

Blair MacIntyre

Associate Professor

School of Interactive Computing
College of Computing
Georgia Institute of Technology
Atlanta, GA 30332-0280, USA

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EDUCATIONAL BACKGROUND

Degree	Year	University	Field
Ph.D.	1999	Columbia University, New York, NY	<i>Computer Science</i>
M. Phil.	1995	Columbia University, New York, NY	<i>Computer Science</i>
M. Math	1991	University of Waterloo, Waterloo, ON	<i>Computer Science</i>
B. Math	1989	University of Waterloo, Waterloo, ON	<i>Honours Computer Science Minor: Combinatorics and Optimization</i>

EMPLOYMENT HISTORY

Title	Organization	Years
Associate Professor	College of Computing, Georgia Institute of Technology	<i>June 2006–present</i>
Adjunct Professor	School of Literature, Communication and Culture, Ivan Allen College, Georgia Institute of Technology	<i>Sept 2005–present (expected)</i>
Assistant Professor	College of Computing, Georgia Institute of Technology	<i>Jan 1999–June 2006</i>
Graduate Research Assistant	Department of Computer Science, Columbia University	<i>Sept 1991– Dec 1998</i>
Research Intern	Nynex Science and Technology	<i>June–Aug 1993</i>
Research Intern	Xerox Palo Alto Research Center	<i>June–Aug 1992</i>
Unix Consultant	Math Faculty Computing Facility, University of Waterloo	<i>Sept 1989– April 1991</i>
Research Assistant	Computer Graphics Laboratory, University of Waterloo	<i>May–Aug 1989</i>
Research Programmer	Centre for the New Oxford English Dictionary, University of Waterloo	<i>Jan–May 1988, Sept–Dec 1988</i>
Research Programmer	Computer Systems Group, University of Waterloo	<i>Sept–Dec 1986, May–Aug 1987</i>
MIS Programmer	CIBA-Geigy Canada, Ltd.	<i>May–Aug 1985, Jan–April 1986</i>

CURRENT FIELDS OF INTEREST

Human-Computer Interaction, Computer Graphics, Augmented and Mixed Reality, New Media Experience Design, Interactive Distributed Systems, Software Engineering.

Goals:

The current focus of my research is on developing software tools and technologies to support the creation of augmented and mixed reality (AR/MR) experiences and games, and to understand the human experiences created by those systems. My work is grounded in multi-disciplinary collaborative design projects with experience and game designers. I am interested in understanding the fundamental (and often subtle) problems that have made augmented reality systems difficult to design, deploy and use, and believe the best way to approach this problem is to form deep collaborations with people who are attempting to solve real problems using augmented reality and/or mixed reality. Therefore, I maintain long-term collaborations with researchers, theoreticians and practitioners in the military, industrial,

design and artistic communities, and have leveraged these collaborative experiences to inform my own research.

