



VISITOR CENTER'S AV EXPERIENCE

Guests experience a panoramic view of Boston displayed across four 16-foot-wide by seven-foot-tall curved video screens. The screen at far right plays a short film.

Boston University's alumni experiences are featured on four 16'x7' curved video screens.

BY JONATHAN SHOR

Boston University wanted a Visitor Center that would offer a unique and dynamic experience, especially for its alumni to make presentations about their BU experiences. To fulfill this request, McCann Systems created four audiovisual experiences within this new 3000-square-foot space, developing a playback system able to synchronize all four AV experiences and play back high-resolution motion JPEG movies across all four environments using a bank of eight video servers.

Upon entering the Visitor Center, one is greeted by a life-size image of a person displayed on a seven-foot-tall videowall. This image is accomplished by stacking three video displays. After this initial "meet-and-greet," the visitor discovers a large message wall that scrolls text messages across an expansive custom-built screen. Then, the visitor will experience a panoramic view of Boston while standing in front of an arc of four 16-foot-wide by seven-foot-tall curved video screens that show footage of contemporary Boston. The fourth of these screens plays a short film that expands on the panoramic images concluding the 40-minute audiovisual experience.

The show designer for Boston University's Visitor Center wanted an area

Jonathan Shor, director of technology for McCann Systems, Edison NJ, is a member of ICIA and has more than 10 years of experience in the field of audiovisual integration.

where alumni could speak about their experiences at BU. And the school wanted the image to be life-sized so, when visitors toured the facility, it was as if they were standing next to the alumni. Plasma screens were suggested originally, but the designers didn't like the mullions the plasmas created when stacked.

Solution: Community Wall

McCann Systems suggested the use of DLP projection cubes. Three cubes could be stacked vertically to create the life-size image BU was looking for. Also, because the cubes only have a .5mm separation, virtually no mullions were created, resulting in a seamless seven-foot image.

The show designer wanted four huge curved projection screens to enhance the visitors' experience. Initially, we selected four 16'x9' screens. The first problem was budgetary; the client wanted rear-projection, but didn't want to spend the money on four sleds. Then, we needed the throw distance to fill large screens. Because of the space required, the fourth screen became front projection. This presented a challenge in that, when the experience begins, a panoramic view spans all four screens. We couldn't have the fourth screen look terribly different from the other three.

Another challenge arose when planning delivery of the screens. The building is an historic landmark: an old synagogue. The windows were being replaced, but couldn't be enlarged, so screen height was dictated by the height of the window opening. This restricted screen height to 7½ feet, which changed the aspect ratio from 16:9 to a custom, non-standard ratio. The movie producer for screen 4 needed a 16:9 aspect ratio for this screen. The final screen sizes became 7½'x16' for screens 1, 2 and 3, and the fourth screen became 7½'x13.3'. All had to be the same height to maintain a smooth transition from screen to screen.

Then we had to find a manufacturer that could produce these large custom

screens. We decided not to hot-form the screens' curve because this would have been cost prohibitive. The frame of the screens had to support the curve of the half-inch-thick acrylic material. In addition, the designer didn't want to see a four-sided frame. The sides of the screen had to be exposed. This was our biggest challenge yet.

We chose Custom Display Solutions (CDS) to manufacture the screens. CDS used aluminum channel and a supplier that could offer acrylic in the size needed. McCann also called on a local metal fabricator to build the custom feet and ceiling stanchions.

Another Challenge

Another challenge facing us was the floor. There is a six-inch grade between the first leg of the first screen and the last leg of the fourth screen. Each leg was made oversized and installed before the screens. The general contractor, under McCann's supervision, cut each leg to length, to ensure that the screens would be level. The legs had to be installed before the floor because the material around the screens was a cork material. If the feet were installed on top of that cork material, it would be crushed, resulting in unstable footing for the screen. McCann made real-size templates of the four screens and labeled the floor,

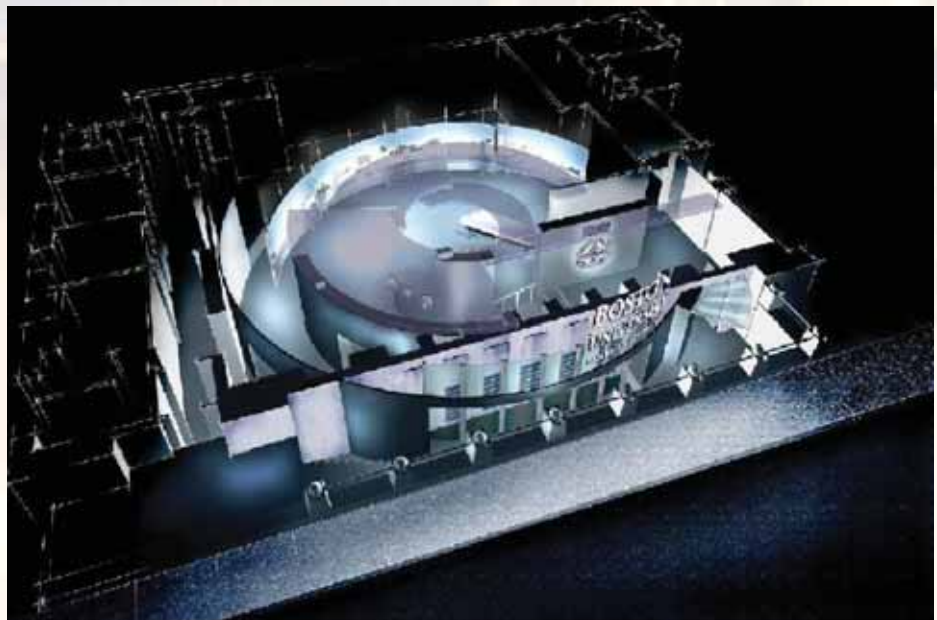
so the feet could be installed before the flooring.

