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Directing Digital Crowds

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CG supervisor

Radium Inc.

1. Summary

A major turning point in the film industry happened at the release of Lord of the Rings in 2001 with the first use of Massive Software to create digital crowds. Prior to creating digital crowds of "extras", hundreds to thousands of hired people, "extras", would need to fulfill the need of the director's vision. It would be limited to the cost, the environment, or even the types of characters that can be used on a grand scale in films or television. The epic battles seen in Lord of the Rings, through the direction of Peter Jackson, required inventive ways to solve how to handle thousands of orcs, elves, and other creatures to battle each other. The crowds had to be able to receive direction, scalability, and most importantly they had to be believable in their interaction with each other as if they were real extras.

Artificial intelligence is a necessary component to creating digital crowds that will be believable. Massive Software integrates the use of fuzzy logic and an easy to use interface for artists to create epic shots for films, television, architecture, and robotics. The crowds are created from a system of agents run by the fuzzy logic systems using a node based interface. The agents have the ability to interact with each other and respond to visual, auditory, and environmental feedback. The ease using Massive Software for creating crowds of characters has revolutionized the way the film industry now will handle the epic shots once thought of as being difficult, expensive, and maybe impossible. The artist can quickly generate the shots necessary for the director and can alter the shot based on the director's notes by tweaking the smallest of details such as changing the color of shirt on just one agent or removing a single agent from the shot.

You will get a look at how the fuzzy logic is created within Massive Software. There will be examples of how these systems are implemented into a larger scale agents and to interact with other agents which creates a multi-agent system for the artists to interact within the shots. Practical uses from films, commercials and other uses will be shown for the type of work that is now possible. The use of artificial intelligence and multi-agent systems within the arena of film and television has added a new and simple way to achieve once impossible results.

2. Biography

Mark Thielen is the CG supervisor at Radium. He has a character animation background with over 10 years of CG experience. His experience ranges from film and television to commercials. He has been using Massive Software for 6 years. He was the Massive supervisor for The Ant Bully, Blades of Glory, The Leatherheads and numerous commercials.

3. Film/TV Credits

(1) Mr. Magorium's Wonder Emporium (2007) (animator)
(2) The Express (2008) (Massive technical director)
(3) Vantage Point (2008) (Massive technical director)
(4) Leatherheads (2008) (Massive technical director)
(5) Blades of Glory (2007) (Massive supervisor)
(6) The Ant Bully (2006) (animation supervisor)
(7) "The Adventures of Jimmy Neutron: Boy Genius" (animator) (15 episodes, 2002-2004)
(8) Jimmy Neutron: Boy Genius (2001) (character animator)
(9) Monkeybone (2001) (miniature sets builder) (uncredited)

4. Other Projects

Zeno – a robot using Massive
http://www.massivesoftware.com/robotics/
(flash video)

5. Commercial Clients

Gatorade
Home Depot Olympics
Hasbro - Playdoh
Zain - Mobile Phone
T-Mobile