

eco-media

engaging museum visitors with interactive game technology and authentic built environments at Discovery Science Center's "Eco Challenge"

by Martin Palicki & Judith Rubin

Exhibit Producer Cinnabar Inc. and Media Producer Mindi Lipschultz add a noteworthy new success to their respective museum portfolios with Eco Challenge.

Discovery Science Center (DSC), the popular children's museum in Santa Ana, Calif., called on seasoned exhibit producer, artisan and fabricator Cinnabar Inc. to realize its concept for "Eco Challenge" - a technology-rich, immersive experience that uses interactive video game technology to educate kids about eco-friendly choices. The exhibit, open since September, has already hosted thousands of children and been hailed as a success.

"The children are immersed in an amazing environment full of realism and technology," says Joe Adams, DSC President. "We're already hearing from parents that the message from the experience is being driven home." The project was born when Orange County Waste & Recycling (OCW&R) approached the museum with the idea for the exhibit.

"We were brought in and given the creative vision," explains Cinnabar President Jonathan Katz. "With the museum's guidance, we completed the design/build work and assembled a team to accomplish the completely integrated project, including longtime Cinnabar collaborator, Emmy and Thea Award-honored Mindi Lipschultz as media producer, and BBI Engineering for AV systems and mechanical interfaces."

As visitors navigate the three zones of Eco Challenge (Discovery Market, Race to Recycle and Eco Garage), they are greeted and addressed by the "Eco Crew" - six unique, digitally animated, 3D-rendered characters that appear, reappear and interact with visitors throughout the experience - showing up on a variety of digital displays from 52" vertical monitors down to 15" shopping cart screens. Mindi Lipschultz's role included developing and creating these characters.

The zones and the Crew

Discovery Market is a life-size grocery store environment complete with computer-enhanced shopping carts and authentic replicas of products (Cinnabar-fabricated) on the shelves. Animated clerks help guide shoppers through making the most ecologically friendly decisions while navigating the store. The shopping carts, scaled to the museum's younger visitors, are each equipped with computer, touchscreen, handheld scanner, and a battery system with a full day's power. The visual playback introduces Eco Crew member "Sandra," who explains how to choose a shopping list, and offers hints and comments as they proceed.



Produce clerk Courtney waits in a meditative pose until called upon to share her tips for eco-conscious shopping. Photo courtesy of Mindi Lipschultz

The carts use an intuitive game play interface. The fun and positive reinforcement - and the learning that comes with it - are never hindered by the system itself. The carts are engineered to be extremely durable, able to take the daily wear-and-tear dealt out in a supermarket and a hands-on science center.

Race to Recycle turns the concept of carnival-style horseracing into a trash and recycling sorting adventure. After meeting Eco Crew member Zac, who appears on the screen console for each gaming station, kids select items off a moving conveyor belt and sort them into the proper bins to advance their waste trucks along the racecourse.

Eco Garage recreates three typical household garages, along with the bevy of toxic items contained within. Armed with scanners, kids race the clock to pick items they think are hazardous waste. At the end, Eco Crew member Justin directs them to the nearest real-life hazardous waste processing facility.

Memorable media personalities

The museum allowed Mindi latitude in developing the personalities and looks of the Eco Crew characters. "I wanted quirky, memorable characters that kids could identify with," she said. "Courtney," for example, awakens from her Zen-like, kaleidoscopic meditation of floating fruit when visitors summon her by pushing the "Help" button in the produce department. "Suzy," a forceful young clerk with purple-streaked hair, emphasizes her points with a meat cleaver in hand and rails against Styrofoam packaging. Mindi brought Artifact Design onto the team to provide character animation.

"Interactive media production isn't just about compelling images or unusual formats," noted Mindi. "The producer's role extends beyond the media per se to the entire visitor experience." Mindi oversaw the development of custom



Children seek help from Suzie in the meat & seafood department, whose digital “home” created by Mindi Lipschultz blends in seamlessly with the real environment created by Cinnabar. Photo courtesy of Mindi Lipschultz

software (provided by Wall Street Productions) for the Super Eco-Shopper Game. The custom software integrates automatic responses to visitor activity into the experience such as triggering a camera to photograph players and instantly transmit their pictures – so that those who excel appear on the Super Shopper Wall (a bank of monitors), and if they get all the questions right, the system also directs a token dispenser to reward them with a custom coin. The tokens are embossed with the faces of the six characters and kids are encouraged to play numerous times and collect them all.

