

# av<sup>09</sup> : a retrospective

a look at the trends and realities that affected the themed entertainment industry from an a/v viewpoint

by Martin Palicki

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Members of the attractions and entertainment industry have long felt they are held under a microscope, examined by fans, critiqued by enthusiasts and increasingly regulated by politicians. But, in the past year, the industry feels more like it's inside one of the action-packed thrilling rides it excels at producing. Only the "bad guy" has pulled out his "death ray," and the entire industry jumps, in slow motion, to get out of the way.

Perhaps it isn't quite that dramatic, but the underlying mood the villainous economy has created is one of painstakingly slow movement, with anxious developers and designers on both ends. "The economy has affected themed entertainment quite a bit," stated AV consulting company Thorburn Associates' Steve Thorburn, who also is serving as the Themed Entertainment Association's President. "There are still major projects out there that are continuing on, but it's a slower cycle and the smaller projects are being held up on for additional financing."

Furthermore, the biggest park chains have tended to focus their investments in 2008 and

2009 on traditional rides such as roller coasters. This year, American parks opened roughly 15 roller coasters (as of this writing, a couple more have yet to open), including Manta at Sea World Orlando, Terminator: Salvation at Six Flags Magic Mountain and Diamondback at Kings Island.

Still, there are technological advances in the industry, and several can be found behind the scenes. CENTAMAN Systems, an Australian-based company with an office in Chicago IL, recently debuted its Pedestrian Counting Solution. Relying on thermal imaging technology, the system is able to identify and track individuals as they move through the sensor's range. The software allows the system to track movement in multiple directions and can report real-time statistics with a 95% or better accuracy rate.

The technology has been used for several years in retail and security applications, and CENTAMAN currently is working with parks and aquatic centers on new installations. The SQL-based software allows it to be integrated with other systems, including POS-terminals

that can correlate traffic patterns with sales statistics.

Park operators have longed to be able to track customers more carefully during their visits. Although thermal-imaging counters can provide data about traffic within one specific area, experts felt that RFID technology would be the solution to open up guests' patterns of behavior and allow parks to provide customized experiences for each visitor.

Unfortunately, the application of that technology has not seemed to materialize. Steve Thorburn refers to RFID as the "sleeping giant," but just hasn't seen much movement in this area. "We can easily create RFID tags and readers," said Thorburn, "but the backside applications that collect and customize the data do not seem to have the ROI within them." He is optimistic that, when financial markets improve, the resources to develop the backend systems will return, though the most likely users of the technology appear to be museums, rather than parks.

The current trend in museums is already to create layers of information that allow guests to access different depths of information based on their preference and interest. RFID will someday track individuals' interests and customize exhibit information for them as they proceed.

Brian Edwards, of Edwards Technologies Inc., currently is working on an integrated layer approach to the National Museum of the United States Army in Washington, D.C., currently in development. "The Army Museum will take the media-based museum and provide incredible amounts of individualization—more so than has been seen in the past," said Edwards. "The museum will deliver experiences based on who you are, what you like and what you don't like."

Even current installations, such as the California Academy of Sciences in San Francisco, are starting to use such an approach. There, media kiosks are capable of providing multiple levels



**The Rip Ride Rockit coaster at Universal Studios Orlando features LED lighting and individualized audio on all of its ride vehicles. Courtesy of Universal Orlando.**



The Glow in the Park Parade featured at several Six Flags parks uses fiber optics, LED lighting, and special effects to create themed floats. Courtesy of Gary Goddard Entertainment.

of depth on a topic, depending on what the user chooses.

On the park side, customization is starting to take root. The newest theme park attraction to open, Hollywood Rip Ride Rockit at Universal Studios Orlando, allows customization of the rollercoaster experience. Guests can choose one of dozens of songs to listen to during the ride. Each seat is outfitted with Polk Audio marine-grade stereo speakers that can push out 165 watts. Guests will rock to 90 decibels of music, and yet never hear the songs playing for other riders.

There are 14 cameras that will capture the guest experience: six on-board each ride vehicle and eight along the

track. They are designed to provide production-quality footage under intense conditions. A series of lasers will trigger timing devices and computers to ensure that the rider's music and video are in sync. After the ride, each guest video is downloaded wirelessly from the ride vehicle to a viewing kiosk in 25 seconds, where guests can purchase the edited video, sync'd to the music they selected.

Not all recent trends are taking place stealthily outside of the visitor's sight. According to Steve Thorburn, one of the biggest areas of growth continues to be in the realm of digital signage. "The next big push is for increasing the quality of image content," said Thorburn.

Texas Digital, a supplier of digital signage solutions, has been working with parks and museums for years, but has seen an increase in digital sign usage. Displays typically are used for wayfinding purposes, advertising, ticketing and restaurant menus. The signage system can also be located away from traditional wired LAN/WAN connections and run off of 3G/4G/WiMAX (wireless transmission of content).

