VIZA 615 – Computer Animation, Spring 2012
Project #5 –Deformations
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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

Present the animal animation cycle from Project #4 with a minimal number of deforming surfaces in place of the collection of rigid surfaces. Create biologically plausible deformations for the body displaying complex motion through the complete cycle.

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 a front, side, top, and 3/4 –front view. Each loop 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. The rendered skin of the animal should be textured with a checkerboard pattern and lit so that details of the skin deformations are clearly visible.

Project Goals

- Identify the locations on the body where deformations occur.
- Translate the actions of moving skin from reference of real animals to the application of specific CG deformation techniques.
- Create techniques for handling deformation variations in the form of creases, folds, and surface stretch.
- Develop techniques for preserving volume.
- Develop deformation rigging that moves in coordination with animating rigging.
- Develop a work process that economizes effort.
- Evaluate and critique your own work and the work of others.

How Success is Measured

This assignment focuses on deformations that visually communicate organic structure during motion. Therefore, a successful project will show computer generated geometry that appears to have the same physical properties as the animal's skin. It should appear to have the same thickness, elasticity, and indications of both rigid and soft forms beneath the skin. The skin motion should be appropriate for the animal's size, gait, and range of movement.

Motion blur is not required, but will likely aid believability.

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:

- Appropriate preservation of volume.
- Absence of shearing.
- Appropriate inner and outer folds at hinge joints (lower legs, ankles, head-to-neck, etc.).
- Appropriate distribution of influence of joints across broad areas (neck, torso, etc.).
- Appropriate handling of cavities at limb-to-body connections.
- Presentation skills include verbal delivery and adherence to technical specifications.