

Lionhead Studios

(www.lionhead.com)

Surrey, United Kingdom

Autodesk® Softimage® software

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—Ian Lovett
Technical Art Director
Lionhead Studios

Starting Over, All Over Again.

Lionhead Does It Again with *Fable II*, This Time with Autodesk Softimage.



Image courtesy of Lionhead Studios.

Summary

It was the autumn of 2004 when players of Microsoft's first version of the Xbox® video game system were treated to their first glimpse of Albion, the other-worldly setting of *Fable*, the role-playing game that would prove to be like no other. Despite nearly six years of imaginative and technical development, the creative team of 30 artists at what had been called Big Blue Box -- and what had become Lionhead Studios -- possessed what would prove to be modest expectations for their labor of love. It would quickly become the fastest-selling game on Xbox and, as this article is being written, sales of the game in which a player's every decision defines who he or she becomes have gone over 3 million units.

Now a division of Microsoft, the team at Lionhead Studios has upped the already formidable ante with the release of *Fable II* for the Xbox 360® video game console. Packed with new life and character-altering choices and decisions, *Fable II* provides epic enhancements to the larger-than-life story, innovative real-time gameplay, and mind-boggling environment famous from the first version. Roughly four years after the original, *Fable II* is already enjoying critical and commercial success.

Lionhead technical art director Ian Lovett sat down with Autodesk to talk about *Fable II*, Autodesk® Softimage® software (formerly Softimage®|XSI® software), and improving on a dream project.

The Challenge: Making *Fable II* Fabulous

After six years of mind-bending work, most people might like to take an extended break, preferably with sand, salt water, and a tasty beverage of some kind. Even before finishing the first *Fable*, however, the Lionhead team members already knew how they wanted to improve the game experience, as well as the way they created it.

"Yes, we were pretty tired," admits Ian Lovett, technical art director at Lionhead Studios. "*Fable* was a six-year, monstrous project for us, but it was also the greatest experience most of us ever had. The success of the game didn't change the fact that we wanted the sequel to be more efficient, more organized, and as a result, even more creative and open than the original. At the same time, we knew we didn't want to spend another six years on this one. We needed to figure out where we were wasting time."

There's nothing like success to boost confidence, and Lovett admits that *Fable*'s obvious popularity made the Lionhead team much more daring for the sequel:

"More than anything else, we wanted to break down the barrier between player and game," he says thoughtfully. "Role playing games (RPG's) can be very intimidating to new players, and we wanted to get their minds open and involved in the shortest period of time. We wanted to allow players to choose their gender, to add more freedom to fully explore a world of caves and caverns that is far bigger, richer, and deeper than the original. In retrospect, we probably didn't anticipate just how challenging that would be."

"Our biggest challenge came with the sheer volume of characters we needed," says Emilio Serrano Garcia, technical animator on *Fable II*. "In addition to allowing players to choose male or female characters, which automatically doubled the character count, we had hundreds of villagers -- who were split into heads, torsos, and legs -- as well as a bunch of secondary characters, creatures, and enemies. What's more, since the *Fable II* hero or heroine changes appearance

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throughout the game, we had morph's to consider. In order to get the best performance, we created a single rig, using tools developed exclusively in Autodesk Softimage."

And the significant changes didn't end there. Central to *Fable II* is each player's "faithful companion," an absolutely, unerringly loyal canine to accompany players from childhood through the life of the game. The emotional connection to the animal is surprisingly effective and affecting, adding an emotional depth to the sequel.

"The creation of a believable dog character was an incredibly tricky proposition for our artists and technical team," says Lovett. "We had a talented team dedicated to the dog almost constantly through the development of the project. Pouring the appropriate amount of love into that animal so that it would move and emote believably proved tremendously tough. When you combine that work with a morphing hero or heroine who is changing according to a wide variety of decisions, the sheer volume of work and assets gets to be staggering."



Image courtesy of Lionhead Studios.



Image courtesy of Lionhead Studios.

The Solution

To achieve enhanced efficiency and productivity amidst a potentially overwhelming number of assets, Lovett spearheaded the use of Autodesk Softimage for the major project and a new platform:

"We were going to have to rewrite our tools in order to bring the new game to the Xbox 360," says Lovett. "So, it seemed like a good time to reevaluate our toolset and figure out how we could achieve a more cohesive production pipeline. Autodesk Softimage has excellent modeling tools together with extremely flexible animation tools, and our engineers were able to use it quickly and easily."

Lionhead Lead technical artist Fernando Navarro points to the interoperability made possible by Autodesk Softimage as a crucial benefit of the software:

"Autodesk Softimage is our main asset creation tool for a variety of reasons. The fact that we can talk to other applications including Autodesk 3ds Max software, ZBrush, and Adobe Photoshop has given us an incredibly powerful framework for jobs like *Fable II*. We used dotXSI and XML animation formats to export all our final data. FableEd, our in-house editorial tool, was specifically tailored to blend and transform a massive amount of data."

For technical artist Michael Malinowski, the volume of creatures and characters, all of which can vary drastically in both size and fundamental characteristics, presented a potentially prohibitive number of animations. True to form, however, the resourceful Lionhead animation team used Autodesk Softimage to devise a solution:

"We effectively worked through that challenge by creating a deformation hierarchy in our principle rig," says Malinowski. "We would then read out all transformation data in XML format. Instead of reading straight transformation data, however, we calculated the size of the offsets between our template character and the specific character being animated. That way, we were able to export

all our individual characters, regardless of their proportions, to an appropriately sized skeleton."

The Results

Navarro also explains that Lionhead's production pipeline is seamlessly integrated into Autodesk Softimage through custom toolbars and support tools:

"All of our rigs and meshes are annotated with custom properties containing valuable extra information for the game engine," he says. "Through the sequencer and DirectX viewports, we can preview any object before it reaches the game. It's worth noting that a team of just two technical artists and two riggers accomplished the enormous task associated with handling, rigging and exporting objects to the game itself. Emilio Serrano, Mike Malinowski, and Louise Ridley have been the stars in this dynamic, often chaotic environment."

For his part, Lovett and Malinowski are quick to praise Autodesk Softimage software's 'Generalized Attribute Transfer Operator' or GATOR:

"GATOR has been especially useful," says Lovett of Autodesk Softimage's 'Generalized Attribute Transfer Operator.' "Transferring vertex weighting data from one model to another was always a difficult and time-consuming process. Suddenly, we had GATOR to do it with one easy method. We used it extensively in our workflow. Autodesk Softimage software's flexibility also enabled us to code our own solutions, which was a huge boon to the project."

"Having huge amounts of assets requiring complex skinning was an immense task," adds Malinowski. "GATOR was a fundamental tool in this process, and helps us form a base from which to start. Simply put, GATOR is an integral part of our pipeline and, without a doubt, it saved us a massive amount of time when it came to skinning."

Though only released a few months ago, *Fable II* has already sold more than 2.5 million units, while being recognized as "Game of the Year" by a wide variety of knowledgeable sources and publications.