

Using Technology to Bring People Together

Devio® Helps Build Connections across the Globe

Founded in Brooklyn, New York, and with installations on every inhabited continent, Shared_Studios™ was created with the goal of helping people forge connections and discover their similarities. Shared_Studios was seeking a method of facilitating real-time conversations between people located in different places, whether participants were across town or across the globe from one another. Participants soon discovered what the Shared_Studios founders already knew: regardless of location or background or any other distinguishing factor, we humans are far more alike than most of us realize. Effective communication plays a vital role in bringing people to this conclusion.



Photo Courtesy of Ian Douglas

SUMMARY

Location

Multiple locations across the world.

Facility Scope

Converted metal shipping containers and other small spaces, retrofitted to accommodate AV equipment supporting real-time conversations between people in disparate geographic locations.

Biamp Product Family

Devio®

Objectives

Use AV technology to create an interactive experience that is as close to an in-person conversation as possible.

Solution

Devio with Acoustic Echo Cancellation (AEC) and Automatic Gain Control (AGC) technologies to ensure participants in both locations can enjoy a naturally-flowing conversation.

Outcome

Devio's powerful technology and innovative Beamtracking™ microphones provide exceptional audio quality, while remaining out-of-sight. In addition, Devio's small form factor and flexible installation options make it a solution that can be repeated easily in different types of Portals all over the world.

THE CHALLENGE

The Portals project began as a public art initiative in 2014. The initial installation connected participants in New York City and Tehran during the nuclear negotiations that were taking place at that time. Shared_Studios' founders weren't sure what to expect from this experiment, although they anticipated that most people would spend about 10 minutes in the Portal space. Instead, they discovered people in both participating cities were spending an average of 45 minutes in the Portal, having incredibly moving experiences and conversations with individuals they would never otherwise meet. Clearly the founders were on to something.

As word spread, people began requesting Portals to be opened in additional locations. After the success of the initial installation, the founders began to reimagine the project with respect to the technology. They decided to focus on improving the audio, microphones, speakers, and camera placement to support more natural conversation. The founders understood the importance of placing the camera at eye level to create the sensation of making eye contact with Portal participants elsewhere in the world. To provide the most natural conversation possible, lip sync was also critical to the experience. All design factors—from lighting to carpeting to the way the images were projected on the wall—went into consideration for each Portal. With such a delicate balance between aesthetics and the ability to replicate the design in multiple environments, choosing the right technology for the new Portals was crucial.

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Photo Courtesy of Ian Douglas

WE ARE GRATEFUL
TO ALL THE FOLKS
AT BIAMP WHO
HAVE SUPPORTED
OUR MISSION AND
HELPED BRING THE
PORTALS TO LIFE.

— **Jake Levin**
Chief Operating Officer,
Shared_Studios

THE CHALLENGE CONTINUED

Three years later, there are 31 permanent Portal sites installed around the world, with additional sites (both permanent and temporary) scheduled for the future. Portals are installed in a diverse array of spaces, from refugee camps to cultural centers to public parks. They are also present in educational institutions and music venues, as well as in a prison to assist with re-entry services for inmates who are close to completing their sentences. Upcoming Portal projects include installations at TED2018, Google, and the United Nations. Portals can serve multiple purposes, including teaching participants about world history and current events, introducing entrepreneurs to foster collaboration on projects, supporting research endeavors, or providing an opportunity for participants to practice a new language with a native speaker. Regardless of the location or theme, human connection is the goal of this project.

Overcoming language barriers was another important factor in choosing the appropriate technology for the Portals. Each location is staffed by curators, many of whom are multi-lingual and capable of translating on behalf of participants. For example, if a Portal in Spain is connected to a Portal in Iraq, the curators will speak both Spanish and Arabic or Kurdish. Some events have required remote translation, with a person listening in live at a satellite location and typing translations in real-time.

While most Shared_Studios Portal locations are intended to be permanent or semi-permanent fixtures, the founders also created a portable, inflatable version that could be installed and dismantled anywhere in the world to accommodate opportunities with shorter setup times or in unique locales. To accommodate these needs, any technology had to be lightweight, durable, and flexible enough to withstand multiple moves, reconfigurations, and heavy use.



