

Posing as a Werewolf: The Creature Matchmove Tool Used for Van Helsing

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1 Overview

Werewolves, Vampires, Mr. Hyde and Frankenstein .. the cast was horrific!!

Van Helsing, the latest film by director Stephen Sommers presented an incredible challenge to the Visual Effects Team at *Industrial Light & Magic*. Universal Studios asked VFX Supervisors Scott Squires and Ben Snow, and Animation Director Daniel Jeannette to bring these familiar characters to life for a new generation.

The film contains a host of villains for our protagonist, Van Helsing, to battle. They fly, fight ... and transform, requiring extremely accurate creature matchmoves, or 'MatchAnimation'.

The script included ten main characters, resulting in 120 Match Animation shots. 58 of these were specific creature transitions between live action and computer graphic models. Designing and building all of these creatures was a daunting task, and it was clear early on that it was not feasible to support separate rigs and pipelines for Animation Layout and MatchAnimation.

2 Challenge

In the past, the proprietary software used for tracking Camera Matchmoves and Creature MatchAnimation has included only an FK animation system. Although we have had the benefit of working with extremely accurate models and interactive skin deformation, the joint structure of this system is very cumbersome. Fine tuning by hand requires painstaking work, joint by joint.

'Poseur', a new tool used for Animation Layout on some previous shows like *Harry Potter* and *Pirates of The Caribbean*, was patterned on a cell animation system. Focused on a pose to pose work flow, with separate tools to deal with 'inbetweening', Poseur employed a new 'direct manipulation' kinematic structure. It was not, however, intended to provide the high level of control and accuracy required for MatchAnimation.

The challenge was to modify Poseur so that it would accommodate the light weight ease of quick blocking which animators expect, while allowing precise control and fine detail for Creature MatchAnimation. The ability to work with high resolution patch deformation, driven by complex rigging systems, was also required for the numerous transformation and CG prosthetic shots.

In order to serve the needs of both camps and streamline the creature pipeline, the R&D team would need to bridge the gap between the two disciplines. The result is a very unique animation package which includes speed, agility and precision, whilst presenting a whole new array of kinematic modes of working.

- The skeleton acts independently of its hierarchy. Because of this, changes can be made to the rig while a shot is in progress.

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- The user can work in various kinematic modes at the same time: FK, IK and a new 'Direct Manipulation' mode.
- Animation is represented by poses, rather than by curves. This has facilitated several motion editing and blending tools, which have been critical in the blocking and fine tuning stages of MatchAnimation.
- The posing and 'inbetweening' features allow areas of the body to be locked, isolated and adjusted independently ... without having to counter-animate.
- Poseur works in conjunction with our current pattern tracking software and high resolution skin deformation for an extremely tight match.

The sketch will demonstrate these unique strengths with examples from *Van Helsing*.

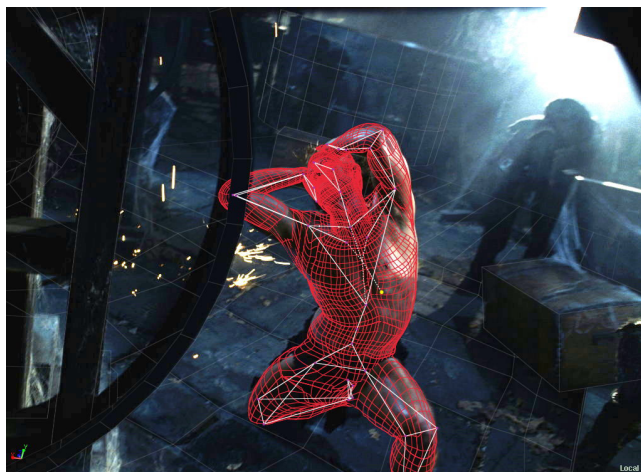


Figure 1: The Poseur Rig Model in motion, matching Will Kemp as he transforms from a Werewolf, back to human form, in *Van Helsing*.

3 Future Developments

Poseur was developed as a module within a larger proprietary package. This affords further development in a variety of compatible areas, such as, hair and cloth simulation, and sculpting.

4 Acknowledgments

The development of these tools would not have been possible without the vision and support of Daniel Jeannette, Scott Squires, Ben Snow and Steve Sullivan. Special Thanks to Gretchen Libby and Production, Jeff White, the ILM Van Helsing R&D Software Team, Creature Development, MatchAnimation and Animation Crews.