

Christopher A. Egert, Ph.D.

Curriculum Vitae

July 01, 2009

Department of Interactive Games and Media • B. Thomas Golisano College of Computing and Information Sciences
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EDUCATION

Ph.D., Computer Science and Engineering, September 2003, University at Buffalo (SUNY)

Minor in Digital Media (Department of Media Study/Department of Music)

Dissertation: *The Integrated Online Seminar System: An Architecture and Implementation of a Media-Centric Environment for Web-Based E-Learning*

Advisor: Deborah K. W. Walters

M.S., Computer Science, November 1993, Rochester Institute of Technology

Concentrations: Programming Languages and Parallel Computing

Master's Project: *Parallel Computing Libraries and Servers for Distributed SUN Systems*

Advisor: Andrew T. Kitchen

B.S., Computer Science, June 1990, Rochester Institute of Technology

Concentrations: Operating Systems and Networking

Minor in Computer/Electrical Engineering Technology

RESEARCH INTERESTS

Game Engine Design and Development, Entertainment Technology Systems, Game Design, Casual and Serious Game Systems, Educational Interactive Multimedia, Computing Education, Desktop Virtual Reality, Computer Mediated Communication, Computer Supported Cooperative Work, Computer Supported Collaborative Learning, Web Technology Design and Implementation, Operating Systems Design And Implementation, Distributed Systems, Behavior-Based Robotics and Agents, Architectural Considerations for Human Computer Interaction, and Embedded Systems.

PROFESSIONAL EXPERIENCE

7/2009-present **Assistant Professor**, Department of Interactive Games and Media
B. Thomas Golisano College of Computing and Information Sciences
Rochester Institute of Technology (Rochester, NY)
Responsible for teaching courses as well as performing research and scholarship within the Game Design and Development as well as New Media Interactive Development degree programs.

9/2004-6/2009 **Assistant Professor**, Information Technology Department
B. Thomas Golisano College of Computing and Information Sciences
Rochester Institute of Technology (Rochester, NY)
Responsible for teaching courses as well as performing research and scholarship within the Game Design and Development as well as New Media Interactive Development groups.

- 1/2004-6/2004
8/2000-6/2003 **Visiting Lecturer/Adjunct Instructor**, Dept. of Computer Science and Engineering
University at Buffalo (Buffalo, NY)
Taught small and large enrollment courses in operating systems, introductory computer programming, computer organization, and programming languages. Also supervised numerous independent study students.
- 1/2004-6/2004
1/2003-6/2003 **Adjunct Instructor**, Department of Media Study
University at Buffalo (Buffalo, NY)
Taught graduate and undergraduate sections of a course in server-side web Programming.
- 6/1999-8/1999 **Professional Development Short Course Instructor**, Department of Media Study
University at Buffalo (Buffalo, NY)
Taught a small enrollment short course in interactive multimedia application development. The course was targeted for corporate clients located in the Buffalo area.
- 6/2002-8/2002,
6/2001-8/2001,
6/1998-8/1998 **Summer Course Instructor**, Millard Fillmore College
University at Buffalo (Buffalo, NY)
Taught both small and medium enrollment courses in computer literacy.
- 2/1992-12/2007 **Software Consultant**, INTROTECH (North Tonawanda, NY)
Developed custom software solutions and database systems for public and private sector clients.
- 11/1989-8/1990 **Software Engineer**, ASYST Software Technologies (Rochester, NY)
Designed and implemented DOS and AT&T System V device drivers for data acquisition peripherals.
- 6/1988-11/1988 **Software Engineer**, Moore Research Center (Grand Island, NY)
Designed and implemented an API for shared memory communications between Motorola VME and IBM PC systems for large-scale print systems.

ADDITIONAL EXPERIENCE

- 7/2005 **Summer Instructor**, Kids on Campus (KoC) Program
Rochester Institute of Technology (Rochester, NY)
- 8/1997-6/2000 **Graduate Assistant**, Department of Media Study
University at Buffalo (Buffalo, NY)
- 8/1994-6/1997 **Teaching Assistant**, Department of Computer Science
University at Buffalo (Buffalo, NY)
- 6/1984-12/2001 **Program Supervisor/Program Leader**
North Tonawanda Youth Center
North Tonawanda Department of Youth, Recreation, and Parks
(North Tonawanda, NY)

AWARDS

- 2005 *Best Paper Award*, CCSC Eastern Conference
Decker, A., Haydanek, S., and Egert, C., “When Objects Collide:
Abstractions over Common Physics Problems for Capstone Projects in CS1”,
*Journal of Computing Sciences in Colleges (Eastern Conference of the
Consortium for Computing Sciences in Colleges)*,
New Rochelle, NY, 21(2), pp. 12-18, October 14-15, 2005
- 2001 *Excellence in Teaching Award*, University at Buffalo
- 1998 Received a “*Top/Best Paper*” Award, WebNet 1998
Flanagan, M. and Egert, C., “Providing Seminars on the Web: The Course
Submission System”, *Proceedings of the AACE World Conference on the WWW
and the Internet (WebNet)*, Orlando, FL, November 7-12, 1998

JURIED- AND PEER-REVIEWED JOURNAL AND CONFERENCE FULL PUBLICATIONS

1. Phelps, A., Egert, C., and Bayliss, J., “Games in the Classroom: Using Games as a Motivator for the Study of Computing (Part II)”, in *IEEE Multimedia*, Pending Publication, 2009
2. Phelps, A., Egert, C., and Bayliss, J., “Games in the Classroom at the Rochester Institute of Technology: A Case Study”, in *IEEE Multimedia*, Pending Publication, 2009
3. Jacobs, S., Egert, C., and Barnes, S., “Social Media Theory and Practice: Lessons Learned for a Pioneering Course”, in *Proceedings of the 39th Annual Frontiers in Education Conference*, San Antonio, TX, Pending Publication, October 18-21, 2009
4. Phelps, A., Egert, C., and Bayliss, J., “Games in the Classroom: Using Games as a Motivator for the Study of Computing (Part I)”, in *IEEE Multimedia*, 16(2), pp.4-8, April-June 2009
5. Egert, C., Jacobs, C., and Barnes, S., “When Social Worlds Collide: Charting the Intersection of Social Media and Courseware/Course Management Systems”, in *Online Communities (Ozok, A. A. and Zaphiris, P.)*, LCNS 5621, pp. 452-461, Springer-Verlag, Berlin, 2009
6. Phelps, A., Egert, C., and Weber, G., “Implementation Strategies for Microsoft XNA Game Development in Academic Laboratory Environments”, Academic Resource Center, Microsoft Corporation, <http://www.academicresourcecenter.net/curriculum/pfv.aspx?ID=7459>, September 2008
7. Egert, C., Jacobs, S., and Phelps, A., “Bridging the Gap: Balancing Faculty Expectations and Student Realities in Computer Gaming Courses”, in *FuturePlay*, Toronto, Ontario, Canada, pp. 201-204, October, 2007
8. Egert, C., Bierre, K., Phelps, A., and Ventura, P., “Hello, M.U.P.P.E.T.S.: Using a 3D Collaborative Virtual Environment to Motivate Fundamental Object-Oriented Learning”, in *Companion to the 21st Annual ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, Portland, OR, pp. 881-886, October 2006

