

**Active animation.** An object changes poses while moving on the screen.

**Active object.** Object in the game frame with which the player can interact; can be programmed.

**Alpha channel.** Varies the opacity of the color from full transparency to full opacity.

**Animation.** Series of frames played in sequence with small differences between each frame that the brain interprets as motion.

**Backdrop.** Objects in a game frame that the player can touch or walk behind, but do not damage or reward the player.

**Background object.** Object in the game frame with which the player cannot interact.

**Bit depth.** A binary measurement for color.

**Bitmap.** Raster image file format that digitally maps the location and color of each pixel.

**Blitting.** Combining two or more bitmaps into a single bitmap.

**Bounding box.** Invisible cube inside of which a 3D object completely fits; used as a reference to rescale the 3D object.

**Buffering.** Preloading data into a section of memory called the buffer.

**Camera.** Displays the visual play area of the game and follows the player wherever the character goes.

**Clarity.** How clearly images are displayed with either line or pixel density.

**Color palette.** Set of colors used throughout a scene to maintain mood and continuity.

**Compression.** Image file size reduction through the use of mathematical formulas to approximate the location and color of each pixel.

**Coordinate system.** Combination of X, Y, and Z values to determine a location in space.

**Deep color.** A color depth that uses a bit depth of 48, which produces over 1 billion colors.

**Dithering.** Computer process of scattering pixels of different colors to approximate a true color.

**Dots per inch (dpi).** Number of pixels per square inch; the higher the dpi, the clearer the picture.

**Draw.** The computer displaying images on the screen.

**Faces.** Flat surfaces on a 3D model.

**First-person perspective.** Gameplay view where the player sees through the eyes of the character.

**Flickering.** Visible flashes on the screen when the refresh rate is too low and portions of the screen are not being illuminated quickly enough and black (non-illuminated) pixels show.

**Frame rate.** How many times per second a new frame is displayed.

**Full articulation.** All of a character's body parts can move through a range of motion in a realistic manner.

**Game frame.** All items programmed for a complete scene or level of a game.

**Gamut.** The portion of all the available colors that can be reproduced by a device.

**Geodesic sphere.** A 3D model created with faces of regular polygons, like a soccer ball.

**Hybrid.** Created by combining features from two different items.

**Interpolation.** When resizing an image, the computer makes a decision to create a blended-color pixel where original pixels are moved.

**Loading.** Transferring data from one location (i.e., the Internet or a CD-ROM) to another.

**Lossless.** Image compression algorithm that compresses the image and keeps perfect clarity when uncompressed.

**Lossy.** Image compression algorithm that compresses the image but does not keep perfect clarity when uncompressed.

**Masking color.** A single shade of a color that can be set to be transparent.

**Mesh.** A 3D shape created with interconnecting polygons stuck together along their edges.

**Mosaic.** Differently shaped and colored geometric pieces assembled to create the illusion of a single image.

**Movement sets.** The movements of a single sprite character included on a single sprite sheet.

**Native poles.** Original pixels of an object before it was resized.

**Overhead view.** Shows the character and surroundings from a perspective high overhead.

**Parallax.** Describes how objects in the distance seem to move slower than objects in the foreground.

**Perspective.** How the gameplay is displayed on screen and the position of the player within the game.

**Pixel.** Picture element; the smallest point or dot of color a computer screen can generate

**Pixel shading.** Applying the principle of visual perspective such that as you move farther from the light source, things get darker.

**Pixelated.** Condition resulting in a blurry image; created by improper resizing.

**Platform view.** Shows the character in profile and a side view of all obstacles.

**Poly count.** Number of polygons used to make a 3D object.

**Raster images.** Images that are made of pixels.

**Reading edge.** Line between two vertices on a 3D object that is used as a reference to rescale the object.

**Refresh rate.** The rate of how many times per second (Hz) the screen is refreshed.

**Render.** Adding color and shading to represent a solid object.

**Scale.** Proportional change in the dimensions of an object.

**Scene.** Objects on a game frame that create an attractive layout, obstacles, and objectives to convey story and mood.

**Scope.** See *Visible Display Area*.

**Scrolling.** Game frame is moved so the player is always in the visible play area.

**Second-person perspective.** Player sees the game as if the player were an opponent or intermediary; rarely used in video games.

**Sprite character set.** Collection of poses for a single 2D asset.

**Sprite sheets.** A single bitmap image of all the frames of animation for a sprite movement.

**Stage.** The visible portion of the game map.

**Static animation.** Object retains its original pose while moving.

**Tearing.** Occurs when video frames are out of sync or are only getting partially refreshed.

**Tessellate.** Stretching of a color and texture map to apply a piece of the overall texture to each polygon of a 3D mesh.

**Third-person perspective.** Gameplay is viewed by a person who is not the player's character or opponent, rather a neutral third person; spectator view.

**Three-dimensional (3D) game.** Game with 3D characters and 3D background objects that presents gameplay in a simulated three-dimensional environment.

**Tile sets.** Standard sized tiles arranged next to each other on a single sheet as a single bitmap image.

**True color.** A color depth that uses a bit depth of 24, which produces 16,777,216 colors.

**Two and one-half-dimensional (2.5D) games.** Gameplay with two-dimensional background graphics, but which use three-dimensional characters and obstacles.

**Two-dimensional (2D) games.** Gameplay with characters and backgrounds that play in only two dimensions: length and width.

**UV sphere.** Rounded 3D model created with trapezoidal segments that vary in size to create a round shape that is later wrapped with a 2D image to provide texture.

**Vanishing point.** Point in the background where the edges of all assets will meet at a single point if extended; the faraway point where an object seems to disappear as it becomes smaller.

**Vector image.** An image composed of lines, curves, and fills; they do not store the color value and location of each pixel—each pixel is assigned a color as the vector image is drawn.

**Vertex.** Single point on a 3D model where the corners of adjacent faces meet.

**Vertices.** Plural of vertex.

**Visible play area.** The part of the game frame that is displayed on the video screen.

**Visual perspective.** Sense of depth using shading and narrowing to represent the third dimension of depth on a two-dimensional screen.

**Wireframe.** View showing objects as if they are built with wire with visible edges and invisible faces.