Talk Title: Dynamic Guidance for Task-Based Exploratory Learning in Virtual Environments
Speaker: Jim Thomas, Digital Games Research Center, Department of Computer Science, NC State University
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Abstract: My research integrates intelligent tutoring capabilities into a framework that can be applied within any exploratory learning game. The goal is to provide dynamic adaptation to the learning needs of an individual students without constraining the autonomy and fun that digital games can offer. To accomplish this goal, I designed a theoretical framework that employs a novel plan-based knowledge representation to describe both how the game works and what a student can learn in the game environment. I implemented this framework in a system called Annie, that uses a decompositional partial-order planner as its engine. Automated planning has been shown to provide a balance between user autonomy and story coherence within interactive narrative that is similar to the balance between player autonomy and learning progression that is a goal for Annie. I ran experimental evaluations of Annie with human learners in a serious game I created called FixIt. My talk describes the theoretical framework, the implementations of Annie and FixIt, the methods and results of the experimental evaluations.

Speaker Bio: Since receiving his Ph.D. from the Department of Computer Science at North Carolina State University in February, 2011, Jim has been working a Post-Doctoral Research Scholar reporting to his thesis advisor, Dr. R. Michael Young. Jim previously worked as a software designer, software design manager, and strategic marketing manager at Nortel Networks, Bell-Northern Research, and IBM. Jim's research interests include Intelligent tutoring systems, automated planning and plan recognition and computer games. He's also worked on generative computational models of interactive narrative and tools for scaffolding of social skills learning for high-functioning autistic children.

Date: Time: 02:00 PM Place: 3211, EB II; NCSU Centennial Campus (click for courtesy parking request)