9. Phelps, A., Egert, C., and Bierre, K., "Games First Pedagogy: Using Games and Virtual Worlds to Enhance Programming Education", *Journal of Game Development*, 1(4), pp. 45-64, May 2006
10. Decker, A., Ventura, P., and Egert, C., "Through the Looking Glass: Reflections on Using Undergraduate Teaching Assistants in CS1", in *Proceedings of the 37th SIGCSE Technical Symposium on Computer Science Education*, Houston, TX, pp. 46-50, March 2006
11. Bierre, K., Ventura, P., Phelps, A., and Egert, C., "Motivating OOP by Blowing Things Up: An Exercise in Cooperation and Competition in an Introductory Java Programming Course", in *Proceedings of the 37th SIGCSE Technical Symposium on Computer Science Education*, Houston, TX, pp. 354-358, March 2006
12. Phelps, A., Egert, C. and Bierre, K., "MUPPETS: Multi-User Programming Pedagogy for Enhancing Traditional Study: An Environment for both Upper and Lower Division Students", in *Proceedings of the 35th Annual Frontiers in Education Conference*, Indianapolis, IN, pp. S2H-8 - S2H-15, October 19-22, 2005
13. Decker, A., Haydaneck, S., and Egert, C., "When Objects Collide: Abstractions over Common Physics Problems for Capstone Projects in CS1 ", *Journal of Computing Sciences in Colleges (Eastern Conference of the Consortium for Computing Sciences in Colleges)*, New Rochelle, NY, 21(2), pp. 12-18, October 14-15, 2005
14. Ventura, P., Egert, C., and Decker, A., "Ancestor Worship in CS1: On the Primacy of Arrays", in *Companion to the 19th Annual ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, Vancouver, British Columbia, Canada, pp. 68-72, October 24-28, 2004
15. Egert, C., Flanagan, M., and Walters, D., "Web Based Collaboration for Introductory Programming Courses", *Proceedings of the International Conference on Engineering Education*, Taipei, Taiwan, <http://www.ineer.org/Events/ICEE2000/Proceedings/papers/WB4-1.pdf>, August 14-16, 2000
16. Egert, C., Flanagan, M. and Walters, D., "Extending IOS's Collaboration via Web-Enabled Whiteboards", *Proceedings of the AACE World Conference on the WWW and the Internet (WebNet)*, San Antonio, TX, pp. 158-161, October 30-November 4, 2000
17. Walters, D. and Egert, C., "Can Considerations of Learning Styles Improve Web-Based Learning?", *Proceedings of the AACE World Conference on the WWW and the Internet (WebNet)*, San Antonio, TX, pp. 961-962, October 30-November 4, 2000
18. Flanagan, M. and Egert, C., "Courseware Quality and the Collaborative Classroom: Implementing IOS Courseware to Generate Seminar Style Interactions", *IMEJ, The Interactive Multimedia Journal of Computer-Enhanced Learning*, 2(1), <http://imej.wfu.edu/articles/2000/1/06/index.asp>, April, 2000
19. Walters, D., Egert, C., and Cuddihy, E., "Learning Styles and Web-based Education: A Quantitative Approach", *Proceedings from the 9th Annual FACT Conference on Instructional Technology*, Buffalo, NY, pp. 115-117, May 30-June 1, 2000

20. Flanagan, M. and Egert, C., "Assessing the Success of Seminars on the Web", *Proceedings of the AACE World Conference on the WWW and the Internet (WebNet)*, Honolulu, HI, pp. 382-386, October 25-28, 1999
21. Smith, N., Egert, C., Cuddihy, E., and Walters, D., "Implementing Virtual Robots in Java3D using a Subsumption Architecture", *Proceedings of the AACE World Conference on the WWW and the Internet (WebNet)*, Honolulu, HI, pp. 975-980, October 25-28, 1999
22. Cuddihy, E., Egert, C., Song, Y., and Walters, D., "Criteria for VRML-based Tools Supporting Intelligent Agents and Their Environments", *AAAI-98 Workshop on Software Tools for Developing Agents*, Madison, WI, pp. 115-116, July, 27, 1998
23. Flanagan, M. and Egert, C., "Providing Seminars on the Web: The Course Submission System", *Proceedings of the AACE World Conference on the WWW and the Internet (WebNet)*, Orlando, FL, November 7-12, 1998
24. Hexmoor, H., Egert, C., and Cuddihy, E., "A Fair Judge of Learning: Experiments with a Robot Manipulator Using a Pen", *Robolearn-97 Workshop Proceedings at Florida Artificial Intelligence Research Society Conference (FLAIRS-97)*, Daytona Beach, FL, 1997

JURIED- AND PEER- REVIEWED CONFERENCE EXTENDED ABSTRACTS

1. Jacobs, S. and Egert, C., "Kickback: Turning Game History Students into Pinball Designers", in *FuturePlay*, Toronto, Ontario, Canada, pp. 272-273, October, 2008
2. Phelps, A. and Egert, C., "Educational Practices for Technology Students in Entertainment Domains", *American Society for Engineering Education St. Lawrence Section Conference*, Binghamton, NY, 2005
3. Egert, C., Ventura, P., and Decker, A., "Putting the 'Fun' Back in Fundamentals: Using Games to Teach Object-Oriented Design Early", *American Society for Engineering Education St. Lawrence Section Conference*, Binghamton, NY, 2005

POSTER PRESENTATIONS

1. Jacobs, S., Egert, C., and Barnes, S., "Informing Courseware Through Student Preferences in Social Media", pending presentation at the *New Media Consortium Summer Conference*, Monterey, CA, June 9-13, 2009
2. Jacobs, S. and Egert, C., "Kickback: Turning Game History Students into Pinball Designers", at *FuturePlay*, Toronto, Ontario, October, 2008

EDITOR-REVIEWED TRADE PUBLICATIONS

1. Phelps, A. and Egert, C., "A Balrog in the Browser", *Director Online*, <http://director-online.com/buildArticle.php?id=1160>, October, 2005

INVITED TALKS / PRESENTATIONS

1. Egert, C. and Phelps, A., "M.U.P.P.E.T.S.: An Overview", SUNY Conferences on Computing in the Disciplines (COCID), SUNY Institute of Technology, Utica, NY, April 3, 2009
2. Barnes, S., Egert, C., and Jacobs, S., "Building Social Networks in Course Management Systems", Best Practices Conference Session, *New Media Consortium Summer Conference*, Princeton, NJ, June 2008
3. Phelps, A. and Egert, C., "Learning by Playing Together: The Impact of Collaborative Virtual Environments on Student Interaction and Program Cohesiveness", *Conference on Games, Learning, and Society*, Madison, WI, June 2006
4. Egert, C., "Awareness and Notification in Collaborative E-Learning Environments", *1st Annual B. Thomas Golisano College, Rochester Institute of Technology's Conference on Computing and Information Sciences*, Rochester, NY, January 21, 2005
5. Egert, C., "Design and Implementation of Linux Device Drivers for Robotic Control Systems", *Guest Speaker – University at Buffalo Seminar Series for Machine Learning and Agent Development* (Moderator: Henry Hexmoor), Buffalo, NY, January 1997

CONFERENCE WORKSHOPS

1. Phelps, A., Egert, C., Bierre, K., and Parks, D., "An Open-Source CVE for Programming Education: A Case Study", *The 32nd International Conference on Computer Graphics and Interactive Techniques (SIGGRAPH)*, Los Angeles, CA, July 31-August 5, 2005

TECHNICAL REPORTS

1. Egert, C., "The Integrated Online Seminar System: An Architecture and Implementation of a Media-Centric Environment for Web-Based E-Learning", *Ph.D. Dissertation*, UMI AAT 3102356, DAI-B 64(8) [Feb. 2004], p. 3899, Buffalo, NY, September 2003
2. Egert, C., "Parallel Libraries and Servers for Distributed SUN Systems", *RIT Master's Degree Project Document*, Rochester, NY, November 1993

