

the software independently. The downside is Mocha has a different interface from that of CS4. That may change, or maybe not, in future versions. The good news is that Mocha does a stunning job of tracking motion in just about any scene. The footage can be low-res with little detail; it can have a shaking camera, motion blur, graininess, objects moving temporarily out of frame (!), and Mocha tracks it dead-on. The 2D tracking data is easily loaded into After Effects CS4 for final work and rendering. AE has some built-in rigging and tracking features, but Mocha blows all those tools out of the water.

One of my favorite features in AE CS4 is performance-related. In the Preferences are new memory settings. Working with an eight-core Mac Pro with 20GB of memory, I'd like to make sure that After Effects is harnessing the speed and the processor cycles. Now I can ac-

tually perform some manual adjustments. The Preferences now allow me to toggle on the option to render multiple frames simultaneously, and I can even allocate a GB or two to each CPU for added speed. A slider sweeps from longer RAM previews to faster rendering, handy for longer projects when you need an extra 10 seconds rendered. The settings are easy to use, and more programs should offer these kinds of memory/CPU options.

After Effects CS4 offers a lot of tweaks under the hood and several major new features. It's not a sweeping, ground-breaking release, but there are enough new tools to make it worth the upgrade. To me it's worth it for the search and nesting navigation alone--it's now much easier to tool around your compositions, especially as they grow in complexity. The new 3D options, processor settings, and the camera-tracking power of Mocha make the latest ver-

Adobe has been working really hard lately. Creative Suite 4 (CS4) might be its most substantial update yet. There are now lots of different options for suites—Design Premium, Web Premium, Production Premium, and Master Collection—but common to all is Adobe Photoshop. Some of the new features expand on previous Creative Suite tools, while others are completely new. Adobe has improved Photoshop in the areas of 3D, adjustments, image viewing, animation, and many more corners of its robust toolset. Here's a look at what's new and why this upgrade may be the best deal yet.

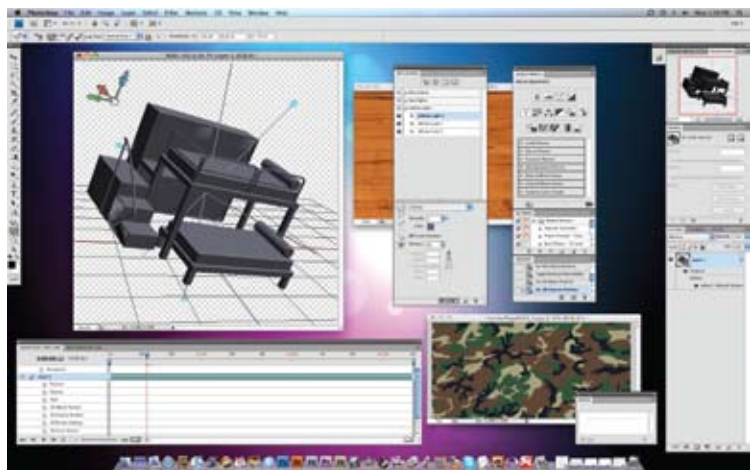
3D tools in Photoshop CS3 Extended were fairly rudimentary. While basic, they let you import an object and do some fine-tuning of its textures. For CS4, the entire 3D section of Photoshop has been rebuilt from the ground up for maximum performance. Photoshop CS4 Extended expands the 3D toolset immensely, offering direct painting on 3D models, image wrapping, extrusions, advanced lighting, object meshes, and beautiful professional output. That last feature relies on a knockout new raytrace renderer. While CS3 was geared toward adding textures to 3D objects and performing test renders, its excellent professional output makes CS4 ready for primetime.

There's a wide variety of 3D tools offered in Adobe Photoshop CS4 Extended. On the right side is the newly redesigned Adjustments palette, which offers quick one-click, non-destructible presets.

Adobe Photoshop CS4 Extended

Expanded 3D capabilities and hundreds of other new tweaks fight for your attention.

REVIEWER: FRANKLIN MCMAHON



bottomline

Company: Adobe

www.adobe.com

Product: Photoshop CS4 Extended

Assets: Improved GPU rendering, new features such as content-aware scaling and pixel grid for magnified zooming.

Caveats: Doesn't replace a dedicated 3D program because it lacks building elements.

Demographic: 3D artists who want to texturize and paint objects or 2D artists who want to create some cool 2D and 3D animations using a program that is already familiar.

**PRICE: \$999 (FULL),
\$349 (UPGRADE)**

CS4 also gets improved GPU rendering, so it takes advantage of the latest video cards. That means swooping a camera around and spinning a 3D object happens buttery smooth. Shadows are improved; your objects can now cast shadows or catch shadows. Objects can have various attributes such as specular shine, bump textures, reflectivity, and self-illumination. Lights can be infinite—point or spot—and the lighting options combined with the camera controls make it easy to rig up 3D renders. Extensive import/export options mean you can bring in and render out just about any 3D object type.

