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InPark Magazine has been reporting on Green issues in the industry for five years. Starting in 2007, we thought it was important to shine a light on the conservation movement and its impact on the themed entertainment industry.

I remember when Natalie Spencer, who worked for Jack Rouse Associates at the time, sent me a link to a project that was LEED-certified. I recall thinking to myself: What’s LEED? But I played along and eventually figured out that LEED certification provided standards for judging a project or building’s environmental friendliness. And while outside of the design and construction industries LEED may still be a foreign acronym, within those circles, it is commonplace. And that’s a good thing.

Consumers have started to demand a level of conservation and sustainability in many aspects of life. While sometimes the ideals are simply given as much lip service as required to placate the masses, in many situations, real progress and change is happening. In fact, the progress of sustainable planning and the movement of technology go hand in hand. That’s why we’ve chosen to combine the topics into one issue. It seems as though you can’t discuss one area without incorporating the other.

It doesn’t end with this issue, either. We’ll continue to bring you the latest news in the world of green technology, and I hope you’ll look at ways to build more sustainability into your business as well.

-Martin Palicki
martin@inparkmagazine.com
people

ORLANDO, FL - Richard Cox joins Birket Engineering from Imatech Systems where he designed, programmed, assembled, installed, and supported show, audio, & industrial control systems for clients in the US and around the world. Birket first worked with Richard in Singapore, and recently was supported by Richard on contract projects in Florida. Richard's client list includes many Disney, Sea World, and Universal contacts familiar to Birket.

Zuber & Taillieu is joined by Javier Gutiérrez, a seasoned attorney with extensive experience in finance, securities, corporate and real estate matters. Admitted to practice in Mexico and qualified in California as a Foreign Legal Consultant, Mr. Gutiérrez assists multinational enterprises, portfolio investors and high net worth individuals in respect of operations and investments in Latin America.

Prior to joining Zuber & Taillieu, Mr. Gutiérrez practiced as a Mexican attorney in Mexico City with Ritchy y Mueller, S.C. and Jáuregui, Navarrete y Nader, S.C., and subsequently in the United States with Greenberg Traurig, LLP. For Kimco Realty Corporation, a Real Estate Investment Trust (REIT) investor based in New York City and active widely in Latin America, he served as Legal Director - Latin America in respect of a US$2 billion retail and industrial real estate portfolio.

Johnny Darnell Griggs joins Zuber & Taillieu as a partner in its litigation department, where he will focus on complex civil litigation, and employment and labor law matters. He represents Fortune 500 and other public companies, public benefit corporations and governmental entities. With over a quarter of a century of experience, Mr. Griggs handles civil litigation in varied industries, including matters involving prosecution and defense of real estate and real estate-related claims, defense of toxic tort claims, and defense and prosecution of claims related to complex business transactions.

Mr. Griggs also lends his legal expertise to causes relating to education and urban issues. His pro bono work and public service has won him numerous accolades, including the African-American Insurance Professionals Association Community Service Award, the Los Angeles City Council Commendation for Public Service, 2003, and the ACLU Foundation of Southern California Pro Bono Civil Rights Award. Mr. Griggs is the current Chairman of the Board and serves as the Board Restructuring Director of the WATTSThese Health Foundation.

projects

VALDOSTA, GA – Wild Adventures Theme Park (WA) turns its focus to the environment with the announcement of two new conservation projects. The park continues efforts to conserve energy and resources by changing to energy efficient lighting and adding a park wide recycling program, all before the season begins March 12. WA began environmental efforts in 2010 with the planning of more than 500 trees and looks for future projects that will continue to decrease its carbon footprint.

The WA energy-focused project involves the replacement of light fixtures and bulbs, park wide, retrofitting more than 900 light fixtures and replacing 400 lights with energy efficient components. The bulbs, light fixtures, and components removed from the project will be recycled into various materials, avoiding landfills. These upgrades will reduce the park’s kilowatt consumption by almost six million kilowatts, and greenhouse emissions equivalent to the removal of 800 cars from the road.

In addition to the energy project, the park builds on its existing recycling program, adding containers to collect cardboard and plastic bottles. Three large recycling containers, located behind the scenes, give park employees a convenient place to gather recyclable items. This follows the 2010 addition of 50 plastic bottle recycling containers, for guest use, located throughout the park. According to Evan Schukman, Director of Maintenance, these recycling programs will save several tons of cardboard and plastic bottles from going into landfills each year.

“We are looking into anything we can do to decrease the materials and energy we use,” said Schukman. “Environmental conservation is an important focus of WA and we strive to conduct business in a manner that is good for the environment by introducing programs that help us to conserve energy and resources and help our guests and employees participate in these efforts. The energy we save from replacing light fixtures throughout the park will be the equivalent to the energy needed to power 485 houses for ten years.”

ALEXANDRIA, VA - Officials from the International Association of Amusement Parks and Attractions (IAAPA) announced Asian Attractions Expo 2012 will take place at the Hong Kong Convention and Exhibition Centre, Hall 5BC, June 5-8. Asian Attractions Expo is the largest conference and trade show for the attractions industry in Asia.

“IAAPA is excited to bring Asian Attractions Expo 2012 the industry’s premier trade show in Asia, to Hong Kong – one of the most dynamic cities in the world,” said IAAPA Chairman Bob Rippy.

“Asia is booming right now and so is the region’s attractions industry,” said IAAPA Asia Pacific Executive Director Andrew Lee. “It makes perfect sense for industry buyers and sellers to participate in the heart of the world’s fastest-growing economy.”

Since 1997, Asian Attractions Expo has been the premier event for the multibillion-dollar leisure and attractions industry in Asia. More than 4,500 professionals from 40 countries are expected to participate in the event. The trade show floor will showcase products developed by more than 200 companies from around the world in more than 100 categories, including amusement and theme park rides; architectural and design services; coin-operated games, skill games, and redemption prizes.

