Video Game Design Composition © 2014
Chapter 11: Animation Composition—Glossary

acceleration. Rate at which an object is speeding up or slowing down.

active animation. Combination of translation and articulation.

actor physics. Uses a mathematical model to control the articulation of a character or object.

animation arc. Path an articulated feature follows through the animation.

anticipation. Event to announce a major action.

articulation. Bending and positioning of movable parts.

aura. Energy field around an object or character that serves to highlight it.

cel. Refers to cellulose acetate, which is a transparent plastic on which animation frames are drawn.

cel animation. Technique where each frame of the animation is drawn by hand on a cel and photographed.

chroma keying. Removing a specified color, usually chroma green or blue, from a photograph or video.

conservation of matter. All mass content must be the same before and after an interaction.

displacement. How much something has moved.

dissipating. Breaking up or scattering.

emitter. Object in a 3D modeling program that has settings for the particles it generates.

exaggeration. Amplifying some aspect of the action beyond what is normal.

flip-book animation. Created by drawing a picture on the edge of each page in a notebook with a slight difference between each picture.

follow-through. Continuation of movement beyond the main event.

forward kinematics. Parent object controls the motion of a child object, but the child object does not control the motion of the parent object.

frame. Each still image in an animation.

frame rate. Speed at which frames are played.

game physics. Uses a mathematical model to control the general motion of objects in the virtual world.

green screen. Chroma screen.

inertia. Resistance to a change in motion.

inherit. Receive from a relative; in the structure of a modeling bones system, the relatives are referred to as parents and children.

inverse kinematics. Parent object controls the motion of a child object *and* the child object controls the motion of the parent.

keyframe animation. Approximation of traditional cel animation using a computer (cel animation is also keyframe animation, and vice versa).

keyframe. Any frame on which a specific action must take place.

kinematics. Science of motion; in terms of 3D modeling, kinematics refers to how the movement of an object either controls or is controlled by the movement of another object.

kinetic energy. Energy of movement.

law of conservation of energy. Energy cannot be created or destroyed, but can change state.

lip syncing. Synchronization of sound and character movement; matching voice to lip movement.

markerless mocap. Does not require a sensor marker worn by the actor.

matter. What makes up a physical object.

mechanics. Technical aspects of creating the objects and animation.

momentum. Quantity of motion, defined by mass times velocity.

morphing. Change in the physical shape of an object.

motion. Change in position of an object over time.

motion capture (mocap). Technology that records the movement of an actor and assigns that movement to a virtual character.

moving holds. Characters should never be static for a long time; instead, some slight movement should be animated.

opaque. Not transparent.

overlapping. More than one motion occurring at the same time.

perception. Observation or sensing of something.

persistence. To continue to exist.

physical timing. Matching the time for animated events with real-world events.

pose-to-pose action. Refers to planning the motion for a scene based on key points at which certain motion must happen.

potential energy. Stored energy.

primary sound. Sound of an actual interaction.

relative. Connected to or dependent on something else.

rotation. Circular movement about a central point.

secondary action. Complementary action; motion caused by the dominant or primary action.

secondary sounds. Caused from the first interaction.

sensor-based mocap. Placing markers on an actor’s body to track body movement.

silhouetting. Creating a shadow image that shows only the outline of an object.

slow in. Motion begins gradually.

slow out. Motion ends gradually.

solid drawing. Technical skill with which an animation is composed to represent the fullness of characters and objects occupying space.

sound synchronization. Matching the timing of visual action to the corresponding sounds.

squash. To flatten.

staging. Allows the artist to draw attention to the area or objects of greatest importance.

static. Not moving.

static animation. Translation without articulation.

static particles. Rendered simultaneously along the entire vector.

stop-motion animation. Capturing a single animation frame, slightly adjusting the objects, and capturing another single frame; repeated over and over until the animation is completed.

straight-ahead action. Creating motion starting at the beginning of a scene and continuing in sequence until the end of the scene.

strand. Static particles are rendered simultaneously along the entire vector.

stretch. To extend.

theatrical timing. Slowing down, rewinding, and speeding up sections of an animation for an emotional effect.

timing. How long a given action lasts.

translation. Movement from one point to another, especially when the camera moves on the game map.

tweeners. Assistant artists who draw each frame or cel between keyframes.

tweening. Process of drawing each frame or cel between keyframes.

tweens. Frames between keyframes.

vector. Direction of force.

velocity. Speed of an object.