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SUPER SUNDAY'S BEST

CREATIVITY, INNOVATION, HUMOR MAKE THESE DIGITALLY ENHANCED SPOTS BIG WINNERS

BY DEBRA KAUFMAN
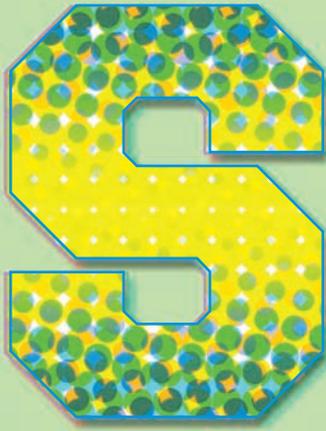
Super Bowl XLIII, which pitted the Pittsburgh Steelers against the Arizona Cardinals, was a nail-biting game that ended in the Steelers beating the underdog Cardinals. The Steelers also secured a place in Super Bowl history, earning their sixth world championship win and sole possession of the record for the most Super Bowl wins.

The game also took place in the midst of the US's most profound economic downturn since the Great Depression. But that only increased viewership in a nation looking for diversion: This year's Super Bowl became the most watched, with 98.7 million Americans tuning into the game on the NBC network.

A total of 32 companies presented 84 commercials throughout the event, and NBC aired 45 minutes, 10 seconds of advertising (including NFL messages and NBC promotional plugs) between the opening kickoff and the final whistle. The top four advertisers in terms of total ad time were PepsiCo, Anheuser-Busch InBev, General Electric, and Viacom.

Several commercials—including CareerBuilder, Monster, and Cash-4Gold—reflected the country's anxious mood. But the spots that really rocked had integrated what Super Bowl spots always do best: innovation, laughs, and a strong story.

As always, upcoming theatrical releases were a top category, with promos for nine movies (one of them the 3D animated *Monsters vs. Aliens*). Car manufacturers had less of a presence due to their economic woes, although one of our favorite commercials came from tire manufacturer Bridgestone ("Hot Item"). Meanwhile, Coca-Cola and Pepsi battled on the airwaves, each of them with strong contenders. We're fond of PepsiCo's SoBe "Lizard Lake" and Coca-Cola's "Avatar," both of which combined a strong CG sensibility with clever stories and impeccable execution.

And what's Super Bowl without the Budweiser Clydesdale horses? Super Bowl 2009 featured two spots with the iconic equines, and our favorite was "Circus," which featured a romance and the power of love between a Clydesdale and his ladylove Lucy, a circus horse.

General Electric, parent company of broadcaster NBC, also scored with "Scarecrow," a "wired" take on the *Wizard of Oz* that made a spot-on match between the character and the product in a breathtaking example of computer-generated imagery.

We hope you enjoy the making-of as much as we enjoyed the commercials.

CIRCUS ⬯ BUDWEISER

Director: Joe Pytka
Agency: DDB Chicago
Production company: Pytka, Venice, CA
CG company: Filmworkers Club, Chicago

A Clydesdale nuzzles his ladylove Lucy, a horse in a circus, but when the circus leaves town, it seems that the romance is over. But our Clydesdale hero jumps fences and gallops across America to reunite with Lucy, who bucks off a bareback rider and astonishes the clowns as she and her mate burst through the circus tent together.

Filmworkers Club first heard about the concept for the spot back in November from the DDB Chicago creative team who were responsible for last year's successful Clydesdale "Team" commercial (see "Fan Favorites," April 2008).

Using bi-cubic warping within Smoke, Filmworkers Club made it appear as though this horse was jumping over a canyon rather than a fence.

The exquisite views of America, as our horse hero gallops to find Lucy, are based on super-high-resolution (8K and 10K) stock footage from iStock. Filmworkers Club then manipulated those stock images to create the most spectacular shots possible. "Our idea was to create a heightened sense of beauty and reality," explains visual effects director Rob Churchill. "We wanted America to look beautiful, so the countryside scenes are more saturated, heightening the reality."

Colorist Michael Mazur took the process halfway with a first color pass for compositing, and then he completed the color after the composite. "That way, the whites aren't blown out and the edges are crisp," says Churchill.