Chief executive officers and senior managers of amusement and theme parks, waterparks, zoos, aquariums, museums, family entertainment centers, casinos, and resorts will experience what's new in the industry and purchase attractions and services to enhance the guest experience at their facilities. The event will include education sessions related to safety, operations, and management presented by worldwide industry leaders in each discipline. Sessions will cover industry trends and best practices and participants will network with colleagues to renew old business relationships and develop new ones.
LOUISVILLE, KY – Mayor Greg Fischer, Louisville Zoo Director John Walczak, Louisville Zoo Foundation Chairman Mark Wheeler, Polar Bears International senior scientist Dr. Steven Amstrup and others broke a ribbon made of ice and officially opened the polar and grizzly bear habitat and the town of Glacier Run. One of the Zoo’s polar bear mascots presented the Mayor with a key (also made of ice) to the town of Glacier Run adding a whimsical note to the opening festivities.

“Glacier Run is an innovative, world-class exhibit that makes the Louisville Zoo an even stronger center for lifelong education and exploration,” Fischer said. “This exhibit also provides another strong destination attraction, meaning increased tourism and a positive impact on our city’s economy.”

Designed as an imaginary town on the edge of the arctic wilderness, Glacier Run is modeled after the real town of Churchill, Canada, the polar bear capital of the world, where humans and wildlife have learned to co-exist.

Glacier Run’s bear habitat is home to Arki, a 26 year-old polar bear that moved here from the Brookfield Zoo in Chicago and three grizzly bears from the Confederated Salish and Kootenai Tribes - Division of Fish, Wildlife, Recreation and Conservation in Polson, Montana — 6 year-old Inga and her two cubs Otis and Rita, each one year-old. Polar and grizzly bear training and enrichment demonstrations will be held daily at 11:15 a.m. and 2:30 p.m. with a keeper talk at 5:15 p.m.

Glacier Run features include an old mining quarry now flooded with water (for the bears to play in), a fishery and warehouse dock (more bear play space) and a melting glacier that has destroyed a road in the town (even more bear play space). The exhibit offers spectacular views, captivating stories of the arctic and unique opportunities for close-up encounters with the magnificent and iconic polar bear, as well as grizzly bears. Guests can interact with zoo keepers, learn about current challenges to arctic environments and animals, and discover how incremental changes in our everyday activities and behaviors can make a difference for our planet and these magnificent species.

“Glacier Run is sure to delight and entertain, but will also tell one of the most important environmental stories of our generation. This arctic-themed exhibit fundamentally advances your Zoo’s mission of ‘bettering the bond between people and our planet,’” Louisville Zoo Director John Walczak said. “The very nature of this exhibit’s design is based on the idea of humans learning to co-exist with wildlife.”

“The Louisville Zoo remains a powerful educational resource for our entire community, and with the addition of the immersive learning environment and up close bear viewing offered by Glacier Run, students in our region will expand their curiosity for science learning even further,” said Louisville Zoo Foundation Chair Mark Wheeler.

This multi-phase capital project has included several successes to date including the June 2010 opening of the Seal and Sea Lion Habitat, the 2008 completion of the Alice S. Etscorn Tiger Tundra, and the 2007 opening of the Calistoga Splash Park. The final two phases of Glacier Run are set to open in Spring 2012 —the Glacier Run Arctic Ambassador Center which will include outreach animals such as snowy owls and arctic foxes and an aviary to house the Zoo’s magnificent Steller’s sea eagles.

Once Glacier Run is totally complete, the estimated economic impact of the Zoo on the region will increase to $33.6 million. Attendance at the Zoo is expected to increase to more than 890,000.

FORTALEZA, BRAZIL - AQUACIRCO has just opened at the innovative Beachpark Waterpark in Fortaleza, Brazil. The South American continent’s largest waterpark has created a 12,000 square foot Aquacircus® complete with a Big Top canopy. The site includes 170 different water events and spray features on a colorful, soft, non slip surface and is expected to be a main draw for young families at the park.

For the project, Empex Watertoys® has provided their latest concept ‘AQUACIRCUS™’ - a water playground incorporating a large climb and slide curvilinear Aquadek™ with a series of highly interactive Aquanetics™ features, allowing kids to play with all manner of water experiences, sprays, jets, spinning pelon wheels, pinwheels, and rotors. Aquatons® spray features, interactive Watertoys®, Aquajets™, and zany clowns called Aquaclunes™ spray water in all directions for a madcap circus of water fun.

Specifically designed for use in chlorinated water, the structures are fabricated from composite and specialty plastics offering superior qualities with respect to electrical and heat conductivity and offer a lifetime warranty against corrosion.

Empex Watertoys® will complete another Aquacircus for the Ilica Resort in Cesme, Turkey in June of this year.

BOWIE, MD- Maryland’s best theme and water park just got better, faster, more spectacular, and wetter as Six Flags America and Hurricane Harbor pulls back the rainforest canopy to introduce Zoomazon Falls and opens the curtains on four sensational new shows!

This summer at Hurricane Harbor water park, guests leave the inner tubes behind as they climb to the top of an Amazonian-themed forest at Zoomazon Falls. There, they’ll take in a spectacular view before choosing their descent path on one of four, twisting, turning, body slides, each enhanced by waterfalls, tropical décor, jungle soundtracks, and more. Zoomazon Falls features more than a half-mile of wild, watery excitement.

Zoomazon Falls joins 15 "splash-tastic" water attractions at Hurricane Harbor, including Hurricane Bay, one of the world’s largest wave pools, the six-story funnel of fun Tomado, and two areas for little splasher: Crocodile Cal’s Caribbean Beach House and Buccaneer Beach. In 2010, Six Flags America upgraded the 70,000 square-foot pool deck and added shading around Hurricane Bay, plus introduced a new daily song and dance show to create a resort-style oasis for its guests.
And what’s a New Orleans zoo without a gator? WhiteWater’s designers have created a custom 360-degree themed focal point on its AP550 structure to mimic Spot, the zoo’s rare white alligator. However, this AquaPlayTM gator doubles Spot in size; it’s a whopping 8.5 meters (28 feet) tall and 10.1 meters (33 feet) long! One-of-a-kind, this gigantic gator chomps down on a tipping bucket, drenching kids of all ages with tons of not-so-swampy water. What’s more, its tail doubles as a fun, waterslide engaging kids in the overall experience.

