Insomniac Games
(www.insomniacgames.com)
Burbank, California

Project:
Resistance 2 (www.myresistance.net)

Autodesk® Maya® software
Autodesk® MotionBuilder® software

Autodesk Maya provides a wide variety of features, but it is also very deep. We're able to get every component together and see how things are working, all without going through a lot of specialized software.

—Ted Price
Founder and CEO
Insomniac Games, Burbank, CA

History Isn't What it Used to Be.

Insomniac Games Uses Autodesk Maya and Autodesk MotionBuilder to Re-imagine Recent American History in *Resistance 2*.

Image courtesy of Insomniac Games

Summary

Burbank, California-based Insomniac Games has been at the forefront of the gaming industry for nearly a decade and a half. Creators of the first three *Spyro the Dragon* games and the equally popular *Ratchet & Clank* franchise for Sony PlayStation® and PlayStation®2, the sleepless game developers had already sold more than 25 million games and won many awards for their work before releasing *Resistance: Fall of Man™ (RFoM)* for the PLAYSTATION®3 system in 2006. A hardboiled first-person shooter game, *RFoM* broke new ground for realistic graphics and intense game play, and sold more than 2.7 million copies worldwide as a PS3 launch title.

Now, based on feedback from *RFoM*'s immense and enthusiastic following, Insomniac is taking everything up a notch with *Resistance 2™* video game, which is ready to set the gaming world on its collective ear. Insomniac's Ted Price and Chad Dezern speak about how Autodesk® Maya® software helped make *Resistance 2* great, and their plans for Autodesk® MotionBuilder® software in the company's future.

The Challenge

Make no mistake: this is not your parents' (or grandparents') 1953. Indeed, for all its similarities to the American history we learned in school, the world of *Resistance 2* is a fascinatingly twisted vision of that era of greasers and poodle skirts. No, this 1953 has not seen World War II, Nazism, nor the Great Depression. Sound idyllic? Not so fast!

Unfortunately, this version of 1953 has its own problems. It turns out Europe has been overrun by The Chimera, a race of advanced, yet bloodthirsty extraterrestrials. Sergeant Nathan Hale, the game's protagonist, is the only survivor of a Chimeran attack that has infected him with an enemy virus. As it was in the first version, it is up to Hale and, of course, players of *Resistance 2* to save the earth. This time, however, both the challenges and the game experience have been significantly enhanced.

Autodesk®

"The first game was so popular that an immense fanbase came together quickly," says Ted Price, Founder and CEO of Insomniac Games. "From the release of *RFoM*, the community has been advising us on what they'd like to see in the sequel, and we've been listening very closely. As a result, we've made some big changes in terms of visuals, story, and game play. This is a game offering a lot more than any other first person shooter game out there."

Indeed, the ambitious nature of *Resistance 2* is evident from the outset, with a more encompassing storyline, more vibrant colors, more elaborate creatures and characters, and a generally more detailed look and feel. More than that, however, the second version now boasts an 8-player online "cooperative" mode, which enables collaborative groups of players to battle against the Chimera together according to a completely separate storyline, and a staggering 60-player online "competitive" mode that lets smaller teams battle one another.

Of course, with great ambition comes great challenge.

"With the new version, we wanted to do everything we could to reinforce certain story points that we felt were important," says Chad Dezern, Studio Director at the company's new sister studio in North Carolina. "We've developed an engine and a number of systems to take advantage of the Cell Broadband Engine™ technology. With each game we release, we've been able to make major improvements to the lighting, the amount of detail, and the volume of real-time effects. All of these improvements have kept players enthusiastic and excited about what's next and what's possible. As a result, *Resistance 2* has a lot of hugely dramatic moments and some truly epic battles. Autodesk Maya was a huge help to us, from the earliest visualization stages to enhancing realism through detailed shaders, all the way through to the final battle stages."

According to Price, nowhere was Maya more helpful than in creating an epic battle with the Leviathan, a legendary beast several hundred meters tall.

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>
> —Chad Dezern,
> Studio Director
> Insomniac Games

Image courtesy of Insomniac Games

The Solutions

"The Leviathan is certainly the largest moving object we attempted in *Resistance 2*," says Price. "To achieve the realistic, graphic look we wanted required a great deal of planning, together with high resolution detail and parallax maps to accentuate the smaller details relative to the larger details of the surrounding city. This is not a creature that can be brought down with simple weapons. The battle experience is truly choreographed through space, and players really get to experience the Leviathan from many points of view. Choreographing scenes in Maya was just a huge help. Maya provides a wide variety of features, but it is also very deep. We're able to get every component together and see how things are working, all without going through a lot of specialized software."

Using Maya, Insomniac artists were able to perform quick sketches of buildings, environments, models, and other elements that enabled verification of realistic proportions compared to the huge creature, all before fully programming the enemy.

"Maya saved us significant time by letting us quickly concentrate on building the parts of the city seen during the battle with the Leviathan, rather than the entire cityscape," comments Dezern. "Maya has always been a big part of our game building pipeline: we build our environments, characters, animations within the system. On *Resistance 2*, however, we used Maya more for visualization than we have on other games. We visualize in Maya with a custom shader, and use the system to figure out our physics calculations. For huge, complicated objects, we calculate in Maya and then translate into the game. That way, we get a lot more action on screen."

