



Avi Hoffer

Toon Boom Studio 1.0

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Toon Boom Technologies Inc., \$349

Web Animation Authoring Tool

DV Score:	4
Pros:	Sophisticated cel animation tools. Flash compatible. "3D" camera moves.
Cons:	Can't share color palettes between projects. No object manager. No advanced controls for SWF output.
Bottom Line	Toon Boom complements Flash by bringing sophisticated cel animation tools to the Web.

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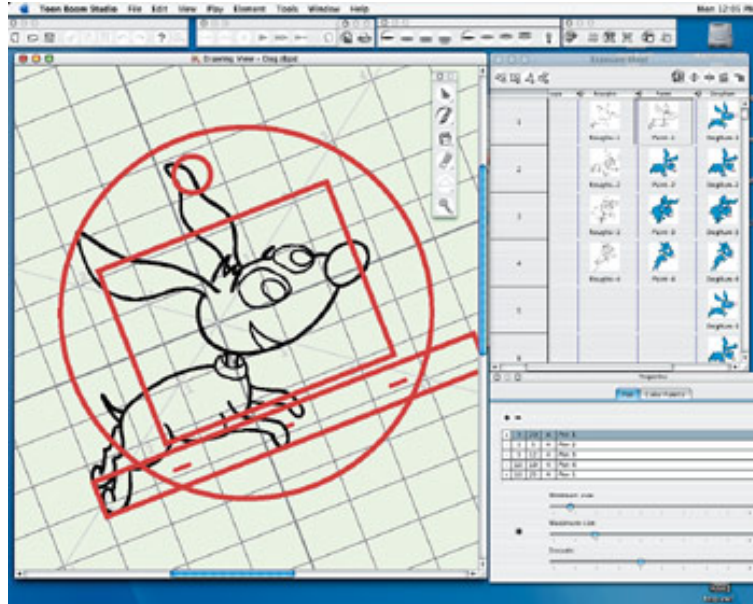
It's hard to ignore the way that Macromedia Flash has helped propagate Web animation like a hormone-jolting fertility drug. Within a few short years, the birth rate for little animated SWiFlets has soared, ushering in a toon boom of epic proportions. It's easy to see why character animators have quickly adopted the Web as a favorite breeding ground: The distribution potential is massive and short-form humor is a good fit. It sure beats passing around flipbooks to your friends.

The genetics behind this procreation is vector technology. Vectors, requiring a fraction of the file size that bitmap graphics demand, are ideal for the Web, but the problem for character animators has been finding an efficient authoring tool. Popular as it is, Macromedia Flash was ostensibly built for moving interactive type and graphics around the screen, not for producing cel-style animation. Even so, the urge to spawn Webtoons has proved so strong that motivated pioneers have made a turkey baster do the work of a good in vitro fertilization program (see "The Pixel and the Vector," Dec. '00 DV).

Now the animation insemination experts have arrived on the scene. Toon Boom Technologies (www.toonboom.com), maker of the USAnimation suite of professional character animation software, has adapted some of its high-end feature set to offer a low-cost character animation studio for the Web. The result is a surprisingly powerful tool for creating Flash-compatible cel animation.

To its credit (and detriment), Toon Boom Studio uses a dual-mode interface. That is, the interface is solidly divided between Drawing and ScenePlanning. Flash users will be familiar with a few basic metaphors of ScenePlanning, such as the element timeline and the stage (camera view), but the bulk of the toolset requires a brief education in the terms and methodology of traditional character animation (peg bars, field charts, exposure sheets, etc.).

In Drawing mode, you have access to the Light Table, a rotating drawing area that can be "backlit" much like a traditional animation desk. Multiple drawings can be onion-skinned to better visualize changes in character positions between cels. Although you can import SWF and Illustrator (versions 5-8) files or vectorize scanned bitmaps (a la Adobe Streamline), the Toon Boom Studio drawing tools combined with a Wacom tablet make it worthwhile for creating original artwork within the application. The pressure sensitivity, specialized inking tools, swappable color palettes, and field chart measurements help dynamically integrate the drawing, inking, and animating process. Templates can also be used to store cycles, peg moves, or entire scenes for reuse.



Toon Boom's Drawing Mode works much like a traditional animator's light table but it adds the ability to view looping pencil tests, sync audio, and directly manipulate the exposure sheet.