This patented AquaPlayTM AP550 provides hours of splashing entertainment with an additional 60 features including interactive tipping cones, jets, spray nozzles, valves, water guns, as well as waterslides, pull ropes and a climbing net! Not only that, sensational sound effects with programmable timing have been added to the Cool Zoo’s AquaPlayTM structure, another first for WhiteWater.

“We’ve been chomping with anticipation - pun intended - to announce this AquaPlay installation,” Geoff Chutter, WhiteWater’s CEO quips. “WhiteWater is proud to assist the Audubon Zoo in its dedication to nature; we had a great time designing and constructing Spot’s oversized AquaPlay twin”.

LANGHORNE, PA - **Sesame Place**, the nation’s only theme park based entirely on the award-winning show Sesame Street, opened on Saturday, April 30 with two new and exciting attractions—the “Neighborhood Street Party,” a parade that features 11 larger-than-life floats, and Ernie, Abby Cadabby, Zoe, Cookie Monster, Rosita, Big Bird and Telly.

The “Neighborhood Street Party” parade will allow guests to experience an energetic neighborhood block party on iconic Sesame Street with all of their favorite friends, including: Elmo, Count Von Count, Bert, Ernie, Abby Cadabby, Zoe, Cookie Monster, Rosita, Big Bird and Telly. The parade will feature familiar contemporary tunes, as well as Sesame Street favorites that are sure to get everyone joining in the fun.

The park’s newest mechanical ride, Elmo’s Cloud Chaser, invites families to join Elmo for a spin up into the sky, where the clouds are as close as their imagination. “This family swing ride is another great addition to Elmo’s World, which currently features Peek-A-Bug, Blast Off and Flyin’ Fish,” said Park President Robert Caruso. “We are always looking for ways to offer our guests a new and exciting experience at Sesame Place, and the “Neighborhood Street Party” parade and Elmo’s Cloud Chaser will certainly help us do just that in 2011.”

BALTIMORE, MD - **Premier Service™**, a division of **Premier Rides Inc.**, has provided a team of service technicians to **Amusement Management Partners (AMP)**, the new management team of **Magic Springs & Crystal Falls** to assist with preparations for the park’s 2011 season. The technicians, which have an average of twenty plus years of rides maintenance, are focused on augmenting the dedicated in house technical team to complete rehab on all of the park’s twenty-four rides and attractions to ensure guests have an excellent and fun experience when they visit the park this coming season.

Jim Seay, president of Premier commented, “Amusement Management Partners has set a high standard for the park and we at Premier are pleased to be a part of their formula for success. Our onsite team has integrated well with current staff and we look forward to seeing the park open and be appreciated by its many fans.”

Steve Honeycutt, who has more than thirty-four years of park experience and is Magic Springs & Crystal Fall’s new General Manager noted, “When we took over management of the park in February, we established an ambitious program to get the park prepared for 2011. We are investing significantly so that Magic Springs & Crystal Falls provides the quality experience our guests deserve.”

NIGERIA, AFRICA - Construction has begun on the **Delta Leisure Resorts**, a tourism and leisure facility which is being built in the Warri and Asaba Cities of Delta State, Nigeria, and will be the first of its kind in West Africa. **Sarner UK** and **Sarner PFM (Africa)** are working together to design and create the leisure resorts which will cover over 150 hectares in each city and is estimated to be costing 49 billion Naira (£167.4 million).

The main park, located just 20 minutes from the airport in the Oleri village, in Udu Local Government Area of Warri, will reflect the culture of the area while providing a place of escapism, enjoyment and fun and is set to include a water park, 5* and 3* hotels, luxurious chalets, casino, golf course, historical attractions, family entertainment centre, children’s area, sports facilities, spa and retail stores. The Oleri bridge, which is currently under construction, will link the park to the main road network for ease of access. The first phase is due to open at the end of 2013.
LAKE GENEVA, WI - Lake Geneva Canopy Tours celebrated its official grand opening on May 6th. The event welcomes Lake Geneva’s newest attraction that invites guests on a one of a kind Zipline Eco-Adventure and Canopy Tour. The festivities were held on the grounds of the adventure park, located on County Road H in the Town of Geneva, about one mile north of downtown Lake Geneva. Highlighting the day was a rope cutting ceremony at the top of the forty-five foot launch tower at noon. Refreshments, games, and contests took place throughout the day, with chances to win tour packages and merchandise.

“We’re excited to bring the eco-adventure industry to Southeastern Wisconsin,” remarks Mike Goril, General Manager. “We have been looking forward to this day for a long time.”

Guests are invited to discover Lake Geneva Canopy Tour’s mile long zipline course with 8 ziplines in the canopy of the forest, eighteen tree top platforms, five Skybridges, three spiral staircases and a 1,200 ft Dual Racing Zipline. Lake Geneva Canopy Tours is situated on 100 acres of pristine Wisconsin landscape and designed to appeal to the nature lover, thrill seeker and families alike. The staff of professionally trained Guides look to always enthruse, amuse and educate.

RIGHTWOOD, CALIF. - NAVITAT CANOPY ADVENTURES is bringing a world-class zip line canopy tour to Southern California. Located high in the beautiful San Gabriel Mountains, just 90 minutes northeast of Los Angeles near the popular Mountain High winter resort, NAVITAT is part exhilarating zip line tour and part educational rainforest-style canopy excursion. Tours currently are scheduled to begin in July.

“We are so pleased to be coming to Wrightwood with this great new outdoor adventure,” said Ken Stamps, CEO and Managing Partner of NAVITAT CANOPY ADVENTURES, which also operates a tour in the mountains of western North Carolina.

The course site is situated on a portion of the Wrightwood Guest Ranch property, a 300-acre retreat located between the San Gabriel Mountains and Angeles National Forest. Richard Hallett is property owner and a partner in the NAVITAT Wrightwood tour.

