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INTERESTS

Use of Artifacts

User Experience, Learning to Use Interactive Artifacts, Social Media Use, Information Visualization

Design Process

Interaction Design Process and Techniques, Practice of Interactive Artifact Design, Education on Design of Interactive Artifacts

EDUCATION

Indiana University, Bloomington, IN

Ph.D. in Informatics

exp. Feb. 2011

Dissertation: "Learning-in-use of Interactive Artifacts" (*tentative*)

Advisor: Dr. Martin A. Siegel

Committee: Dr. Erik Stolterman, Dr. David Hakken, Elizabeth Boling, Dr. Yvonne Rogers

GPA: 4.000

Indiana University, Bloomington, IN

M.S. in Human-Computer Interaction

2006

Thesis: "Barriers to entry: Designing player access in video games"

Advisor: Dr. Jeffrey Bardzell

GPA: 3.972

University of Notre Dame, Notre Dame, IN

B.S. in Computer Science

2004

Areas of Concentration: Artificial Intelligence, Computer Graphics

Advisor: Dr. Matthias Scheutz

GPA: 3.367

PUBLICATIONS AND PAPERS

Book Chapters

1. Castronova, E., Bell, M. W., Cummings, J. J., Emigh, W., Fatten, M., Mishler, N., Ross, T., Ryan, W., & Falk, M. Virtual world Economies: A Case Study of the Economics of Arden. (2009). In D. Heider (Ed.) *Living Virtually* (pp. 165-189). New York: Peter Lang Publishing, Inc.
2. Castronova, E., Cummings, J., Emigh, W., Fatten, M., Mishler, N., & Ryan, W. (2007). What is a synthetic world? In F. von Borries, S. Walz, U. Brinkmann, M. Böttger, (Eds.). *Space Time Play* (pp. 174-177). Basel, Switzerland: Birkhäuser Publishing.

Journal Articles

1. Castronova, E., Bell, M. W., Carlton, M., Cornell, R., Emigh, W., Falk, M., Fatten, M., LaFourrest, P., Reynard, J., Robbins, S., Ross, T., Ryan, W., & Starks, R. (2009). A Test of the Law of Demand in a Virtual World: Exploring the Petri Dish Approach to Social Science. *International Journal of Gaming and Computer-Mediated Simulations*, 1(2), 1-16.
2. Castronova, E., Cummings, J., Emigh, W., Fatten, M., Mishler, N., Ross, T., & Ryan, W. (2009). Case study: The economics of Arden. In *Special Issue of Critical Studies in Media Communication*. 26(2), 165-179.

Conference Publications

1. Ryan, W., Hazlewood, W. R., & Stolterman, E. (2010). Breaking the mold: Presenting evocative design as a method for divergent thought for interaction design. In *Proceedings of 7th International Conference on Design & Emotion 2010*. Chicago, IL.
 2. Ryan, W., & Siegel, M. A. (2009). Evaluating interactive entertainment using breakdown: Understanding embodied
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- learning in video games. In *Proceedings of DIGRA 2009*. London, England. Available at DIGRA Digital Libraries.
3. Jung, H., Stolterman, E., Ryan, W., Stroman, T., & Siegel, M. (2008). Toward a framework for ecology of artifacts: How are artifacts interconnected surrounding a personal life? In *Proceedings of 5th Nordic Conference on Human-Computer Interaction*. 201-210. Lund, Sweden.
 4. Ryan, W., Hazlewood, W. R., & Makice, K. (2008). Twitterspace: Co-development through Twitter to enhance community awareness. In *Proceedings of Participatory Design Conference 2008*, 230-233, Bloomington, IN.
 5. Bardzell, J., Bardzell, S., Birchler, C., & Ryan, W. (2007). Double Dribble: Illusionism, mixed reality, and the sports fan experience. In *Proceedings of International Conference on Advances in Computers for Entertainment Technology*. 216-219. Salzburg, Austria.
 6. Bardzell, J., Bardzell, S., Briggs, C., Makice, K., Ryan, W., & Weldon, M. (2006). Machinima prototyping: An approach to evaluation. In *Proceedings of 4th Nordic Conference on Human-Computer Interaction*. 433-436. Oslo, Norway.
 7. Brunette, K., Eisenstadt, M., Pukinskis, E., & Ryan, W. (2005). Meeteetse: social well-being through place attachment. In *Extended Abstracts of Conference on Human Factors in Computing Systems*. 2065-2069. Portland, OR.