GRANT AWARDS AND ADDITIONAL FUNDING

1. “Game Design and Development Laboratory Deployment Initiative”. Summer support to explore methodologies related to the configuration and deployment of the Game Design and Development Lab – a 64 seat facility that serves as educational, research, and scholarship space for undergraduate and graduate students as well as faculty. Funding for Summer 2008. Amount: Approximately \$1,500.
2. “Values at Play: Casual Game Engine Construction”, R.I.T. sub-contract P.I. with Helen Nissenbaum (NYU - Grant P.I.), Mary Flanagan (Hunter College co-P.I.). NSF Funded project with sub-contract monies going for undergraduate student work. Funding from December 2007 to May, 2009. Amount: \$6,955.
3. “Preserving Virtual Worlds”, co-collaborator with Andrew Phelps (R.I.T. P.I.) and Elizabeth Lawley (co-collaborator) and participation with University of Illinois at Urbana-Champaign, Stanford University, the University of Maryland, Library of Congress. Funding from January 1, 2008 to present. Amount: \$590,000.
4. “Exploration of Multicore Issues in XNA Windows and Xbox 360 Environments”, sub-contract collaboration with Andrew Phelps (R.I.T. P.I.). Funded through an unrestricted gift from Microsoft Corporation as part of a larger curricular and research initiative. Funding for Summer 2007. Amount: \$6,000.
5. “Game Design and Development Bachelors of Science Implementation Funding”. Summer support for further development of the Bachelors of Science in Game Design and Development. Funding for Summer 2007. Amount: \$3,000.
6. “Theoretical and Applied Approaches to Teaching Social Computing in STEM Education”, co-principal investigator with Susan Barnes (P.I.) , Stephen Jacobs (co-P.I.), and Nick DiFonzo (co-P.I.), National Science Foundation CCLI Program (Phase 1), Prop #0633401, conferred to P.I. status March 1, 2009. Funding from March 15, 2007 – February 28, 2010. Amount: \$149,786.
7. “Game Design and Development Masters of Science Implementation Funding”. Summer support for further development of the Masters of Science in Game Design and Development. Funding for Summer 2006. Amount: \$3,000.
8. “Web based Collaborative Learning for Improving Freshman Level Programming Courses”, University at Buffalo Educational Technology Center “Ed-Tech” Grant (grant supervised by Deborah Walters, Advisor), Funding for Summer 1999. Amount: \$3,300.

RESEARCH GROUP MEMBERSHIPS

| | |
|--------------|--|
| 2007-present | Lab for Game Design and Development, Rochester Institute of Technology |
| 2005-present | M.U.P.P.E.T.S. Research Team, Rochester Institute of Technology |
| 2005-present | Lab for Social Computing, Rochester Institute of Technology |
| 2003-present | Innovations in Computing Education Virtual Research Group |
| 2003-present | tiltfactor.org Virtual Research Group |
| 2000-2003 | Knowledge Media Lab (KML), University at Buffalo Student Director – Fall 2002 through Spring 2003 |
| 1997-2000 | Integrated Digital Explorations in the Arts and Sciences (IDEAS) Center, University at Buffalo |
| 1995-1997 | GLAIR Robotics Lab, University at Buffalo |

RESEARCH PROJECTS

| | |
|--------------|---|
| 2008-present | <p>Preserving Virtual Worlds <i>Lab for Game Design and Development, Rochester Institute of Technology</i> <i>Collaboration with Andrew Phelps and Elizabeth Lawley</i></p> <p>This research project aims to explore the issue of digital preservation of virtual worlds and their surrounding cultural experience. As a part of this work, schemes will be proposed and tested through sample implementations on best practices for preserving what has become a true art form in just the past half-century. The Preserving Virtual Worlds project will explore methods for preserving digital games and interactive fiction. Major activities will include developing basic standards for metadata and content representation and conducting a series of archiving case studies for early video games, electronic literature and Second Life, an interactive multiplayer game. Second Life content participants include Life to the Second Power, Democracy Island and the International Spaceflight Museum.</p> |
| 2007-present | <p>Values at Play – Casual Game Engine Construction for Social Impact Games <i>Lab for Game Design and Development, Rochester Institute of Technology</i> <i>Collaboration with Helen Nissenbaum and Mary Flanagan</i></p> <p>This research initiative aims to develop casual game engines for the Values at Play project co-located at New York University and Dartmouth. R.I.T.'s role as a subcontractor is the development of two game engines that can support values such as cooperation, collaboration, sustainability, sharing, and other social attributes. The deliverables to be provided will include 2 game engines. The game engines will be built using Adobe Flash and appropriate web and database technologies. The funding for this project will be used to hire and supervise three (3) undergraduate students. The experience is designed to be both a scholarship and educational experience for the aforementioned undergraduate students. Current deliverables include <i>Profit Seed</i> and <i>Layoff</i> with pending deliverable of <i>Skoolin'</i>. Deliverables are hosted at http://www.tiltfactor.org.</p> |

2007-2009

Values at Play – Test Site for Values at Play Curricula

Lab for Game Design and Development, Rochester Institute of Technology

Collaboration with Stephen Jacobs, Helen Nissenbaum, and Mary Flanagan

This research involves the facilitation of curricula modification based upon the “Values at Play” work being conducted through New York University and Hunter College. The R.I.T. portion is being conducted with Prof. Stephen Jacobs, who is responsible for the primary delivery of materials in his 4002-380 Game Design and Development I course. From the “Values at Play” website, “Our ambition is to harness the power of video games in the service of humanistic principles. Aware of the tremendous and wide-ranging impact games have in our world, the ‘Values at Play’ (VAP) research project seeks to assist and encourage designers in creating games that further the understanding and appreciation of such values as equality, diversity, creativity, and many more.”

2007-present

Theoretical and Applied Approaches to teaching Social Computing in STEM Education

Lab for Social Computing, Rochester Institute of Technology

Collaboration with Susan Barnes, Stephen Jacobs, and Nick DiFonzo

This National Science Foundation funded research examines the use of social computing tools and practices in the service of Science, Technology, Engineering, and Mathematics (STEM) education. Currently, universities have embraced the use of online environments to provide distance and blended STEM courses. However, educators tend to focus their efforts on content delivery, rather than building social networks. There is little research on how STEM students establish social networks when they interact in online learning environments. Forming social networks, relationship building, and creating social capital are the new focal points of social media and the development of social software. To date, undergraduate STEM students are not being trained in this important topic of technology design. To help solve this problem, it is the intent of this project to create an undergraduate STEM course on the theoretical and practical use of social computing, with an emphasis on building social networks and social capital in STEM online learning environments.

2006-present

DF3DI Project

Interactive Media Group, Rochester Institute of Technology

Collaboration with Andrew Phelps

Designed and implemented a system by which students can create and manipulate 3D objects using Adobe Flash’s ActionScript 2.0 / 3.0 language. The system leverages the Adobe Director accelerated 3D environment to create compelling, interactive graphics. By fusing the qualities of Flash and Director, students receive the benefits of both platforms: an object-oriented robust language from Flash as well as a web-deliverable, robust graphics engine within Director. The development process has included the development of Flash/Director bridge technology such that high-speed communication can occur between the two platforms.

