



VECTORWORKS CASE STUDY



VECTORWORKS DESIGNER HELPS CHICAGO'S
ADLER PLANETARIUM & ASTRONOMY MUSEUM
BRING THE UNIVERSE DOWN TO EARTH



FROM PROTOTYPING
CONCEPTS TO VISUALIZING
IDEAS TO GENERATING
CONSTRUCTION
DOCUMENTS TO ASSISTING
IN MAINTENANCE,
VECTORWORKS DESIGNER
IS AN ALL-PURPOSE
ANSWER FOR EXHIBIT
DESIGN AT AMERICA'S
FIRST PLANETARIUM.

Adler Planetarium & Astronomy Museum exhibit designer Alvaro Ramos thanks his lucky stars for VectorWorks Designer. Without it, a lot of the exhibits his department creates would not have been possible, he says. The Apollo 8 exhibit is one such example.

LAUNCHING THE APOLLO 8 EXHIBIT

From scale models of the solar system to ancient astronomical instruments to interactive adventures, the Adler provides a passageway for visitors to explore the universe. And VectorWorks Designer gives Ramos the tools to make it all happen—from prototyping exhibits with conceptual geometry to visualizing ideas with exact colors and textures for executive approval to creating exhibit construction documents for exhibit fabrication.

But often he has very little time to do it in. And very little space. When Captain Lovell loaned the original Apollo 8 flight manual to the Adler, Ramos had less than three weeks to design, fabricate, and install an exhibit in time for the holiday season. And he was initially given just 40 feet of space.

On Christmas Eve in 1968, Apollo 8 astronauts Captain James A. Lovell, Jr., Captain William Anders and Colonel Frank Borman captivated millions of television viewers by beaming pictures of the moon's surface while reading from the Bible's Book of Genesis. In that historic broadcast, one of the largest audiences in television history tuned in to an amazing sight: a live telecast of the moon's surface as seen from Apollo 8, the first manned space flight to orbit the moon.

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"Using VectorWorks Designer, we reduced design time to the smallest window possible on the Apollo 8 exhibit, so we could immediately jump into fabrication, which was incredibly critical on this quick turnaround project," says Ramos. "Because we had created a drawing and rendering of the exhibit space so quickly, we were also able to procure a bigger, better location, which resulted in a much more visible exhibit. As another result of the rendering, there were no surprises during design or fabrication that could have held up the exhibit. Since everyone could see what was going on, there was no 'why don't you try this,' which allowed us to meet our deadline."

He continued, "With the Apollo 8 exhibit, we were able to present to the public a part of American and human history in a way that wouldn't have been possible without VectorWorks Designer. In the past, with instances like these in which we don't have a lot of time, the inclination is

to place the item that is to be showcased in a case and put it in a corner, which doesn't do the item justice. Now, thanks to VectorWorks Designer, we're able to truly streamline the design process and make strong arguments for effective exhibits with realistic, accurate presentations and get exhibits on display in record time."

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PRESERVING AN ASTRONOMICAL ARTIFACT

Ramos also finds VectorWorks Designer useful in cutting down on exhibit maintenance costs. An added VectorWorks value his boss was especially pleased with. When the Adler's Atwood planetarium—one of the oldest functioning mechanical planetariums in the country—needed to be dismantled for repairs, VectorWorks Designer came to the rescue.

"I was able to engineer the entire lifting mechanism in VectorWorks Designer, which eliminated the need for hands-on work that could potentially damage the planetarium."



THE ADLER— AN EXTRATERRESTRIAL EXPERIENCE

Home to more than 35,000 square feet of exhibits, the Adler Planetarium & Astronomy Museum is the only museum in the United States to house two full-size planetarium theaters—including the very first planetarium theater in America. The museum also houses the largest collection of historical astronomical, navigational, and mathematical instruments in the western hemisphere—and one of the largest, most important in the world dating back to the 12th century. The Adler's rare book collection contains more than 2,000 volumes, including more than a dozen incunabula, which are books printed before 1500.

VECTORWORKS CASE STUDY: [VECTORWORKS DESIGNER HELPS CHICAGO'S ADLER PLANETARIUM & ASTRONOMY MUSEUM BRING THE UNIVERSE DOWN TO EARTH](#)

An active exhibit as well as an artifact, it has to be handled delicately. Not an easy endeavor, as the giant metal sphere in which visitors can see the night sky weighs 500 pounds and has a circumference of fifteen feet.

