



Image courtesy of Blade Trinity. © 2005 Digital Dimension

## Award-winning studio meets high expectations—and tight deadlines—in broadcast and film projects thanks to help from Autodesk® 3ds Max® software

By Audrey Doyle

One of the keys to the success of any company is its ability to differentiate itself from its competitors. According to Michel Heroux, Digital Dimension achieves its success in part because everybody, including founder Benoit Gerard, is proficient in the software the company uses for 3D modeling and animation. That 3D software is Autodesk 3ds Max.

"This makes us different from most other studios, where the people at the top have no idea how to create shots in 3D," says Heroux, a producer and visual effects supervisor at Digital Dimension's Montreal division. "Our bosses—the people who meet with all the clients and make all the decisions—know 3ds Max inside and out." This, he says, puts Digital Dimension, which has offices in Los Angeles as well, at a competitive advantage because at the beginning of a project, the company knows immediately how best to accomplish the effects clients are asking for. This lets the artists focus on *creating* the effects instead of spending time figuring out *how* to create them, thereby saving lots of time in post-production.

Autodesk®



Images courtesy of Lost. © 2005 Digital Dimension

In the competitive world of digital content creation, where clients are asking for increasingly complex effects to be created under increasingly tight deadlines, time is a precious commodity. This is especially true with broadcast effects. Take, for example, the work Heroux and the Montreal team completed for the pilot episode of the hit TV series *Lost*, which airs Wednesdays on ABC. For this project, the artists were assigned the task of depicting the plane crash responsible for stranding 48 people on a deserted island in the Pacific.

Approximately 50 seconds in length, the photorealistic sequence portrays the doomed flight in chilling detail, beginning with the turbulence the aircraft hits in mid-air and proceeding as the plane rips in two. "Passengers, along with seats, get sucked out of this gaping hole in the plane," says Heroux. "Lots of debris is flying around. You see lots of smoke. And throughout all this, the plane is falling at an incredible speed." The sequence ends abruptly, cutting from the panic and chaos on the plane as the passengers realize they're about to crash, to the survivors on the beach as they become horribly aware of what has happened and they try to come to grips with the fact that they're now stranded on an uncharted island.

According to Heroux, the sequence was important for two reasons. "First, J.J. Abrams, the show's creator, wanted to use the sequence to pitch the show to ABC. So, even at that early stage, before the show was signed on, the crash had to look really good."

Once ABC signed on, the sequence grew in significance. "The whole story behind *Lost* is that people are lost on an island because their plane crashed, and in just about every episode of the show the cast has flashbacks to the crash," Heroux adds, "so this sequence is important to the storyline of the whole series."

Heroux notes that although the team of approximately 10 artists had about nine weeks to work on the sequence, most of their work was compressed into a tight four-week schedule once ABC signed on to carry the show. "That's when we went into crunch mode, adding detail and finessing the shots for the pilot episode," he says.

To create the sequence, the artists relied extensively on the layering tools in 3ds Max. As Heroux explains, the sequence comprises approximately 45 layers. Among the 25 or so live-action layers are those of actors shot

against bluescreen as though they're being sucked out of the plane, layers of other practical effects, and live-action smoke passes. Among the CG layers are those depicting the plane's tail section being ripped from its midsection, flying debris, additional smoke, and explosions.

Because the artists were working with so many layers, they found the ability in 3ds Max to preview animation—particularly animation of the flying debris—in real time in the software's Viewport to be especially helpful. "Visual effects supervisor Kevin Blank could request changes as he watched the animation and we could make the changes immediately," Heroux recalls. "This helped us get the look J.J. wanted very quickly, which was especially important when he was still developing the show to pitch to ABC."

Heroux notes that the Modifier Stack in 3ds Max was also important to the project's success. "Because the Modifier Stack separates everything into layers, we could change something we created early in the project without affecting work we completed more recently," Heroux says. "So, if Kevin didn't like the tail of the plane, for instance, we could change it in minutes and not have to redo what he did like. The layering tools in 3ds Max were very important to our pipeline in terms of helping us get this photorealistic sequence done well and within our deadline."

Like its Montreal L.A. division, Digital Dimension's LA division also receives its share of tight deadlines. But with help from 3ds Max, these artists are able to create equally compelling, photorealistic imagery in short order as well.

One of the L.A. division's more recent projects is the work they did for *Blade: Trinity*. The third and final film in the *Blade* franchise, *Blade: Trinity* tells the story of Blade (Wesley Snipes), a vampire hunter who joins forces with other vampire hunters to battle it out with the Vampire Nation and, ultimately, with Dracula himself.

For the film, the L.A. artists had about four months to handle approximately 145 photorealistic shots, most of which depict the vampires in the film getting "ashed." "When you kill a vampire, it bursts into flames and turns to ashes, leaving only bones on the ground," explains CG supervisor Jason Crosby. "The ashings are important in the film, and they required a pretty complex effect."