Bonsai Design Inc., the leading canopy tour installer in the country, is building the tour, which will feature artfully constructed platforms nestled in the trees and connected by a series of suspended sky-bridges, zip lines, trails and rappels. The design is entirely tree-based and uses no poles or other structures to support the platforms and course features. Upon completion, the course will vary in height from 15 feet to more than 250 feet off the ground, and zip lines will range from 200 feet to 1,500 feet in length.

Bonsai crews will build the tour in and around the deepest of three canyons on the property, which has elevations up to 7,400 feet and more than 1,200 feet of vertical drop. The site is home to towering white fir, Ponderosa, Jeffrey and sugar pine, and abundant wildlife, including black bear, mule deer, bobcat, mountain lion and a great variety of birds.
As smartphone technology becomes more widely adopted, a whole new world of possibilities is opening up for storytellers to take their shows into the streets. I took a look at a wide variety of experiences I will call “mobile overlays.” These are primarily experienced using a mobile device, like a smartphone or tablet, and they require that you be in a specific location to trigger content, answer questions or perform some other type of activity.

This is a slice of California’s emerging digital landscape that took me from the hills of San Francisco to the wilds of Orange County. One app promised to add a new adventure to a classic theme park. Two other projects reutilize archival materials to make history come alive on the spot. All of the apps I looked at run on at least a 3G iPhone.

Forward to the Past
I discovered Time Shutter’s app in the Staff Favorites section of the iTunes App Store. Time Shutter allows you to recreate historic photos of San Francisco on the spot and create “now and then” transitions. The app uses the iPhone’s GPS-enabled Google Map to track your progress as you navigate amongst 250 historic photographs located on your map. The historic images are from major postcard publishers that were active in San Francisco around 1900.

When you come upon an image that you would like to recreate, the map directs you to the best location to reshoot the image from. One view I chose to recreate was “Down Sutter St.” By standing on the corner of Sutter St. and Grant Ave. and looking through the camera on my iPhone, I was able to view a transparent overlay of the historic image on the current view through the phone’s camera. I could scale the current image to match the historic one almost exactly before snapping the picture.

Time Shutter blends the present and the past in an interesting visual way. All the functions are intuitive and work well, but I can’t help but feel that a narrative or game element might make it more compelling. Still, it’s easy to spend an afternoon walking around Union Square, imagining the San Francisco of long ago.


Chasing Hollywood Stars
Now let’s zip down the West Coast to Tinseltown. Tens of Millions of fans walk the star-studded terrazzo sidewalks of Hollywood Boulevard every year, but how many of them realize that they are walking on a 15-block-long public monument to the achievements of the entertainment industry – the Hollywood Walk of Fame? The Los Angeles Times decided to try to make this realization a whole lot easier with their Hollywood Star Walk app. This app is essentially a complete location-based guide to the more than 2400 honorees, including biographical information and photographs, all culled from the archives of the LA Times. The app includes an augmented reality feature that helps you locate specific honorees by using the iPhone camera.

I chose to use the app to track down Marilyn Monroe’s star. I used the search function of the app to find her name and map her Star. By activating the augmented reality function I was able to use my camera to find the virtual “star” hovering near the intersection of Hollywood Boulevard and Highland Avenue. Once I arrived at her Star I opened her biography on the app. It included a photograph and description of her life and work. A link at the bottom allows you to “see related stars,” accessing a list of Monroe’s famous co-stars and collaborators who also have stars.

While the app is perfectly functional there was one thing missing. The Walk of Fame is all about motion pictures, television, music and radio. The app would have benefitted from some media. Video and/or sound clips would have helped to make the experience more dynamic, especially for younger users.


Finding Stars at Disneyland
While there is no lack of Disney-based content in the app store, primarily for games and shows, there are surprisingly no official apps by Disney for any of the Disney theme parks. In the last several years a variety of unofficial apps
have emerged. These apps range mostly from park guides and maps to wait-time managers. A notable exception is an app called Wishing Stars.

Wishing Stars is a type of scavenger hunt you play with your iPhone while you are at Disneyland. The app itself is free and comes with two free "quests." Quests come in Easy, Medium or Hard categories, and must be purchased separately in "Books." The storyline for the app is that "wishing stars" have been shattered and the fragments are hidden all over Disneyland. Your job is to find the fragments and reassemble the stars. There are 14 quests, each ending in a Wishing Star.

I chose to do the New Orleans Shop Search Quest. I was given a list of images of five distinctive shop signs hanging in the New Orleans streets. My task was to find the signs and then enter the street addresses from the corresponding shops. After a bit of walking around I was able to correctly identify four of the five addresses from the signs, but the fifth one was trickier. I tried to use the "how about an easier clue?" button, but got a "Sorry... I don't have any other clues. Maybe try asking a Disney cast member?" message. So I broke down and actually asked a human being for help. It turned out that the shop sign I was looking for was covered by construction scaffolding. I guess that's one of the hazards of playing an "unofficial" app.

The production value of Wishing Stars is very high. The graphics and sound effects felt right at home within the Disney brand. The user interface was intuitive and responsive. I was a bit surprised that there was no map of the park. I found myself having to go back and forth between Wishing Stars and another map app for the park. Nonetheless, Disney should be taking a close look at what the San Francisco-based makers, The Future of Pinball, LLC, have created in their own backyard.

Free ($1.99 per Quest Book) iTunes, http://wishing-stars.com/

The Expanding Appscape

The iTunes App Store has grown from 30,000 to 500,000 apps in less than three years. In the first half of 2010 the total mobile app market reached $2.2 Billion, and by 2013, it is forecast to reach $15 Billion. Businesses and individuals are beginning to populate this mobile digital environment in ways that are hard to predict. The barrier to entering the app market is getting lower and lower, which means that more diverse voices can be heard, but this doesn't necessarily mean a higher level of quality.

