

**BY ANY OTHER NAME:  
Studio Ghibli Changes Everything with Spirited Away**

Michael Abraham

People have come to expect miracles from **Hayao Miyazaki**. Since he co-founded **Studio Ghibli** (with lifelong colleague and sometime creative collaborator **Isao Takahata**) in 1985, the now-revered anime director has been the creative force behind a long list of animated films that simultaneously manage to be intensely thoughtful, critically acclaimed and hugely successful. Any filmmaker – hell, any artist – can tell you how difficult it is to hit all three points. Miyazaki’s latest offering hits all three harder than ever before.



Miyazaki’s formula, if you can call it that, involves using dazzling visuals and engaging fables to suspend our disbelief, thereby clearing the way for some truly trenchant insights. The stories and insights are Miyazaki’s idea, but since 1995, the Studio Ghibli 3D team, armed with **SOFTIMAGE®|3D**, have been more than helping out with the visuals. The full transition from traditional ink & paint techniques and shooting to digital I & P and compositing was made in 1997

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"We are a traditional animation production studio," says **Mitsunori Kataama**, 3D-CG Supervisor at Studio Ghibli. "There are about 150 people presently working here. Within that group, we have three sections using computers for production – ten people work on ink and paint, four in compositing and seven of us in 3D-CG. We mainly use **Silicon Graphics** workstations, with over thirty CPUs, including those used as servers. We also use **Linux** and **Mac OS** computers."

That set up makes for an immensely clever, and ultimately virtuous, method, and it is employed to great effect in his most recent film. Set in modern-day Japan, **Spirited Away** (or **Sen to Chihiro no Kamikakushi**, the Japanese title) joins the daily life of ten-year-old Chihiro, a somewhat spoiled and ill-tempered girl unhappy to be moving to a new town with her family.

On their way to their new home, Chihiro and her family pass through a mysterious tunnel only to find themselves in a world not of their choosing. When her hungry parents mistakenly eat food reserved for the gods, they are suddenly transformed into pigs, leaving Chihiro as their only hope. A great many things change in this new land: a young boy becomes a dragon, an origami bird transforms into a witch and a filthy bather is reincarnated as a river god. Even Chihiro is forced to barter her real name for her survival with the evil witch Yu-baaba, who gives her the more generic sounding Sen in its place. To rescue her parents and regain her name, Sen must also change from a frightened little girl into a courageous heroine.

In creating Spirited Away, Miyazaki claims to have been making a gift specifically for his friend's daughters, all of whom were about 10 years old at the time he got the idea. After two years and a painstaking blend of traditional cel animation and seamlessly integrated digital technology, however, it seems that his gift is being shared by just about everybody. At the time of this writing, Spirited Away is poised to overtake **James Cameron's Titanic** as the single-most successful film ever shown in Japan.

Although Studio Ghibli works pretty exclusively on feature animations, with the occasional short thrown in for good measure, Spirited Away was a big job even by their standards. All of the animation, backgrounds, compositing and 3D work were accomplished in-house. Working diligently on 100 of the movie's 1400 scenes, Kataama and his team dealt primarily with complicated scenes impossible to create solely by hand, and including intense 3D camera work and object animation.

"We used several different techniques," says Kataama matter-of-factly. We added depth information to original 2D images by mapping hand-written backgrounds on to 3D models. In the end, we also used SOFTIMAGE|3D to calculate a reflection and a highlight component, which we then added to the hand-written background. We also developed a unique 2D Texture Shader, so we could have a multiple position camera-texture projection for mapping of our background image. We have also developed a plug-in to make changing a particular field of vision much easier."

Another significant challenge faced by the Studio Ghibli 3D team involved the creation of realistic, ever-changing sea surface, which required the in-house development of another 2D texture shader and several material shaders. According to Kataama:

Source: Softimage Magazine @ softimage.com

"To accurately express the look of the waves, we created a 2D texture shader that would generate a procedural texture. We really appreciate that SOFTIMAGE|3D offers such a valuable environment



