

LOCAL // SPACE

# Former magician brings holograms, virtual reality to NASA

**Andrea Leinfelder, Staff writer**

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Evans, president of Exhibitory, with a hologram of Jim Lovell, retired NASA astronaut, shown on the Exhibitory HoloTube Wednesday, Feb. 3, 2021 in Houston. The company created life-size holograms of Apollo astronauts for display at NASA's Kennedy Space Center Visitor Complex.

Melissa Phillip, Houston Chronicle / Staff photographer

Tracy Evans is no longer sawing his assistants into three pieces.

He doesn't pull rabbits out of hats or escape handcuffs, either. But his decade as a magician did provide the flair required to make realistic and entertaining holographic astronauts who can answer questions about their travels in space.

Exhibitry, Evans' 25-year-old company, has taken its audience mastery to NASA. It developed holograms of Apollo astronauts and showcased the potential for using virtual reality in an outpost orbiting the moon.

Even though he doesn't wear the sequined jacket anymore, "all of those things require communication with an audience and engagement with that audience," Evans said. "Engaging an audience is what I consider show business."



Video: Melissa Phillip / Houston Chronicle - Instagram [https://www.instagram.com/p/CM17D9PDXAh/?utm\\_source=ig\\_web\\_copy\\_link](https://www.instagram.com/p/CM17D9PDXAh/?utm_source=ig_web_copy_link)

Exhibitry's main business is creating interactive experiences for trade shows, where it uses virtual reality, animation and other forms of technology to showcase a company's products.

But this month, the public saw his holographic displays in a new location: NASA's Kennedy Space Center Visitor Complex in Florida.

The Visitor Complex reopened its Apollo/Saturn V Center on March 15 (it had been closed due to COVID-19 precautions) with new displays featuring Apollo astronauts Charlie Duke, Jim Lovell, Harrison Schmitt and Al Worden.

"That was a highlight of my career so far working with these astronauts," Evans said.

Evans spent hours interviewing these men. Among their stories, Schmitt talked about the difficulties of walking on the moon. He said Evans would likely fall if he were to try it — but don't worry, it doesn't hurt.

Duke talked about a mixtape he brought into space. A DJ from Pasadena connected with a friend at the Grand Ole Opry in Nashville to record live performances. Stars including Dolly Parton and Porter Wagoner recorded messages for the astronauts.



Jim Lovell, retired NASA astronaut, is shown on the Exhibitry HoloTube, an interactive hologram, Wednesday, Feb. 3, 2021 in Houston. Exhibitry created life-size holograms of Apollo astronauts for display at NASA's Kennedy Space Center Visitor Complex.

The interviews required interesting and concise answers while the astronauts stood in precise poses and looked at specific cameras. Not a problem for these subjects, Evans said.

“With Apollo astronauts, you tell them something once and they have it,” Evans said. “They would hit that mark and stand in that position and do that list of things every time with no further prompting.”

These interviews were edited so the astronauts could appear inside an Exhibitry HoloTube, a 6-foot-tall acrylic cylinder. Visitors use a touchscreen to ask questions.

For instance, asking “What music did you take to the moon?” will pull up Duke talking about his mixtape. A cassette player appears in the HoloTube, and visitors can play songs from that mixtape. Asking Worden about Fred Rogers, the creator and host of “Mister Rogers’ Neighborhood,” will prompt Worden to discuss his experience on the show. A TV set appears in the HoloTube to show his various appearances on the TV show.

“When I saw the end result, it exceeded my expectations,” said Therrin Protze, chief operating officer for the Visitor Complex. “To actually see them in almost real-life form really creates an intimate experience.”

People don’t read plaques anymore, Protze said. But when an astronaut speaks, there is complete silence. Visitors want to hear their experiences, and the HoloTube provides a fresh way to share those stories today and in the future.

Worden died in March 2020 before his HoloTube arrived at the Visitor Complex. Protze had become friends with Worden as the astronaut often gave presentations and had lunch with guests at the Visitor Complex. And on each of these visits, he would stop into Protze’s office to say hello.

“Al Worden was a dear friend of mine,” Protze said. “If I ever get to missing Al, I just go over there and hit the button and there he is. That’s kind of cool. They’re memorialized forever.”



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Exhibitry — together with a Houston company that Exhibitry partners with to build full-scale mockups — is also working with NASA on a virtual reality project. USM, United Scale Models,



and Exhibitry helped a NASA contractor develop a ground prototype that was used in a bid to build Gateway, a facility that will orbit the moon and assist with lunar missions.

USM built the mockup for Northrop Grumman (the mockup was initially created for Orbital ATK, which Northrop Grumman acquired in 2018), and Exhibitry created a virtual reality demonstration to showcase potential innovations.

For instance, instead of launching bulky hardware with displays and controllers to operate Gateway's robotic arm, Exhibitry pitched operating the arm from virtual reality headsets worn by the astronauts. This could save mass -- the heavier an object is, the more it costs to launch into space -- and provide new features, such as 360-degree views provided by exterior cameras and augmented reality technologies.

Northrop Grumman ended up winning the contract for Gateway's initial crew module. However, there are no current plans to include the virtual reality pitched by Exhibitry. The company created a demonstration so the technology could be evaluated. Northrop Grumman said it's "leveraging this knowledge to inform the design" of its module.

Projecting an astronaut inside a HoloTube was one of Evans' secret ambitions (his other was rock stars) and he hopes the virtual reality project does move into space. It would be the next step for a company that uses technology to tell stories and help explain complex ideas.

"We are storytellers by trade but technology geeks at heart," Evans said. "So bringing those two disciplines together became kind of a differentiator, I would say, for the type of work that we have done."

[andrea.leinfelder@chron.com](mailto:andrea.leinfelder@chron.com)

[twitter.com/a\\_leinfelder](https://twitter.com/a_leinfelder)

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