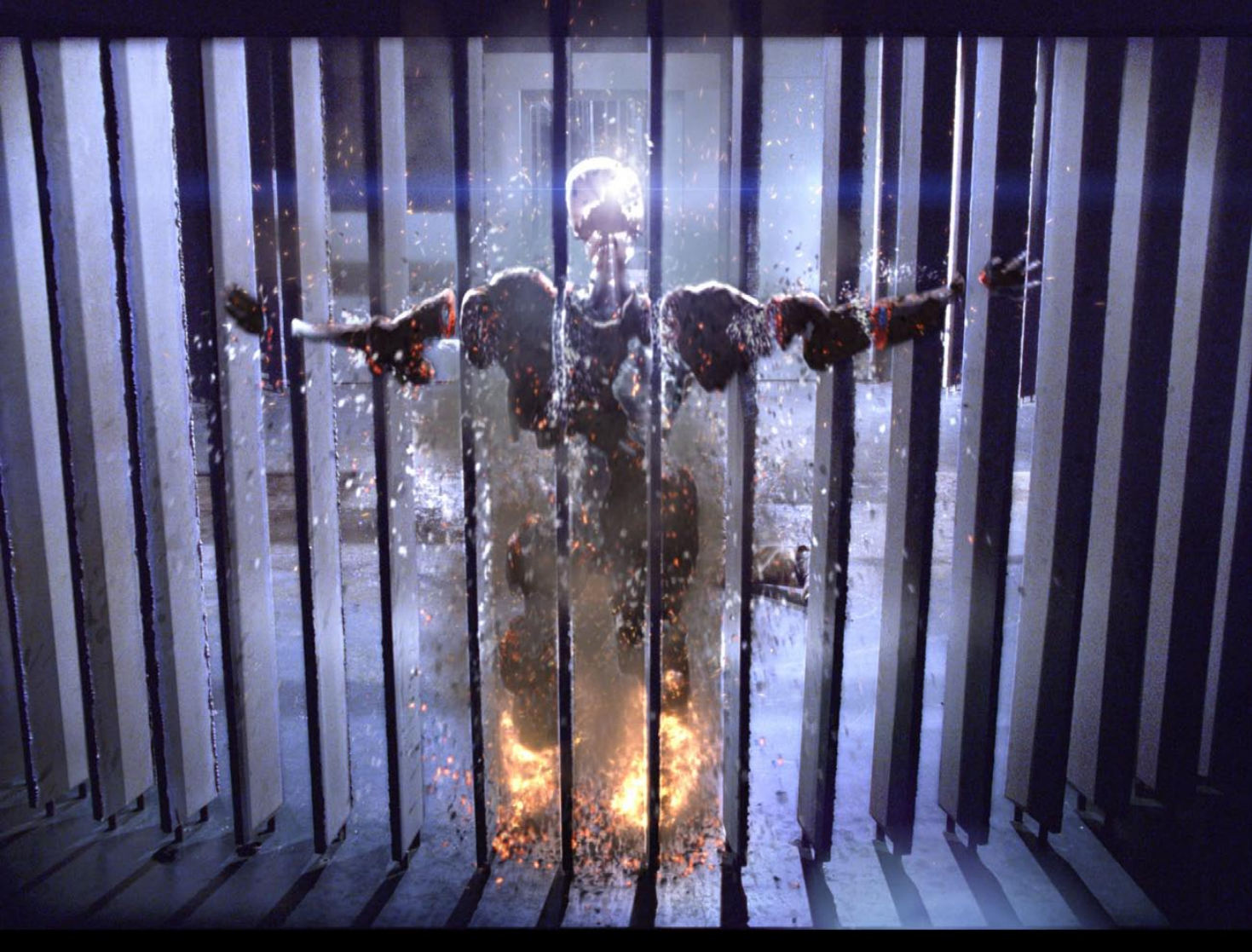


Image courtesy of Blade Trinity. © 2005 Digital Dimension

To create the effect, the artists began by 3D-tracking the live-action plates of actors depicting the vampires being killed. For this they used Andersson Technologies' SynthEyes, a 3D tracking/matchmoving program that interfaces with 3ds Max. "This gave us a CG camera that moved the way the live-action camera did," says Crosby.

Next, they used particle effects, materials, and shaders to depict the ashing process. "When a vampire gets stabbed by, say, a silver blade, wherever the blade comes in contact with the vampire's body is where the CG starts to replace the live action," says Crosby. "The particle effects, materials, and shaders make it look like the actor's skin is burning, and that ash, smoke, and fire are being emitted from and spreading throughout the actor's body from that initial contact point. So, by the end of the effect, the actor, who's now lying on the floor, has been painted out and replaced with the vampire's CG skeletal remains."

According to Crosby, the team used 3ds Max materials to drive the ashing effect, and the MAXscripting capability in 3ds Max to drive the materials. "We created the materials—burning skin, ash, smoke, and so on. Then we used MAXscripts to define things like the speed and smoothness of the ashing process," he says. "We applied these shaders to each character, and the ashing process would occur based on what we outlined in the script." Meanwhile, the particle effects, which the team created using Cebas's Thinking Particles 3ds Max plug-in, were made to react to the materials.

"We made it so that Thinking Particles would emit particles from white rings, sort of like holes, in the materials," Crosby says. "That's where the flames and so on would come off the vampire's body."

In addition to the ashing effect, the artists also worked on some shots in which Blade crashes through a window. The computer-generated shattering glass is a particle effect created in 3ds Max and Thinking Particles. At the time of this writing, Digital Dimension had been nominated for a VES Award by the Visual Effects Society for "Outstanding Supporting Visual Effects in a Broadcast Program" for its work on *Lost*, with the results scheduled to be announced at an awards ceremony February 16<sup>th</sup>. If Digital Dimension wins, the award will join the four Emmys and the additional VES Award Digital Dimension has won for past projects. In addition, the company has been nominated for another Emmy for the opening sequence it created for the Super Bowl XXXIV broadcast on FOX (see related story). All the 3D modeling and animation for these projects were done in 3ds Max. "Because of the way 3ds Max was designed, you can work very efficiently with it, and at the same time deliver award-winning work," says Crosby.

"3ds Max is one of the most versatile 3D modeling and animation packages available," concludes Heroux. "Clearly, 3ds Max is one of the main keys to our success."