I. TEACHING

A. Courses Taught

<u>Quarter/Year</u>	<u>Course Number & Title</u>	<u>Number of Students</u>	<u>Comments</u>
Department of Computer Science, Columbia University			
Spring 1994	W3152 Software Design Lab (Practical Software Engineering)	33	
College of Computing, Georgia Institute of Technology			
Winter 1999	CS 4390 Introduction to Computer Graphics	33	
Spring 1999	CS 6395 Principles of User-Interface Software	28	
Fall 1999	CS 4451 Introduction to Computer Graphics	55	semester redesign
Spring 2000	CS 6456 Principles of User-Interface Software	17	semester redesign
	CS 8803F Media Design for Virtual Environments (cross-listed as LCC 8803A)	14 (total)	with Jay Bolter
Fall 2000	CS 4451 Introduction to Computer Graphics	42	
	CS 4470 User-Interface Software	34	
Spring 2001	CS 8803A Design for Augmented Reality (cross-listed as LCC 8803B)	9 (total)	with Jay Bolter
Fall 2001	CS 4470 User-Interface Software	26	
	CS 6456 Principles of User-Interface Software	17	
Spring 2002	CS 4803B Augmented Reality Design (cross-listed as LCC 4404 and CS 8903I)	17 (total)	with Jay Bolter
Fall 2002	CS 4451 Introduction to Computer Graphics	58	
Spring 2003	CS 4803I/8903I Augmented Reality Design (cross-listed as LCC 4404 and 8803)	23 (total)	with Jay Bolter
Spring 2004	CS 4803ARD/8903ARD Augmented Reality Design (cross-listed as LCC 4404 and 8803)	35 (total)	with Jay Bolter
	CS 1315 Introduction to Media Computation	200	
Spring 2005	CS 4803ARD/8903ARD Augmented Reality Design (cross-listed as LCC 4404 and 8803)	15 (total)	with Jay Bolter
	CS 1315 Introduction to Media Computation	200	
Fall 2005	CS 4452 Intro Programming for HCC	1	no credit
	CS 1315 Introduction to Media Computation	160	
Spring 2006	CS 4455 Video Game Design	39	
Spring 2006	LCC 4730 Experimental Digital Art	6	with Jay Bolter and Maribeth Gandy
Fall 2006	CS 8803 Video Game Design	7	(GTL)
Fall 2006	CS 6770 Mixed Reality Experience Design	7	(GTL)
Fall 2007	CS 4455/8803 Video Game Design	38 (total)	
Spring 2008	CS 7497 Virtual Environments	18	

Quarter/Year	Course Number & Title	Number of Students	Comments
Fall 2008	CS 4803/8803 Handheld Augmented Reality Game Studio	13 (19 total)	joint with SCAD-Atlanta
Spring 2009	CS4770/6770 Mixed Reality Experience Design (cross-listed as LCC 4404 and 8803)	15 (31 total)	with Jay Bolter and Maribeth Gandy
Fall 2009	CS4801GPL Game Prototyping Lab	22	
Spring 2010	CS4801GPL Game Prototyping Lab	13	
Spring 2010	CS4911CM Senior Design	40	with Mark Guzdial
Spring 2010	CS 4803/8803 Handheld Augmented Reality Game Studio	7 (10 total)	joint with SCAD-Atlanta
Seminars			
Fall 1999	CS 3351 Studio Design Project	5	Group Supervisor
	CS 8001 B Future Computing Environments Seminar	40	team-taught seminar (FCE)
Fall 1999	CS 4801A Building Ubiquitous Computing Devices and Software	8	team-taught seminar (FCE)
Spring 2000	CS 8001 B Future Computing Environments Seminar	40	team-taught seminar (FCE)
Fall 2001	CS 4801S Building Ubiquitous Computing Devices and Software	14	seminar
Fall 2005	LCC 8803 Augmented Reality	14	seminar
Spring 2008	CS 4903 Game Capstone Studio	4	

B. Continuing Education

C. Curriculum Development

College of Computing, Georgia Institute of Technology, Atlanta, GA.

Game Prototyping Lab: In the fall of 2009 and Spring of 2010, I designed and ran a 1 credit lab on Game Prototyping. The 3 hour lab was designed to complement other games classes, by both teaching the students the process of game refinement through the creation, evaluation and evolution of throw-away prototypes, but also by giving them a place to create these prototypes for games they are developing in other classes, or on their own.

2009

Games Focus in CM Capston: In the spring of 2010, I co-taught CS4911 with Mark Guzdial, with the goal of understanding how to better integrate Video Game projects into the capstone. The problem I am trying to solve is how to give our games-oriented students an opportunity to create a more polished game; to go through the process of carrying a game through to its best conclusion with a fixed amount of time and resources. The intent is to give them the opportunity to learn how to do this in the context of a real industrial process and with real deadlines (the goal of our capstone), and to have a high quality portfolio piece at the end, of the caliber that it could be released as a demo or submitted to a student game competition. While we have many games classes where students create games, the goals and time scales of these classes (and the game projects) usually prevent the students from carrying the games through to conclusion. Furthermore, our students work on games on their own, or during

events like the Global Game Jam, but rarely have the chance to refine these games under the guidance of experience faculty or professionals. For this first instance, we had 5 project teams doing different kinds of games projects (one based on a game jam prototyping, one based on a faculty proposed game idea, 2 as part of a larger team in a faculty research project, and one open-ended game based on an external customer wanting them to explore the potential of a software toolkit). Based on the results of this experiment, we will refine the requirements and approach for future instances of CS4911.

