

**A Video Game-Based Framework  
for Analyzing Human-Robot Interaction:  
Characterizing Interface Design in  
Real-Time Interactive Multimedia Applications**

Justin Richer  
The MITRE Corporation

Wednesday, 30 November 2005

Olsen 311

Refreshments at 2:30, Talk from 3:00-4:00

There is growing interest in mining the world of video games to find inspiration for human-robot interaction (HRI) design. This paper segments video game interaction into domain-independent components which together form a framework that can be used to characterize real-time interactive multimedia applications in general and HRI in particular. We provide examples of using the components in both the video game and the Unmanned Aerial Vehicle (UAV) domains (treating UAVs as airborne robots). Beyond characterization, the framework can be used to inspire new HRI designs and compare different designs; we provide an example comparison of two UAV ground station applications.

Bio: Justin Richer is a 2003 graduate of Northeastern University's College of Computer and Information Science with a BS in Computer Science. He is a senior computer scientist at The MITRE Corporation in the Collaboration and Multimedia department, where he has been working since early 2000. He is currently involved in several research projects at MITRE including designing and implementing improved user interfaces for unmanned aerial vehicles (UAVs) with UML alumna Dr. Jill Drury. His research interests include social computing, collaborative systems, human-computer interaction, and video games and game systems.