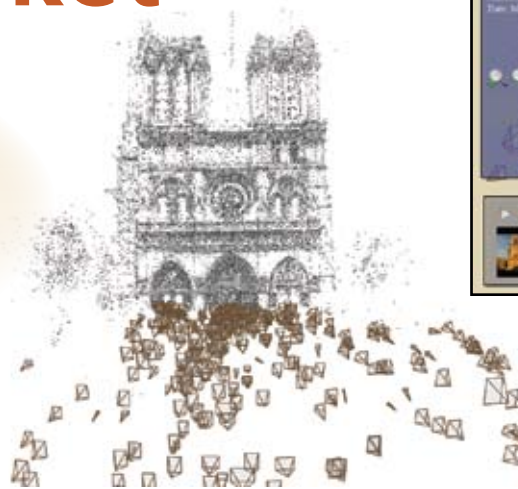


Off to Market

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e Innovators section on page 4.



A 3D "point cloud" of Notre Dame Cathedral, reconstructed from hundreds of images on the Web, describes the features recognized in the image. Visit the Web sites listed at the end of the article to see demonstrations and learn more about the technology.

Magic in an Interactive World of 3D Photos

If a picture is worth a thousand words, consider the power of hundreds of digital photos linked into a three-dimensional scene on your computer monitor.

Imagine visiting Rome's Trevi Fountain. With a few clicks of a mouse you zoom seamlessly from an aerial view to a virtual stroll around the plaza. See the fountain at sunrise or twilight, crowded with summer tourists or quiet on a rainy winter day. Zoom in for a closer look at the statue of Neptune, or a bas relief on the upper wall. About the only thing you can't do is toss in a coin. That is still beyond the creative reach of a team of researchers at UW Computer Science & Engineering and Microsoft Research. Still, they have come up with software magic that is the next best thing to buying a ticket to Rome or anywhere you may want to journey.

CSE doctoral student Noah Snively (left) and Associate Professor Steve Seitz review a Photo Tourism demo of the Trevi Fountain.



The first leg of this amazing new photo travel experience began in CSE's Graphics and Imaging Lab. Associate Professor Steve Seitz, doctoral student Noah Snively, and Microsoft researcher and Affiliate Professor Rick Szeliski chased a vision to turn random collections of 2D photos into a rich, immersive, 3D experience.

Snively tackled the challenge of developing mathematical algorithms and computer code to automatically identify similar elements in images taken by many photographers at different times from different perspectives and to identify the camera position for each. They built navigation tools into software they call Photo Tourism, so a viewer can move through complex 3D scenes.

Photo Tourism soon found a home in Microsoft Live Labs, a new research and rapid development unit focused on Web products. A Microsoft-UW team married Photo Tourism to new browsing technology called Seadragon, which provides smooth zooming around collections of images and multiresolution streaming between users and servers. The result is Microsoft's Photosynth.

When Photosynth is released later this year, it's sure to generate "Wows!" and find many applications. Once this system is fully deployed, photographers will have an exciting way to organize their own collections and integrate photos from friends, family, or from open sources on the Web. Other likely uses would be tourism promotion, real estate (take a virtual 3D tour of homes for sale), online product advertising (check out that motorcycle from all angles), interactive study of museum collections, and education in many disciplines.

To Learn More: For demos of Photo Tourism and Photosynth, visit the UW CSE and Microsoft Web sites:

- <http://phototour.cs.washington.edu/>
- <http://www.labs.live.com/photosynth/>