2009

Handheld Augmented Reality Game Studio: In the summer and fall of 2008, I worked with my students and faculty at SCAD-Atlanta (the Atlanta campus of the Savannah College of Art and Design) to create a class that would be offered simultaneously at Georgia Tech and SCAD. The class is a project oriented studio class focused on Handheld AR Games. I raised money to support this class from Media Power/Gizmondo/Imagination (a donation of ~\$60,000 to support research assistants, 50 Gizmondo's for student use, and the use of the Imagination handheld AR software StbES). The class had mixed groups of students design, implement and test a series of three handheld AR games (three weeks for each project), from which each group picked one to refine as their final project. The class was revolutionary, in that we successfully had these two groups of students work together across campuses, and by supporting the rapid prototyping of handheld AR games. We offered the class a second time in Spring 2010, and raised \$5,000 from Qualcomm to support purchasing additional software for the class.

Virtual Environments: In the spring of 2008, recreated the graduate virtual environments class that has not been taught in a number of years. The focus of this class had been Virtual Reality; I expanded the class to cover a wider range of Virtual Environments, including both Virtual and Augmented Reality. I also added a major 3D User Interfaces component to the class, as this is one of the most important areas of 3D HCI research.

Video Game Design: In the spring of 2006, I took on the redesign and teaching of our undergraduate Video Game Design class, CS 4455. This class had suffered an uneven history as a project-based class, where the students had generally taken it because they wanted to build games, but not enjoyed the lecture material or found it useful (evidenced by course review comments and anecdotal evidence). I decided to take on this course after the previous instructor left Tech, and redesign it to improve the usage (and value) of class time, while retaining the project-centric approach. During the spring and fall of 2006, I and Maribeth Gandy added a substantial Game Design element to the class, in addition to the previous game development focus. We continue to evolve and improve the class, and are shifting our attention to revising the games thread through the Computational Media degree.

Semester Conversion (1999-2000): During my first year at Georgia Tech, I was involved in the course-specific curriculum development activities for the semester conversion; in particular, I revised and then taught the first semester versions of the undergraduate Computer Graphics course (4451), and the graduate course on the Principles of User-Interface Software (6456).

CS 6456 Principles of User-Interface Software, and CS 4470 User-Interface Software (2000-2001): Designed and taught undergraduate course on User-Interface Software (4470) in Fall 2000, based on the existing graduate course (CS 6456). The classes are taught together, with the focus shifted to include a greater degree of hands-on projects using current cutting-edge technologies, such as wireless hand-held computers and large electronic whiteboard displays. In subsequent semesters, modified the last month of both 6456 and 4470 to focus on different "new" user interface software and technology. In Fall 2000, the students used the Satin Toolkit from UC Berkely to explore the creation of informal pen-based interfaces. In Fall 2001, I obtained handheld computers from Hewlett Packard, and a hardware prototyping toolkit from the University of Calgary, so the students could explore the creation of mobile interfaces and physical interfaces, respectively.

(Special Topics) Augmented Reality Design (Spring 2000-2005): Working with Jay Bolter in LCC to develop a multi-disciplinary, project-based course on the design the augmented reality environments, that presents the students with technical, human-computer interaction, and design perspectives on the creation of these systems. The first two semesters (Spring 2000 and 2001) we co-taught a graduate seminar cross-listed in CS and LCC. The course was expanded in Spring 2002 to include undergraduate project groups (the course was primarily undergraduates that semester). To support this endeavor, I secured \$71,276 worth of equipment donations from HP (laptop and handheld computers) and \$20,000 from the College of Computing (for cameras, displays, GPS units, etc.), to create AR prototyping environments so the course would be more hands-on. I secured another \$50,342 worth of laptops from HP for the Spring 2003 course, and we recruited students from Industrial Design and Architecture to expand the perspective of the project groups. For the 2003 and 2004 courses, we are collaborating with the the Historic Oakland Preservation Society to situation the class projects in historic Oakland Cemetery, the oldest cemetery in Atlanta, and are including guest lectures on museum design, historical education and the history of Oakland and Atlanta. We anticipate working with Oakland Cemetery again in the Spring of 2005, although we expect to