Photo Courtesy of Ian Douglas



THE SOLUTION

To best support its mission, Shared_Studios selected Devio as the superior audio solution, providing the most life-like audio experience, delivering clear audio whether Portal visitors were having a conversation or even collaborating on a musical performance. Devio was installed in the first 12 Portals throughout 2017. These units are located in Portals all over the world, from an internally displaced persons camp in Erbil, Iraq, to permanent installations in Nairobi, Kenya and Milwaukee, Wisconsin (USA).

Portals are typically centered around LCD or LED projectors, with LED lights illuminating participants. They have one or more cameras embedded in the display surface, creating line-of-sight contact, and enabling participants to interact live and full-body, as if in the same room. Each Portal features a single Devio DTM-1 desktop microphone unit inverted and mounted in the ceiling—a slightly unusual placement for these devices. The Devio unit itself is also concealed to keep the technology used as transparent as possible, which helps encourage more natural conversations. The Devio unit is connected to the microphone component located in the ceiling, and an Ethernet patch cable runs through the ceiling to connect to a computer hidden behind the wall. The computer, amplifier, and all other pieces of equipment are out of sight, and two loudspeakers are camouflaged and embedded in the wall so they are as close to the participant's mouth as logistically possible. While these devices are hidden from view, they remain easily accessible for technicians to make any necessary adjustments. Devio's Beamtracking microphone is small and unobtrusive, but still capable of picking up the natural sound of participants' voices on both ends of the session, creating the most lifelike interaction possible for people located hundreds or thousands of miles apart.

The Portals are designed to be easily modified or adapted to suit emerging technologies or shifting requirements, allowing the founders to upgrade or change lights and other equipment on an as-needed basis.

EQUIPMENT LIST

Per Portal:

Devio CR-1

Devio DTM-1



THE CONCLUSION

Portal participants report ongoing positive impacts, even weeks and months later, from interacting with people via the Portals. Shared_Studios is currently conducting a longitudinal study to analyze participants' experiences and make any necessary changes to the way the Portals operate. Because the Portals come in multiple form factors—including temporary installations in repurposed shipping containers and a mobile portal housed in a retrofitted school bus—Devio's flexibility makes it an ideal choice for a high-quality, affordable, and repeatable audio solution.

One of the primary purposes of the Portals project is bridging gaps between people—whether those gaps are geographical, cultural, or any number of other reasons. That's why audio clarity as well as minimizing latency were key factors. Shared_Studios was committed to reducing latency as much as possible to support effective collaboration. Devio's software allows it to adjust automatically whenever a participant is talking, laughing, or singing, resulting in crisp, clean natural-sounding audio no matter the geographical distance between participants. With a Devio solution in place, Shared_Studios' founders, curators, and participants are free to focus on building human connections across the world.

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WE'RE TRYING TO CREATE MAGICAL, UNEXPECTED MOMENTS WHILE BUILDING SOMETHING THAT CREATES A POWERFUL GLOBAL IMPACT. OUR GOAL IS TO INTRODUCE PEOPLE WHO WOULD NEVER HAVE THE OPPORTUNITY TO MEET. DEVIO IS A FLEXIBLE AND RELIABLE DEVICE THAT ALLOWS AMAZING HUMAN CONNECTIONS TO TAKE PLACE.

— **Jake Levin**

Chief Operating Officer, Shared_Studios

ABOUT BIAMP SYSTEMS

Biamp Systems, LLC is a leading provider of innovative, networked media systems that power the world's most sophisticated audio/video installations. The company is recognized worldwide for delivering high-quality products and backing each one with a commitment to exceptional customer service.

Biamp is dedicated to creating products that drive the evolution of communication through sight and sound. The award-winning Biamp product suite includes: Tesira® media system for digital audio and video networking, Devio® collaboration tool for modern workplaces, Audia® digital audio platform, Nexia® digital signal processors, and Vocia® networked public address and voice evacuation system. Each has its own specific feature set that can be customized and integrated in a wide range of applications, including corporate boardrooms, conference centers, huddle rooms, performing arts venues, courtrooms, hospitals, transportation hubs, campuses and multi-building facilities.

Founded in 1976, Biamp is headquartered in Beaverton, Oregon, USA, with additional engineering operations in Brisbane, Australia and Rochester, New York. For more information on Biamp, please visit www.biamp.com.