Report on the Third Artificial Intelligence and Interactive Digital Entertainment (AIIDE-07) Conference

Jonathan Schaeffer

■ Over the past decade, the commercial games industry has come to realize the importance of AI to its next-generation products. Similarly, the academic community now recognizes the interesting research challenges of game AI. AAAI responded to this interest with the creation in 2005 of the Artificial Intelligence and Interactive Digital Entertainment conference series. The third AIIDE conference was held in June 2007 and was a great success. It featured 10 (!) invited speakers and attracted an excellent mix of academic researchers and industry practitioners.

The Third Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE) was held June 6–8, 2007, at Stanford University, Stanford, California. The conference series began in 2005, but it has a long history. The precursor to this event began with AAAI Spring Symposium sessions in 1999, 2000, 2001, and 2002, followed by a 2004 workshop collocated with the AAAI National Conference. The success of these events convinced the community that a stand-alone conference was viable. The AAAI Fall/Spring Symposium series is a nurturing ground for new conferences, and the AIIDE conference has greatly benefited from the groundwork laid at these gatherings.

The AIIDE conference is intended to be the definitive point of interaction between AI software developers in the interactive entertainment industry and academic researchers. The conference goal is to promote AI research and practice in the context of interactive digital entertainment systems with an emphasis on commercial computer and video games. Historically there has been a disconnect between the work done in academe and that done in industry, to the point where most academic research is unknown to or ignored by industry developers. Given the disconnect, it is important to get academics and industry practitioners interacting, so that the academics can better understand the demanding AI requirements of modern games, and industry AI developers can better understand what is available.

John Laird's and Michael van Lent's 2000 AAAI paper said it all in their title: "Human-level AI's Killer Application: Interactive Computer Games." Many people listened, and in the intervening seven years the level of academic activity in AI using games has grown dramatically. This interest is also due to the decline in enrollments in university computing programs, as computer science departments struggle to make their curriculums more appealing to a clientele that is increasingly disinterested in computing.

Past AIIDE conferences have featured four to five invited speakers (mostly from industry), academic papers/posters, and a mix of academic and industrial demonstrations. The conference time was dominated by academic presentations. Attempts to solicit papers from industry were largely unsuccessful; most industry AI people do not have the time or experience to write papers that will survive a rigorous review process.

In an attempt to make the conference more exciting, we tried a new approach this year. The invited talks at AIIDE always attract the most interest. They represent most of the industrial content of the conference and are always the best attended sessions. For AIIDE'07, we opted for 10 invited speakers, 9 from industry. This filled up most of the schedule and ensured that attendance would be high for all three conference days—morning and afternoon. Between the invited talks, we squeezed in 11 refereed papers, a poster session (11 posters), and four demonstrations. The new format seems to have met with universal approval.

This year we added a collocated workshop, the second annual Workshop on Optimizing Player Satisfaction. The seven workshop papers were presented as parallel sessions to the paper presentations at AIIDE. This proved to be quite successful, and people appreciated having a choice.

The invited talks are always the highlight of AIIDE, especially this year. With 10 invited speakers, there was something for everyone. The range of topics was interesting. For example, Quinn Dunki (Pandemic Studios, makers of games like Full Spectrum
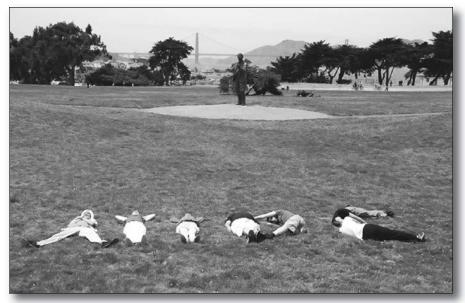
*Figure 1. AIIDE Logo Is Spelled Out by Participants in a
San Francisco Park. Photo courtesy Alejandro Isaza.*

*Figure 2. Richard Evans Presents an
Invited Talk at AIIDE'07. Photo courtesy David Thue.*

and motion-based games will grow in popularity.

Regrettably, there is not enough space for me to go into the details on all the invited speakers. They included Richard Evans (Electronic Arts, "Exotic AI Techniques for SIMS 3"), Soren Johnson (EA Maxis, "A Work in Progress: Writing AI for Civilization"), Chris Bateman (International Hobo, "Satisfying Player Needs: Understanding the Diversity of Play Styles"), Neil Young (Electronic Arts, "Implied Intelligence"), Chris Hecker (EA Maxis, "Approaching Hard Problems"), Matthew Wiggins (Lionhead Studios, "The Art of Character AI"), and Chris Williams, Nick Pavis, and Mat Best (Lucas Arts, "Physically Simulated Procedural Animation for Next-Gen Gaming").

Next year's AIIDE conference will be held in the fall (October 22–24) at Stanford University. Paper submissions are due April 22. We hope you can join us for another outstanding event.

Acknowledgements

Jonathan Schaeffer is a professor of computing science at the University of Alberta. His research interests are in artificial intelligence and parallel/distributed computing. He is best known for his work on computer games, especially applied to commercial game AI and to classic board and card games. He is the creator of the checkers program Chinook, the first program to win a human world championship in any game.

Warrior) talked about real-time pathfinding in a dynamically changing environment (her title was "Streaming, Open-World Pathfinding"). Most academics consider pathfinding to be a "solved" problem—what else do you need besides A*? In reality, as Quinn showed, you actually need much more than that. When you add in constraints such as high performance, limited memory, hundreds of agents, movements in formation, and so on, the problem is no longer simple, and it continues to represent an important area of interest to industry. Single-agent search research is much more exciting than you thought!

At the other end of the spectrum, John Funge and Wolff Dobson (AiLive Inc., "AiLive's LiveMove and LiveCombat") talked about new motion recognition technology for the Wii (the fifth home video game console released by Nintendo). With relatively little training, their programs can learn to recognize common hand movements (for example, drawing a 2 in the air). The Wii has ushered in a new generation of gaming platforms,