A Multi-disciplinary Undergraduate Degree in Computational Media: Worked with faculty from the School of Literature, Communication and Culture and the College of Computing's Graphics, Visualization and Usability Center to develop and institute an Undergraduate Degree called Computational Media. This degree combines Computer Science education with Media Theory and Media Practice, to educate students whose interest is in the use of computing for communication, art and design. Serving as the first faculty advisor for the degree (from the College of Computing), with Peter McGuire from LCC.

A Computing Ph.D. in Human-Centered Computing: Involved in defining the Computing requirements for the HCC Ph.D. program in the College of Computing, and designing the courses to satisfy those requirements. Helped with the design of the new system architecture and prototyping course for graduate students in this program.

Undergraduate Coordinator: Agreed to be the first undergraduate education coordinator for CoC's Interface Computing Division (ICD) in 2004. The intent of this position is to have a faculty member who understands and oversees the curriculum and educational mission of the division, and can also act a bridge between the faculty, students, staff and the various committees handling undergraduate issues. In 2005, this role was expanded to the CoC, with a co-Coordinator added from the Core Computing Division. As part of this job, I sit on all committees dealing with undergraduate issues.

D. Individual Student Guidance

Post-Doctoral Fellows

Ph.D. Students Supervised (in process as well as graduated)

Evan Barba (CoC HCC)

Fall 2008 – present.

Authoring tools and technologies for outdoor AR experiences.

Matthew Bonner (CoC HCC)

Fall 2008 – Fall 2009.

Collaborating Mixed Reality using Virtual Worlds as a mediating platform.

Iulian Wade Radu (CoC HCC)

Fall 2007 – present.

AR authoring environments for children.

Duy Nguyen (CoC CS)

Fall 2007 – present.

Computer Vision, Sensing and Toolkits for AR.

Yan Xu (CoC HCC)

Spring 2007 – present.

Mobile Augmented Reality Gaming.

Christobal Alvarez (CoC)

Fall 2006 – present.

Augmented Reality Presence with non-Photorealistic Rendering.

JiaJian (John) Chen (CoC)

Fall 2006 – present.

Mobile AR Games.

Enylton Machado Coelho (CoC)

Fall 2000 – Fall 2005.

Publications: E.2.26, E.2.20, E.3.9, E.2.16, E.4.7, B.2.4.

Dealing with uncertainty in mobile 3D augmented reality.

Steven Dow (CoC HCC)

Fall 2004 – Fall 2008.

Publications: B.1.4, E.2.14, E.2.13, B.2.5, E.3.7, E.4.8, E.2.18, E.3.8, E.3.6.

Design and prototyping of AR/MR/Ubicomp Environments by non-specialists. Understanding the design process for AR.

Brendan Hannigan (CoC)

Spring 2001 – Spring 2004.

Publications: E.2.18, E.2.19, E.2.21, E.3.8, E.3.11, E.3.13.

Supporting designers creating AR systems. Left program for personal reasons.

Robert Jan Kooper (CoC)

Fall 1999 – May 2002.

Publications: B.1.9, E.2.23, E.2.25, F.2.1.

Worked on interaction in the Real-World Wide Web (RWWW). Left the program for personal reasons.

Maribeth Gandy (CoC)

Fall 2003 – Present.

Publications: E.3.4, B.1.4, E.2.14, E.2.13, E.2.17, B.2.5, E.3.6, E.4.8, E.2.18, E.2.19, E.3.7, E.3.8, E.3.10, E.3.11.

Support for design and prototyping of AR Environments by non-specialists, evaluation of Presence and Aura in AR Environments.

