Too Human. Images courtesy of Silicon Knights.

Silicon Knights

By Audrey Doyle

By relying on 3ds Max software on all its projects, including its highly anticipated forthcoming title, *Too Human*, this leading game developer is achieving its goal of entertaining the world.

Gameplay, storyline, audio, game engine technology, and graphics, all top quality. According to Denis Dyack, these are the ingredients for creating a blockbuster next-generation video game. "Only by combining the highest level of all of these elements will you be able to create that perfect aesthetic experience that will truly engage gamers," says Dyack, president of the Ontario-based game development studio, Silicon Knights.

Dyack and his team refer to this as their "Engagement Theory," and the philosophy behind it has been instrumental to the studio's phenomenal success in the video game industry. "The Engagement Theory is very much a cross-disciplinary theory," he explains. "When we create a character's face, for example, that face needs to tell a story, not just by the way it looks or the role it's playing in the game's storyline, but also by having certain forms of gameplay, music, and game engine technology associated with it. All of these elements are equally important to us in our games."

At Silicon Knights, the best artistic and game development talent, along with use of robust audio software and the industry-leading Unreal Engine game engine, ensure delivery of the first four elements in the Engagement Theory. Helping to deliver the fifth element—top-quality graphics—is the role of Autodesk® 3ds Max® software.

"3ds Max is the tool we use to create all the 3D models and animations in our games," Dyack states. "We started using 3ds Max in the early 1990s.

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Too Human. Images courtesy of Silicon Knights.

We knew we were going to be around for a long time, so we wanted software that would be around for a long time. 3ds Max has always been an important part of our pipeline."

In fact, 3ds Max has played a major role in the visual success of all of the company's past games, including the hit titles *Metal Gear Solid: The Twin Snakes, Eternal Darkness: Sanity's Requiem, Bloody Omen: Legacy of Kain, Dark Legions*, and *Fantasy Empires*. It also is playing a crucial role in the company's forthcoming title, the highly anticipated *Too Human*, a next-generation, third-person, epic action game in which the player takes on the role of a cybernetic god charged with protecting the human race against a relentless onslaught of machines.

According to Pat Inglesby, lead environment artist, the team at Silicon Knights has used 3ds Max to create all of their titles, for several reasons. "First, we like that 3ds Max has a superior modeling system that includes features like Edit Mesh, Edit Poly, Edge Loop tools, great lofting and spline features, and Preserve UVs," he says. "Plus, the software is easy to customize: for example, we've customized our Modifier Stack so that our favorite modifiers—UV Unwrap, Skin, Normal Maps, and the Export modifier—are always at our fingertips."

In addition to these features, the artists also like the software's innovative Pelt Mapping tool, which enables them to control how the UV seams on an organic model unfold. "We can create a flat, unified map for texturing our models by stretching out UVW coordinates," explains Carman Dix, art director. "Then we can relax the UVs and remove the distortion by accurately matching the UVs to the model's geometry."

According to Inglesby, this saves the artists hours of work, since the seams are exactly where they should be. "Pelt Mapping has been a godsend for us, especially on organic models like rocks and mountainscapes," he enthuses. "It really makes it easy to get a mesh to relax so that you can create a more organic feel."

Another benefit the artists appreciate is the software's MAXScript scripting capability, which has enabled them to create custom tools that are specific to their pipeline. For instance, one such tool that will play a starring role in *Too Human* is an intelligent camera system that knows what to show players based on where they venture in the game.

"With this intelligent camera, players can experience all of the game's aesthetic values," says Dyack. "For example, the background artists have created some beautiful environments in this game; if a player arrives at a certain area in an environment and he has an opportunity to see more of that environment, our camera system knows he's there. So it will make sure he sees this beautiful landscape we want him to see by providing an on-the-fly, intelligent dissection of all the possible views or cuts that the player has before him."

"And the beauty of it is that we do it in such a way that the player doesn't even know it's a camera," adds Dix. "The player is completely immersed and is never taken aback with a realization that suddenly he's being shown something through a camera." Instead, Dix says, the camera mimics a cinematic camera, making players feel like they're watching a film.

"We feel that Hollywood has established a language that the mass market understands, so we're using that language and those cues to tell a story within this game in an artistic way," Dyack adds. "Gone are the days of the over-the-shoulder cam where you're looking at someone from behind. Instead, in this game, we're providing front shots, close-ups, zoom-ins, and slow-mos, all depending on what the player does. Although it has the feel of a movie, the player is experiencing it in real time. We think gamers will be very excited by it."

In addition to an intelligent camera system and a variety of stunning environments, *Too Human* also will feature numerous hyper-realistic characters. As Dix explains, the artists are using 3ds Max to build and texture all of the character source models. They also are using 3ds Max to create normal maps from the high-density meshes, which they then are applying onto the models' low-polygon,

Too Human. Images courtesy of Silicon Knights.

in-game counterparts. Meanwhile, for rigging and mesh generation, they are using Biped functionality in 3ds Max. All facial animation is being accomplished with OC3 Entertainment's FaceFX 3ds Max plug-in.

Besides generating keyframe animation, the artists are working with a martial arts stunt group to incorporate motion-capture data into their character models. "We're using the animation tools in 3ds Max to get the artistry of these performers into this game," Dyack says. "The mocap data is going through several cleaning processes, but the final process is through 3ds Max."

All told, the Silicon Knights team has high expectations for *Too Human*, and judging by the company's past success, this game is sure to please. "To stay competitive, you have to make the best games, and to do that, you need to be in an environment where you can be creative. 3ds Max allows our artists to express themselves in a way that engages and entertains people. It lets us hit the very high watermarks in our Engagement Theory that we have to hit in order to be successful," says Dyack.

"We've been using 3ds Max here almost since the day we formed the company, and we're all very happy with the direction it's going in," he concludes. "3ds Max is a great tool; we love it, and it's helping us to achieve our goal of entertaining the world."