The commercial was essentially created in compositing, using a combination of live-action ele-

The live-action spot "Circus" required quite a bit of digital work, and not all of it involved making the horses do super feats. In the scene above, the inside of the circus tent was shot live (left); compositors later added the clown and performers to the plate.

ments, stock footage, and lots of paint, re-lighting, and digital elements. Filmworkers Club assigned a team of five composi-tors—Heidi Anderson, Chris Ryan, Rick Thompson, Jen Paine, and Churchill—who worked not just on "Circus," but on a total of nine Super Bowl spots in-house.

According to Churchill, the most challenging scene was when the Clydesdale jumps over the canyon. "He was shot jumping over a fence," he explains, "but we had to fly the horse across the entire canyon." Using bi-cubic warping, a feature in Autodesk's Smoke, Churchill was able to make the horse look as if it was jumping outward rather than over.

"It's a detailed stretch, but you can only stretch parts of the picture," Churchill says.

"There were tons of rotoscoping to get rid of the fence that was blocking part of the horse's leg, which I made up with bits of cloning, tracking, and paint." He also relit the horse to make it match the background, using mattes and 3D lights inside Smoke.

In the first, early morning scene, Thompson relit the barn to make it look like morning, and to sell that further, added little digital insects flying around the horses. Ryan, meanwhile, painted the outside of the barn.

3D LIZARD LAKE ⬤ SOBE

Director: Peter Arnell
Agency: The Arnell Group
Production company: The Arnell Group
CG company: Digital Domain, DreamWorks Animation

In the weeks leading up to the Super Bowl, TV viewers were tantalized with more than the competition on the field: the chance to see a SoBe commercial in 3D, as well as a trailer from DreamWorks Animation for *Monsters vs. Aliens*. Pepsi-Co's SoBe joined its CG lizards with the stars from Dream-Works Animation's upcoming theatrical release and NFL players Matt Light (New England Patriots), Justin Tuck (New York Giants) and Ray Lewis (Baltimore Ravens). What brings them together is a highly unlikely event: They're all participating in a ballet performance of "Swan Lake."

Directed by Peter Arnell, the spot opens on sheet music, where the "Swan" in "Swan Lake" is crossed out and replaced with "Lizard." As the curtain opens, we see the NFL players in white uniforms, cleats, and tutus attempting their best to *plie* and *jete* across the stage. When Ray Lewis steps out for

a bottle of SoBe Lifewater, the stumbling dancers send the bottle hurtling through the air. The characters from *Monsters vs. Aliens* and the SoBe Lizards invade the stage, and the ballet quickly turns into a wild dance party.

In charge on the CG side was Digital Domain visual effects supervisor Jay Barton, who also led the studio's team on last year's SoBe Super Bowl spot starring super-model Naomi Campbell. Due to the limited amount of time with the NFL players, the filming occurred in two days: one with the hero characters and a second day for the secondary dancers and stunt doubles. Production company 3ality handled the 3D shoot, using Sony HD cameras on a stereoscopic rig.

"In a regular 2D spot, you've got one camera to shoot two different people on greenscreen," says Barton. "You can do a lot of fudging to get them to work together in a scene. It becomes quite a different matter to do that in stereo 3D. You not only have to make them work in the correct size and screen position, but now, also, in correct depth. We talked about where the characters all belong in that 3D space. Everyone was savvy enough that we had the language to know where

Filmworkers Club also added the circus tents. The artists started with stock footage as the base structure, and then used Smoke to paint in the tent. Later, they relit the tent and Ferris wheel elements in the opening scenes. The group also crafted flags that would rustle in the wind, and built a matte painting of the barn door for when the Clydesdale decides to leave the barn. The group relit the barn exterior as the horse runs out and the establishing shot of the barn, as well, using CG sun and sunbeams and adding CG insects fluttering around for good measure.

"Jen [Paine] repainted all the foreground trees but left room [for viewers] to see the Ferris wheel, which she put in the background," says Churchill. "All of that work makes it say 'circus.'"

The crew also replaced many of the backgrounds. The inside of the circus tent was shot greenscreen, and Thompson composited the clowns and other circus perform-ers, with a new inside-the-tent background composed of stock footage that was digitally enhanced and manipulated. In the scene where the silhouetted Clydesdale is running toward the circus in the distance, Filmworkers Club used a shot of the horse inside the barn running toward the exit, stripped him out of that scene, and put him in this scene. Then, they added a nighttime CG/matte painting/live-action exterior.

The compositors even replaced the skies. "The idea was to have the spot start in the morning, go through the day, and end at night," Thompson says. "You couldn't plan to shoot at all the right times of day, which is why we had to replace the skies through-out." The sole use of Autodesk's Maya was to put digital bridles on the horses in the beginning sequence when they're nuzzling over the fence.

