VIZA 615 – Computer Animation, Spring 2012
Project #1 –Procedural Motion
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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

Investigate and choose a terrestrial quadrupedal animal that exhibits an appealing or intriguing form and motion. The animal must either exist currently or have an extensive fossil record. Using reference video of the animal in motion as a guide reproduce the footfall pattern of two of the animal's gaits using computer graphics. The pattern and arrangements of the footfalls must occur procedurally as a result of the key-frame translation of a single animation control. The pattern should change from one gait to the other based upon the translation rate of the animation control.

The project will be presented in class both as a real-time demonstration of the animation setup inside of a 3D animation package and as a rendered clip.

Technical Specifications

The final presentation size of the animated clip should have a resolution no smaller than 720 pixels by 486 pixels. The rendered clip should play at either 24fps or 30fps. A ground plane must be included on which the footfall patterns are clearly visible moving relative to the terrain. A geometric form of the animal must be represented in relation to the footfalls. The real-time demonstration must also clearly demonstrate the footfall pattern and motion relative to a ground plane.

Project Goals

- Identify the gaits of animals
- Chart the frequency and pattern of footfalls relative to forward motion
- Design a computer graphics solution that generates the footfall pattern through use of a simple driver.
- Implement a method for transitioning from one gait to another
- Evaluate and critique your own work and the work of others

How Success is Measured

A successful project will communicate not only the gaits of the animal but also indicate the identity of the animal. The form of the animated creature is not of high importance. Focus on pattern and representation of motion. The visual appeal of the rendered presentation is important –it should be clear and aesthetically motivated.

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 5 factors:
- Correct representation of the gaits of the animal.
- Smooth transitions between gaits.
- Complexity of behavior due to manipulation of a single animated control.
- The visual appeal of the overall animation presentation.
- Presentation skills include verbal delivery and adherence to technical specifications.