Markus Haas (CoC)

Spring 2002 – Fall 2005.

Publications: E.2.19, E.3.11.

Current research on Presence and AR. Worked with Ruth Dalton on generative grammars for layout of architectural forms and visualization of in-situ architectural designs (Dr. Dalton left, so this research stopped). Also worked on dramatic AR experiences (Spring 2002), Industrial AR design (Fall 2002).

Cindy Robertson (CoC)

Fall 2002 – Fall 2007.

Publications: C.1.4, E.4.15.

Semantic- and perceptual-based display techniques for augmented reality.

Stephen Volda (CoC, with Elizabeth Mynatt)

Fall 2002 – Fall 2003.

Publications: *B.1.6, B.1.8, C.1.5, E.2.19, B.2.6, E.4.13, E.4.14.*

Integration of wall-sized displays into individual offices. Now working primarily with Mynatt.

Ph.D. Special Problems students.

(Only listing students who are not, or were never, directly supervised as Ph.D. students)

Manish Mahta (CoC HCC)

Spring 2005 – Fall 2007.

Working on AR/Facade.

Mayank Singh (Architecture)

Spring 2004–Fall 2004

Using table-top, projector-based AR for Architectural education.

Tazama St. Julien. (CoC)

Spring 2002.

Outdoor AR for military use.

Benjamin Wong. (CoC)

Spring 2000.

Interaction techniques for ambient displays.

M.S. Thesis Students supervised.

Annie Lausier (LCC IDT)

Fall 2005 – Fall 2006.

Authoring interfaces for AR experiences.

Dan Shaw (CoC HCI)

Fall 2005 – Spring 2006.

Augmented Reality Interfaces for Assembly line Inspection.

Marleigh Norton (CoC HCI)

Fall 2004 – Spring 2005.

Publications: *E.2.12.*

Design, implementation and testing on an AR Puzzle game called Butterfly Effect.

Parth Bhawalkar (CoC HCI, with GTRI)

Fall 2004 – Spring 2005.

Publications: *E.3.5.*

Augmented Reality Interfaces for Assembly line Inspection.

Jaemin Lee (LCC HCI)

Spring 2004 – Fall 2004.

Publications: *B.1.4, E.2.15,E.2.14*

The Voices of Oakland audio-only dramatic AR tour in Oakland Cemetery.

Christopher Oezbek (CoC MS)

Spring 2004 – Summer 2004.

Publications: *B.1.4, E.2.15,E.2.14*

Automatic creation of Wizard of Oz interfaces for mobile AR experiences.

Steven Dow (CoC HCI)

Spring 2003 – Summer 2004.

Publications: *B.2.5,E.2.18,E.3.7,E.3.8.*

Physical Prototyping and Storyboarding of AR/MR experiences.

Kedar A. Shiroor (CoC HCI, with Jennifer Ockerman (GTRI))

Fall 2003 – Spring 2004.

Publications: *E.4.11.*

Augmented Reality Interfaces for Assembly line Inspection.

Logan Hauenstein (CoC MS, with Jennifer Ockerman (GTRI))

Summer – Fall 2003.

Vision-based tracking for AR using OpenCV and passive fiducial markers.

Maxwell Speyer (CoC MS, with Jennifer Ockerman (GTRI))

Summer – Fall 2003.

Design of the software for an AR experiment for assembly line inspection.

Richard Gordon (CoC HCI)

Spring 2003 – Fall 2003.

Wearable Augmented Reality for combined Physical/Virtual Training Exercises in a MOUT.

Nikitas Lagos (CoC CS, with Yannis Smaragdakis)

Fall 2002 – Spring 2003.

Publications: *B.1.6.*

Evaluation of JOrchestra as a platform for distributing UbiComp applications.

Jeannie Vaughan (LCC IDT, with Jay Bolter)

Summer 2001 – Fall 2001.

Publications: *E.2.19,E.3.11,E.3.13*

Leveraging Point-of-View in AR Narratives.

Anirudh Moudgal (CoC HCI)

Fall 2000 – Spring 2001.)