In the app market there is a tendency toward technology for technology's sake, especially here in California. This emerging landscape holds incredible possibilities for how users interact with stories of all kinds. Marketers and advertisers will surely be among the first to carve out space in this new territory. Businesses and institutions that have a strong stake in storytelling for the general public, such as theme parks and museums, should consider how their story would translate into a mobile experience. The best way to get started? Take an afternoon, download an app or two, and explore!
Fire on the Universal Studios Hollywood back lot in spring 2008 wiped out several movie sets, damaged the famous "Back to the Future" clock tower and destroyed the popular King Kong tram-tour attraction from the 1980s. It was decided to update the popular attraction by replacing it with "King Kong 360 3D"—an immersive, multimedia experience that opened July 1, 2010 and features a gigantic 3D projection system, with two screens 187 feet wide by 40 feet high within a football-field sized soundstage.

Passengers have their breath taken away in stereo when the tram pulls into Skull Island and they are engulfed by the Peter Jackson-directed battle of Kong and the dinosaurs. It rages for 92 seconds of consummate wraparound 3D imagery produced and animated by Weta Digital, Jackson’s New Zealand based company recognized with five Academy Awards for digital effects, most recently for Avatar. On Feb 1, King Kong 360 3D was honored with a VES Award from the Visual Effects Society, for Outstanding Visual Effects in a Special Venue Project.

Capacity is 160 seats per tram, with the show repeating over the course of the 10-16 hour Universal Studios day. The vehicle pitches, heaves and rolls as the beasts roar, punch, leap and lunge their way through battle in the jungle landscape. The show doors open and the tram emerges, its applauding passengers only a little worse for wear—slightly sprayed with Kongspittle. Tram ridership is up. Kong is back.
The facts according to Universal:

• King Kong 360 3-D features the world’s largest 3-D projection installation ever produced.

• Two seamless, compound curved screens, each measuring a massive 187 feet wide by 40 feet high - the equivalent of 16 movie theatre screens - surround the Studio Tour tram.

• If the digital 3-D King Kong could leap off the screen, he would be astoundingly large: 30 feet tall, 20 feet wide, 15 feet deep and 6,000 pounds heavy.

• Whereas the average film projects at 24 frames per second, King Kong 360 3-D's 16 ultra-high definition projectors display 60 frames per second, creating an incredibly fluid sense of reality.

• Guests will see and experience the equivalent amount of media - one terabyte of information - that is usually rendered for one hour of a feature film.

Technical A-Team

Design, installation and control of sound and video systems were in the charge of Paul Cuoco, Technical Manager - AV & Lighting for Universal. His team within Universal included Senior Technical Manager Brian McQuillian and Technical Coordinator Drew MacDonald. Universal’s Technical Director Bill Whitcomb oversaw design, integration and control of the show action equipment. Among those Whitcomb worked closely with were Universal’s Greg Bryant (ride system specialist) and David Lundberg (Technical Manager – Controls).

Other members of the in-house team at Universal steering the project included Thierry Coup (SVP, Creative Studio), Jen Sauer (Creative Director), Mark Rhodes (Director of Media Production), Valerie Johnson-Redrow (Show Producer), Brian McQuillian (St. AV Engineer), Daryl Parker (Technical Manager - Special Effects), John Dunne (Technical Manager - Set/Scenic), Greg Burnett (Facility Design Manager), Rae-Mi LeRoy (Project Coordinator), Drew MacDonald (Technical Coordinator).

Noted Universal Creative VP Chip Largman, “The Weta Digital team including Peter Jackson and Matt Aitken, along with Sassoon Film Design and Park Road Post, not only created a great new King Kong 3D movie, they also played a significant role in the technical process and brought considerable expertise to the job.” The technical specialists interacted with Universal’s facility design team and the Weta content production team. 3D special venue cinema specialist Peter Anderson ASC provided input on system design as well as content design in the role of Stereoscopic Specialist/Projection Design Consultant. Additional outside providers included Creative Technology Consulting (Ben Sheldon, working closely with Whitcomb), engineering consultant Jason Taylor, Leff Brain Consulting (project manager Steve Leff), Electrosonic Systems Inc. (projection systems) Pro Sound (audio system design & installation) LA ProPoint (screen fabrication & install) Visual Terrain (lighting design & programming), AET (special effects) and Visible Sound (Peter Lehman, on-site mixer).

Paul Cuoco and the AV team

3D presentation is always challenging in terms of illumination, and this was a unique situation not only in terms of off-axis sightlines but also screen size and cross-reflection. Several CAD constructions in 3D were produced. “We came up with what we called the French Curve screen to deliver an acceptable amount of light to guests’ eyes and keep falloff to a minimum, ensuring that the projected world appears uniformly lit no matter where you are sitting on the tram,” Cuoco said.

Electrosonic’s project manager Linda Danet said, “Originally, the attraction wasn’t planned as 3D – and I first thought the suggestion of 3D was a joke. Honestly, this hadn’t been done before.”

NEXT PAGE: If this King Kong were “real”, he’d be 30 feet tall, 20 feet wide, 15 feet deep and weigh 6,000 pounds. Instead, he’s projected onto two screens, each measuring 187 feet wide by 40 feet high (the equivalent of 16 movie theater screens). Photo courtesy of Universal Studios Hollywood.
"The creatives didn’t want to ever see the edges of the screen," said Cuoco, "so we had to make them as tall as possible given the throw constraints." In order to achieve enough height with the 16 Christie projectors, edge blended across the screen, they used anamorphic adapters, deployed vertically along the lens to stretch the image taller.

Cuoco described the content as "uncompressed RGB frames running at 60 frames per second," which some readers will recognize as the signature frame rate of a promising but ultimately unsuccessful special venue cinema format, Showscan, with which Douglas Trumbull was closely concerned – and Cuoco reported having recently given Trumbull a backstage tour of the show.

We asked Cuoco to parse Universal’s statement that "guests see and experience an amount of media equivalent to one hour of a feature film." He pulled out his calculator and responded, "The show is roughly 90 seconds. Take each of the servers – 16 servers each running a 90 second show at 60 fps and compare to an equivalent 24 fps show. That’s 86,400 frames, which comes to about 60 minutes’ worth of CP content in 90 seconds. So yes, they had to produce an hour’s worth of CG in order to develop this show: 30 minutes per eye."