2005-present

M.U.P.P.E.T.S. Research Group (Research Team Member)

Interactive Media Group, Rochester Institute of Technology

Collaboration led by Andrew Phelps and with Kevin Bierre

The Multi-User Programming Pedagogy for Enhancing Traditional Study (M.U.P.P.E.T.S.) is a virtual world environment in which students can learn programming through the creation of compelling graphical, interactive content. The M.U.P.P.E.T.S. engine has been developed using state-of-the-art practices from the Entertainment Technology sector, boasting such features as OpenGL/DirectX accelerated multipass rendering solutions, octree systems, support for model formats, advanced lighting and shading, and much more. Along with graphics support, the engine supports networking, user interface creation and layout, persistence mechanisms, and audio. These features are also combined with support for Sun Microsystems' Java and Microsoft's C# programming languages. Involvement with this project has included the development of project materials to support objects-first pedagogy for introductory programmers. In addition, involvement has included the supervision, instruction, and co-development with students attempting to solve difficult problems within M.U.P.P.E.T.S., including managed/unmanaged code interoperability, thread management, and debugging for multi-processor systems.

1998-present

Integrated Online Seminar System

Interactive Media Group, Rochester Institute of Technology (2004-present)

Knowledge Media Lab/IDEAS Center, University at Buffalo (1998-2004)

Designed and implemented a media-centric, web-based collaborative e-learning environment for my dissertation research. The system overcomes several technical limitations inherent to traditional text-based collaborative systems when media content is the focus of communication. At a technical level, the system provides solutions for the submission, integration, and presentation of multimedia content within the e-learning environment. The system also provides asynchronous tools for the non-destructive editing of submitted media content as part of the collaborative process. At a social level, the system provides flexible indicators for identity, awareness, and notification. At a usability level, the system solves problems with session management and provides a framework for client and server-based usability data capture.

- 1999-present **Multimedia-Enabled Online Assessment Environment**
Interactive Media Group, Rochester Institute of Technology (2004-present)
Knowledge Media Lab/IDEAS Center, University at Buffalo (1999-2004)
Designed and implemented a flexible system for administering online psychological and educational assessments. The system allows researchers to generate XML-based tests, which can incorporate media content and media interactions as part of the assessment process. The system also provides support for automating the processing and presentation of collected experimental data. The system facilitated online experiments to determine whether web-based learning could be enhanced by matching visual and aural multimedia content to a student's perceived and measured learning style. In addition, the system also allowed for the creation of several online interactive experiments designed to determine the effect of different user interfaces upon interactions within a 3D virtual desktop environment. Finally, the system facilitated the administration of critical thinking and comfort level assessments. A faculty member at UB utilized the system as a means for studying predictors for success within the introductory computer science course.
- 1999 **Pixel Flicker Visualization System for Neural Network Data**
Knowledge Media Lab/IDEAS Center
Designed and implemented a multimedia application for visualizing medical (stroke patient) neural net data. The application utilizes human perceptual sensitivity to color and motion, allowing users to quickly identify and segment interesting neural network regions within a multi-dimensional dataset.
- 1998 **Behavior-Based Robot Simulation**
Knowledge Media Lab/IDEAS Center
Developed an educational system designed to teach students how to implement large-scale systems in Java3D and to demonstrate an object-oriented approach to behavior-based robotic design. The system was also utilized as a prototype for further research into the design and implementation of robotic platforms for landmine removal (the UXO remediation project).
- 1997-1998 **Virtual Environment Support Architecture for Cognitive Agents**
IDEAS Center/Collaboration with members of the SNePS research group
Developed and implemented an architecture and communication protocol between a SNePS (Semantic Network Processing System) cognitive agent and a VRML environment. The system served as a basis for several research initiatives into the investigation of cognitive agent support for simulation and entertainment purposes.
- 1997 **Device Driver Implementation for Penny Robot**
GLAIR Robotics Lab
Designed and implemented Unix character device drivers and support libraries for controlling a stationary desktop robotic arm. The development effort was part of a larger initiative to create a testing platform for numerous machine-learning algorithms.

INTERDISCIPLINARY COLLABORATION

2007-2009

Layoff (Technical Supervisor at R.I.T.)

Collaboration led by Mary Flanagan (Dartmouth)

Student Team at R.I.T.: Greg Kohl

Layoff is a casual game that examines the current financial meltdown in the United States. The game examines the tension between the realities of big business and the personal impact the financial downturn has on individuals and families. The game also ties the player's in game experience with the actual news and headlines that define the current state of national financial affairs. Interest in *Layoff* has generated national exposure for *tiltFactor* and the academic programs at Dartmouth and Rochester Institute of Technology. Media exposure has included over one million game downloads in the first week of deployment, national newspaper and online blog dissemination and analysis, as well as television exposure through NYC CBS 2.

2007-2008

Profit-Seed (Technical Supervisor at R.I.T.)

Collaboration led by Mary Flanagan (Hunter College/Dartmouth)

Student Team at R.I.T.: Ben Dapkiewicz, Greg Kohl, Brian Mayzak

Profit-Seed is a social activist game that explores the misuse of intellectual property laws by large companies as a means of taking over small farms across the United States and the world. In particular, the game explores issues pertaining to genetically modified seeds and crops, including how inadvertent use such as cross-pollination, seed transfer, and other means have left small farmers vulnerable for legal action.

1997-2000

2005-present

***The Adventures of Josie True* (Technical Director/Game Engine Architect)**

Interactive Media Group, Rochester Institute of Technology (2005-present)

Technical Team led by Christopher Egert starting Fall, 2005

Department of Media Study, University at Buffalo (1997-2000)

Interdisciplinary team led by Mary Flanagan from 1997-2001

The Adventures of Josie True project is a web-based historical adventure game targeted for girls ages 9-11. The project's goal is to provide participants with fun activities designed to support the development of math and science skills. The project also provides girls with historical role models that demonstrate important contributions to society and culture made by women. The *Josie True* project was an interdisciplinary effort consisting of over 30 digital artists, illustrators, computer scientists, web developers, educators, and interface designers. Technical director responsibilities included the initial development of the game engine architecture as well as training members of the programming team. *The Adventures of Josie True* received NSF funding and has been profiled in both the *Chronicle of Higher Education* and the *NY Times*.

2006-2008

meme-garden (Co-Technical Director)

Collaboration led by Mary Flanagan (Hunter College)

with co-technical director Junming Mei (N.Y.U.)

Meme garden is a web-based installation that explores the relationship between people, their web searches, and the various communities to which they belong. *Meme garden* uses WordNet, a database for lexical relationships between words, as the basis for interactive exploration and combination of search terms. Involvement with this project has included the design and implementation of Adobe Flash visualization tools for the installation. The first tool is a front-end application, which allows the user to interact with WordNet queries to form a search group visually, dependent upon lexical relationships between the searchers. The second tool visualizes the transformation of the search group over time, as compared to interest groups and communities such as de.lici.ous, subscribed news feeds, Google, and other sources.

2004-2005

Six Circles (Technical Director)

Interactive Media Group, Rochester Institute of Technology (2004)

Collaboration led by Mary Flanagan (Hunter College)

Six Circles is a turn-based, Internet game in which the players explore issues of cooperation and competition by constructing geometric objects. The game belongs to the genre of entertainment pieces known as “serious games”, which explore important issues beyond fun. *Six Circles* was commissioned to explore HIV awareness as well as raise funds for creation of an HIV Education Center in the township of Khayelitsha, South Africa. Contributions as technical director include the design of the game engine and the drag and drop interaction system for game play. *Six Circles* opened at Artists' Space, SOHO NYC in December 2004.

