Animation made easy

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The new software offers novice animators the possibility to bring characters to life. Credit: Disney Research

Researchers from ETH Zurich and Disney Research have developed a software that makes it easier to animate characters in the entertainment industry. In the future, the software could also allow inexperienced users to design compelling motion cycles.

The days when cartoon characters were first hand-drawn on paper and brought to life only by the overlaying of countless pages are now a distant memory. Computer software has become an established part of the entertainment industry; however, using it requires considerable experience and untrained users quickly reach their limits with the complex programs. This is where the computer software developed by a

group of researchers including Loïc Ciccone, a doctoral student at the Computer Graphics Laboratory at ETH Zurich, comes in: "We want to make it quick and easy to create animations – without compromising on quality," says Ciccone, the study's lead author.

Simplification thanks to movement curves

Today's professional animation methods – like keyframing, which is used by artists in the entertainment industry – offer a very high level of precision. However, characters' temporal and spatial transformations have to be animated separately, which makes the process complicated and unintuitive. Ciccone counteracts this problem by integrating a specially developed tool known as "MoCurves" into his software. Each MoCurve represents the movement of an animated item, such as the lifting and lowering of a foot, and is created when an artist defines a movement with the mouse. This can be decelerated or accelerated through the extension or contraction of the curve at specific points. The movement cycle is thus tested in real time and changed where necessary. If the artist wants the character to lift its hand as well as its foot, they create an additional MoCurve for this movement that they can then adjust and test independently of the foot movement.

Encouraging storytelling

The scientists have already successfully tested the software: after a 15-minutes introduction, five inexperienced test subjects were able to create various motion sequences within an hour. The research team also received positive feedback from professional artists, who were particularly impressed by the increased speed with which they could create animations. According to Ciccone, the new software will not only benefit the industry: "Our easy-to-use software gives anyone and everyone the ability to tell animated stories."