



Project Description

Each student is responsible for creating a short (5-second) animation that makes use of the full 3D CG pipeline: modeling, rigging, surfacing, animation, lighting, effects animation, rendering, and compositing. Although aesthetics plays a role in assessment of the final result the primary emphasis is on demonstrating basic understanding and skill competency with each discipline.

Story Specifications

The rendered animated short must have a running time of 5 seconds and follow the actions of a simple interaction between a character and a prop in a simple environment. A narrative, in the classic sense, is not required, but will contribute a minor amount to the final grade.

Technique Specification

The short animation must include the following technical elements:

- Modeling [DUE Tuesday, 9/6]
 - (1) non-articulated hard surface
 - (1) articulated character -robot, doll, or insect - with at least one deformable (soft) surface.
- Rigging [DUE: Thursday, 9/8]
 - Simple control rig for animation of the hard-surface prop.
 - Use of both forward- and inverse-kinematics on the character model.
- Animation [DUE: Tuesday, 9/13]
 - (1) non-articulated hard surface performing a simple, physically accurate action.
 - (1) articulated character -robot, doll, or insect - with at least one deformable (soft) surface performing a physically accurate action that includes elements of personality.
- Surfacing [DUE: Thursday, 9/15]
 - Use of painted or procedural textures.
 - One metal material, one wood material, and one flesh material.
- Lighting [DUE: Tuesday, 9/20]
 - Use of point, spot, and directional lights.
- Effects Animation [DUE: Thursday, 9/22]
 - Use of one of the following: cloth, hair, smoke, fluid, sparks, dust, rigid bodies.
- Rendering [DUE: Tuesday, 9/27]:
 - Use of motion blur plus one of the following: render layers or depth of field.
- Completed Project [DUE Monday, 10/4]

The completed short should be delivered as a movie file in H.264 format playable at 24 or 30 fps. The aspect ratio of movie files should be 1.33 or 1.66 for pre-production elements, and 1.85 or 2.35 for production elements. The smaller dimension of the movie file should be a minimum of 720 pixels.

The running time of the short must be 5 second –no more, and no less. There must be a 3-second slate at the beginning of the short indicating (1) student name; (2) course number; and (3) semester. There must be a 2-second slate at the end of the short indicating (1) the year; (2) and the official Department of Visualization logo.

How Accomplishment is Measured

The 3D Boot Camp project will be assessed as two grades. One grade will include assessments of the pre-production assignments (modeling, rigging, surfacing) plus presentation/participation. The second grade will include the production assignments (animation, lighting, effects animation, rendering) plus presentation/participation. The final product will be presented one-week after the last stage is due. This opportunity affords a chance to improve the product of any or all aspects of the project for a percentage increase in grade.

- Modeling (33.3%):
(1) Visual references for prop; (2) Visual references for character; (3) Span direction; (4) General density; (5) Density in appropriate locations; (5) Form relative to known target; (6) Pose/Scale; (7) Turntable quality.
- Rigging (33.3%):
(1) Appropriate articulation point locations; (2) Appropriate number of articulation points; (3) Clear visual hierarchy of controls; (4) Clear top stack convention; (5) Clear naming convention; (6) Use of IK and FK; (7) Demonstration quality.
- Surfacing (33.4%):
(1) Visual references for prop; (2) Visual references for character; (3) Visual fidelity of the textured surfaces; (4) Use of multiple maps to create a variety of visual elements in the surface; (5) Appropriate scale of the textures relative to the object; (6) Appearance similarity relative to known materials; (7) Turntable quality.
- Animation (22.5%):
(1) Performance/action reference; (2) Weight; (3) Timing; (4) Acting; (5) Believability; (6) Visual quality of presentation.
- Lighting (22.5%):
(1) Reference; (2) Use of all required light types; (3) Use of light fall-off; (4) Use of light color; (5) Control of light and shadow sides of elements; (6) Visual appeal.
- Effects Animation (22.5%):
(1) Reference; (2) Visual complexity of the movement of the simulated objects; (3) Visual fidelity; (4) Behavior resembles a known physical effect; (5) Visual quality of presentation.
- Rendering/Compositing (22.5%):
(1) Use of the layers; (2) Use of motion blur (3) Use of depth of field; (4) Edge quality; (5) Color management; (6) Image quality.
- Presentation/Participation (10%/10%):
(1) Verbal clarity; (2) Level of confidence; (3) Defines accomplishments; (4) Identifies weaknesses; (5) Responds to feedback.
- Completed Project (up-to 25% modifier)