1999-2004

Phage and Collection (Technical Director)

Interactive Media Group, Rochester Institute of Technology (2004)

Department of Media Study, University at Buffalo (1999-2004)

Collaboration led by Mary Flanagan

Phage and *collection* are digital art pieces for personal computers. Both applications scan a user's personal computer for media content, including images, video, text, and sound. After processing, the applications present the user with the results in the form of a dynamic, spatialized, three-dimensional world. The pieces are designed to model and expose the representation of the private relationship with the computer to the public. Whereas *phage* is a stand-alone art piece, *collection* provides a networked performance. Contributions as technical director included the design and implementation of the scan algorithm, the visualization algorithm, and the development of a communications protocol for media content. *Phage* and *collection* have been shown at a number of digital art exhibitions. *Phage* has been mentioned in *Newsweek Online* and *Collection* has been exhibited as part of the *Whitney Museum of American Art Biennial Exhibition* (March 8-May 26, 2002) exhibition as well as the *Guggenheim* exhibition entitled *Seeing Double: Emulation in Theory and Practice* (March 18-May 26, 2004).

1997-2000

Multi-User Virtual Environments for Narrative Spaces (Technical Director)

Department of Media Study, University at Buffalo

Collaboration led by Mary Flanagan

Designed and implemented a series of multi-user VRML environments for use in narrative art exhibitions, including *The Perpetual Bed* and *Matsu:goddess*. For each piece, the multi-user technology had to support interactions atypical of traditional multi-user VRML worlds. In *The Perpetual Bed*, users engaged in chat conversations in which the text became a persistent part of the 3D virtual world. In *Matsu:goddess*, the system supported interactions in which digital “offerings” were included within the online world. Both pieces challenged traditional notions of user interface and interactivity supported by VRML world browsers. Both pieces were shown at numerous art exhibitions.

1997-2000

Physical Environments for Narrative Spaces (Technical Director)

Department of Media Study, University at Buffalo

Collaboration led by Mary Flanagan

Designed and implemented a series of embedded systems solutions for narrative and performance art pieces that required physical interactions between a participant and computing devices. Art pieces included *Corporate Ladder* and *Career Moves*. In *Corporate Ladder*, the installation required use of a proximity system such that a user’s location with respect to the installation controlled the presentation of the work. In *Career Moves*, an embedded system controlled game play interactions between the user and the installation.

RESEARCH SUPERVISION

Supervised Research Students funded from Grants and/or External Sources (Fall 2004 – present)

| Student | Description |
|----------------------|--|
| Dapkiewicz, Benjamin | NSF Values and Play Subcontract Development of Game Engines for Social Impact Games Winter 20072 – Spring 20073 |
| Davis, Sela | Preserving Virtual Worlds Grant Exploration of Virtual Machines and Emulators for Preservation across Multiple Hardware and Software Platforms Summer 20084 |
| Kohl, Gregory | NSF Values and Play Subcontract Development of Game Engines for Social Impact Games Winter 20072 – Summer 20074 |
| Luly, Andrew | NSF CCLI Grant System Administration / Development of Courseware Instrumentation System Teaching Assistant / Presenter for Recitation and Workshop Sessions Winter 20072 – Summer 20074 |
| Moreau, Eric | Preserving Virtual Worlds Grant Exploration of Virtual Machines and Emulators for Preservation across Multiple Hardware and Software Platforms Summer 20084 |
| Mayzak, Brian | NSF Values and Play Subcontract Development of Game Engines for Social Impact Games Winter 20072 – Summer 20074 |
| Nguyen, Kim | NSF CCLI Grant Teaching Assistant / Presenter for Recitation and Workshop Sessions Spring 20073 |
| Wilson, Joshua | Preserving Virtual Worlds Grant Exploration of Virtual Machines and Emulators for Preservation across Multiple Hardware and Software Platforms Summer 20084 |

TEACHING

Completed Game Design and Development Capstone Students Supervised at the Rochester Institute of Technology (Fall 2006 – present)

| Student Team | Supervised Capstone Project (MA = Masters Committee Advisor, MC = Masters Committee Member) |
|---|---|
| Baker, Christopher Cascioli, Christopher Huyer, Edward Tse, Ada | Dimension Break (Design Course Winter 20072) (Development Course Spring 20073) (MA Completed Fall 20081) |
| Bozarth, Matthew Doody, Colin Galante, Andrew Gilpatrick, Joshua Korn, Nicholas | Tank Frenzy (MC Completed Spring 20083) |

Completed Capstone/Thesis Students at the Rochester Institute of Technology (Fall 2004 – present)

| Student | Supervised Research or Project (MA = Masters Committee Advisor, MC = Masters Committee Member) |
|------------------------------------|--|
| Asija, Jitender | Multiple Files up Loader (MA Spring 20053 – Winter 20072) |
| Bernhardt, Matthew | Mouse tracking enhancements to the Molly website system (MC Fall 20051 – Spring 20053) |
| Buehler, D. Adam | Web-based Integrated Development Environment (MA Winter 20062 – Winter 20082) |
| Cary, David | Generational Play (MA Winter 20052 – Fall 20071) |
| Costino, Carlo | Game Engine Architecture for Time-Based Media Authoring Platforms (MA Fall 20051 – Winter 20062) |
| Fernandes, Lynette | Using Technology and Games to Educate (MA Fall 20081 – Spring 20083) |
| Filler, Daniel | Automated Book Publishing: An Automated Layout System for Self-Publishing (MA Winter 20042 – Summer 20044) |
| Fisher, Jayson | The Viability of Recap Sequences in Games (MA Winter 20072 – Spring 20083) |
| Forsyth (Chriscaden), Christine | Mathquest (MA Summer 20044 – Winter 20062) |
| Gamin, Michael | Traject (MC Fall 20052 – Winter 20062) |
| Gaul, Matthew | Dynamic Web-Based Database-Driven Game Application (MA Fall 20051 – Spring 20053) |
| Gong, Xuili | Comparing ActionScript 2.0 and 3.0: A Case Study with a Music Notes Catcher Game (MA Spring 20063 – Winter 20072) |
| Gritmon, Jennifer | A Usability Study of an Online Parent/Teacher Collaborative Environment (MA Fall 20051 – Summer 20054) |

| Student | Supervised Research or Project (MA = Masters Committee Advisor, MC = Masters Committee Member) |
|------------------|--|
| Herrera, Jesus | Generating Architectural Windows' 3D Models to Improve a Window Manufacturing Company's E-Commerce "Business to Consumer" (B2C) Interaction XSLT Transformations from XML to XHTML and xVRML (MA Winter 20052 – Winter 20072) |
| Kurniawan, Benny | Online Centralized Events Center For Rochester Institute of Technology (MC Winter 20052 – Fall 20081) |
| Lu, Louis | Design and Implementation of a Cross Platform DirectX 3D Game Engine (MC Spring 20053 – Fall 20071) |
| Luly, Andrew | Data Logging in Online Communities (supported by NSF CCLI) (MA Winter 20072 – Summer 20074) |
| Milizia, Peter | Dynamic Reputation Manager for Multiplayer Game Environments (MC Fall 20041 – Spring 20063) |
| Nguyen, Kim | Information Aesthetic Visualization: Exploration of the Calendar (MC Winter 20072 – Fall 20081) |
| Pandit, Aditya | Extension of the Multiplayer Battleship Game (MA Winter 20072 – Spring 20073) |
| Ramirez, Luis | Introducing the C# Programming Language into the M.U.P.P.E.T.S. Virtual Environment (MC Summer 20054 – Winter 20062) |
| Serbonich, Amy | The Pet Shelter: Find a pet. Meet a pet. Adopt a pet. (MC Summer 20044 – Winter 20062) |
| Stanley, Cher | Nude Descending a Staircase: An Interactive Narrative (MC Summer 20044 – Summer 20054) |
| Stanton, Craig | Web 2.0 Development with Flex and ActionScript (MA Summer 20054 – Fall 20071) |
| Wijaya, Rossiani | Web-based test scoring and results delivery system for Rochester Institute of Technology (MA Winter 20042 – Fall 20051) |

