

BCA 2nd Year (Ishwar Prakash, Computer Faculty)

What is animation?

Animation is a method of photographing successive drawings, models, or even puppets, to create an illusion of movement in a sequence. Because our eyes can only retain an image for 1/16 of a second, when multiple images appear in fast succession, the brain blends them into a single moving image. In traditional animation, pictures are drawn or painted on transparent celluloid sheets to be photographed and shown on film. Early cartoons are examples of this, but today, most animation is made with computer-generated imagery or CGI.

To create the appearance of smooth motion from these drawn, painted, or computer-generated images, frame rate, or the number of consecutive images that are displayed each second, is considered. Moving characters are usually shot “on twos” which just means one image is shown for two frames, totaling in at 12 drawings per second. 12 frames per second allows for motion but may look choppy. In the film, a frame rate of 24 frames per second is often used for smooth motion animation.

Different Types of Animation:

- Traditional Animation
- 2D Animation (Vector-based)
- 3D Animation
- Motion Graphics
- Stop Motion

Traditional Animation

This is one of the oldest forms of animation in film. It's sometimes called cel animation. As mentioned above, in traditional animation objects are drawn on celluloid transparent paper. In order to create the animation sequence, the animator must draw every frame. It's the same mechanism as a flipbook just on a grander scale.

2D Animation (Vector)

2D animation can fall under traditional animation like most early Disney movies ---*Aladdin, The Little Mermaid, Beauty and the Beast*, etc. But there is something called Vector-based animation that can be 2D and not considered traditional.

With Vector-based, the motion here can be controlled by *vectors* rather than *pixels*.

3D Animation

Today, 3D animation or computer animation is the most common type. But just because computers have stepped in instead of actual drawings, it's not necessarily easier. The computer is just another tool, and 3D animation is still a long, intense process.

In 3D animation, the animator uses a program to move the character's body parts around. They set their digital frames when all of the parts of the character are in the right position. They do this for each frame, and the computer calculates the motion from each frame.

Motion Graphics

Motion Graphics are pieces are digital graphics that create the illusion of motion usually for ads, title sequences in films, but ultimately exist to communicate something to the viewer. They're often combined with sound for multimedia projects.

Stop Motion

Answering what is stop motion involves more than this brief paragraph. Stop motion animation encompasses claymation, pixelation, object-motion, cutout animation, and more. But the basic mechanics are similar to traditional animation or a flipbook. However, instead of drawings, stop motion adjusts **physical objects** in each frame. If moved in small increments, captured one frame at a time, the illusion of motion is produced.