



## Chapter 9

# The Movable Camera: Flash and Toon Boom Studio



*Thanks to Mark Simpson and Sixty40 for helping with this chapter.*

*Shadows, special effects, focus blurs, and motion blurs are vital to giving a job a special look to bring it out of the flat-Flashness.*

MARK SIMPSON, SIXTY40

Flash is pretty versatile, but as many agree, it's lacking in certain animation features. One feature present in more expensive, professional 2D software is a movable camera. A movable camera allows the animator to arrange 2D elements in a 3D environment, so that objects in the distance appear physically farther away than objects nearby. A camera can be moved through the 3D environment along a path, so you can do push-ins, trucks, and even follow behind a character walking through the environment.

USAnimation is a suite of professional (very expensive) 2D animation tools that provides a movable camera, among many other features. Recently, the makers of USAnimation, Toon Boom Technologies, Inc., developed a scaled-down, stand-alone animation tool, called Toon Boom Studio (TBS), that creates Flash output for the Web and provides a 3D scene planning environment with a movable camera. Being the smart people that they are, Toon Boom Technologies realized that many animators want to be able to go back and forth between TBS and Flash.

So, with the release of Flash MX, Toon Boom Technologies created a plug-in for Flash called the Toon Boom Studio Importer (TBSi) that allows Flash MX to import native TBS files. This means that you can create characters, backgrounds, and animation cycles in Flash, bring it into TBS to do the camera movement, then import those layers and scenes

directly back into Flash for further animation work and export to video. This is just one possible production pipeline; some animators may work entirely in TBS and use Flash for the last few steps.

3D multiplane effects in Flash, previously only possible by painstakingly tweening each plane of an environment by hand, is now something that can be done simply and naturally. TBS and Flash MX together form a suite of tools that can streamline work and raise production values of animation created in Flash.

## TOON BOOM AND FLASH MX

Let's take a look at how Toon Boom Studio works with Flash MX. Animation can be developed in TBS and then imported into a Flash project via the Toon Boom import module.

### [ NOTE ]

Flash MX ships with a version of the Toon Boom Studio importer pre-installed, but you may need to download the latest version of the plug-in from the Toon Boom site in order to be able to import projects created with more recent versions of Toon Boom Studio ([www.toonboomstudio.com/product/tbsi\\_plugin.ch2](http://www.toonboomstudio.com/product/tbsi_plugin.ch2)).

To import a Toon Boom Project file in Flash MX, you choose File→Import and locate the appropriate .tbp file (9.1), and then you work in the Import dialog box (9.2), which gives you several options for controlling input. Then the TBS animation appears in the Flash environment, with layers automatically named and appropriate files in the library (9.3). Names of layers and symbols are preserved.

## THE TBS INTERFACE

The Toon Boom Studio interface is designed from the bottom up with animators in mind, with a suite of tools that offer capability that goes above and beyond Flash.

The scene-planning mode (9.4) is the heart of TBS, with standard elements such as a Timeline and Properties palettes. The scene-planning mode contains advanced controls for camera angles and other

adjustments, including a `CameraView` window (9.5), providing the ability to see the field of view of the camera and the elements in a scene from the top or side. Motion paths for objects and the camera can be created as well.



● 9.1



9.2



● 9.3



● 9.4



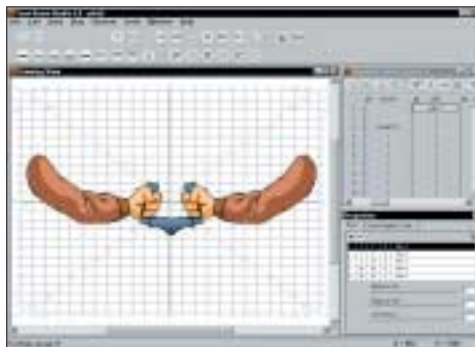
● 9.5

• TABLE 9.1: SIXTY40: THE NUTS AND BOLTS

PEOPLE	HARDWARE	SOFTWARE
<b>Mark Simpson:</b> Interactive, broadcast design	4 x Macintosh G4 256MB RAM	Flash 5 / MX Toon Boom Studio
<b>Scott Collin:</b> Sound design	Matrox RT Mac card for quick and dirty video previewing	After Effects 5 / 5.5
<b>Matt Taylor:</b> Character Design + head animator + illustrator	DVD burner	Adobe ImageReady / Photoshop
<b>Ben Pietor:</b> TV director	Wacom Intuos II tablet	Final Cut Pro 2.2

There is also the Drawing Mode (9.6), oriented toward the creation of individual elements, which includes such tools as the Exposure Sheet palette (9.7). In professional animation, an exposure sheet (“dope” sheet) is a method of keeping track of the cels that make up each frame of an animation, including tracking dialog per frame and camera instructions. In TBS, the Exposure Sheet palette is similar, showing layers and frames for each element used in the animation.