Peer Reviewed Posters

1. Ryan, W., & Siegel, M. (2010). Learning-in-use of interactive artifacts: A longitudinal study analyzing the learning experience. In *Proceedings of 7th International Conference on Design & Emotion 2010*. Chicago, IL.
2. Ryan, W., Stolterman, E., Siegel, M., Jung, H., Stroman, T., Hazlewood, W. R. (2009). Device ecology mapper: A tool for studying users' ecosystems of interactive artifacts. In *Extended Abstracts of Conference on Human Factors in Computing Systems*, 4327-4332, Boston, MA.
3. Bardzell, S., Bardzell, J., & Ryan, W. (2006). Double Dribble: Mixed reality game design for sports informatics. In *5th International Conference on Entertainment Computing – ICEC*. London, England.

Peer-reviewed, Non-archived Publications

1. Ryan, W., & Bardzell, J. (2007). Using Player Breakdown as a Lens for Understanding the Development of Literacy in Video Games. In *Games, Learning, and Society*. Madison, WI.
2. Castronova, E., Cummings, J., Emigh, W., Fatten, M., Mishler, N., & Ryan, W. (2007). Understanding Synthetic Economies Through Their Construction. In *2007 Annual Meeting of the Academy of Management Panel on Beyond Play: Replicating, Mirroring, and Constituting 'Reality' Through Online Games*. Philadelphia, PA.
3. Ryan, W. (2006). Barriers to entry: Designing player access in video games. In *DIS 2006 Workshop On the Process of Game Design*. State College, PA.

Invited Talks

1. Ryan, W. (2009). Explorations in sense-making: Interaction Design and technology through a phenomenological perspective. Presented to IIT Institute of Design. Chicago, IL.
2. Ryan, W. (2006). Moving Beyond the Game: The Use of Modding in Machinima. In *Perform.Media*. Bloomington, IN.

Unpublished Reports

1. Ryan, W., Siegel, M. A., Stolterman, E. Learning-in-use: An experiential perspective on learning how to use interactive artifacts.
2. Stolterman, E., Ryan, W., Jung, H., Thompson, T., Siegel, M., & Wiltse, H. (2010). Ecologies of interactive artifacts: A challenge for HCI research and practice.
3. Hazlewood, W. R., Ryan, W., & Makice, K. (2009). Twitterspace: Evaluation of a set of community ambient displays.
4. Bardzell, J., Ryan, W., & Bardzell, S. (2006). Radical game play: The confrontation between machinima platforms and filmmakers.
5. Ryan, W. (2006). Deconstructing the coaching metaphor of fantasy football interfaces.
6. Bardzell, J., Bardzell, S., & Ryan, W. (2006). Virtual events in metaverse worlds: The intersection of interfaces, leisure, commerce, and persistent groups.
7. Bardzell, J., Bardzell, S., & Ryan, W. (2006). The video game tutorial: Narrative, HCI, and virtual learning.

AWARDS & COMPETITIONS

Nominated for AI of the Year	2010
Undergraduate Student Mentorship Position	2009-2010
- \$1000 Award to work with undergraduate to produce original research	
"Interact" Artwork	2006

(<http://www.williamryanonline.net/interact/dart.swf>)

Exhibitions:

- DART Exhibit
- 33 Collective Gallery Exhibit

Interface Programmer for "Guardians of Kelthas" game project
(<http://www.kelthas.com>)

2005-2006

Competitions:

- IDEASFEST 2005: Best Game, People's Choice Awards
- FuturePlay 2005: Competition Finalist
- Slamdance 2006: Gamemaker Competition Finalist

SIGCHI 2005 Student Competition Finalist

2005

"Meeteetse: social well-being through place attachment"

Undergraduate Dean's List at the University of Notre Dame

2002-2004

SERVICE

Reviewer of papers and posters

Design and Emotion 2010

CHI 2008, 2009, 2010

ACE 2008

Sandbox Symposium 2007

Virtual Reality Journal special issue on "VR in the e-Society," 2006

Student Volunteer

PDC 2008

Informatics Goes Global: Methods at a Crossing, 2006.

Community

Member of the North Catholic High School Technology Committee for assisting school to develop technology plan 2005, 2008-2009

TEACHING EXPERIENCE

Indiana University Purdue University Indianapolis, Indianapolis, IN

Visiting Lecturer

2010-2011

Course:

I270 "Introduction to Human-Computer Interaction: Principles and Practice" (FA 10, Sophomore)

I101 "Introduction to Informatics" (FA 10, Freshman) co-taught with Jennifer Stewart

Various activities:

writing syllabus and creating course structure from scratch; generating labs, lectures, discussions, and activities; writing and administrating midterm examinations.

