Viewing the World through Interactive Panoramic Images

Photographs limit viewers to seeing the image captured in the viewfinder, no matter how interesting the surrounding areas might be. However, interactive panoramic images are beginning to solve this problem and create a new art form.

The increasingly popular panoramic images let viewers move their cursor across a photograph and get a 360-degree view of a scene beyond the small image visible in a browser window.

Panoramas used to be made primarily by hobbyists who took a series of photos across a scene and then used a computer to assemble them horizontally. They displayed the finished product in a browser window in which viewers could move from side to side to see the entire view.

Panoramic-image creation now appears to be expanding for several reasons, said Web designer and photographer Erik Goetze.

For one thing, high-resolution digital cameras have minimized the work needed to build panoramas from individual photos by producing images that don't have to be digitized first. Also, Goetze said, getting images on a Web server is easier and quicker than in the past. It's now possible to produce a working panorama perhaps 5 minutes after shooting it, he explained, although more work improves the final product.

Creating a panorama also requires stitching multiple images together and editing the image to make sure the stitching was done precisely. Stitching applications—such as Apple's QuickTime VR Authoring Studio, PanoTools, and RealViz Stitcher—analyze image pairs and work with common features to match them properly.

Some applications let designers create spherical panoramas in which a viewer can look up and down as well as side to side. Meanwhile, Goetze noted, fast Internet connections improve the viewing process by quickly delivering detailed, full-screen images.

Other photographers are experimenting with ways to expand the viewer's experience by providing video-like transitions to link separate but related sets of panoramic images.

Also, companies such as Zoomify are developing software that can zoom in on panoramic images and stream additional detail into a scene as the viewer moves "closer."

A few businesses are exploring augmented panoramas, which are designed to make a scene more interesting by adding animated characters or streaming Webcasts of people. However, this approach is not common because it is time-consuming.

Fred Ritchin, director of the online magazine Pixel Press and an associate professor of photography and communications at New York University's Tisch School of the Arts, said designers haven't begun to explore panoramic images' full potential.

For example, he said, they could be used with text and other types of content to create a more interesting Web experience. ■

Web Sites that Offer Panoramic Images

The following Web sites offer panoramic images, some of which require plug-ins to view:

- The Picture Project's 360degrees site is a social-documentary project on the US criminal justice system: www.360degrees.org.
- Australian commercial photographer Peter Murphy started a Weblog showcasing panoramas: www.mediavr.com/blog. He also has panoramic images at www.mediavr.com/bronte1.htm and http://culture.com.au/virtual/.
- 360 VR Studio, with New Jersey commercial panoramic photographer Jook Leung, offers panoramic images shot in the New York City area: www.360vr.com.
- Danish commercial photographer Hans Nyberg maintains a Web site with links to other sites containing 30,000 panoramas: www.panoramas.dk.
- Belgian photojournalist Tito Dupret has panoramas of places such as Beijing's Forbidden City and Cambodia's Angkor Wat on the World Heritage Tour Web site: www.whtour.net.
- An augmented panoramic image can be found at www.throbbing.com/bikerace.

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