Getting such bulky large screens in the building was a complex step. The Visitor Center is located on busy Commonwealth Avenue in the heart of Boston University's campus. Anyone familiar with the area knows that parking is a nightmare. On the day of the screens' arrival on a 40-foot flatbed, the general contractor had permits to block off the side street. A large-format crane was deployed to carry the screens off the flatbed and swing them into the building through a window opening.

The four screens took about six hours to get into place. Interestingly, the space was totally unfinished when the screens were delivered. The Visitor Center is actually in the basement of the old building, and the stairs outside were being redone for this project. The screens sat in the original crates in the center of a construction site while the space was constructed around them.

Playback System

The show designer worked with McCann to choose the format for content playback. Standard definition sources were unacceptable when projected on such large screens, especially because the viewers would be so



Concept of the Boston University Visitor Center.

McCann Systems

McCann Systems, Edison NJ, creates audiovisual solutions for companies around the globe. McCann environments can be found in industries including advertising, broadcast, education, entertainment, finance, government, hospitality venues, insurance and transportation. The company's website is www.mccansystems.com.

close to the images: One pixel is almost the size of a dime. And high-definition, multi-channel playback systems were cost prohibitive.

MPEG files encoded at the native

definition of the projectors (1024x768) were most acceptable. Using the MPEG format also helped keep the files somewhat smaller than the native MOV files originally created. The real



The size of the custom-made screens and frames presented an installation challenge. When the screens arrived on a 40-foot flatbed, a crane swung them into the building through a window. It took about six hours to get the four screens into place. Because the Visitor Center was still under construction, the frames remained in their original crates while the space was built around them.

challenge was coming up with a multi-channel playback system that would synchronize and that would play back files at 1024x768. Many manufacturers today make multi-channel MPEG players, but they only play back in standard definition. We needed a PC based playback device with an XGA output. We also needed a system that BU could reprogram easily to create differ-

EQUIPMENT

Lobby Presentation

- 1 Custom Display Solutions 7½x9½' custom projection screen
- 1 Sony VPL-PX15 2000 lumen XGA LCD projector
- 3 TOA H-1 2-way wall/ceiling mount speakers

Community Wall

- 1 Sunfire TRUSUBMK2 powered subwoofer
- 3 Synelec LM800-40 40" diagonal rear-projection video cubes
- 2 TOA H-1 2-way wall/ceiling mount speakers

Leadership Room

- 3 Chief PFS-2184 projector stands
- 1 Crest CTS8200 8-channel amp
- 3 Custom Display Solutions SN210PC 7'x16' curved rear-projection screens
- 5 Electro-Voice SX80 wall-mount speakers
- 1 Electro-Voice SXA180 powered subwoofer
- 3 Sony VPL-FX51 5200 lumen XGA LCD projectors

Theater

- 1 Chief RPA-020 ceiling mount for projector
- 1 Chief CMA-345 structural ceiling adapter
- 1 Crest CTS8200 8-channel amp
- 1 Custom Display Solutions SN173PC 7'x16' curved front projection screen
- 5 Electro-Voice SX80 wall-mount speakers
- 1 Sony VPL-FX51 5200 lumen XGA LCD projector
- 1 Sunfire TRUSUBMK2 powered subwoofer

Control

- 8 Altinex VA6835 universal interfaces
- 1 Crestron C2COM3 3-port RS232 card
- 1 Crestron C2ENET-2 dual-port Ethernet card
- 1 Crestron CNPWS-75 control-system power supply
- 2 Crestron CNX-B8W 8-button keypads
- 1 Crestron PRO-2 control system processor
- 1 Crestron RMK5000 rack-mount kit
- 1 Crestron TPS-5000LB Isys color touch panel
- 1 Crestron TPS-XVGAL RGB graphics card
- 1 Linksys Etherfast 16-port audio sending hub

Misc.

- 2 Middle Atlantic 44-space racks w/accessories Liberty cables



*Note: Projection screens custom made by Custom Display Solutions. The curved screens in the leadership room and theater are 7'Hx16'W and supported by custom stainless steel legs. The lobby projection screen is a 7½'x9½' piece of structural glass with alternating clear and opaque strips, with the opaque portions serving as the screen.

List is edited from information supplied by McCann Systems.

ent shows for the experience. One show might be for new applicants, another for alumni, while another for potential sports players.

Solution

After much research and scouring the floors at InfoComm 2003, we decided on Watchout software, which requires use of one PC per display. The Visitor Center has eight different



As guests enter the Boston University Visitor Center, they are greeted by a life-size image of an alumnus displayed on a seven-foot-tall videowall, consisting of three DLP projection cubes stacked vertically. A .5mm separation between the cubes creates the seamless look.

displays, divided into three clusters. The software loads onto the eight PCs. To create the show, an extra PC is required, and is designated as the "Production PC." The eight other PCs are the "Video Servers." The software creates a timeline that all the PCs sync to via a private IP network.

With this, the Crestron control system can load different shows, trigger play, stop and cue commands via TCP/IP. The Crestron processor was deployed with a dual NIC card. One port communicates with Watchout and the other connects to BU's network. This gives them the capability of remote management and updates. There are four audio zones: two are 2.1 and two are 5.1 surround.

All PCs were ordered with an integrated THX certified surround card. The servers were purchased from the Watchout provider. They are three RU rack mounted workhorse PCs with extra beefy power supplies and a special cooling system. They are the same type PCs that are driving the Watchout system currently deployed on tour with Martina McBride. ■