**Current Capstone/Thesis Students at the Rochester Institute of Technology (proposal complete)
(Fall 2004 – present)**

| Student | Supervised Research or Project (MA = Masters Committee Advisor, MC = Masters Committee Member) |
|-------------------|--|
| Beechler, Aaron | Creating an Alternative Means for Player Feedback (MA Winter 20062 – Present) |
| Dolan, Joseph | Community Blogger (MC Fall 20071 – Present) |
| Francesco, Nick | Educational Tools in Virtual Environments (MA Summer 20084 – Present) |
| Kampschmidt, Matt | A Customizable Engine for Data and Information (MA Winter 20072 – Present) |
| Matta, Sriharsha | A Case Study on the Feasibility of Developing an Inverse Kinematics Engine for a Multi Core Environment (MA Summer 20074 – Present) |
| Revello, Michael | Generating Illuminated Textures Using Photon Mapping (MC Winter 20042 – Present) |

| Student | Supervised Research or Project (MA = Masters Committee Advisor, MC = Masters Committee Member) |
|-----------------|---|
| Vazquez, Albert | M.U.P.P.E.T.S.: Design, Development and Integration of a DirectX 9.0 Render Pipeline (MC Summer 20054 – Present) |
| Walter, Paul | Syndicating Closed-Loop Environments Over the Net (MA Summer 20074 – Present) |
| Weber, Justin | Ubiquitous Input Devices as Alternative Controllers (MA Winter 20062 – Present) |

**Supervised Independent Study Students at the Rochester Institute of Technology
(Fall 2004 – present)**

| Student | Supervised Research or Project |
|---------------------|---|
| Baker, Eric | XNA Level Design (Spring 20083 – Undergraduate) |
| Beechler, Aaron | Development of Flexible HUD Systems for Entertainment Technology (Fall 20061 – Graduate) Web Architectures for Educational Games (Fall 20061 – Graduate) |
| Bozarth, Matthew | Game Scripting (Spring 20073 – Graduate) |
| Breckenridge, David | Manipulation of Flash using Databases and PHP (Fall 20061 – Graduate) |
| Broida, Stephen | Extending Game World Design and Interactive Narrative Techniques (Summer 20054 – Undergraduate) |
| Cardillo, Vincent | Josie True Project (Spring 20053 – Undergraduate) |
| Chauhan, Hiral | Data-Driven Simulation/Game Application Development (Spring 20063 – Graduate) |
| Clouston, Shannon | Interactive Content for the M.U.P.P.E.T.S. Platform (Winter 20062 – Graduate) |
| Chesbrough, Brian | Continued Exploration of AS3 and PHP (Summer 20074 – Undergraduate) |
| Crepso, Alvin | Exploration of New Media Concepts in the Flex Programming Environment (Summer 20074 – Undergraduate) |
| De Mauro, Michael | XNA Game Engine Development (Spring 20083 – Undergraduate) |
| Dolan, Joe | The Design and Implementation of Blogging Software (Spring 20043 – Graduate) |
| Doyle, Matthew | Data-Driven Time-Based Media Development (Spring 20053 – Undergraduate) |
| Doody, Colin | Maya Character Modeling and Animation (Spring 20073 – Graduate) |
| Giles, Nolan | Exploration of New Media Concepts in the Flex Programming Environment (Summer 20074 – Undergraduate) |

| Student | Supervised Research or Project |
|--------------------|--|
| Gilpatrick, Joshua | Game Networking Protocol (<i>Winter 20072 - Graduate</i>) Network Layer Implementation and Analysis for Game Systems (<i>Spring 20073 - Graduate</i>) |
| Gong, Xuili | Advanced Interactive Media Development in Flash (<i>Summer 20054 – Graduate</i>) |
| Herrera, Jesus | Design and Testing of Flash and Database Integration Solutions for Web-Based Educational Games (<i>Winter 20052 - Graduate</i>) |
| Huyer III, Edward | Game Audio Design and Development I (<i>Fall 20061 - Graduate</i>) Game Audio Design and Development II (<i>Winter 20062 - Graduate</i>) |
| Kampschmidt, Matt | Production Web Server Configuration and Administration (with Andrew Luly) (<i>Fall 20071 - Graduate</i>) |
| Kirshner, Adam | Extending RTFtoXML for Publication Services (<i>Summer Quarter 20044-Fall Quarter 20051 Undergraduate</i>) Exploration of Extended MVC Web Technologies for Server-Side Programming (<i>Fall 20051 - Undergraduate</i>) |
| Klapka, Colin | 3D Tools for Interface Development (<i>Winter 20072 - Graduate</i>) |
| Kohl, Gregory | XNA Game Engine Development (<i>Spring 20083 – Undergraduate</i>) |
| Korn, Nicholas | Multithreading and Multicore Issues for Game Engines (<i>Spring 20073 - Graduate</i>) |
| Luly, Andrew | Production Web Server Configuration and Administration (with Matt Kampschmidt) (<i>Fall 20071 - Graduate</i>) |
| May, Brian | Advanced 2D Graphics Programming (<i>Winter 20072 - Undergraduate</i>) |
| May, Timothy | Integrating a Conversational Agent with Web Services and Flash (<i>Spring 20053 – Graduate</i>) |
| Piering, Kelley | Values at Play Game Design and Development (<i>Spring 20083 – Graduate</i>) |
| Rollins, Markham | Theoretical Investigation of Game Level Editing Systems (<i>Summer 20064 – Undergraduate</i>) Practical Investigation of Game Level Editing Systems (<i>Summer 20064 – Undergraduate</i>) |
| Root, Scott | Server-Side Architecture for Web-Driven Gaming Systems (<i>Spring 20053 – Graduate</i>) |
| Stanton, Craig | Rich Internet Application Development with Adobe Flex 2.0 (<i>Summer 20054 – Graduate</i>) Apollo Development with Adobe Flex 2.0 (<i>Summer 20064 – Graduate</i>) |
| Sujan, Mehak | Exploration of Next Generation Java Web Application Technology (<i>Winter 20042 - Undergraduate</i>) |
| Weber, Justin | Ubiquitous Input Devices as Alternative Controllers (<i>Fall 20061 - Graduate</i>) |

**Multi-Institutional Student Service while at the Rochester Institute of Technology
(Fall 2004 – present)**

| Student | Supervised Research or Project OR – Outside Reader / Outside Evaluator for Student work [Advisor and Institution listed], OC – Outside Collaborator for Multi-Institutional Work [Advisor and Institution Listed] |
|----------------|---|
| Haydenek, Sara | Simple Physics and Collision API for Introductory Programming Students (<i>OC Fall 2004 – Spring 2005 University at Buffalo Carryover: Adrienne Decker</i>) |
| Rufe, Ken | Evaluation of JOGL for Simulation and Game Programming (<i>OC Spring 2005 University at Buffalo Carryover: Adrienne Decker</i>) |

