Authoring Interactive Virtual Experiences for Entertainment, Education, and Training
## David. L. Roberts — Georgia Tech College of Computing
Tuesday, 23 September, 6:30 PM -- Doolan 222

Since the introduction of Pong by Atari in 1972, computer games have grown in popularity at an astounding rate. In the early days, games required large physical enclosures, simple inputs, and produced very simple 2D output. At that point, the challenge of designing a game came from the constraints imposed by the hardware; however, hardware technology has grown at significantly increasing pace. With these improvements to hardware and the potential for vastly different experiences, the challenges faced by today's designer are completely different.

In this talk, I will describe a class of interactive virtual experiences at the forefront of those design challenges. I will motivate the use of a "drama manager" to control these types of experiences as well as describe a number of architectures designed to solve the drama management problem, particularly the Declarative Optimization-based Drama Management (DODM) architecture. I will present some results demonstrating the effectiveness of a DODM drama manager and then describe some limitations of the approach.

I will conclude the talk by describing current efforts to address those limitations by incorporating theories from behavioral economics and social psychology. In addition, I will describe evaluation studies to verify the effectiveness of these new techniques at addressing those limitations.
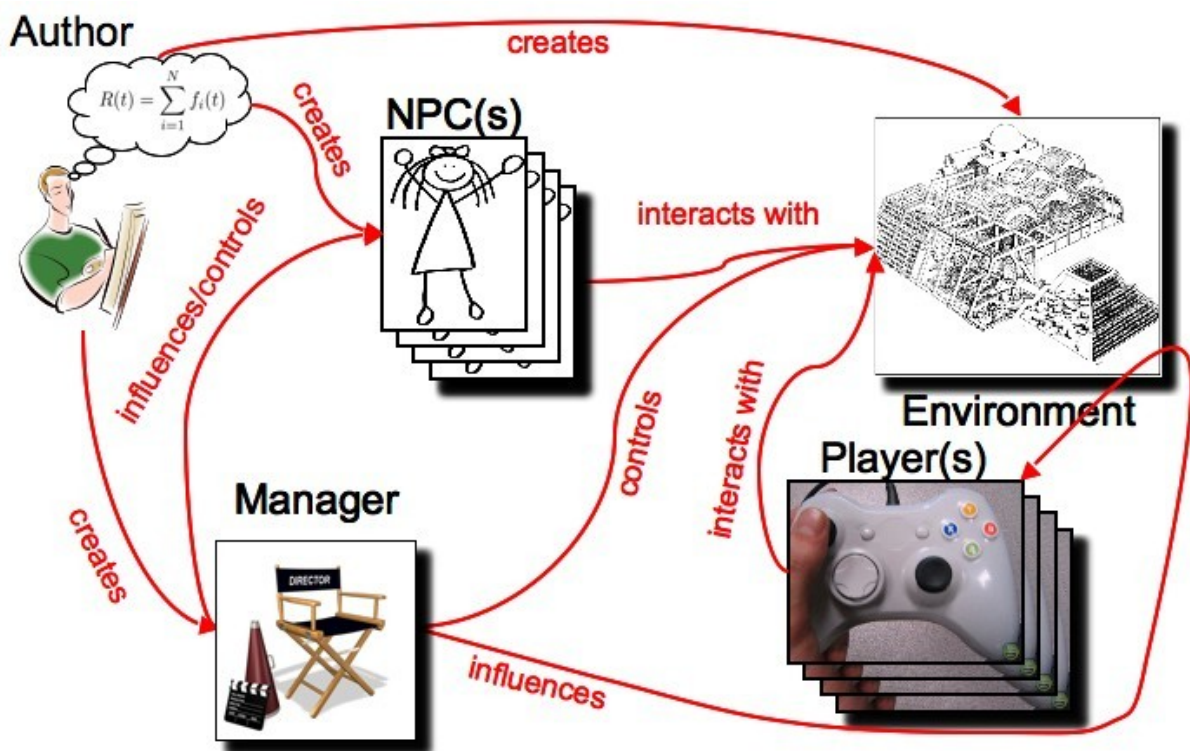
David Roberts is a fifth year Ph.D. student in the School of Interactive Computing at the Georgia Institute of Technology and has been working on various aspects of interactive virtual experiences, with a special focus on the design of compact representations and efficient algorithms to support the authoring process. As a member of the Laboratory for Interactive Artificial Intelligence that specializes in statistical machine learning and artificial intelligence, David brings a computational focus to his work but also draws upon ideas from computer game design, narratology, and social psychology. He has published more than 20 papers on topics ranging from combinatorics to multiagent systems to interactive narrative. He is co-organizer of the upcoming AAAI Spring Symposium on Intelligent Narratives Technologies II. David has been a Graduate Research Fellow of the US Department of Homeland Security, a President's Fellow of the Georgia Institute of Technology, and a Summer Intern at Telcordia Technologies and Lawrence Livermore National Laboratory.