



Games & Health

David Milam

March 28/2008

IAT 842: Theory and Design of Games

Overview

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Games For Health Initiative - Goals

- The goal of the Games For Health is to help **foster and support a community** of researchers, developers, and users of applications that use game, game technologies, and game development talent to create entire new ways of improving the management, quality, and provision of healthcare worldwide.
- As part of that goal Games For Health also plays a greater role in helping to organize and **accelerate** the **adoption** of computer games for a variety of challenges facing the world today.
- Associated with the Serious Games Initiative: focused on uses for games in exploring **management** and **leadership challenges** facing the public sector. Part of its overall charter is to help forge productive **links** between the **electronic game industry** and projects involving the use of games in education, training, health, and public policy.

Games For Health Initiative - Interests

We are most interested in working to address four interrelated questions:

1. Can games improve the provision, and quality, of healthcare?
2. What existing and emerging game technologies (such as multi-user, virtual environments) might be particularly useful when applied to healthcare issues? (examples will be discussed later...)
3. How can we expand the application of computer-based game technologies to face key challenges in the healthcare sector?
4. How do we identify and proactively deal with any social, ethical, and/or legal issues that might arise through the application of game-based tools to healthcare issues?

Games For Health Initiative - Players

- **David Rejeski** - is the Director, Foresight and Governance Project at the Woodrow Wilson International Center for Scholars in Washington, D.C.
 - WWIC is a nonpartisan institution, supported by public and private funds, engaged in the study of national and world affairs. The Center establishes and maintains a lively, neutral forum for free and informed dialogue.
 - Gaming Our Way to a Better Future (<http://www.changemakers.net/en-us/node/1842>)

“Used properly, games could improve public sector policies and management by allowing decision makers **to improve their understanding of complex systems**, lower their risk of being surprised by unexpected events, and exercise corners of their minds seldom explored in their day-to-day lives until a crisis... politicians should **challenge the [games] sector** to use its creativity to develop sophisticated products to **improve the vision, critical thinking and problem solving skills** in government – something that would benefit us all.”

Games For Health Initiative - Players

- **Ben Sawyer** - is President of Digitalmill, Inc. a Portland, ME based consulting he helped found in 1997. Digitalmill has worked on a number of game projects.
 - Robert Wood Johnson Foundation: The mission of the Robert Wood Johnson Foundation is to improve the health and health care of all Americans. Our goal is clear: To help society transform itself for the better.
 - Health Games Research: Advancing Effectiveness of Interactive Games for Health
The goal of the program is to advance the innovation, design and effectiveness of health games and game technologies so that they help people improve their health-related behaviors and, as a result, achieve significantly better health outcomes.
 - Youth-focused video games (nutrition and physical activity)
 - Cognitive games (battling aging)
 - Training tools for medical practice
 - Disease self-management
 - Fist response unit

<http://www.rwjf.org/applications/solicited/cfp.jsp?ID=20001>

<http://www.rwjf.org/newsroom/profiledetail.jsp?id=20993&typeid=150>

g a m e s F O R H E A L T H

Home

About

The Serious Games Initiative founded Games for Health to develop a community and best practices platform for the numerous games being built for health care applications. To date the project has brought together researchers, medical professionals, and game developers to share information about the impact games and game technologies can have on health care and policy.



- We're planning close to 40 sessions including sessions on epidemiology in World of Warcraft, Game Addiction, Nurse Training, Rehabitainment, exergaming, and a special session with some of the biggest companies in healthcare.

<http://www.gamesforhealth.org/archives/000218.html>



Virtual Rehabilitation 2008

(Formerly IWVR)

Vancouver Convention & Exhibition Centre, Canada, August 25-27, 2008

- Papers related to the use of Virtual Reality in the following areas are solicited:
 - Motor Rehabilitation
 - Brain Computer Interfaces
 - Rehabilitation Robotics and haptics
 - Psychological and Environmental Rehabilitation
 - Vestibular and Balance Rehabilitation
 - **Cognitive Rehabilitation**
 - Telerehabilitation
 - Sociological, demographic and legal aspects of Virtual Rehabilitation
 - Regulatory, education and formative efforts to promote Virtual Rehabilitation
 - **Novel applications of game consoles**

<http://www.caip.rutgers.edu/vrlab/iwvr/2008/index.html>

MMVR 16 CONFERENCE

MEDICINE MEETS VIRTUAL REALITY 16



- MMVR supports improved precision, efficiency, and outcomes in clinical diagnosis and therapy, medical education, and public health. MMVR15 is designed as a forum for encouraging and sharing innovative research on information-based tools for clinical care and medical education.

Topics

- State-of-the-art for biomedical simulation and its enabling technologies: haptics, tissue modeling, and simulation
- Emerging tools for clinical diagnosis and therapy: imaging tools, data visualization and fusion techniques, and robotics
- Intelligence networks for medical decision-making and patient care

Target Audience: Physicians, Educators, Computer Technologists, IT Specialists, Military Medicine, Biomedical Investors

