VIZA 615 – Computer Animation, Spring 2012
Project #4 –Cycle Animation
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TEXAS A&M
U N I V E R S I T Y
DEPARTMENT OF VISUALIZATION

Overview of Projects in General

Each project is designed to move your learning experience and skill level forward. Failure to complete or sufficiently explore components of one project will lead to increased difficulty on the succeeding project. Each project is composed of three parts: analysis, interpretation, and demonstration.

Project Description

Create a loop-able cycled motion test that represents the visually plausible terrestrial locomotion of an animal. The cycle should represent a single common gait for the animal based upon reference.

The project will be presented and critiqued in class including participation by the instructor and other class members.

Technical Specifications

The presentation must be in the form of rendered movies representing front, side, and 3/4-front views. Each should play back at either 24 or 30 frames per second. The rendered size must be no smaller than 720 pixels by 486 pixels. The aspect ratio must be between 1.33 and 1.85. A single non-deforming surface should be parented to each joint/bone (if the animal were in its rest position these surfaces would display the modeled form of the animal apparently as a single surface). Each surface will be a different color than its neighboring surfaces –all flat shaded.

Project Goals

- Generation of articulated motion that communicates animacy (the perception of self-coordinated movement).
- Implementation of appropriate gait (footfall pattern) for animal type, size, and speed.
- Analysis of leading and following elements of force and weight shift.
- Compose animation in a layered process that promotes efficient workflow.
- Use of minimum key frames.
- Manipulate function curves and tangencies to create appropriate timing and accelerations/decelerations.
- Develop a relationship between primary and secondary actions that is physically plausible.
- Appraise and critique your own work and the work of others.

How Success is Measured

This assignment focuses on action animation. Therefore, a successful project will communicate locomotion, weight, balance, primary and secondary action –the motion elements that lead to the recognition of an animal. The rate of movement of articulating parts should be appropriate for the gait of the animal. The gait of the animal should be appropriate for its size. Viewers should easily comprehend the size, weight, and speed of the animal from its motion and understand that the body is collection of connected parts.

Motion blur is likely to be necessary as is a cast shadow of the animal onto the ground plane. The individual pieces of geometry parented to each joint should appear to move in such a way that it is easy to imagine that if the surfaces were connected and deforming they would create believable skin motion.

A successful project will be ready for presentation at the beginning of class, with a clear verbal introduction and explanation of methods used. If copyrighted source material is used the source must be cited.

A grade will be determined based upon the following factors:

- The degree to which all elements of the motion are loop-able as a cycle.
- Appropriateness of gait for the animal.
- Coordinated movement of head, neck, torso, and limbs.
- Appropriate changes in the center of mass (weight shift).
- Coordinated movement of secondary and tertiary features.
- Visual appeal of the rendered images.
- Presentation skills include verbal delivery and adherence to technical specifications.