"This is the most exciting time in the year-ly cycle," contends Churchill. "The agencies are giving it their all, and so are we."

AVATAR 🏈 COCA-COLA

Director: Smith & Foulkes
Agency: Wieden + Kennedy, Portland, OR
Production company: Nexus Productions, London
CG company: Nexus Productions

CG avatars share the scene with live actors in this ad from Coca-Cola.

Coca-Cola can always be counted upon to create a playful commercial for the Super Bowl, and 2009 was no exception. (Re-

"Lizard Lake," featuring the SoBe lizards, NFL players, and charac-ters from *Monsters vs. Aliens*, was the second stereo event during the Super Bowl, following the 3D trailer of *Monsters vs. Aliens*. The following evening, an episode of *Chuck* was shown in stereo, as well.

the characters were in the 3D space and where the conver-gence would be. Some of our phone calls probably sounded like we were speaking Greek."

Shooting live action and compositing CG characters is al-ready difficult, notes DreamWorks' global stereoscopic super-visor Phil "Captain 3D" McNally. "To add the third dimension, we had to coordinate our stereo settings–the z axis–as much as we could in advance. We all sat around a table and agreed between us what the ballpark was we'd be working in, so 3ality could set up its cameras and we and Digital Domain could set up our virtual cameras and coordinate."

3ality's camera rig provided metadata with camera settings, zoom information, and the interocular distance (between the left and right eyes) and point of convergence. "For all intents and purposes, it's a motion-control rig," describes Barton. "They provided us with that metadata, and we used it to set up our ini-tial 3D cameras in Track, our in-house tracking system. Based on that initial data, we fine-tuned the two cameras to lock to the plate. Then we transferred that data onto a rig that was used by us and DreamWorks to render out [Autodesk] Maya scene files of our characters and CG environment."

The first step was to do the scene registration and obtain the camera data for the shots that DreamWorks would work

member 2008's aerial struggle between the Stewie and Charlie Brown balloons in the Macy's parade?) This year, Coca-Cola played with the idea of computer avatars, young adults, and Coke as the beverage that brings people together. In a charming, free-flowing spot, people transform into self-absorbed avatars as they move about their daily business in New York City. A young man navigates the lonely crowd and enters a diner, where he reaches for a Coke and transforms the avatar next to him into a lovely young lady. "Coke opens happiness" is the tagline.

Nexus Productions shot the live action and produced all the CG avatars, while Framestore CFC London did the compositing. Ben Cowell, Nexus head of 3D, first looked at the agency brief for the commercial in August, and spoke to Nexus' directors Alan Smith and Adam Foulkes about the look. "They described the spot as though it were all shot for real,

as though we really found a part of a city somewhere in the world where everyone was plugged into their devices," says Cowell. "The camera would be a passive observer—much like our hero."

Smith and Foulkes also described how the people would transform into their avatars through the use of 3D pixels or voxels, while Cowell, Matt Clark, and Luis San Juan Pallares wrote the software that would achieve that. "That way, we could then animate this effect over time to create the transformation," explains Cowell, who describes how the real people turn into game avatars.