**Supervised Students at the University at Buffalo
(Fall 2000 – Spring 2004)**

| Student | Project (IS = Registered Ind. Study, TR = Registered Ind. Study Team Research, SP = Supervised Projects) |
|----------------------|--|
| Aghareza, Ali | “Resume on Demand” Web Services for Mobile Technologies using .NET (<i>SP Summer 2002</i>) |
| Baker, Christopher | Game Engine Architecture and Implementation (<i>IS Spring 2003, IS Spring 2004</i>) |
| Broklawski, Marc | 2D Graphics Programming for Visualization Systems (<i>IS Spring 2001</i>) |
| Dukhon, Marina | Interdisciplinary Study of Desktop Virtual Reality User Interfaces (<i>TR Fall 2000 – Spring 2001</i>) |
| Haydanek, Sara | Preliminary Investigative Studies (<i>IS Spring 2004</i>) |
| Mann, Nicholas | Interdisciplinary Study of Desktop Virtual Reality User Interfaces (<i>TR Fall 2000 – Spring 2001</i>) |
| Rindfleisch, Timothy | Game Engine Architecture and Implementation (<i>IS Spring 2003</i>) 2D Physics API for Computer Science Education (<i>IS Fall 2002</i>) |
| Skulski, Jonathan | Extending the BSD File System to Support File Revision Control (<i>IS Spring 2004</i>) |
| Szymanski, Joseph | Visualizing Classical IPC Problems using Lego-based Robotics (<i>SP Fall 2002</i>) |
| Thomas, Melissa | Operating Systems Design and Implementation (<i>IS Spring 2002</i>) |
| Toy, Jason | Game Engine Architecture and Implementation (<i>IS Spring 2004</i>) |
| Wiesemann, Michael | Design and Implementation of Web-based Psychological Testing Platforms (<i>SP Spring 2002</i>) |
| Wilson, Zachary | Interdisciplinary Study of Desktop Virtual Reality User Interfaces (<i>TR Fall 2000 – Spring 2001</i>) |
| Zehler, Aaron | Game Engine Architecture and Implementation (<i>IS Spring 2004</i>) |

**Courses Taught at the Rochester Institute of Technology
(Fall 2004 – present)**

| <i>Quarter</i> | <i>Course</i> | <i>Division</i> | <i>Class Size</i> |
|----------------|---|-----------------|-------------------|
| Fall 2009I | New Media Programming III (4080-333) | Undergraduate | -- |
| Fall 2009I | Freshman Seminar for GDD (4080-201) | Undergraduate | 60 (4 sect.) |
| Spring 20083 | Foundations of 3D Graphics Programming (4002-502) | Undergraduate | 13 |
| Winter 20082 | Game Engine Design and Development (4002-836) | Graduate | 3 |
| Winter 20082 | Computer Science 2 (RAPT Section) (4003-232) | Undergraduate | 30 |
| Fall 20081 | Interactive Media Implementation (4004-730) | Graduate | 15 |

| <i>Quarter</i> | <i>Course</i> | <i>Division</i> | <i>Class Size</i> |
|----------------|--|-----------------|-------------------|
| Fall 20081 | Interactive Digital Media (4002-330) | Undergraduate | 20 |
| Fall 20081 | Freshman Seminar for GDD (4002-201) | Undergraduate | 60 (4 sect.) |
| Spring 20073 | MSGDD Capstone: Game Development (4002-888) | Graduate | 4 |
| Spring 20073 | Seminar: Social Media Theory and Practice (4002-590) | Undergraduate | 7 |
| Spring 20073 | Seminar: Data Enabled Casual Games (4002-590) | Undergraduate | 11 |
| Winter 20072 | MSGDD Capstone: Game Design (4002-887) | Graduate | 4 |
| Winter 20072 | Game World Design (4004-732) | Graduate | 3 |
| Winter 20072 | Interactive Digital Media (4002-330) | Undergraduate | 32 |
| Fall 20071 | Game Engine Design and Development (4002-836) | Graduate | 6 |
| Fall 20071 | Interactive Digital Media (4002-330) | Undergraduate | 29 |
| Spring 20063 | Web Database Integration (4004-751) | Graduate | 13 |
| Spring 20063 | Emerging Themes in Entertainment Technology (4002-790) | Graduate | 4 |
| Winter 20062 | Interactive Digital Media (4002-330) | Undergraduate | 27 |
| Winter 20062 | Programming II for New Media (4002-231) | Undergraduate | 29 |
| Fall 20061 | Game Engine Design and Development (4002-836) | Graduate | 5 |
| Fall 20061 | Interactive Media Implementation (4004-730) | Graduate | 12 |
| Fall 20061 | Interactive Digital Media (4002-330) | Undergraduate | 44 (2 sect.) |
| Spring 20053 | Game World Design (4004-732) | Graduate | 9 |
| Spring 20053 | Web Database Integration (4004-751) | Graduate | 7 |
| Winter 20052 | HCI1: Human Factors (4002-425) | Undergraduate | 35 |
| Winter 20052 | Interactive Digital Media (4002-330) | Undergraduate | 31 |
| Fall 20051 | Game Engine Design and Development (4002-836) | Ugrad / Grad | 4/3 |
| Fall 20051 | Web Database Integration (4004-751) | Graduate | 5 |
| Fall 20051 | Interactive Digital Media (4002-330) | Undergraduate | 31 |
| Spring 20043 | Web and Database Integration (4004-751) | Graduate | 26 |
| Spring 20043 | Introduction to Programming for New Media I (4002-230) | Undergraduate | 15 |
| Winter 20042 | Interface Design (4002-426) | Undergraduate | 31 |
| Winter 20042 | Interactive Digital Media (4002-330) | Undergraduate | 13 |
| Fall 20041 | Web and Database Integration (4004-751) | Graduate | 12 |
| Fall 20041 | Interactive Digital Media (4002-330) | Undergraduate | 32 |

**Courses Taught at the University at Buffalo
(Summer 1998 – Spring 2004)**

| <i>Session</i> | <i>Course</i> | <i>Class Size</i> | <i>Teaching Asst.</i> |
|----------------|--|--------------------|-----------------------|
| Spring 2004 | Server-Side Web Programming: Advanced Web Site Design and Implementation (DMS456/DMS612) | 22 (ugrad/grad) | 0 |
| Spring 2004 | Introduction to Programming Languages (CSE305) | 51 | 2 |
| Spring 2004 | Introduction to Computer Programming I (CSE113B/C) | 49/66 | 3 |
| Spring 2003 | Server-Side Web Programming: Advanced Web Site Design and Implementation (DMS456/DMS612) | 11 (ugrad/grad) | 0 |
| Spring 2003 | Computer Organization (CSE341) | 58 | 2 |
| Fall 2002 | Introduction to Computer Programming I (CSE113) | 81 | 2 |

| <i>Session</i> | <i>Course</i> | <i>Class Size</i> | <i>Teaching Asst.</i> |
|----------------|--|-------------------|-----------------------|
| Summer 2002 | Introduction to Computer Literacy (CSE101) | 23 | 0 |
| Spring 2002 | Introduction to Operating Systems (CSE421) | 44 | 3 |
| Fall 2001 | Introduction to Operating Systems (CSE421) | 56 | 2 |
| Summer 2001 | Introduction to Computer Literacy (CSE101) | 25 | 0 |
| Spring 2001 | Introduction to Operating Systems (CSE421) | 37 | 1 |
| Fall 2000 | Introduction to Operating Systems (CSE421) | 73 | 2 |
| Summer 1999 | Short Course – Adv. Macromedia Director | 5 | 0 |
| Summer 1998 | Introduction to Computer Literacy (CSE101) | 48 | 0 |

