Research

Faculty affiliates at the Center for Digital Games Research have produced a wide range of projects and research findings related to digital media and games.

Credibility Assessment and Intelligence Analysis Training in a Serious Game
Norah Dunbar, Ph.D., Department of Communication

Two games were designed to mitigate cognitive bias: MACBETH (Mitigating Analyst Cognitive Bias by Eliminating Task Heuristics). The games garnered two awards at the 2013 Serious Games Showcase & Challenge (SGS&C) at the Interservice/Industry Training Simulation and Education Conference (I/ITSEC): Best Game Overall (Business Category) and the Adaptive Force Award (selected by the Office of the Secretary of Defense). Funded by Intelligence Advanced Research Projects Activity (IARPA), 2011-2013.

Decision-Making in Abstract Trust Games in a Computer-Mediated Multi-Agent Setting
Tobias Hollerer, Ph.D., Department of Computer Science


DynaMath
Michael Gerber, Ph.D., School of Education


Experimental Games in Digital Virtual Environments
Jim Blascovich, Ph.D., Department of Psychological and Brain Sciences

This program of research examines effects of player facial expressions on economic games within immersive and non-immersive digital virtual environments.

virtual environment technology as a methodological tool for social psychology. Psychological Inquiry, 13, 146-149.

**Game-Based Learning**
Richard Mayer, Ph.D., Department of Psychological and Brain Sciences


**Health Games Database**
Erica Biely, M.A., Center for Digital Games Research
Debra Lieberman, Ph.D., Center for Digital Games Research

The online searchable Health Games Database lists hundreds of health games and related publications, resources, organizations, and events. Users can search by keyword, category, or topic; flag items; save and update favorite searches; and recommend new items to include. The database was previously located on the web site of the Health Games Research national program and is now located on the web site of the Center for Digital Games Research at UC Santa Barbara. Funded by the Pioneer Portfolio of the Robert Wood Johnson Foundation, 2007-2015.

http://www.cdgr.ucsb.edu/db

**Health Games Research: Advancing Effectiveness of Interactive Games for Health**
Debra Lieberman, Ph.D., Center for Digital Games Research
Erica Biely, M.A., Center for Digital Games Research

Headquartered at UC Santa Barbara, Health Games Research was a national program that focused on the research and design of digital games for health behavior change. Its constituents included researchers, health care providers, game designers and producers, funders and investors, policy-makers, and the general public. The program provided leadership to help build the emerging health games field and it funded 21 research projects in the U.S. that investigated processes and effects of health games that were designed to improved players’ engagement, motivation, learning, and health behaviors related to healthy lifestyle habits, prevention behaviors, self-care, and disease self-management. The research projects studied games that appeared on various technology platforms from mobile phones to consoles to dance pads to cybercycles to robots; focused on a range of health issues from obesity to nutrition to physical activity to tobacco addiction to alcoholism to cystic fibrosis to autism to physical therapy to cognitive therapy (neurotherapeutics),
among many other issues; and addressed the needs of diverse populations by age and income and health status. Findings from these studies advanced the field, demonstrated in many ways that research can improve the design and effectiveness of health games, gave decision-makers the confidence that well designed health games can be effective in improving health-related learning and behavior change, and provided evidence-based principles of health game design to apply to the design of future health games. In addition to providing technical assistance to the 21 grantees and disseminating their findings, senior staff of Health Games Research conducted and published research, developed resources for the field such as the Health Games Database and nationwide surveys, and gave numerous invited talks at national conferences and meetings in the fields of media and games, health care, and academic research. Funded by the Pioneer Portfolio of the Robert Wood Johnson Foundation, 2007-2013.


Human Interaction in an Enhanced Gaming Experience
Tobias Höllerer, Ph.D., Department of Computer Science


Infinite Reality
Jim Blascovich, Ph.D., Department of Psychological and Brain Sciences

This book by renowned researchers Jim Blascovich (UC Santa Barbara) and Jeremy Bailenson (Stanford University) explores how digital immersive virtual reality has become an extension of humanity and how it will soon be integrated into our lives. To support their predictions, the authors provide extensive research evidence and examples of virtual reality applications that have had considerable influence on users’ attitudes, self-concepts, learning, and behavior.


http://www.infinitereality.org/ [9]

Kodu
Chandra Krintz, Ph.D., Department of Computer Science

Kodu is a visual programming language that children and adults can use to create games. The programming environment runs on the Xbox, allowing rapid design iteration using only a game controller for input. Computer Science Professor Chandra Krintz worked on Kodu with Microsoft Research. She used Kodu as a way to introduce game development, logical thinking, and computer science to girls ages 10-14 who are from disadvantaged backgrounds.


Microcomputer Administered Spelling Tests: Effects on Learning Handicapped and Normally Achieving Students
Michael Gerber, Ph.D., School of Education

Effect of
Microcomputer-A
Research
Published on Center for Digital Games Research (http://dev.cdgr.ucsb.edu)

administered
Spelling
Assessment on LH
Students'
Performance and
Teachers'
Management of
Instruction.
Funded by the
Office of Special
Education
Projects, US
Department of
Education,

Narrative Games for Learning
Richard Mayer, Ph.D., Department of Psychological and Brain Sciences


Pedagogical Agents in Games for Learning
Richard Mayer, Ph.D., Department of Psychological and Brain Sciences


Re-Mission: Two Studies of a Cancer Education Video Game
Debra Lieberman, Ph.D., Center for Digital Games Research

Effects of a Cancer Education Video Game on the Cancer-Related Knowledge, Attitudes, and Prevention Behaviors of Healthy Young Adults. Research funded by HopeLab, 2005-2006.


http://www.editlib.org/p/14102/ [12]

Technology Effectiveness Research
Michael Gerber, Ph.D., School of Education

Twenty-Five Years After Dunn's Article:

A Legacy of Policy Analysis Research in Special Education
http://sed.sagepub.com/content/27/4/481.short [14]

Are Effective Schools Reforms Effective for All Students? The Implications of Joint Outcome Production for School Reform

http://www.tandfonline.com/doi/abs/10.1207/s15327035ex0702_1#.VDoMJBanFro [15]


Virtual Environments Technology
Michael Gerber, Ph.D., School of Education


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