The spot "Avatar" incorporates approximately 60 CG characters, each a reflection of the world from which it resides, into live plates. They were lit with HDR maps captured on set.
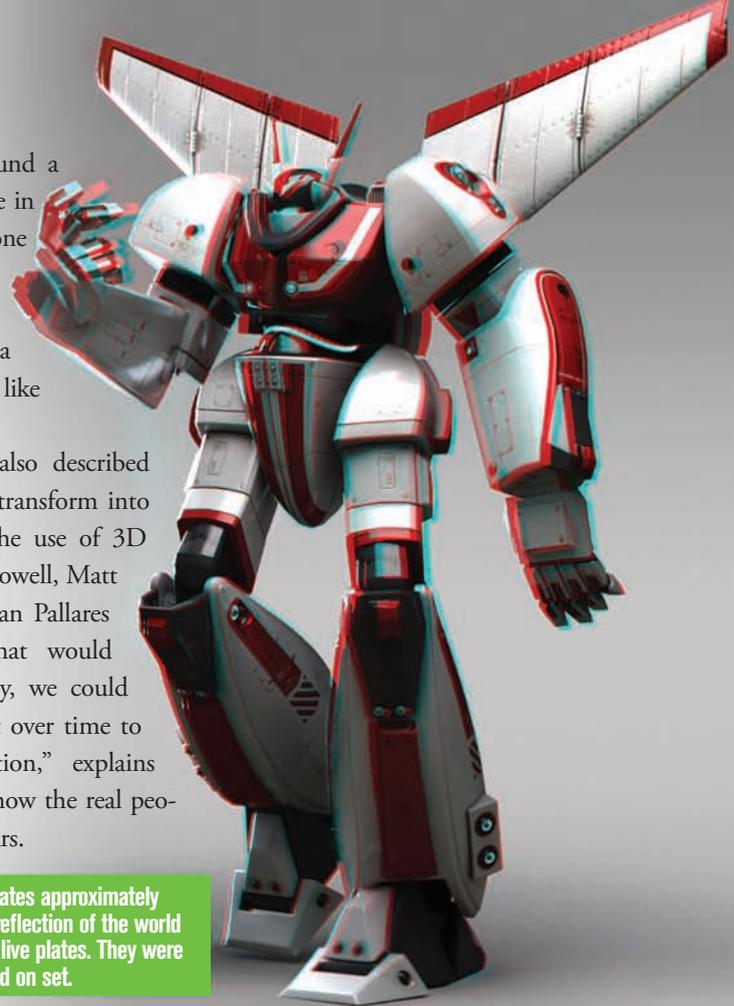
on. "When you have all these layers shot at different times, we had to come up with a common scene file, to put everything in the correct place," says Barton. "It had to work for everyone, and we created a 3D scene that we could all work on for all the characters." McNally reports that Digital Domain took the camera data from 3ality and gave it to him. "We then put in our characters—The Missing Link, Dr. Cockroach, and BOB—and sent it to Digital Domain," he says.

DreamWorks' main animator for the movie *Monsters vs. Aliens* is David Burgess, and he took on the "Lizard Lake" shots as the sole animator, working for a two- to three-week period, with lots of back and forth with Digital Domain.

Both Barton and McNally note that working with director Arnell isn't a typical experience. "Every time we'd see a new shot, there would be 10 more lizards in it," says McNally. "Luckily for us, Digital Domain was in control of the SoBe lizards. We had five shots that our characters were in, so we had relatively light work. Digital Domain did the heavy lifting."

In addition to its 20 shots, Digital Domain also created 3D backgrounds for every shot, which boiled down to rendering elements for nearly 40 shots total. "We continued creating our 3D scenes and comps to make sure all the live-action characters fit in the stage, while we developed what that stage would

be," he explains. "The director has a real designer's eye and was particular about the values we used in the background."

The lizards were also updated from last year's Super Bowl and Summer Magic spots with Naomi Campbell. "We used new technologies," says Barton. "It was more about the way we created our displacement maps. We've always had subdivision surface characters with displacement maps for texture. For this spot, we gave more details by repainting the displacement maps. We also added new wardrobe: the whole football uniform with cuffs, shoulder pads, and helmets for the football-playing lizards. We also did the cheerleader uniforms and pompoms, and a tuxedo for the conductor lizard."

All of Digital Domain's character animation was set up in Maya and exported out and rendered through NewTek's LightWave. "All our coloring, lighting, and texturing was done in LightWave," says Barton. "It was a combination of the right tool for the job and the preference of the available artist." Meanwhile, the team used Side Effects Software's Houdini for the fluid simulation of the drink flying out of the SoBe bottle. At the beginning when the curtains open, the artists employed Maya nCloth to move the curtains, after which they piped the imagery through Houdini to get even more breakup and wrinkle action after the fact.

Compositing software Nuke also played an instrumental role.

Smith and Foulkes put together a storyboard, which they transformed into a 2D animatic that was hand drawn based on photographs; then they scanned it into Adobe's Photoshop, cleaned it up, and imported it into Adobe's After Effects for editing. "Normally with a project like this, much of the creativity happens up front in the 3D animatic, as it's far too expensive to make decisions on set," says Cowell. "However, with this project, much of the camera work would be a reaction to the environment and characters. We decided to go on location to Buenos Aires [Argentina] early and spend a week or so scouting and taking photographs and imagining how this could be pieced together."

That decision proved fruitful, maintains Cowell: Every night the group created a fresh 2D animatic using the new photographs. From Framestore London, visual effects supervisor Mike McGee also attended the shoot. "That got us thinking

about lighting and how these shots would link together, long before the shooting began," he says. On set, they collected HDR maps, which helped tremendously in the lighting of the CG characters.