The entire projection system was mocked up to scale and tested extensively in the former Spruce Goose hangar at Playa Vista Studios. A Medialon control system monitors all the AV equipment.

"The fullsize mockup at Playa Vista Studios was up almost a year," recounted Mark Riddlesperger, founder and president of LA ProPoint, "and they played around with that mockup to finalize the geometry of the screen, do projection studies and sightline studies from the tram, and basically look at all aspects of what the show was going to be."

"It’s a complex toroidal shape, which curves in 2 directions and makes you wish you paid more attention in geometry class," says LA ProPoint project manager Andy Hanlen. "There was a lot of handwork, and a lot of trial and error and headscratching. "Universal built something that has never been built before."

The screen was plaster-finished and finished off with Screen Goo.

**Sound, show action & lighting**

A system of line arrays was deployed to create the sound field. There are additional speakers embedded into the tram bridge walls to allow for near-field effects like gravel. Two subwoofers per side supply substantial bass. "Since we couldn’t have a perforated screen," noted Cuoco, "we couldn’t hide speakers behind it at guests’ ear height." Sound design was provided by Park Road Post.

The pneumatic Kong motion base and automatic show doors were built to Universal’s specs by The Attraction Services Company (TASC). 10,000 gallons’ worth of air is pumped in and out for each show cycle. For sound isolation, the pressurized pump and exhaust lines are buried underground and there is a system of solid steel plates on top of the entire motion base, combined with a thick rubber skirt.

The lighting uses mostly ETC fixtures, provides a variety of environmental enhancements to make the experience more convincing and immersive, such as when the tram seems to be swinging from vines. "In an attraction of this kind, the projector is the brightest light source in room. We work to complement that but not compete with it," said Lisa Passamonte Green of Visual Terrain.

**Ordinary equipment in an extraordinary configuration**

"One of the things that really amazed me," observed Electrosonic’s Pete Tinari, "is what Universal created from very simple elements by thinking differently about those elements. Nothing like Kong has ever been done before, and even though the project is cutting edge, the technology it is based on is not - and it has brought us to a new place."

"There were a lot of interesting logistics," remarked Dale Mason, Universal’s Vice President of Creative Design. "We were very concerned at the beginning whether there was going to be enough time in 92 seconds to tell the story. We got so much more than we thought we were going to get. It feels immersive and complete."

The process of molding/casting – pouring liquid material into the hollow cavity in a rigid frame (mold) and allowing the material to harden into a desired shape (cast) – has been around almost as long as the planet itself (think FOSSILS). Mankind took a bit longer to take up the practice – but as early as 4000 B.C., Bronze-Age civilizations in Lebanon, Turkey and elsewhere in the region employed mold making techniques to create religious idols and statuary, as well as spear tips and other weaponry. Evidence of mold-making among the Chinese in the first century A.D. indicates more practical applications, including a mirror dating back to the Han Dynasty (ca. 23 A.D.).

Another 1,400 years later, Europeans decided to get in on the act – but in impressive fashion. Casting and mold-making took on a very practical purpose when Johannes Gutenberg employed the process to create moveable metal type for the first printing press. No less significant was the employment of the molding/casting process by Leonardo Da Vinci in an attempt to create Gran Cavaliro – a 24-foot-tall sculpture of a horse that was to be the largest monument ever cast in bronze (his attempts were thwarted when, in 1498, the invading French destroyed his clay mold). Although Da Vinci’s sculpture was never to be, casting and mold making was here to stay. Perhaps it was the perfect combination of aesthetic beauty and practicality that led the partners at Atlanta-based Entertainment Design Group (EDG) to incorporate casting/mold making processes among its growing list of in-house capabilities. Started in 1990 by former Six Flags veterans Steve Guy and Rick Clark, EDG applied Six Flags’ model of “everything under one roof,” creating in-house woodworking, metal-working, wardrobe and paint shops, and later adding audiovisual capabilities.

As projects grew in size and scope, EDG’s design team created more and more intricate concepts that often required outsourcing of fabrication duties – including mold-making and casting – that couldn’t be built in their own shop. This additional step added time and expense into the process, and it forced EDG to give up a certain measure of control over the fabrication process. None of this sat well with Guy, who currently serves as EDG’s president.

“I not only watched potential income go out the door to vendors or – worse yet – competitors, I found it tougher to assure our customers that we could complete a project on time because much of the process was out of our control,” said Guy. “We always touted ourselves as a one-stop shop, so we took the leap a few years ago and added a variety of mold-making, casting and vacuum-forming capabilities. The move has ‘molded’ our company into a next-level scenic shop.”

Once an original mold is created, EDG’s fabrication team can create multiple copies of a design (these miniature “Buck” figures, for example) quickly and easily. Photo courtesy of Entertainment Design Group
In 2009, EDG invested in equipment (including a capital investment of more than $355,000 in an industrial-sized vacuum-forming machine), software (Solidworks 3-D CAD and Simulation software), training, and two new full-time staff members dedicated to the art form. The move had an immediate impact on EDG’s design and fabrication team far greater than expected.

“Our design team has prided itself on never being limited by anything but the extent of our own imagination, but there were times when I’ve come up with a concept and then wondered ‘how in the world are we going to build this thing?’” said Clark, senior vice president, design & fabrication studios for EDG. “These days, I know that if we can think it up, our fabrication team can make it. We can make foam forms look like wood, metal or just about any material; and we can create any shape we want – large or small. It has been exciting to see the boundaries we have been able to push, in terms of the creativity and realism we have been able to achieve in the shop.”

EDG now offers a variety of casting and mold-making techniques, including: rubber molds and castings using Smooth-On’s® complete line of products; in-house production of vacuum formed brick, rock work, ceiling patterns and more; traditional sand casting; and even 3-D Distortion Vacuum Formed and Screened Products. Clark’s favorite mold-making process involves the traditional sculpting of items to be reproduced in fiberglass. These molded products tend to be items that are prominent and have the highest-quality finish, making them stand out as simply incredible pieces of scenery.