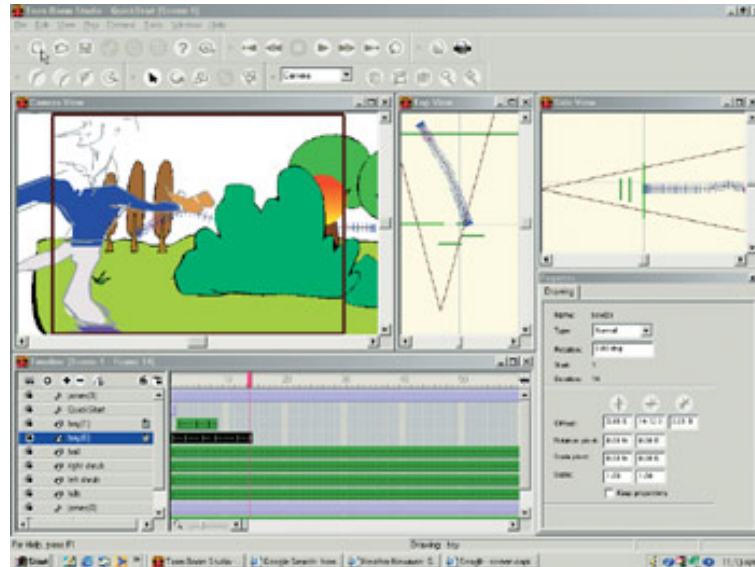
The Drawing mode also provides access to the exposure sheet, a spreadsheet isolating each element and the drawings that comprise it. Because hand-drawn animation reuses drawings as often as possible, the X-sheet is the way that traditional animators keep inventory of how cels will be shot under a camera. Even in the digital realm, this is still the best way to control the artwork at the frame level.

In Flash, for example, it is difficult to asymmetrically alter a cycle of a bouncing ball to emulate a decay in bounce velocity (mixing exposures of three frames, two frames, and one frame for each drawing in the cycle)-each frame would need to be set by hand. With Toon Boom Studio, a single mouse click alters the number of frames exposed to the camera. And the visual layout makes small changes easier to track and preview in realtime.

ScenePlanning mode provides timeline control of the elements. Here a layer sequence such as our bouncing ball can be attached to a Bezier motion path (here called a peg, a reference to the peg bars of a traditional animation stand that keep the hole-punched cels in place) and moved across the screen with subtle control of path tension, bias, and continuity. Pegs can be nested so that different motion paths such as the ball and a hand dribbling it can be grouped to a third path-such as a camera move.

Toon Boom Studio also offers the 21Ú2-D control of the Z-axis that you get in more expensive packages such as Adobe After Effects and Discreet combustion. Instead of having to tweak, scale, and position a zoom by eyeball, Toon Boom does all of the interpolation for you when you move an object using the 3D Viewspace. This feature lets you create complicated tracking shots that would be nearly impossible to duplicate in Flash.

Toon Boom Studio's basic sound editor performs adequately but is more confusing than necessary, with both a Sound Element timeline and Current Sound timeline- neither of which can be scrubbed. However, it is blessed with a lipsync tool that automatically sets one of eight mouth positions based on an analysis of the audio waveform. The automation can then be adjusted by hand if the animator wants to insert additional positions or otherwise modify the sequence.



Toon Boom's Scene-planning mode has some familiar Flash conventions and adds other powerful tools such as a 3D camera.

Toon Boom Studio is a commendable effort to create a professional animation application for the Web (and beyond). Its thoughtful amalgamation of cel animation metaphors make it a far more appropriate choice than Flash for character work, although you will probably want Flash around to import your Toon Boom SWF files for adding titles or interactivity. Toon Boom Technologies' ample experience in digital animation is evident in the astonishing maturity of this 1.0 offering.

Its merit noted, there are some nits to pick, from silly omissions (Save As, wherefore art thou? Coming in v1.1, I hear) to workflow hassles (can we get an object manager that makes it easier to grab and group individual shapes inside a single drawing?). More important, because output quality is the ultimate measure, it seems critical to provide both default and advanced controls for optimization of SWF output.

Some Mac users may not be ready for Toon Boom's demand for OS X, but I figure that soon there are going to be so many compelling reasons to upgrade to OS X that the issue will be moot (on Windows you have three choices). Last, I wish I could adjust the X-sheet and camera moves without constantly flipping between modes.

For students, the \$99 education price makes this a why-are-you-standing-there-buy-it-right-this-second opportunity. For working stiffs, \$349 might invite a bit more scrutiny. Although I think the animation community will discover this product is pregnant with possibility, it never hurts to try a home EPT test just to make sure. Download the trial version from www.toonboom.com to determine if Toon Boom Studio is the right midwife for your next generation of toons.

Avi Hoffer has worked as a cel animator and is currently completing a soon-to-be-published book on streaming media.

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