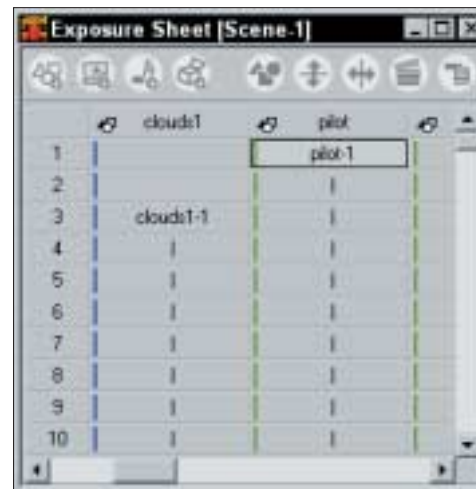
There are many other interesting features of TBS, including a lip sync tool introduced in version 2, which will help you to analyze the sounds in a voice track and generate a “lip chart,” which can help with the process of syncing the mouth motion of a character with underlying dialog.



● 9.6

#### GETTING STARTED WITH TBS

With a street price of around \$350 in the United States, TBS can pay for itself in the time it can save and the new possibilities it can open up. There is a learning curve for folks not familiar with traditional animation, and it helps to have a little knowledge about working in 3D environments, but there are a number of helpful tutorials that come with the program, and the investment of time in learning the program is worth being able to give real depth to your Flash animations.



● 9.7

For more information, visit [www.toonboomstudio.com](http://www.toonboomstudio.com). You can register and download a free trial version, or go through several online tutorials (including an overview of how the Flash MX importer works) and ask questions of experienced Toon Boom users in the User Forum. You can also submit an animation for consideration to be played in the online Theater, where you find such categories as Promotional, Music Video, and Student Projects. Try visiting the product information page, where the workflow section can help you get a sense of how Toon Boom works.

### *Case Study*

#### *Qantas Airlines TV Spots, by Sixty40 Pty. Ltd.*

Sixty40 Pty. Ltd. is an animation studio in Sydney, Australia (see Appendix E, “Contributor Profiles”). Their work is renowned for its offbeat slant and high production standards. This case study features a TV commercial they created for Qantas Airlines using a combination of Flash and Toon Boom Studio.

Janet Galore spoke with Mark Simpson and Matthew Taylor from Sixty40, about how their studio is set up, how they created the spot, and why they used the tools they did.

#### *About Sixty40*

##### **JG: Tell me about Sixty40 and what you do.**

S4: Sixty40 was founded to take advantage of the strong cross-media foundations of its team. By blending experience and knowledge in both traditional and new media, Sixty40 attempts to provide a unique suite of services for clients and media of all shapes and sizes.

The core of Sixty40 is formed by four young specialists who cover sound, animation, interactive, and film/TV production (see Table 9.1). Still enthused by the prospects of the advertising and media world, we plunge in to conceive, develop, and produce what we believe is both innovative and effective.

In terms of services, we cover animation, DVD, online, TV, and sound production. We collaborate on most jobs and find the cross-disciplinary attack to be effective in coming up with some excellent creative and production techniques for different jobs.

Cross-media delivery is an excellent motivation for incorporating Flash into the production process — elements from the TV job can be used online in e-cards, site design, screensavers, mobile devices, and so on. In an ever-changing media landscape, it's vital

to have a broad base of media components upon which one can develop a multitude of media executions. Using the tools smartly means that a small company can provide the client with cost effective and sexy media.

##### **JG: What are your backgrounds?**

Mark Simpson: Eight years in the interactive world, returned to the real world for a break. Now does motion graphics too.

Matt Taylor: Experienced illustrator and animator. Draws a lot. Made his own sweatshop and employed himself. Started in comics, still in comics.

Scott Collin: Sound design and music composition. Sits in a room with lots of music equipment . . . knows what it does.

Ben Pietor: TV Promo producer, independent filmmaker and freelance commercial ya-ya.

##### **JG: Do you consider yourselves traditional animators, or Web animators, or . . . ?**

S4: Computers and the proliferation of desktop tools gave us the opportunity to develop our traditional animation skills. As a company we simply use the tools available. We have no particular affiliation to the Web or any aversion to it. Whatever works the best to deliver a good product on time. We use paper and pens. We're not Web animators in the sense that the Web has traditionally spawned crap, but we're not traditional animators, as we've never been invited to a Disney sweatshop.

##### **JG: How do you define “broadcast quality?”**

S4: It goes on TV without shame.

#### *Flash in the Production Flow*

##### **JG: How is Flash usually involved with your work? Why do you use it?**

S4: It's important to remember that producing animation in Flash isn't an end unto itself. It's a tool that helps to produce work efficiently and effectively. We often use Flash as a part of a production arsenal, and by identifying its strengths and flaws in a production flow, it has become an excellent tool.