The addition of casting and mold-making capabilities has yielded additional benefits to EDG, beyond allowing them to expand their capabilities in the shop. The company generates new cost and time savings as well.

“Many of the set pieces and themed environments we create in the shop are quite large, which means they can get quite heavy and expensive to transport,” explained Guy. “If we can replace metal with foam for non-structural elements such as decorative rivets or even a cannon or a mermaid on a pirate ship, we can reduce the weight by hundreds of pounds, making it cheaper and easier to transport to the ultimate destination, and easier for our on-site team to install. "Mold making also allows us to quickly and easily make multiple copies of an item, which comes in handy in the case of those decorative rivets (we needed hundreds of them!), or when we are creating duplicate environments for multiple locations such as malls or theme parks," added Guy. “Our customers have been very pleased with the result and the pricing.”

Guy also is quick to point out that, while lighter and cheaper to produce, mold-making materials still offer superior durability: “These composite materials will last well beyond my lifetime, even in harsh environments.”

EDG has utilized its casting mold-making and capabilities for projects small and large – from a store-front sign or fiberglass mascot to stunt-show sets. The advanced technology, though based on centuries old practices, has helped enhance EDG’s fabrication process and satisfied their customers worldwide.
utilizing the cloud in a museum or attraction:
There are many environmental benefits from cloud computing. People say that cloud computing is green. Where does that claim come from?

Think of it like when telephones first came out. Most of the technology (and operators) that made the phone work took place outside of your home.

Essentially we are replacing the control racks by running their equipment remotely. We are utilizing Universal Media Modules (UMM), which are essentially Mac Mini computers that function as the local interface for each device and connect to the remote network of applications that actually control the devices. The benefits include equipment cost savings from not having racks (which also results in a reduction in labor costs), as well as not having to manually update software on site.

People say that cloud computing is green. Where does that claim come from?

There are many environmental benefits from utilizing the cloud in a museum or attraction:
1) If you are building a new facility, you have less infrastructure to put in, less conduit to run, less wire, less fuel and less freight to get supplies there. All you need is network wiring. The jury is still out on whether CAT 5 or fiber optics are more green.
2) Instead of giant racks, we are using individual Universal Media Modules (UMM) which are small enough to place near the devices they are controlling. That disperses the great amount of heat equipment rooms can generate. A typical rack room could cost $1,000/square foot just to cool, which is a huge reduction in carbon footprint.
3) The Mac Mini’s are already incredibly energy efficient. A typical PC requires about 400 watts, while the Mac Mini uses 150. We did a study showing an energy savings of over 50% compared to a museum designed the traditional way with a centralized air-conditioned equipment room.
4) Allowing for remote control for systems benefits media producers and fabricators and allows them to also work more remotely, saving transportation costs and reducing carbon footprints. We can send UMM units and displays directly to the fabricators who can install it right in their shops and connect it to their network so we can load and test it remotely.

What are the current limitations?

There really are very few. A super-fast network connection is not mandatory. We’ve done installations with as low as 1MB up and down speed. Also, if you lose connectivity, each unit is autonomous, designed to play back from its own local memory, so there is a cushion of time to fix the problem.

Is this being done in other industries?

Retail has been an early adopter, mostly because the turnover time for a retail environment is shorter than a park or museums. We recently started converting Disney Stores to be run on a cloud system. The new stores are called Imagination Parks.

Over 20 different systems are operating at one time, but it is so well integrated, it feels natural, and not like clunky technology. Most of the systems control media content that reinforces the company’s brands, upcoming movies, shows, parks, etc. Two cast members in London and Los Angeles run the worldwide system, creating specific schedules and running campaigns globally, regionally or locally. There are also provisions for local managers to customize content.

Other systems create impressive “special effects” that really take the experience to new levels. The Magic Mirror is an attraction that reads RFID tags in retail items and has the princess associated with that item appear in the mirror to talk to the guest.

On the back end, all that data on what is most popular, what translates into a purchase and what does not, is tracked and available to the home office.

This seems targeted to museums and retail, how could a park benefit from this?

Certain areas could benefit right away. Newer rides that are more media-based will be able to take advantage of the cloud right away. Standard show control can now be managed through the cloud. Parks could also integrate smart phone devices to provide even more personalized experiences for its guests.

Doesn’t this shift the costs from startup costs to operational costs through subscription fees?

There are monthly fees, but they are outweighed by the savings in maintenance costs, and it also allows you to expand your media and services (in other words, more storage) incrementally for little additional cost.

Many businesses, including our own, are already seeing the financial benefit of moving their email Exchange Server onto the cloud. It is cheaper to have it there than to have local staff to maintain and service it.
Ruby Falls holds the distinction of being America’s deepest commercial cave and most-visited underground waterfall. Annual visitation exceeds 400,000. Transformation of our 80-year-old natural attraction, listed in the National Register for Historic Places, into a more sustainable and environmentally friendly business operation was a challenge we knew we needed to undertake.

Ruby Falls is committed to the reduction of our environmental footprint while providing a better experience for our visitors. The process included hiring an outside environmental consultant - Dobbin Callahan of Skye Con Consulting - the formation of internal environmental management teams, and third party audits.

We have four main environmental initiatives; the production of renewable energy, reduction in greenhouse gas emissions, recycling and waste reduction and land use planning. While our environmental journey will never be complete, we have made enough progress in these four areas to be the first U.S. attraction to successfully complete the Green Globe International environmental certification process (www.greenglobeint.com).

**Renewable Energy**
Ruby Falls’ array of Sharp solar panels installed by Big Frog Mountain is capable of producing 16,000 watts of renewable energy, enough electricity to light over two hundred and fifty 60-watt light bulbs or to operate 16 microwave ovens at full power! This, combined with the use of computer-controlled high efficiency lighting in both LED and compact fluorescents, has reduced our power consumption by over 24%. This is just one way Ruby Falls is demonstrating our commitment to the reduction of our environmental footprint, while providing a better experience for our visitors.

