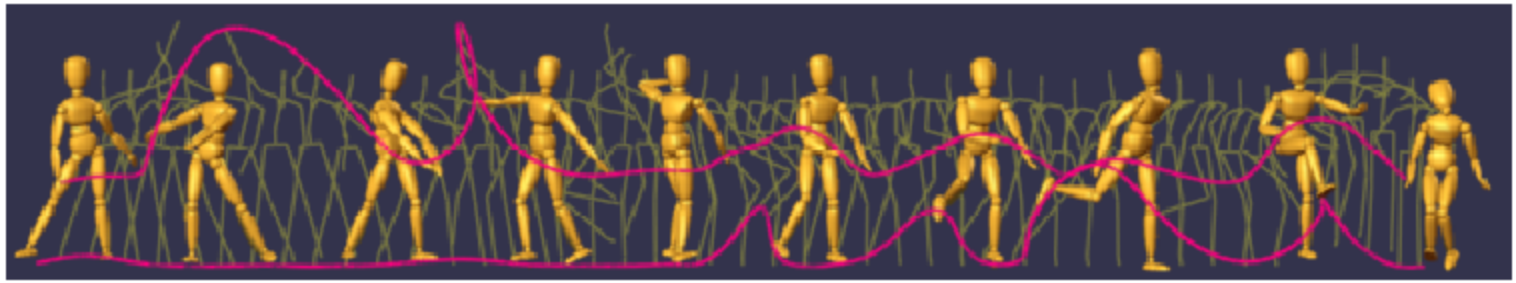
Ratings: Difficulty: 5/10 (Moderate)
Interest: 7/10 (High)

This session would give a good overview of approaches to automatically create and control motion of artificial characters. The results are excellent and auspicious. The algorithms are very descriptive and do not require heavy math background.

Best Image of Session

Animation from Motion Capture



From the paper “Motion Texture: A Two-Level Statistical Model for Character Motion Synthesis”

Paper Evaluation

Motion Graphs

Kovar, Gleicher, Pighin

Ratings: Difficulty: 3/10 (Easy)
Interest: 5/10 (Moderate)

The paper explains how to create realistic, controllable motion of synthetic characters automatically. This is done by the combination of given motion and automatically generated transitions along a path under predefined user constraints. It mimics the realism of motion capture while maintaining the control over the character in the user's hands.

Paper Evaluation

Motion Texture: A Two-Level Statistical Model for Character Motion Synthesis

Li, Wang, Shum

Ratings: Difficulty: 7/10 (Moderate)
Interest: 8/10 (High)

The paper aims on synthesizing complex human-figure motion. From original motion capture data the algorithm learns the maximum likelihood for motion to animate a character. New animations can be generated from the learnt motion and the user may direct the character interactively on different level.

Paper Evaluation

Interactive Motion Generation from Examples

Arikan, Forsyth

Ratings: Difficulty: 4/10 (Moderate)
Interest: 8/10 (High)

This paper presents a framework “that generates human motions by cutting and pasting motion capture data” which look natural. The generation of motion runs in real-time automatically allowing complex interactive authoring. This approach can easily generate various motions that interact with each other and it can be adapted to non-human characters.

Paper Evaluation

Interactive Control of Avatars Animated with Human Motion Data

Lee, Chai, Reitsma, Hodgins, Pollard

Ratings: Difficulty: 7/10 (Moderate)
Interest: 6/10 (Moderate)

Real-time animation and control of characters in 3d is the focus of this paper. The approach suggests a flexible way of how to choose appropriate motion sequences and plausible transitions from a database with human motion data. Useful applications are shown and a variety of user-interfaces tested.

Paper Evaluation

Motion Capture Assisted Animation: Texturing and Synthesis

Pullen, Bregler

Ratings: Difficulty: 3/10 (Easy)
Interest: 8/10 (High)

The papers details on the combination of key framing and motion capture for animation purposes. An initially rough animation done with key frames is refined with motion capture data to fill in missing degrees of freedom and details. The result is a high quality sequence almost like live motion.