Flash is an extremely versatile animation tool, and works well for teams of all sizes, from an individual animator to jobs that require the cooperation of a team.

Vectors rule in so many ways, with the same material being able to be output for the Web, film, or print, it allows small numbers of people to produce work on a previously unpractical scale. Additionally, scalable vectors mean that single drawings can leap



tall buildings as well as appear on mobile devices without much re-working or re-inking.

**JG: So what's a typical production flow like?**

S4: Depending on the job, we animate sequences and character loops and scene elements in Flash and then use Director, Toon Boom Studio, or After Effects to composite, move characters, do panning shots and zooms.

As required we'll go out of house to get high-end equipment. For example, we'll take final QuickTime movies rendered out of After Effects to a Flame box for final effects if required.

We find that Flash is a great tool for illustration and animation production, but left to its own devices tends to have a very flat look that we find requires a final finishing off in something like After Effects or Flame (depending on the job). Things like shadows, color correction, special effects, focus blurs, motion blurs, are vital to giving a job a special look to bring it out of the flat-Flashness.

**JG: "Flat-Flashness" — you've coined a new term.**

S4: I believe there is a paradox with Flash. The payoff of the privilege of ease of use and accessibility is that much of the artistry of traditional animation is lost on Flash production work. Backgrounds, use of non-line-based media, and real-world media (like paint and pastels) need to be incorporated and considered in order to put Flash back in its place: as a part of the production process in achieving a desired look. Already we see Flash being identified as a cheap and dirty way to make cheap and dirty animations. Case in point: South Park, which made the world sit up and say, "Cheap, fast animation rocks!" But in fact, tremendous effort was put into recreating the paper textures and drop shadows, which are the coup de grace of the show's visual stylings, and it was all re-created in 3D.

**JG: What are some tools you've used in conjunction with Flash?**

S4: Toon Boom Studio (TBS) is a tool designed to solve a very specific production problem, the laying up of 3D scenes using Flash components. As in Flash, all of this was possible previously but the tool automates and regulates tasks that would otherwise have been done by hand or more particularly, by eye.

We also like TBS because it ties in traditional animation vocabulary and concepts (dope sheets), which saves Flash animators from reinventing the wheel for every job. Production tools like color palettes, lip

synch, libraries, shared server support all mean it can help in the production process.

After Effects 5.5 — After Effects is also a vital tool, now allowing the importing of SWFs and the laying out in 3D of scenes. Again, useful replacements for stuff we had to do by eye.

Director 8.5 — Good tool for the real-time laying out of scenes and mocking up for client and internal review. Imports Flash, text, and big bitmaps.

Pencil + paper version 1.0 — The original, and the best. Pencil and paper provide quick storyboarding functionality with multiple version-saving on different sheets including an eraser function for on-the-fly updates. Easy cross-office transportability and "flick through" display mode.

*The Qantas Airlines Spot*

**JG: You guys did this TV spot for Qantas Airlines, which aired in Australia for a summer (Boxing Day!) sale. Who came up with the concept and how did it develop?**

S4: It was an agency concept, but Sixty40 came up with the production strategy and executed the concept. We worked with their script.

[ NOTE ]

To see other work by Sixty40, visit the Flash Design for TV site, at [www.wiley.com/go/ftv](http://www.wiley.com/go/ftv).

**JG: How did Flash impact your work on this project — was it absolutely necessary to use?**

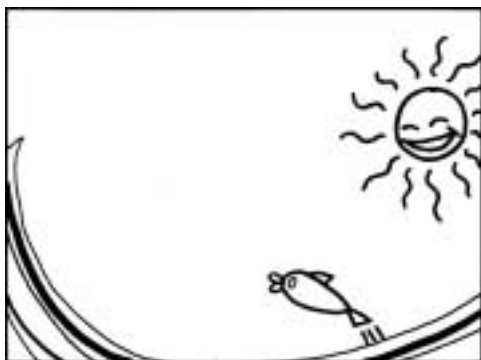
S4: Flash sped up the production process enormously.

By tracing straight into Flash, a lot of the cleanup process is at least halved and since the line work is in vectors, the animator has greater versatility in reusing work at different sizes. Certain elements can be penned directly into Flash using a Wacom tablet.

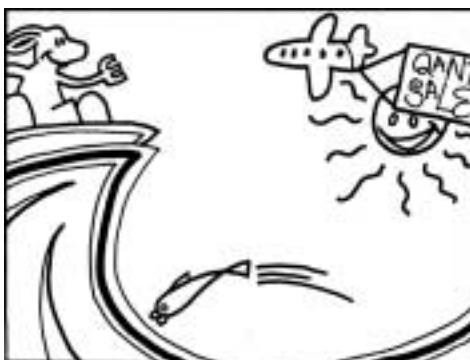
Features such as reusable libraries mean that elements can be shared across scenes, and color palettes mean a more streamlined colouring process as uniformity is guaranteed. Flash also provides intuitive illustration tools with easy line and fill manipulation, both of which save hours of redrawing and/or mucking around in other software.