- This system will produce between 16000 and 20000 KWH of electricity annually.
- Between our energy efficient lighting and solar offsets we will operate the cave on approx 8 to 9 months of electricity vs. 2007.
- Electricity will be sold back to the Electric Power Board for their Green Energy Program. Ruby Falls would like to thank the State of Tennessee Economic and Community Development Energy Division’s Tennessee Clean Energy Technology Grant Program for assisting with the purchase of this state-of-the-art solar energy production equipment.

**Reduction in Greenhouse Gas Emissions**
Whenever we save energy- or use it more efficiently- we reduce the demand for gasoline, oil, coal, and natural gas. Less burning of these fossil fuels means lower emissions of carbon dioxide, suggested as the major contributor to global warming. The United States releases about 40,000 pounds of carbon dioxide per person each year. If we can reduce energy use enough to lower greenhouse gas emissions by about 2 percent per year, in 10 years we will “lose” about 7,000 pounds of carbon dioxide emissions per person. In addition to installing the solar panels, we evaluated our indoor and outdoor lighting and have seen energy savings by:

- Replacing incandescent lamps with both LED and compact fluorescent lamps
- Changing the timing and duration of lighting
- Adding lighting and equipment controls

**Waste Reduction and Recycling**
Our efforts in waste reduction and recycling address three needs:

- Source reduction – to use less material overall by altering the design, manufacture, or use of products and materials to reduce the amount of toxicity of what gets thrown away.
- Recycling – sorting, collecting, and processing materials allowing others to manufacture and sell them as new products.
- Environmentally friendly products – the remaining materials used should have a lower environmental impact

**Sustainable Land Use Planning**
Ruby Falls is a natural attraction. It’s our responsibility to protect and preserve the natural beauty of the natural environments inside and outside the cave. Our initiatives for land use planning deal with development, environmental characteristics, and site level design.

- Invest in drought resistant shrubs requiring less water
- Evaluate capture of rain water on parking areas and basement
- Guild Trail Development
- Land Conservation
- Land Trust donation
operation green
the front-line battle for environmental responsibility
by Patrick Kling

Attraction Operations varying in scope, age and size are all conscious of being environmentally friendly. New technologies have emerged allowing businesses to reduce waste and become more environmentally conscious. But oftentimes that new technology comes at a cost. For some attractions updating infrastructure might not be feasible. Fortunately, there are other ways to run an effective environmental operation that stem from front line operations. These ideas may have an initial investment, but will pay off over the long term.

Paper Trail

There are many green opportunities in the back-of-house operation of attractions. Documents such as employee policy manuals, bulletins and schedules might be unnecessarily printed and distributed each week. An operation should do a thorough evaluation of what can be transferred to digital form. There are several documentation databases available and even a simple online database could be created based on the operational needs. This can be a useful tool to keep employees informed and updated with the latest information, while reducing waste.

Restaurants represent a great opportunity to improve an operation’s environmental footprint. Anything that is thrown away that has a greener, reusable substitute should be considered. For example, instead of utilizing one-time-use plastic items; switch to reusable silverware, dishware and plastic trays.

Retail locations at an attraction illustrate a unique occasion for environmental responsibility. The most environmentally friendly bag option is reusable canvas bags. Many grocery store chains have capitalized on selling reusable bags. An attraction could use themed canvas bags for its merchandise, or at least offer it as an up-sale opportunity to guests.

One large investment in paper many attractions have is informational park maps. According to a recent Nielsen survey, by the end of 2011, 50% of cell phone users will be on a smart phone. All park maps and information should be posted online on a mobile-friendly browser. Not only does this offer a green opportunity, it also opens up new options for interactivity with visitors. With proper advertising of this mobile website and the ability to easily update park information, it can prove to be an amazingly fun asset for park visitors to use.

Now, more than ever, visitors are aware, willing and energized to do their part in being green. Having separate bins for paper, bottles & cans, separate from the general trash encourages recycling inside and out. This not only fosters proper goodwill but also leaves guests with a good feeling that they have made a difference. In order for recycling to be effective at an attraction it is important to have a well prepared waste management department that can properly sort the trash, and partner with local recycling resources to ensure the recyclables make their way to the appropriate destinations.

Friends in Green Places

Another consideration attractions should contemplate is the green credentials of their business partners. A true green operation will look at how committed to being environmentally savvy a vendor is. Background research on various vendors and suppliers should be conducted. Voicing concerns and partnering with like-minded companies will ensure a consistent green message throughout all business ventures.

Every operation is unique in its possibility to be environmentally friendly. What works for one place might not work for another. It is important for an attraction to start an environmental awareness program. This program can solicit employee suggestions on greener practices. Managers will know the operational needs for their respective departments and can be empowered to make relevant green policy decisions. Suggestions from within can be the most effective for each area of business. Rewarding, recognizing and encouraging green policies not only helps the business, but it empowers employees and engages them in the company.

The time is now for companies to be responsible with their consumption and carbon footprint. Incorporating environmentally friendly infrastructure, reducing waste and improving operational environmental awareness are all necessary components in being a green destination. Doing so will be good for guests, good for the planet, and good for business.

A recent graduate of the International Business program at Chapman University, Patrick Kling has more than 10 years of operational theme park experience. While pursuing his academic ambitions, Patrick assumed various operational/coordination responsibilities as an attractions lead and supported various testing teams for projects at the Disneyland Resort. This on-the-front-lines experience and working knowledge of the complexities of making the magic real give him a unique perspective in managing the day-to-day logistics of themed entertainment projects.
Build momentum for your business by attending IAAPA Attractions Expo 2011—the year’s only business opportunity to deliver such a powerful ROI. Be first in line to test new products and discover the biggest new trends. Get expert advice and practical tools for increasing per-cap spending—without increasing costs. And make powerful connections while you experience the energy of the premiere industry-shaping event. It’s the best investment you’ll make all year.
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