Connecting the built environment with the digital world

Beyond the personality of the characters, much time and attention were given to the digital environments in which the characters reside. The digital environment needed to blend seamlessly with the built environment in order to make the experience feel as real as possible. Cinnabar and Lipschultz collaborated closely, passing digital images back and forth to ensure the animation mirrored the Cinnabar-fabricated physical products kids see and touch in the store. Additionally, the walls, countertops and environments were recreated in the digital environment to flow into the real ones (also fabricated by Cinnabar).

Cinnabar and Mindi’s past collaborations in their respective roles of exhibit producer and media producer include the California Academy of Sciences which reopened to great acclaim in 2008. Cinnabar produced 35,000 square feet of exhibits for the Academy, primarily those for the Kimball Natural History Museum, collaborating closely with the museum’s architect Renzo Piano. A lifelong conservationist, Jonathan Katz has strong “green” credentials that are clearly in play on DSC’s Eco Challenge and which also helped inform the highly acclaimed, 10,000 square foot “Altered State” exhibit about climate change at the Academy for which he was executive producer. Cinnabar was honored with a SEG Design Award for its work on the Academy project.

Under contract to Cinnabar for the Academy exhibits, Mindi produced some 31 pieces of digital media, including the Insect Collecting Game in which visitors use a handheld wand interacting with images onscreen to learn how a field scientist works. “The Insect Collecting game was an important example of how gaming technology can be applied for educational exhibits that appeal greatly to children,” says Mindi.

A body of museum work

Other recent museum projects for Cinnabar include fabrication of the “Age of Mammals” exhibit at the Natural History Museum of Los Angeles County; fabrication services and design

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development consulting to the Autry National Center of the American West for the traveling exhibition Home Lands: How Women Made the West and fabrication of the renovation of the NASA Jet Propulsion Laboratory (JPL) von Karman Visitor Center.

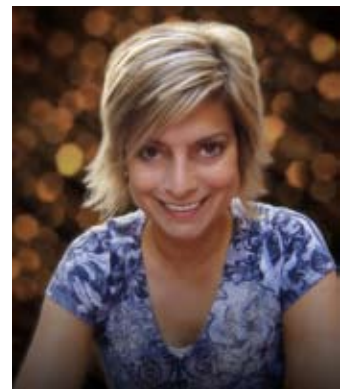
In 2010, Mindi worked with BRC Imagination Arts to develop media for a handheld interactive device for the Information and Communications pavilion at the 2010 Shanghai World Expo. Members of the audience used the devices to make individual choices and also to interact with large screen projections, experiencing the show on both a personal and a group level in what is termed "mass customization." The "ICT" device was honored with a Thea Award for Outstanding Achievement by the Themed Entertainment Association.

Mindi sees her work on Eco Challenge as building upon her 20+ years of pioneering media production. "Eco Challenge takes the interactivity of the Insect Collecting game at the California Academy and makes it mobile, allowing kids to move around the store, scan items and receive

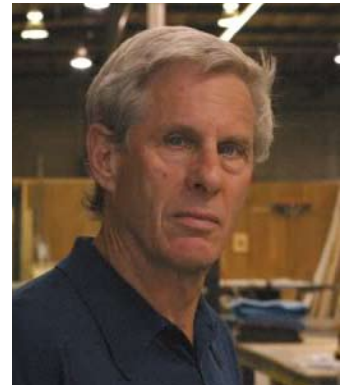
instant feedback on their progress. Moving through the different levels at Eco Challenge at their own pace and ability, visitors enjoy a mass-customized experience – shades of what we did at Shanghai. And Eco Challenge's high-quality digital characters hearken back to my work as a television animation producer."

A model for getting things done

Eco Challenge was completed in less than a year - a feat which Katz credits to a clear vision from the museum and a cohesive team. "A key part of our Integrated Creative Management (ICM) approach is to bring all the participants to the table at the beginning of a project. By identifying all the roles and our expectations at the onset, the project was able to move at a quick pace," said Katz. "Additionally, ICM results in additional value and savings for the client - enhancing the risk/reward attractiveness of this production model."



Mindi Lipschultz



Jonathan Katz

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