Asked to elaborate on the role of Maya beyond the early visualizations, Dezern doesn't hesitate:

"This game emphasizes high-quality cinematics to tell the story," he explains. "Instead of traditional 2D storyboarding, we used Autodesk Maya to go right into 3D visualizations. We were able to go full 3D almost all the time, which really helped the writers, the animators, the environment artists, and everybody else. That was an immense time saver. We also used motion capture on all our cinematics. Having rough cameras set up and rough characters moving around, all in 3D, was much more helpful for the directors than a regular 2D storyboard. Maya is also our main modeling tool from rough modeling to architecture, weapons, and more. We even used to Maya to create a wrinkle map pipeline, which enabled our characters to show a broader range of emotions.

Image courtesy of Insomniac Games

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Finally, we used mental ray rendering on a lot of our lighting this time. We've worked features such as global illumination, final gathering, and image-based direct lighting directly into our pipeline."

The Insomniac team also made ample use of Autodesk MotionBuilder software during the creation of *Resistance 2*, though not as much as they plan to in future:

"We're planning on making MotionBuilder a much bigger part of our pipeline," says Price. "It's very fast, and makes visualization and motion capture much easier to deal with. It's become integral to our production process, and we look forward to using it more and more."

Adalbert Mlak, senior animator, adds "On *Resistance 2*, we worked with motion capture specialists at House of Moves. House of Moves performed the motion capture before retargeting everything on to our rig, and then they used MotionBuilder to edit our cinematics. We then used MotionBuilder to assemble the cinematics, clips, props, cameras, and animations, which made for easier back and forth

with Sony San Diego. We finally brought everything back into Maya, where we could do facial animation, toes, fingers, and more."

The Results

Price and Dezern agree that Resistance 2 represents Insomniac's most ambitious and content-rich game to date. If the initial buzz is any indication, it seems certain that their hard work is about to be amply rewarded. The company has already won several awards for the game's imagery, even before its official November 4, 2008 US release. Resistance 2 promises to be a game like no other.

"We're offering a complete experience and telling our story in a whole new way," says Price. "People have responded very positively to the new version through online communities. Including a cooperative, 8-player, class-based online mode with its own separate story, for instance, is just not something any other game is doing right now. We've also worked hard to make the competitive battle mode both bigger and less intimidating for new players. Rather than have 60 warriors cluster together and kill each other, we've separated the competition into skirmishes, which involve smaller squads working together on dynamic objectives that change as the battle progresses."

Players of Resistance 2 will also enjoy a newly revamped online community at myresistance.net, which will offer social networking features, near real-time stats, customizations, and better ways to connect with fellow players.

"This game is going to stand out from the pack," Dezern reiterates. "And Maya was a big help in this creation."

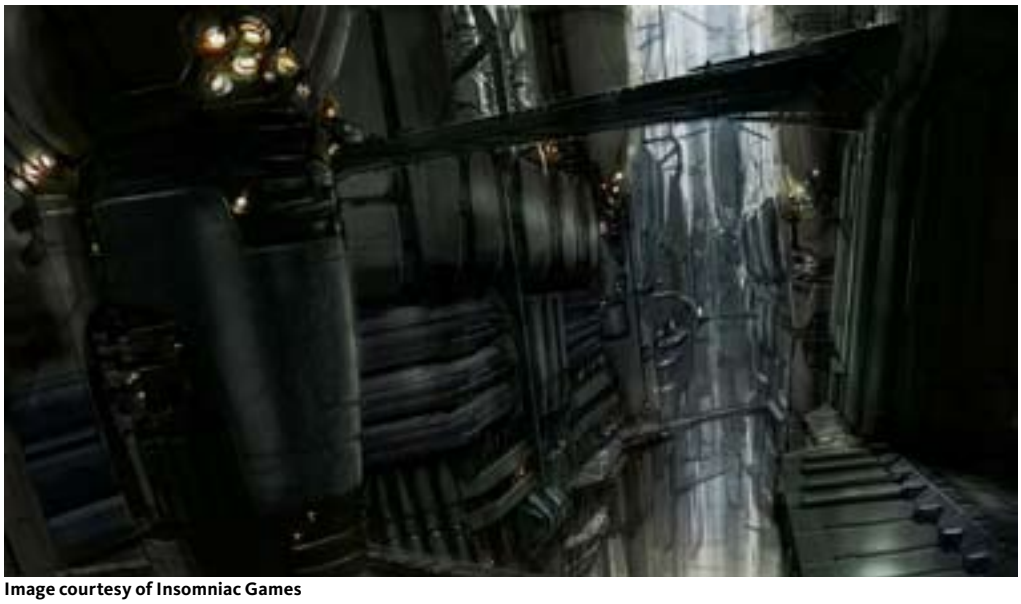

Image courtesy of Insomniac Games

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We've stuck with Autodesk Maya because it is extremely flexible. The system supports limitless options for user setup, and we have people who prefer a lot of different techniques and styles. Maya covers so much ground every one is able to use it the way they need to get the most out of it.

—Ted Price
Founder and CEO
Insomniac Games