**JG: Was Flash faster, or cheaper, or somehow better than other options?**

S4: Our competition for the job pitched a 3D concept that relied upon an expensive 3D toon-shader



9.8



9.9



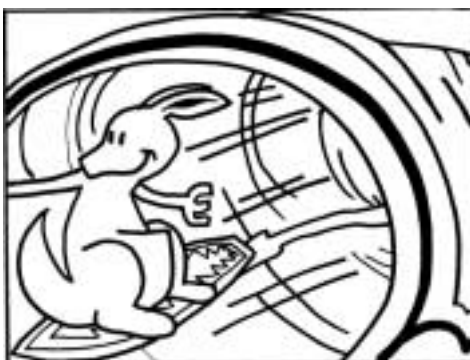
9.11



9.12



9.14



9.15



9.10



9.13



9.16

plug-in to give it a hand-drawn look. Flash proved the right tool to deliver the job as specified.

**JG: You used Toon Boom Studio as well. Why?**

S4: TBS was used mainly for its 3D scene layout features.

**JG: How were the scenes set up?**

S4: Each scene is broken down into key elements. All the animated elements are made into graphic symbols as opposed to movie symbols, so the animation is exported properly if going from Flash to QuickTime. The simple style of the Qantas character design meant most of the animation was in the camera moves and scene changes.

**JG: Can you give us a description of your typical step-by-step production process?**

S4: I'll describe the steps we take as follows: Storyboarding, Animatic, Layout/Keyframing, Animation, Compositing, and Finishing.

#### Storyboarding

Pencil and paper. Still sketches to illustrate style and movement, including "camera move" notes and any special effects required.

#### Animatic

Storyboard panels are imported as JPGs into Flash. The rough sound cut is laid out in the timeline and still panels are arranged according to script (9.8–9.22).

#### Layout and Keyframing

Scenes are broken down in terms of keyframes, keyframes are sketched on paper and brought into Flash for tracing and coloring of key elements such as character movement and the wave effects and so on.



9.17





● 9.18

*Animation*

Flash sequences are imported into Toon Boom Studio for camera moves (9.23–9.27), zooms (9.28–9.30), and cut-aways (9.31–9.33), exported as SWFs, and then timing is refined.

*Compositing*

SWFs are imported into After Effects 5 and combined with other sequences, text, and graphics.

*Finishing*

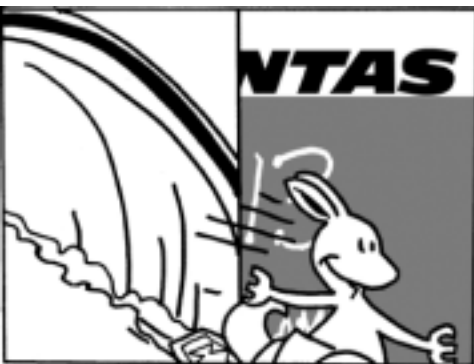
In After Effects, we do the final shading, sound synch, and visual effects.



● 9.19



● 9.21



● 9.20



● 9.22

**[ T I P ]**

Mark and Matthew recommend putting a 0.3 Gaussian blur over finished video to remove jaggies and provide a smooth finish.

**JG: Are there differences between how you'd animate to go to the Web versus broadcast only?**

S4: Animation for the Web requires several rounds of optimization to ensure smooth playback. Broadcast animation has a priority of smooth 25 fps motion [for PAL], so obviously requires more detail and attention to tweening.

**JG: Did you have to do anything special to the art to optimize for broadcast?**

S4: We added secret Sixty40 love.



● 9.25



● 9.23



● 9.26



● 9.24



● 9.27



9.28



9.31



9.29



9.32



9.30



9.33



## **QANTAS ANIMATION: CAMERA MOVES**

---

Figures 9.23–9.27 are shots of the camera moves mentioned earlier in the interview with Sixty40. These shots illustrate how TBS can move the camera in a scene, without having to move the elements themselves.

## **QANTAS ANIMATION: ZOOMS**

---

Figures 9.28–9.30 are shots of the zooms mentioned earlier in the interview with Sixty40. A zoom is a particular type of camera move, where the camera is moved closer to the elements of a scene, moving the viewer closer to the action.

## **QANTAS ANIMATION: CUTAWAYS**

---

Figures 9.31–9.33 are shots of the cutaways mentioned earlier in the interview with Sixty40. Note the lines of the camera motion are broken in these shots, indicating the camera is cutting from place to place in the scene.