"Patrick Krafft and Maelys Faget did a fantastic job of getting these characters to fit into their environment," says Cowell.

Meanwhile, back in London, Nexus senior 3D lead Dave Fleet ran the character modeling and design process, which relied on Autodesk 3ds Max and some Pixologic ZBrush work. "Given how many games, chat systems, and online environments we were hoping to evoke, it was quite a challenge to create the 60 or so characters required," says Cowell. "Each needed to feel that they came from their own world, so a lot of work went into the design and modeling phase to ensure they didn't end

Artists added digital scuff to make it seem as if the avatars didn't really belong in the real world.

up looking too generic." Each character needed some evidence of their chat or online interface, and this was designed in the same way Nexus Productions tackled the characters—making sure each one felt

In "Lizard Lake," the stereo SoBe lizards move and groove, and change colors, thanks to Digital Domain and assistance from DreamWorks.

Originally developed by Digital Domain, Nuke is now distributed by The Foundry, which has created Occula, a suite of tools specifically for dealing with 3D imagery. "Those tools were absolutely vital to what we needed to do," says Barton. "They streamlined the process and made 3D accessible on every desktop with regard to combining left- and right-eye images so everything in the composite happens to both sides equally and correctly. We also used them to warp, stretch, and tweak the live-action plates as necessary to make them stereo-perfect."

The Occula tools were also used to warp the live-action

characters, place them in space, and put them in the correct stereoscopic distance.

Digital Domain checked its work daily in the 3D screening room with shutter glasses. But each artist could also view stereo 3D, with anaglyph glasses, while working in Nuke. "They could adjust the stereo while they were doing it," says Barton. "In the old-school way of doing 3D, you'd make your best guess and then view it after the fact. These new tools that enable people to view real time in stereo are pretty cool!"

Just before delivering the project, McNally helped Barton and his team tweak the entire spot to make sure the stereo worked in the best possible way throughout. "We got his 'Captain 3D' stamp of approval," says Barton. McNally demurs: "We were just there to provide our assets at the beginning and help DD with anything we could in terms of ideas or suggestions about the stereo," he says.

The *Monsters vs. Aliens* trailer that ran during the Super Bowl was, of course, done entirely at DreamWorks Animation. "Obviously, most of the content comprises shots from the movie," says McNally (see "Monsters of the Deep," March 2009). "What we added was a transition from the DreamWorks logo, and then we added the glasses."

When editing 3D content, McNally says he always keeps a

as though it came from a different world. These were all animated in Adobe's Flash by Kwok Fung Lam.

Once the edit was locked, animation began. "This is always the fun part of the project, as it's the chance for directors to insert as many details as they can," says Cowell.

At Framestore, visual effects supervisor William Bartlett, assisted by Darran Nicholson, did the compositing within Autodesk's Flame. Bartlett notes that the company's chief contribution was making the avatars appear as if they didn't quite belong in the real world. They did so by adding "digital scuff," or a bit of noise and compression.

"We have various features in [Autodesk] Flame that can mimic what JPEG compression looks like, as well as scanlines and RGB color shifts, to make [the characters] appear as avatars you'd see on a computer screen," says Bartlett. "We were doing the finishing touches, but Nexus led the job."

SCARECROW ⊘ GENERAL ELECTRIC

Director: Traktor
Agency: BBDO New York
Production company: Traktor, Venice, CA
CG company: Framestore CFC NY

Selling something as seemingly abstract as a "smart grid" sent General Electric to Oz. BBDO New York and Traktor brought the famous scarecrow back to life, and he, in turn, brought GE's product to life with some "warm and fuzzy" thrown in for good measure.

"It was an interesting challenge for us," says David Hulin, Framestore CFC NY visual effects supervisor. "We do character and creature animation, and scarecrow was a humanistic, naturalistic character."

To create a humanistic character, it made sense to shoot a real person, and that's what the group did. A dancer, wear-

ing a blue suit with markers, stood on a 20-foot platform and performed the movements—some of the more acrobatic ones requiring him to swing on wires. This capture wasn't motion capture in any traditional sense of the word, but the blue suit and markers were a way to get a bit of a leap on the painstaking rotoscoping that would be required to replace the actor's body with a CG scarecrow body.