My Own Interests – Potential Collaborators

Suzanne de Castelle, PhD Education, SFU



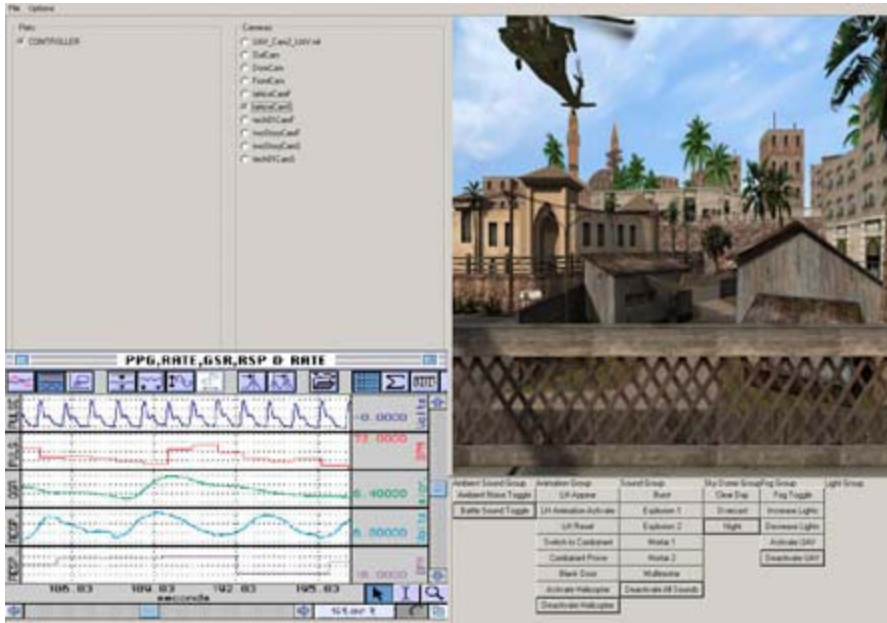
Contagion is aimed at nine- to 13-year-olds and it's all about contagious diseases like West Nile, HIV/AIDS and the Avian flu. Dr. Jenson and her collaborator, Suzanne de Castell of Simon Fraser University's faculty of education, want pre-teens to learn how to **take precautionary measures to stay healthy.**

"The Big Bad in this game is ignorance," says Dr. Jenson, who's working with programmers from Seneca College of Applied Arts and Technology in Toronto to develop the software. While the end result is knowledge, the emphasis is on fun. "We want people to come to our game," says Dr. Jenson, "and spend as much time as they do with video games."

http://www.universityaffairs.ca/issues/2006/jan/_print/saving_the_world.html

My Own Interests – Potential Collaborators

Albert (Skip) Rizzo, PhD Psychology , USC/ICT



Virtual Iraq: Initial Case Reports from a VR Exposure Therapy

Virtual Reality (VR) delivered exposure therapy for **PTSD** has been used with reports of positive outcomes. The aim of the current paper is to present the rationale and brief description of a Virtual Iraq PTSD VR therapy application and present initial findings from two successfully treated patients. The VR treatment environment was created via the recycling of virtual graphic assets that were initially built for the U.S. Army-funded combat tactical simulation scenario and commercially successful X-Box game, Full Spectrum Warrior. Thus far, Virtual Iraq consists of a series of **customizable virtual scenarios** designed to represent relevant Middle Eastern VR contexts for exposure therapy, including a city and desert road convoy environment.

<http://www.sfu.ca/~dma35/thesisdev/papers/31%20IWVR2007%20IEEE%20Format%20PTSD-2.pdf>

My Own Interests – Potential Collaborators

Yong Cao, PhD Computer Science ,Virginia Tech



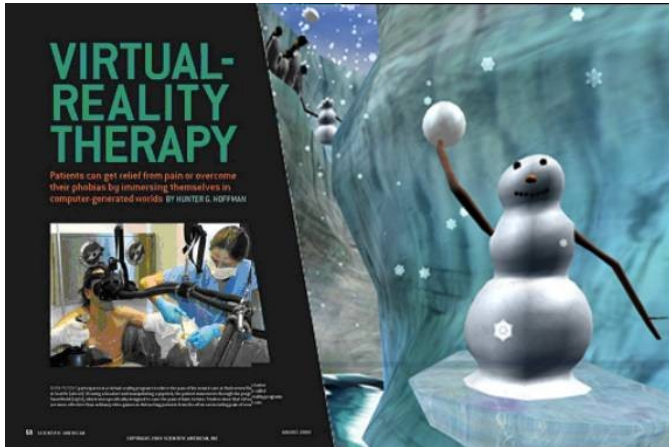
Trauma Room Simulation

This project is a realistic medical simulation in a 3D virtual environment, or a video game for medical training. We worked with Carilion Memorial Hospital at Roanoke, VA and developed this system to **train residence doctors** how to handle **emergency situation** in Trauma room. The system includes animation, audio, simulation and camera components. The simulation is data-driven, so that the senior doctor can author different training scenarios with the tools we provide. The system has been deployed to the hospital for training sessions. The future plan has been decided for more medical and educational training.

<http://people.cs.vt.edu/~yongcao/>

My Own Interests – Potential Collaborators

Dianne Gromala PhD SIAT



Virtual Reality Pain Reduction

VR Pain Control environment is on display as part of the Cooper-Hewitt Smithsonian Triennial Design Exhibition: Design Life Now (a touring museum exhibit).

SnowWorld was on exhibit at Cooper Hewitt on museum row in Manhattan New York City, at the Institute of Contemporary Art Boston and the final tour stop for the Triennial will be at the Contemporary Arts Museum in Houston from January 26, 2008 to April 20, 2008 . Visit this exhibit and experience SnowWorld firsthand. Fly through an icy 3-D canyon throwing snowballs at snowmen, penguins and woolly mammoths. SnowWorld gives visitors the illusion of “being in another place” (using custom table mounted VR goggles built by Jeff Magula, UW).

<http://www.hitl.washington.edu/projects/vrpain/>

My Own Interests – Potential Topics

1. **Mental Health and Illness**
2. **Psychotherapy**
3. **Cogitative Behavior Therapy**
4. **Schizophrenia**
5. **Trauma Room**

** I need collaborators

<http://www.sfu.ca/~dma35/thesisdev.html>

Thank You