



Motion Graphics

Motion graphics are graphics that use video and/or animation technology to create the illusion of motion or a transforming appearance. These motion graphics are usually combined with audio for use in multimedia projects. Motion graphics are usually displayed via electronic media technology, but may be displayed via manual powered technology (e.g. thaumatrope, phenakistoscope, stroboscope, zoetrope, praxinoscope, flip book) as well. The term is useful for distinguishing still graphics from graphics with a transforming appearance over time without over-specifying the form.

- Motion graphics versus film :

Motion Graphics include animations, movies etc. The term "motion graphics" has the potential for less ambiguity than the term "film" to describe moving pictures in the 21st century. "Film" is also used to describe photographic film (the 20th century medium of choice for recording motion), the process of recording footage, and the industry it most serves. However, digital video recording and digital projection to display motion graphics have the potential to make photographic film obsolete. "To capture" is often used instead of "to film" to describe the process of recording footage, perhaps due to the term's compatibility with digital video and motion capture technology. "The motion picture industry" is the formal term for what used to be called the "film industry".

- Scope of the term :

Motion graphics extend beyond the most commonly used methods of frame-by-frame footage and animation. Computers are capable of calculating and randomizing changes in imagery to create the illusion of motion and transformation. Computer animations can use less information space (computer memory) by automatically tweening, a process of rendering the changes of an image at a specified or calculated time. Adobe Flash uses computer animation tweening as well as frame-by-frame animation and video.

- History of the term :

Since there is no universally accepted definition of motion graphics, the official beginning of the art form is disputed. There have been presentations that could be classified as motion graphics as early as the 1800s. Perhaps one of the first uses of the term "motion graphics" was by animator John Whitney, who in 1960 founded a company called Motion Graphics Inc. Saul Bass is probably the most significant pioneer in animated graphic design, and his work marks the true beginning of what is now commonly referred to as motion graphics. His work included title sequences for popular films such as The Man With The Golden Arm (1955), Vertigo (1958), Anatomy of a Murder (1959), North by Northwest (1959), Psycho (1960), and Advice & Consent (1962). His designs were simple, but effectively communicated the mood of the film.

- Computer generated motion graphics :

The term motion graphics originated with VDO editing in computing, perhaps to keep pace with newer technology. Before computers were widely available, motion graphics were costly and time-consuming, limiting their use to high-budget film and TV projects. With the reduced cost of producing motion graphics on a computer, the discipline has seen more widespread use. With the availability of desktop programs such as Adobe After Effects, Discreet Combustion, and Apple Motion, motion graphics have become increasingly



accessible.

The term "motion graphics" was popularized by Irish and Chris Meyer's book about the use of Adobe After Effects, titled "Creating Motion Graphics". This was the beginning of desktop applications which specialized in video production, but were not editing or 3D programs. These new programs collected together special effects, compositing, and color correction toolsets, and primarily came between edit and 3D in the production process. This "in-between" notion of motion graphics and the resulting style of animation is why sometimes it is referred to as 2.5D.

Motion graphics continue to evolve as an art form with the incorporation of sweeping camera paths and 3D elements. Maxon's CINEMA 4D is known for its ease of use, plugins such as MoGraph and integration with Adobe After Effects. Despite their relative complexity, Autodesk's Maya and 3D Studio Max are also widely used for the animation and design of motion graphics. Maya — traditionally used for high-end special effects and character animation — has the advantage of including an extremely robust feature set and wide-ranging user base. 3D Studio Max has many of the advanced features of Maya and uses a node-based particle system generator similar to Cinema 4D's Thinking Particles plugin. There are also some other packages in Open Source panorama, which are gaining more features and adapts in order to use in a motion graphics workflow. Blender and its node-editor is becoming more and more powerful. Many motion graphics animators learn several 3D graphics packages for use according to each program's strengths. Although many trends in motion graphics tend to be based on a specific software's capabilities, the software is only a tool the designer uses while bringing the vision to life. Lending heavily from techniques such as the Collage or the Plasticine, motion graphics has begun to integrate many traditional animation techniques as well, including stop-motion animation, cut animation or a combination of both.

- Particle systems :

One of the most popular motion graphics tools is a particle system, a motion-graphics technology that is used for generating multiple animated elements. A particle system is available as a plug-in, as a stand-alone application, or is included as an integrated part of a motion-graphics package. Particles are points in 3-D or 2-D space that can be represented by a wide variety of *static* and *animated* objects such as a ball of light, a video clip, or a selection of text, to name a few. The particles are generated by a particle emitter and can be emitted in small numbers or in the thousands, depending on the project. Among other things, a particle emitter can be in the form of a single point, a line, a grid, a plane or an object such as a box or sphere, although it can also make use a custom object to serve an emitter, such as a logo, which for example, can be exploded, melted, or transformed into blowing sand. Other examples of individual particles include a blurred sphere that can be used in large numbers to create smoke or fog and a video clip of a person who can be duplicated to create a crowd scene. Particles can be emitted as a single item, although it is typically used in large numbers, such as when creating smoke or rain. They are controlled by directional forces, simulated wind and gravity, objects designed to attract or repel them. Other controllable factors can include such things as changes in color, size, or transparency. Depending on the system, one can also combine multiple simultaneous emitters, such as when simulating an explosion that combines fire, smoke and flying debris. In an advanced 3-D system the particle can be used to control an animated articulated character, a recognizable example being the warriors in the Lord of the Rings battle sequences.

- Animation :

Elements of a motion-graphics project can be animated by various means, depending on the capabilities of the software. These elements may be in the form of art, text, photos, video clips, to name a few. The most popular form of animation is *keyframing*, in which properties of an object can be specified at certain points in time by setting a series of *keyframes* so that the properties of the object can be automatically altered (or *keyed*) in the frames between keyframes. Another method involves a behavior system such as is found in Apple Motion that controls these changes by simulating natural forces without requiring the more rigid but precise keyframing method. Yet another method involves the use of formulas or scripts, such as the expressions function in Adobe After Effects or the creation of ActionScripts within Adobe Flash.

- Motion design & digital compositing software packages :

Since motion design is created using images and video sequences, a great complementary tool is a 3d software package. Cinema 4D is widely used for its intuitive interface, layered export to Adobe After Effects, and the additional MoGraph module, but there are also several others. Such packages can generate images or video sequences with an alpha channel, which stores all the transparency information.

Motion Design applications include:

- * Adobe After Effects
- * Afterglow
- * Autodesk Combustion
- * Apple Motion/Shake
- * Blender
- * Apple Quartz Composer
- * Various VJ Programs
- * Smith Micro Software Anime Studio
- * Adobe Flash (.)



3D Programs used in Motion Graphics include:

- * Maxon Cinema 4D
- * Softimage XSI
- * Autodesk 3d studio max
- * Autodesk Maya
- * NewTek Lightwave
- * x-on Vrak Infinite
- * The Blender Foundation Blender software
- * E! Technology Group Electric Image Animation System (-.)

Source: Wikipedia