"We did it a bit like mocap, without the mocap," says Framestore NY lead Flame artist Murray Butler. To add to the realism and physicality, a practical scarecrow head was built, which the dancer wore during the filming. After the shoot, a team rotoscoped the actor by hand—"a huge job," notes Butler.

Senior TD Theo Jones, who was CG lead for the commercial, notes that the spot ended up being 90 percent CG. That's because, ultimately, the physical scarecrow head worn by the actor didn't work as planned, mainly because of issues with articulation and lip sync. Suddenly, it

close eye on how the shots fit together. "It's hard for your eyes to keep up with depth jumps, such as when a shot that's deep cuts to one that's close," he notes. "We smooth out the transitions by adjusting the stereo across the cut. It's invisible to the viewer but makes it easier to watch."

McNally continues: "When you cut a trailer, the pieces are now rearranged and trimmed tighter than before, so the blending pass becomes much more important. A trailer is more like an action sequence, so we have to craft the transitions to keep up with the depth jumps."

McNally also brought on the Danish company Color Code 3D, which provides a technical process to ensure color fidelity in 3D; the general 3D process often results in less brightness and muddier colors.

"Color Code took the images, put them through the software process, and then checked them with the glasses," explains McNally. "The colors need to be pure. In cinema, the colors are pretty much how we want them. In the 3D version, we do a slight color correction to deal with the tint of the glasses. In that sense, when you go to the 2D and 3D versions of the movie, you see full color as we've designed it. The idea is to preserve as much of the color as

The crew had to composite CG characters into live action, coordinating the stereo settings as much as possible ahead of time. Transitions from deep shots to closer shots had to be gradual.

we can while gaining as much depth as we can."

It was important to have the trailer look fantastic since, after all, it's a little taste to get viewers interested in the movie. "3D is now a completely different experience in the movie theater, where it's more controllable than it was in the 1950s," says McNally. "Jeffrey Katzenberg is behind 3D and wants to show that we're behind it. Seeing *Monsters vs. Aliens* in the theater will be like being at the Super Bowl rather than seeing it on TV." —*Debra Kaufman*

The GE scarecrow, which comprises thousands of wires instead of the traditional straw, was rigged using Maya nCloth. Hand animation and other subtle motions sold the concept.

became apparent that Framestore would also be replacing, in nearly all the shots, the scarecrow's head. Fortunately, Hulin, who attended the shoot, was able to bring the physical scarecrow head back to Framestore to be photographed and then accurately modeled. "It was already designed and built, which was good," Hulin says.

In the end, the practical scarecrow head was retained in three shots; in all the other appearances, it was CG.

Creating a believable scarecrow body was also a challenge. Jones struggled with the best way to create a rig that would realistically represent the thousands of wires that compose the scarecrow. After trying Maya Hair from Autodesk and thinking about writing an in-house system, he built the rig using Maya nCloth. "It turned out to be a very dynamic rig," says Jones. "We made strips of nCloth and used its collision to simulate the collision in every frame, then cached it out. It took five minutes a frame to calculate all the dynamics."

For both rotoscoping and animating the CG scarecrow, the crew relied on information gathered by two extra cameras on the set that were placed at 90 degrees from the principal camera. "We had three viewpoints to rotoscope from and animate," says Jones. Tricky bits included the shot where the scarecrow/dancer walks a tightrope on electrical lines.

"We shot the dancer on wires because he was doing acrobatic moves," adds Hulin. "But because he was on wires, he didn't

have the weight and impact of a 170-pound guy. We had to spend time to animate those physics back in, to feel that he was really metal and wire. We didn't want him to feel like an animated character but a real-world wire man."

Framestore also built a set in CG and augmented that with matte paintings for the hills and sky, using Maya and Adobe Photoshop, and composited all the elements in Apple's Shake before the final beauty composite. "In the final shot, the gate and cobblestones at the end were live action, but everything else was CG," Hulin says. Details that "sold" the scarecrow included the scarf he wears around his neck and loose wires wrapped around his waist and upper arms. "Every single shot has some hand animation," says Jones. "It was a huge animation job."

Butler, meanwhile, did the composite in Autodesk's Flame. "The biggest challenge was blending everything together to create an overall look," he says, "We gave the skies a Maxfield Parrish blue/yellow/pink look—cool, but not overwhelming. And, of course, we had to get rid of the bluescreen dancer in every shot. That was painstaking and had to be done before we started the comp."