"Because the planetarium is a popular exhibit, it gets very heavy use, so its ball bearings wear out," Ramos explains. "Yet it also has great historical significance, so we have to treat it very carefully. This makes maintenance a lot more difficult and labor intensive. We needed to create a way to safely lift the mechanism while protecting the drive of the sphere, so the large ball bearings could be replaced and the sphere put gently back into its cradle. I was able to engineer the entire lifting mechanism in VectorWorks Designer, which eliminated the need for hands-on work that could potentially damage the planetarium. We didn't have to build mock-ups or use jigs to figure out which angles would be required to safely move the sphere, and we didn't have to enlist the help of an outside contractor to move it, which we've done in the past. So using VectorWorks Designer saved us money, since we didn't have to pay someone to lift the planetarium. VectorWorks will also reduce maintenance costs in the future now that we can do routine repairs in-house."



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BIG MAN ON MUSEUM CAMPUS

Developing, updating, and maintaining educational, entertaining, and enticing exhibits is increasingly important for the Adler as it competes against other local attractions. The planetarium and museum is located in an area of Chicago known as the museum campus, which is populated with other world-renowned attractions, such as Soldier Field Stadium, the Shedd Aquarium, and the Field Museum of Natural History. When visitors come to town and have a finite amount of time, they must choose among the many opportunities available.

According to Ramos, it is his ultimate objective to entice these visitors to the Adler with appealing exhibits. And part of keeping competitive is keeping up with the technological edge to create exhibits that will attract more traffic.

"We have some pretty stiff competition vying for visitors' leisure dollars, and maintaining a technological edge is very much part of our strategy to bring people through our doors," explains Ramos. "It's our goal to develop experiences that are educational, entertaining, and enticing. To do that, we have to ensure we're right on top of the technology wave with our tools, and VectorWorks Designer fits right in."

AUTOCAD DOESN'T CUT IT

A VectorWorks user since the days when it was called MiniCAD, Ramos considered purchasing AutoCAD for Adler at one point, since a lot of the organization's vendors use it. But he quickly ruled it out.

"AutoCAD certainly has a chokehold on the CAD market, however, it's by no means the best," he says. "We looked into AutoCAD, as it is widely accepted as the standard. But we would have had to set up a different workstation that would have been isolated from our network and, therefore, wouldn't have worked logistically. More importantly, AutoCAD is severely limited in its capabilities to quickly design, visualize, and present ideas. When it comes to taking your ideas further into virtual space and importing images, colors, and textures, there's no competition. VectorWorks has a much richer format and is so much easier to use. And it doesn't hurt that VectorWorks is at least half the price of AutoCAD. That really sold it to my boss."

Ramos has several friends and colleagues who use AutoCAD who are amazed at the capabilities within VectorWorks.

"The capabilities just aren't there in AutoCAD," Ramos says. "A friend of mine who works

VECTORWORKS—A PERMANENT FIXTURE IN THE EXHIBIT DESIGNER'S TOOL BOX

Chicago's historic Adler Planetarium & Astronomy Museum is just one museum that showcases the many capabilities VectorWorks offers for museum exhibit design. More than 100 museums across the country use VectorWorks to design exhibits. They include:

- The Getty Research Institute
- Smithsonian American Art Gallery
- Smithsonian Institution Museum
- National Museum of the American Indian
- US Holocaust Memorial Museum
- The Hirshhorn Museum & Sculpture Garden
- The Field Museum of Natural History
- The American Museum of Natural History
- The New Mexico Museum of Natural History
- San Diego Natural History Museum
- The Metropolitan Museum of Art
- The Brooklyn Museum
- The Guggenheim
- The Chrysler Museum
- Seattle Art Museum
- Denver Art Museum
- Dallas Museum of Arts
- Museum of Fine Arts Houston
- Museum of Aviation
- US Air Force Museum
- Port Discover Children's Museum
- Chicago Children's Museum
- Kidspace Children's Museum

for an exhibit company uses AutoCAD, and he can't do half of what I can; they're still poking along. When he saw some of my work and asked if I imported stuff from Illustrator or if I did something in Photoshop, he was astounded when I told him that I just import images right into VectorWorks and work from there. 'But it's to scale,' he said."

"Well, yes, of course it is!"

He adds, "With VectorWorks Designer, I can't believe so many more capabilities have been crammed into an already powerful package. All the tools that are bundled into VectorWorks Designer are fantastic. I have my Spotlight tools right alongside the Architect tools I use. And I can work among several workspaces at once without having to toggle from workspace to workspace. It's truly amazing."

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