**Teaching Assistantships at University at Buffalo
(Fall 1994 – Spring 1997)**

| <i>Session</i> | <i>Course</i> | <i>Class Size (approx.)</i> | <i>Course Type</i> |
|----------------|--|---------------------------------|------------------------|
| Spring 1997 | Introduction to Operating Systems (CS521) | 60 | Graduate |
| Fall 1996 | Language Processors / Compilers (CS443) | 20 | Undergraduate/Graduate |
| Fall 1996 | Great Ideas in Computer Science I (CS111) | 150 | Undergraduate |
| Spring 1996 | Computer Architecture (CS506) | 50 | Graduate |
| Fall 1995 | Introduction to Operating Systems (CS521) | 50 | Graduate |
| Spring 1995 | Great Ideas in Computer Science II (CS112) | 100 | Undergraduate |
| Fall 1994 | Introduction to Computer Literacy (CS101) | 100 | Undergraduate |

CURRICULAR DEVELOPMENT

- 6/2006-1/2007 Co-author of the “Bachelors Degree in Game Design and Development” degree proposal document with Andy Phelps, Stephen Jacobs, Jessica Bayliss, Joe Geigel, Steve Kurtz, and Nancy Doubleday
- 6/2006-present Team Member for Program Steering Group “New Media: Interactive Development” degree with Andy Phelps, Stephen Jacobs, Nancy Doubleday, and Steve Kurtz
- 4/2005-7/2006 Co-author of the “Masters Degree in Game Design and Development” degree proposal document with Andy Phelps, Stephen Jacobs, Jessica Bayliss, Joe Geigel, and Nan Schaller
- 11/2004-6/2006 CME (IM) Group Committee lead to develop a CME (IM)/HCI track for the “Masters in Human Computer Interaction” degree program

Rochester Institute of Technology – Courses in Development

- 2006-2007 4002-601 (tent.) Production Web Server Configuration and Maintenance (Primary Author)
- 2007 4002-590 Social Media Practice and Theory (Primary Author – NSF grant supported)
- 2007 4002-590 Data Driven Game Programming Seminar (Primary Author)

Rochester Institute of Technology – BS Game Design and Development Courses Developed

| | | |
|--------|----------|--|
| 8/2006 | 4002-417 | Visual C++ for Programmers (Co-Author) |
| 8/2006 | 4002-380 | Fundamentals of Game Design and Development I (Co-Author) |
| 8/2006 | 4002-381 | Fundamentals of Game Design and Development II (Co-Author) |
| 8/2006 | 4002-387 | Data Structures and Algorithms for Game Programmers I (Co-Author) |
| 8/2006 | 4002-487 | Data Structures and Algorithms for Game Programmers II (Co-Author) |
| 8/2006 | 4002-541 | Data-Driven Time-Based Media Programming (Primary Author) |

Rochester Institute of Technology – Interactive Media Courses Developed

| | | |
|--------|----------|---|
| 1/2005 | 4004-802 | Perspectives on Computer Mediation (Primary Author) |
| 1/2005 | 4004-804 | Building Tools for Creative Practice (Co-Author) |
| 1/2005 | 4004-806 | Innovation, Invention, and Computer Mediated Experience (Co-Author) |

Rochester Institute of Technology – MS Game Design and Development Courses Developed

| | | |
|---------|----------|---|
| 10/2005 | 4002-793 | Business and Legal Aspects of Game Development (Co-Author) |
| 9/2005 | 4002-792 | Development Processes in the Games Industry (Co-Author) |
| 9/2005 | 4002-887 | Capstone Design – MS Game Design and Development (Co-Author) |
| 9/2005 | 4002-888 | Capstone Development – MS Game Design and Development (Co-Author) |
| 1/2005 | 4002-836 | Game Engine Design and Development (Primary Author) |
| 10/2004 | 4002-790 | Emerging Themes in Entertainment Technology (Primary Author) |

Rochester Institute of Technology – Interactive Media Courses Revised

| | |
|----------------|--|
| 6/2007-11/2007 | Supervised redesign effort for 4002-330 (Interactive Digital Media). Course has been redesigned to take advantage of ActionScript 3.0 programming language. In addition, course redesigned to accommodate for the shift in the Flash API. |
| 9/2004-2/2005 | Participated in the redesign efforts of 4002-330 (Interactive Digital Media) as part of overall redesign effort. Helped with introduction of ActionScript coding as standard practice for these students. |
| 9/2004-11/2005 | Primarily responsible for curricular revisions to 4004-751 (Web Database Integration). Expanded content included integration of non-browser Clients, MVC frameworks, and ORM database management as well as administrative tasks for the web author. |

SERVICE

Advisory and Editorial Boards

| | |
|------|---|
| 2009 | Advisory/Editorial Board Member - The Computer Game Education Review |
| 2006 | Advisory Board/Reviewer – Manga series for girls math and science education |

International/National Conferences Review

| | |
|-----------|---|
| 2003-2007 | Paper Reviewer – SIGCSE Technical Symposium on Computer Science Education |
|-----------|---|

Book Reviews

- 2005 Reviewer – Java, Java, Java (3rd Edition), by Morelli and Walde
2005 Reviewer – Usability Engineering by Leventhal and Barnes

Journal Article Reviews

- 2009 Reviewer – Journal of Graphics Tools, A. K. Peters

Rochester Institute of Technology – GCCIS College Service

- 3/2009-4/2009 Member – Academic Program Success Committee
10/2008-5/2009 Member – Transition Team (Academic Sub-Committee)
6/2008-10/2008 Member – Leadership and Vision Group (Deans and Chairs Group)
7/2008-8/2008 Presenter – College and Careers Day(s)
7/2007 Exhibitor – Project Lead the Way
7/2007-8/2007 Presenter – College and Careers Day(s)
10/2006-8/2008 Member – Student Outreach and Enrollment Committee
7/2006-8/2006 Presenter – College and Careers Day(s)

Rochester Institute of Technology – Departmental Service

- 9/2009-present Member – Technical Steering Committee
9/2009-present Representative – Chair’s representative for Curriculum Committee
9/2007-6/2009 Member – Search Committee
6/2007-6/2009 Member – Facilities Advisory Group
9/2006-6/2009 Member – Scholarship Committee
9/2006-6/2007 Chair – Facilities Committee
9/2005-6/2006 Member – Graduate Curriculum Committee

Rochester Institute of Technology – Game Design and Development Program Service

- 6/2007-6/2009 Alternate – Program Director’s Meeting
7/2006-6/2009 Member – Game Design and Development Administrative Committee
7/2006-6/2009 Member – Game Design and Development Admissions Subgroup
7/2006-6/2009 Member – Game Design and Development Assessment Subgroup
7/2006-6/2009 Member – Game Design and Development Scheduling Subgroup
7/2006-6/2009 Member – Game Design and Development Curriculum Futuring Subgroup
7/2006-6/2009 Member – Game Design and Development Hospitality Subgroup
4/2006-8/2006 Co-Organizer – “Save This City” Game Design Contest

University at Buffalo – Departmental Service

- 1/2004-4/2004 Member – Undergraduate Teaching Assistant (UTA) hiring committee
1/2000-1/2001 Member – “Crashlab” deployment group and steering committee

University at Buffalo – General

- 1998 Consultant – techARTS (arts and technology program for girls) program

PROFESSIONAL AFFILIATIONS

International Game Developers Association (IGDA) Member

Association for Computing Machinery (ACM) and its special interest groups:

SIGCHI – Computer-Human Interaction

SIGCSE – Computer Science Education

SIGGRAPH – Computer Graphics and Interactive Techniques