Jones reports that, despite the massive amount of work, the job went remarkably smoothly. "This was a good spot to work on," concludes Jones. "It's nice to see a script with a creative idea you can get your arms around."

Hot Item 🏈 Bridgestone

Director: Daniel Kleinman
Agency: The Richards Group
Production company: Rattling Stick/Epoch Films
CG company: Framestore CFC NY

A dune buggy, a UFO, and House of Pain come together in the rollicking comic *Hot Item* for Bridgestone tires. To the tune of the dance-floor hit "Jump Around," the spot requires no dialog as we see two space-suited men collecting rocks on a moon of Saturn…and returning to their buggy in time to see a UFO fly away with their Bridgestone tires.

"There was a design on paper," recalls Framestore TD David Mellor, who was the CG lead. "But it was challenging; the concept was quite loose. We had to develop it and make it work with the buggy, which was shot on location. As a result, we became involved with the design."

The commercial was shot by director Daniel Kleinman in the Mojave Desert in California—and not just for the otherworldly terrain. "We knew the moon would be lit by a single source, and in the Mojave, you just had the sun in a big blue sky that could be that single source," says Mellor.

Framestore senior producer James Razzall and compositor Murray Butler attended the shoot where, over two very hot days, Kleinman filmed the actors wearing spacesuits and careening around

in a stripped-down dune buggy over the desert. The desert's stark terrain was transformed into the surface of a Saturn moon, with matte-painted elements and some still photos of unusual rock formations found in the Mojave, the latter shot by Framestore London shoot supervisor William Bartlett.

Except for the wheels and suspension, the real-world dune buggy was entirely replaced with a CG version. That made tracking a big challenge: The crew shot from a camera car that followed the dune buggy, so they couldn't place any markers on the actual dune buggy, yet the wheels and tires had to stay in motion to capture all the appropriate dust elements.

"We built a rig in the computer that matched the real buggy and tracked it in [Autodesk's] MatchMover," says Mellor.

The group used the exact movement as a starting point, and then added tweaks with hand animation if something didn't quite work as planned. Then they added final digital tweaks, such as jet boosters and decals.

The wireframe and all the 3D modeling and animation were done in Autodesk Maya. The smoke trails and jets were created in Side Effects Software's Houdini and rendered in Mantra.
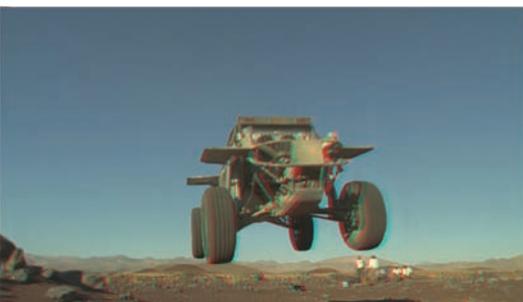
All the lighting information was captured at the shoot with HDR images. The team created a still of a spacescape, using stars, planets, and nebula patched together in 2D using Apple's Shake. "We used those to create our own HDR image, and replaced the original sky," says Mellor. "We used those HDR images of the environment to light the buggy. It was rebuilding an alternate environment."

Adding to the reality of the spacescape were some 3D elements, including floating rocks, and planets and rings of Saturn that rotated. "It gave the frame a bit more life, so space didn't look so static," Mellor points out.

Creating realistic CG reflections in the helmets on the spacemen was another challenge. "We had to track the helmet movements and render the reflection in the helmet so it would match up with the environment," explains Mellor. Likewise, the UFO was created in 3D and rendered in a similar manner, as a reflection to be placed in the helmets.

"That was quite fun, and was one of the last things we did," Mellor adds.

Compositor Butler says he had six weeks to do the entire tricky composite. "We had to clean up the edges of the steel cage and make sure the spacemen were behind the CG," he says. "We had to make daylight disappear by cutting mattes for all the rocks and edges very precisely and replacing it with a night sky. A bit of lens flare and luminance from the stars also helped to sell it."

In all, seven animators and seven TDs worked on the spot.

"It was definitely a fun job to do," concludes Mellor. "We had a great bit of creative involvement…and it's space and rockets!" ∎

Debra Kaufman is a freelance writer for numerous entertainment industry publications. She also covers video and other entertainment content for the mobile platform at www.MobilizedTV.com. She can be reached at dkla99@verizon.net.

Aside from the wheels and suspension, the buggy used in the commercial is digital.