Indiana University, Bloomington, IN

Assistant Instructor

2004-Present

Courses:

I300 "Human-Computer Interaction" (SP 09 & SP 10, Advanced Undergrad, for Dr. Martin A. Siegel)

I101 "Introduction to Informatics" (FA 07-SP 10, Freshman, for Matthew Hottell and Nina Onesti)

I604 "Human-Computer Interaction Theory" (FA 09, Graduate, for Dr. Erik Stolterman)

I310 "Multimedia Arts & Technology" (FA 05, Advanced Undergrad, for Dr. Jeffrey Bardzell)
"Music Information Representation, Search, and Retrieval" (FA 04, Graduate, for Dr. Christopher Raphael)

Various activities:

lecturing on course topics including design theory, new media theory, and interaction design; generating and collecting minute papers at the end of class; recording class attendance; assist students during in-class assignments; organizing and grading labs; grading assignments and tests; brainstorm activities.

Instructor

2008-2009

Course:

I300 "Human-Computer Interaction" (SU 08 & 09, Advanced Undergrad)

Various activities:

writing syllabus and creating course structure from scratch with the input of other HCI/d faculty; organizing course both for students who would continue on to graduate school and also those who will go onto other disciplines; generating lectures, discussions, and design problem; generating media examples including Project Runway episode as well as several TED conference talks;

organizing design activities such as: experience prototyping for users with cognitive impairments, installation that teaches kids at a children's museum about design, expanding the brand of Facebook creating a Facebook for families, and design problem designed to help students detach from their first design by disallowing it.

Mentorship

2009-2010

Students:

- David Poindexter (2010-2011) IUPUI
- Ohn'Jay Walker (2009, 2010) IUB
- Joseph Miller (2009, 2010) IUB
- Jaclyn Duket (2010) IUB
- Michael Osborne (2010) IUB

Various activities:

guiding students on a problem of interest; organizing activities to help direct them in deciding their approach to the problem; managed student activities and hours; created project management documents such as timelines, lists of deliverables, and lists of goals. In Spring 2010, I was paired with another Ph.D. student William R. Hazlewood to work with a larger research team.

University of Notre Dame, Notre Dame, IN

Teaching Assistant

2002-2003

Courses:

- "Combinatorial & Sequential Logic Design" (SP 03, Freshman, for Dr. Patrick J. Flynn)
- "Data Structures" (FA 02, Sophomore, for Dr. Jesus A. Izaguirre)
- "Introduction to Informatics" (SP 02, Freshman, for Dr. Matthias Scheutz)

Various activities:

grading group project and individual assignments; updated course website; wrote online quizzes; presented a tutorial on a technology of interest.

RESEARCH EXPERIENCE

Indiana University, Bloomington, IN

Research Rotation

2006-Present

Courses:

- for Dr. Erik Stolterman (FA 07-FA 09, [Ecology of Artifacts Research Group](#))

helping conceptualize, describe, and write research proposal around ecology of interactive artifacts;
leading research study to create tool to aid people for collecting ecology data

- for Dr. Edward Castronova (FA 06-SP 07, [Arden Research Group](#))

contributed to design of monetary and fiscal tools for controlling money flow in Arden; designed
survey for measuring effects of well-being before and after play in online world

- for Dr. Sasha Barab (FA 06-FA 07, [Quest Atlantis Research Group](#))

contributed to conceptual development of transactive play spaces for students to engage with outside
of class time; developed some graphical elements for Quest Atlantis.

Research Assistant

2005-2007

- for Dr. Shaowen Bardzell (FA 06-SU 07, [Entertainment Computing Research Group](#))

Projects:

"Visual analysis of culture in Second Life"

coding profile images according to pre-defined visual categories; constructed simple statistical
measures for analysis

"Classroom space design in Second Life"

prototyping 3D Indoor soccer field for sports information technology; pulling data through SportsML format into Second Life

"Instrument for measuring affective response of media"

designing task flow for application and its implementation in Flash

- for Dr. Jeffrey Bardzell (SU 05-SP 06, [Entertainment Computing Research Group](#))

Projects:

"The Virtual Event Aesthetic"

attending virtual events in MMOGs; performing ethnography to describe event, people, and location

"Narratology, Video Game Tutorials, and Their Implications for Design"

helping develop coding schema for understanding narratological aspects of video game tutorials; playing through tutorials,
breaking them down according to coding schema

"Amateur Video Game Study"

helping develop a coding schema for developing amateur Flash video games on <http://www.newgrounds.com>;

playing through games, breaking them down according to coding schema

RELATED EXPERIENCE

Information in Place, Inc., Bloomington, IN

Designer (Contract)

2006-2007

Various Activities:

researching topic area of hazardous materials; developing design document for a serious game for Hazmat training; creating documents to aid in the technical construction of serious game; helping to coordinate mission based training with design of game; helping to situate the game into a course for Hazmat training