This past spring, Texas Digital took three of Canada's Wonderland's restaurants digital, and ran into a familiar problem with one of the locations. Space availability was limited,

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which prevented an external media player PC from being located nearby, so the company installed a 46-inch Samsung LCD display with an embedded media player PC built directly into the unit. Texas Digital's VitalCAST software that runs the displays was loaded directly onto that embedded media player and connected to a network jack to receive the system user's content and scheduling changes.

The company also is installing digital signage in recreation facilities and family entertainment centers, such as Boondocks Fun Center near Salt Lake City, Utah. The system installed there included recent advances in digital signage control & deployment aesthetics, including sleek single and double-sided enclosures for 47" LCD displays with built-in fans to keep the displays cool, and tiered permission rights within the software, allowing different employees varied levels of access to control the system.

As for what the future of digital signage holds, Texas Digital's Romney Stewart reported that display graphics will be enhanced, and systems will interact more readily with various POS and monitoring systems, integrate various audio sources, and allow embedded maps with touchscreen interactivity.

Touchscreens are becoming the standard medium for interaction in many arenas, but especially in museums. Multi-touch systems allow several users to interact with one screen at the same time, creating possibilities for different types of team involvement. The recently opened Newseum in Washington DC, for example, has a large screened table where groups form two teams and players simultaneously make editorial decisions by touching characters on the screen. The team that makes the best decisions "wins" the competition.

According to Mad Systems' Maris Ensing, "Multi-touch allows groups of people to interact with computers and each other using the most natural interface: their own hands."

"Multi touch is definitely a part of everything we are doing now," explains Brian Edwards. "The Army Museum will utilize multi-touch on all of its display screens. It's very intuitive and provides for better interaction."

As impressive as monitor and display technology is, there still is a lot to be said for live interaction and performances, and that's something parks seem to have noticed in the last year. This past February, Disney's Hollywood Studios at the Walt Disney World Resort in Orlando, premiered its latest attraction, The American Idol Experience. Essentially a permanent version of the popular TV series, the show relies on park guests to audition and perform, competing against one

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1999

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another for a spot in each day's finale show, where the winner gets a front-of-the-line pass to a real American Idol audition.

Although the stars of the show are the performers, the production relies on a large assortment of AV equipment to pull everything together. The set was created by the television show's designer and authentically mimics the Hollywood set with a bevy of intelligent lighting, LED and LCD displays, and a sound system to amplify even the most timid of performers.

Disney equipped the theater with one of the largest HD teleprompters found anywhere. As performers sing the lyrics displayed on the teleprompter, they do so in front of a 35'x7' LED videowall, with digital graphics morphing to fit the mood of each song. Each performer is tracked and kept in the spotlight with an automated system that allows specific lights to track individual performers in real-time.

Six Flags has invested heavily over the past two years in the nighttime Glow in the Park parade currently running at several of its parks. The parades utilize fiberoptic and LED lights to bring magical scenes and creatures to life along with a custom musical score designed for audio systems on each float.

"People love to be entertained," explained Gary Goddard, whose self-named company created the Glow in the Park parades. "One benefit

of live productions is the ability they have to allow families to experience the entertainment together, clap, wave and interact with one another."

Even overseas parks such as Universal Studios Japan are also following the trend of technology-enhanced live productions. US-based Utopia Entertainment, Inc., produced the new "Magical Starlight Parade!" that also utilizes more than 30 colorfully lighted units based on popular fairy tales. The park has seen increased attendance since debuting the parade.

Despite the slowdown in the themed entertainment industry, these types of installations are still having an impact on other users of AV equipment. "[Our company is] up 17% this year," said Steve Thorburn, "with most of that work coming from university and medical projects." Thanks to experiences like those found at local theme parks and museums, the public has heightened expectations for technological integration and interaction at other institutions, such as hospitals, municipal buildings and classrooms.

The equation continues, though, and as the technologies people interact with on a daily level meets what they find at fanciful places like theme parks, it is up to the parks to take their attractions and shows to the next level to keep the public interested.

Even as this year's park season winds down, industry professionals are eagerly awaiting the 2010 debut of the Harry Potter attraction at Universal Orlando's Islands of Adventure park. Although details have yet to be released, the ride is expected to be an audiovisual feast as guests journey through Hogwarts and the world of Harry Potter.

On the West Coast, Disney's California Adventure will premiere the World of Color nighttime spectacular that will combine fountains, lighting, video projections and special effects rumored to set the bar even higher for evening shows.

Although the components and technologies are there already to continue to "raise the bar" everywhere, institutions will always need designers to bring it all together. "At the end of the day, we all want to have a unique experience," said Edwards, "which requires not only advances in technology, but also creative and new applications of current technology."

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