Chaco Culture National Historical Park in New Mexico is renowned for its thousand-year-old pueblo structures. NASA, on the other hand, is known for the latest in technology, and its spirit of exploration. These two organizations—along with Ideum, an interactive design firm based in Sausalito, California—have collaborated to develop an innovative and experiential Website.

*Traditions of the Sun: Chaco Culture National Historical Park* allows Web visitors to explore the park, learning about the Sun and Sun watchers within a larger historical and cultural context.
Adobe’s XMP metadata played an important role in helping to organize the hundreds of photos taken for this ambitious project, and to streamline workflow. A labeling technology, XMP allowed the development team to embed important data into the files themselves. XMP helped the team create “smart assets” that retained important information even when the files changed format and traveled across networks and platforms.

**Essential Tool**

XMP metadata was essential in associating each of the nearly 1,000 photographs taken with GPS (Global Positioning Satellite) data. The heart of *Traditions of the Sun* is the “Explorer Mode” function which relies heavily on location data. Satellite images and aerial photos of the park can be zoomed and panned. Users can then click on points of interest to view ground-based photos. High-resolution satellite images provided by Space Imaging show the park down to the square meter.

Essentially a GIS (Geographic Information System) Browser, Explorer Mode is self-guided and allows visitors to explore the park on their own. A series of overlays allows visitors to “turn on or off” ground-based or aerial photographs, historic maps, park trails, timelapse video, and even QuickTime VR panoramic images. Each point of interest has an associated caption, explaining what the visitor is seeing.

In April, June, August and September of 2004, team members visited every corner of the park as well as a number of “outliers,” which are ancient Chacoan structures in the region outside of the park. The team logged hundreds of miles on dirt roads and trails. As photographs were taken, GPS information along with the direction and basic notes were recorded. Later this information was embedded directly into the digital image using the metadata features in Adobe® Photoshop® CS software.

**A Custom Panel**

Built specifically for the project, this custom panel allowed team members to enter GPS coordinates, direction, and other essential information. Once built, this panel is readily available in any of the applications that make up the Adobe Creative Suite.

**A Custom Site**

Visitors pan and zoom satellite images, clicking on points of interest. XMP metadata made it easy to accurately place the ground-based images on the proper coordinates. Descriptive information was also placed into the metadata, ensuring that notes from the field made it into the image captions.

*Traditions of the Sun: Chaco Culture National Historical Park* can be explored at: [http://www.traditionsofthesun.org](http://www.traditionsofthesun.org)
A key feature of the Creative Suite applications is the ability to create a custom user interface, known as a custom panel, to capture and display metadata. A custom metadata panel was created from a simple text file to allow team members to easily add location, image number, latitude, longitude, direction, photographers, description, and other fields. A drop down menu was added for the location with the names of the “great houses,” which are the enormous and amazing structures found in the park. Once dropped into a special folder, this custom panel is displayed in the File Info dialog box in all of the Adobe Creative Suite applications. One of the great strengths of XMP is its flexibility. Custom File Info Dialog boxes can be easily made for any type of project or specialization.

The review and selection of images to appear in the interactive project was simplified using the Photoshop CS File Browser. During this process, titles for each image were agreed upon and added, along with production notes. Using the File Browser made updating the image information easy and quick, especially across multiple photographs at once.

Finally, the images were cropped and sized to fit in the interactive project. The GPS data associated with the files was then used to place the points on the satellite images for the project. Captions were written based on description notes found within the metadata. Having this vital information embedded in the file ensured that the data remained safely with the file, no matter where it was in the production process or who was handling it.

“XMP literally saved us hundreds of hours and let us focus on the creative aspects of our work.”

Jim Spadaccini, Creative Director, Ideum

**Benefits Summary**

- XMP enables descriptive information (metadata) to be embedded directly into digital files, so it cannot be lost or separated even if the file is moved to a new system or platform.
- The user interface for XMP metadata can be modified to accommodate custom properties and is accessible across all the CS applications.
- Managing, searching, and entering metadata is simplified by using the Photoshop CS File Browser.
- Flexible and extensible, XMP can be customized to optimize workflow and address specialized needs.
“Having the data embedded in the photos is invaluable for future archivists. They will know where they were taken, and under what conditions.”

GB Cornucopia, Interpreter, Chaco Culture National Historical Park.

**A Living Story**
Chaco Culture National Historical Park is a place of great importance to the descendents of the Chacoans, the Pueblo people of the Southwest. Top: Valerie Martinez of the Tewa Dancers of the North performs at Pueblo Bonito. Image courtesy of Ideum.

**Built for the Future**
Having such rich metadata stored in each photograph provides some interesting possibilities for the future. Preservation is an ongoing concern at the park. Many of the structures have been excavated and rebuilt in the last century by archaeologists. Exposure to the elements—and park visitors—will continue to have an impact on these buildings. Hundreds of photographs with precise GPS data can be used in the future to monitor changes in these structures, helping to preserve Chaco Culture National Historical Park.

Some of the team members are exploring these possibilities. In the meantime, the second interactive in the *Traditions of the Sun* series is planned. This time the ancient Mayan site of Chichén Itza is the focus and once again Adobe XMP will play an essential role.

For more information on how metadata can make your files more valuable and workflow more efficient, go to http://www.adobe.com/xmp/