Sony Corporation of America, Mt. Pleasant, PA

Production Systems Intern

2003

Various Activities:

developing two web applications used for "Kaizen" improvements in production methods and for tracking the training of line employees for the Mt. Pleasant location; overseeing all aspects of those projects from Requirements Gathering, Database Design, Application Design, Testing, Documentation, and Training of Users

Fiserv, Inc., Pittsburgh, PA

Intern

2001

Various Activities:

Assisting development of Standard Bank & Trust, Northside Bank Websites; troubleshooting website for cross-browser compatibility

Dome Designs, Notre Dame, IN

Manager & Developer

2000-2004

Various Activities:

Developing websites for Asian Globalization Conference, Fusion Literary Website, Notre Dame Review, and Student Government; managing school year of 2004 with net profits for the first time in its history

North Catholic High School, Pittsburgh, PA

Website Developer (Volunteer)

2004

Various Activities:

Redeveloping website based on user needs and desires; developing main site, as well as news, calendar, and contact list applications from scratch

SKILLS

Methodologies: Phenomenology, Experimental Methods, Data Visualization, Ethnography, Qualitative Methods, Survey Methods, Semiotics, Usability Evaluation, Agent-based Modeling

Programming Languages: C/C++, C#, VB.NET, Java & J#, Lisp, Scheme, MIPS Assembly, Eiffel

Web-Related: PHP, Haxe, XML, Actionscript, LSL, ASP, ASP.NET, DHTML, Javascript, VBScript, CSS

Databases: MySQL, Access Database, SQL Server, Oracle, Lotus Notes

Programs: Visual Studio .NET, Flash, Photoshop, Fireworks, Dreamweaver, Acrobat

3D Modeling: Second Life, Maya

Other: .NET Framework, OpenGL, DirectX, MFC, Windows Socket API, NetLogo

COURSE WORK

Human-Computer Interaction Design

HCI Seminar I & II <i>Grad (2006-07)</i> Prototype Design and Techniques <i>Grad (2005)</i>	HCI Design I & II <i>Grad (2004-05)</i> Usability & Evaluation Methods <i>Grad (2004)</i>
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Social Science

Cognitive Approach to Media <i>Grad (2008)</i> Experimental Methods in Cognitive Science <i>Grad (2007)</i> Pedagogy & Professionalism in Informatics <i>Grad (2007)</i> Social Informatics Seminar <i>Grad (2007)</i> Virtual Ethnography (Ind. Study) <i>Grad (2006)</i>	Intro to Research & Statistics <i>Grad (2006)</i> Games & Gossip (Modeling Emergent Behavior) <i>Grad (2005)</i> Ethnography Seminar (8 weeks) <i>Grad (2004)</i> Intro to Informatics (8 weeks) <i>Grad (2004)</i> Growth of the American Nation (2000)
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Humanities

Philosophy of Cognitive & Information Science <i>Grad (2007)</i> New Media Art Seminar <i>Grad (2005)</i> New Media & Interactivity <i>Grad (2005)</i> Beginning Irish I & II (2003-04) Aesthetics & Philosophy of Art (2002)	Sacramental Theology (2002) Intro to Philosophy (2001) Foundations of Theology (2001) Renaissance Literature Seminar (2001) Beginning French I & II (2000)
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Computer Science & Engineering

Visual Analytics <i>Grad (2008)</i> Behavior Based Robotics (2004) Biometrics (2004) Advanced Databases (2004) Artificial Intelligence (2003) Computer Graphics (2003) Database Concepts (2003) Algorithms (2003)	Theory of Computing (2003) Compilers (2003) Computer Architecture I & II (2002-03) Data Structures (2002) Operating Systems (2002) Logic Design (2002) Functional Programming (2001) Programming with C++ (2001)
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Mathematics

Intro to Numerical Methods (2003) Differential Equations (2003) Probability Theory (2002)	Linear Algebra (2002) Discrete Mathematics (2001) Calculus I, II, & III (2000-01)
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Science & Engineering

Complex Systems <i>Grad (2006)</i> Intro to Electrical Networks (2001) General Physics I & II (2001)	Intro to Engineering I & II (2000-01) General Chemistry I & II (2000-2001)
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SELF-DIRECTED COURSE WORK

Technical/Design	Theory
Video Game Foundations Direct X Graphics Programming 3D Modeling in Maya Intro to Network Programming	Great Ideas of Philosophy (<i>Great Courses Series</i>) Great Ideas of Psychology (<i>Great Courses Series</i>) Great Minds of the Western Intellectual Tradition (<i>Great Courses Series</i>) Theories of Human Development (<i>Great Courses Series</i>) Understanding the Brain (<i>Great Courses Series</i>) How to Listen to and Understand Great Music (<i>Great Courses Series</i>)