Almost all 3D commands are contained in a tabbed parameters panel, with lots of options to tweak. It's actually toggled off by default; to turn it on, it's Window > 3D. When you activate it, you are offered a large array of choices. A market of third-party 3D paint and texturing programs for various 3D systems has been growing. Unfortunately, you often would have to create all your textures in Photoshop, bring them into your third-party program, export the final object, and then import it to your main 3D program. Now you can do all your work in Photoshop CS4, up to and including the rendering.

With some of my client work, a logo is supplied. Often, I will bring it into a program such as Maxon Cinema 4D to do a little extrusion, add some specular highlights, and just spiff it up a bit. Lately, I have been doing this more right within Photoshop. In fact, a recent client wanted to subtly change the colors of their logo to match the background image more closely. I was able to make this change in Photoshop and add reflections and glints so the client could see the changes against the background. The best part is I could render it right out without jumping into a 3D program. I've found that a lot of clients are familiar with or at least "get" Photoshop. Jumping into a 3D program adds a lot of unneeded complexity, and often Photoshop is more inviting. So it's a real benefit to do more directly work directly in Photoshop CS4.

Another headline new feature of Photoshop CS4 is that you can now use video as 3D textures in Photoshop CS4. It may also surprise you to learn that Photoshop CS4 Extended has a fairly robust animation system built into the program, complete with a layer-based timeline that allows you to keyframe and tween your objects, camera position, render settings, colors, textures, and lighting. While it does not

approach the feature set of After Effects CS4 (see p. 35 of this issue for my review), you can create some fairly robust 2D and 3D animations and render them out with excellent quality. (You can, of course, bring your 3D-layer project files from Photoshop CS4 into AE CS4.) The animation timeline is also toggled off by default (Window > Animation to activate it). Turn it on and create some graphic motion, and you'll quickly realize your potential for creating animations completely within Photoshop CS4.

There are too many new features to focus on them all individually, but here are some notables: There's nondestructive correcting of images via the new Adjustments panel. Not only has the Adjustments panel been completely redesigned with lots of one-click presets, but the fact that you can now add, take out, move around, and toggle on/off any adjustment layer without permanently altering your image is amazing. With these "live" effects, you no longer have to ponder whether you want to add an effect or filter—just add it and take it off later if you want.

It took Adobe a while, but Photoshop CS4 finally harnesses the power of your GPU, enabling fluid canvas rotation and smooth, pixel-accurate panning and zooming. In previous versions, when you zoomed in, you were shown only a rough, software-rendered approximation of your pixels. Now that Photoshop turns this task over to the GPU, zooming and panning is silky and accurate. Photoshop CS4 also gets a new pixel grid for when you zoom in to the highest magnification, which is surprisingly handy for detail work.

Dodge, burn, and sponge have been rewritten to achieve more naturalistic results—helping, for example, to preserve tones in an image. This is welcome for media artists who do a lot of detailed touchup work.

Also new is the easy-to-use auto-align and auto-blend. Now you can quickly and seamlessly snap together a series of pictures and create 360-degree panoramas.

Content-aware scaling is a magical new feature in CS4 that allows you to stretch or shrink images but retain the important foreground elements in them. Imagine an image of five people atop a mountain. Now you can stretch the picture to make the mountain scape seem twice as wide, while the people in the shot will seem twice as far away from each other. The end result is not a stretched image of suddenly hefty subjects, but a completely realistic image that has been Photoshopped with barely a click.

Photoshop CS4 Extended is a fantastic update brimming with features, tweaks, and improvements that I highly recommend. But what

is the difference between Photoshop CS4 and Photoshop CS4 Extended? For the most part, all the 3D features—including raytraced renders and 3D animation—are in the extended version. For CS3, Adobe positioned the extended variation toward medical professionals and a section of 3D architectural artists. (The 3D in CS3 comprised flat textures and basic objects.) The medical field used the 3D volumes feature, which allowed them to import 2D medical data and extrude it into a spinnable 3D object. CS4 ratchets up so many features of the 3D and animation sections of Photoshop that the extended variation no longer serves only the scientific niche. It's a powerful arsenal for all creative artists, and now it's worth the price premium.

Can Photoshop CS4 Extended replace a dedicated 3D program? No, because it's missing one element: It is not a builder. The program will let you extrude 2D elements (such as text and Illustrator files) and layer a few 3D objects into the same scene, but 99 percent of the time, you will bring in an object (as detailed and complex as you want) and work on it. You'll create textures for it, paint it, map environments onto it, and then animate it and/

or render it out. If you have existing objects, you can do a lot with CS4. If, on the other hand, you want to create complex 3D objects from scratch, a dedicated 3D program is best.

Chances are decent that you fall into the intended demographic Adobe is targeting: a 3D artist who wants to texturize and paint objects, or a 2D artist who wants to create some cool 2D and 3D animations using a program that is already familiar.

A final plug goes to Bridge CS4. This program has quietly grown into a supreme cataloging, searching, and viewing program. The CS4 version is the best and speediest yet. It's a great bonus that comes with the program.

With Photoshop CS4 Extended, Adobe breaks new ground and introduces new features that really harness the power of current-generation machines. The program contains hundreds of useful improvements, so it's easy for me to recommend Photoshop CS4 as an upgrade for just about anyone who is using any previous version. □

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