Social Navigation in Augmented Environments.

Emmanuel (Noel) Moreno (LCC IDT)

Summer 2000 – Fall 2000.

Publications: *B.1.10,E.2.19,E.2.21,E.2.22,E.2.24,E.3.11,E.3.13.*

Interactive Narrative and Content Creation in AR Environments.

MS. Special Problems students.

Kimberly Spreen (CoC MS)

Spring 2008 – Spring 2009.

Handheld AR Games.

Jacob Scheifer (CoC MS)

Fall 2008 – Spring 2009.

Wonderland MR portals.

Kaiwalya Kher (CoC MS)

Fall 2008 – Spring 2009.

Debugging AR games.

Timmy White (CoC MS)

Summer 2008 – Spring 2008.

A handheld AR Card game.

Sami Deen (CoC CS)

Spring 2007 – present

Mobile AR Games.

Sami Deen (CoC CS)

Spring 2007 – present

Mobile AR Games.

Sunyoung Kim (CS HCI)

(Spring 2007)

Cell phone based tour of Oakland Cemetery.

Tobias Lang (Visiting Masters Student, Media Informatics (Diploma), Ludwig-Maximilians-University, Munich, Germany)

July 2005 – April 2006, March 2007 – present

AR presence experiment software, AR Second Life viewer.

Dave McColgin (LCC HCI)

(Fall 2004)

Integration of 2D interactive Flash content into a 3D AR programming environment.

Parth Bhawalkar (CoC HCI, with Jennifer Ockerman (GTRI))

(Spring 2004)

Implementation of the software for an AR experiment for assembly line inspection.

Marco Lohse (Visiting Masters Student, Universität des Saarlandes, Saarbrücken, Germany)

July 2001 – October 2001.

Publications: B.1.10, E.2.24.

Video-based Actors for Augmented Reality.

Stephen Volda (CoC HCI, with Elizabeth Mynatt)

Fall 1999-Spring 2001.

Work on the integration of wall-sized office displays into standard office work practice.

Undergraduate Research Students.

Daniel Hunneycutt (CoC CS)

Summer 2009.

iPhone handheld AR.

Dan Kestranek (CoC CS)

Summer 2008 – Summer 2009.

Working on a standalone HMD design using an OMAP3 beagleboard dev kit.

Michael Gorbsky (CoC CM)

Summer 2008 – Fall 2008.

Worked on a number of handheld AR games.

Jacob Scheifer (CoC CS)

Spring 2008 – Summer 2008.

Color calibration for AR HMDs.

Brian Davidson (CoC CS)

Spring 2007.

Working on construction of portable AR system and game demonstration system.

David Eakes (CoC CS)

Spring 2007.

Working on construction of portable AR system and game demonstration system.

Tom Amundsen (CoC CS)

Spring 2006.

Adding physical sensors and actuators into the AR/Facade experience.

Michael T. Bleigh (CoC CS)

Spring 2006.

Assisting with the running of CS 4455, Video Game Design.

Musa Siddeeq (CoC CM)

Spring 2006.

Doing a research capstone analyzing the concept and implementation of AR Karaoke.

Bryan Rink (CoC CS)

Fall 2004

Designed and implemented a control system for a computer-controlled train set that tracked where the train is, with an estimate of the accuracy of the tracking. This will be used as part of an evaluation demonstration by Enylton Coelho.

Randy Rockinson (CoC CS)

Spring 2003 – Spring 2004

Designing and implementing software for an AR experiment on the effects of registration error on a construction task. Went to MIT Media Lab after graduation.

Travis Thatcher (CoC CS)

Fall 2003 – Present

Working on audio AR.

Szymon Swistun. (CoC CS)

Summer 2002 – Present

Designing and building ARKraft, an augmented reality game for testing remote collaboration.

Donko Jeliaskov (CoC CS)

Summer 2001 – Present.

3D Modeling for AR systems.

Umang Dua (CoC CS, with Greg Corso (Psychology))

(Spring 2003)

Worked on software for psychology experiments in peripheral perception.

Thembi Mitchell (CoC CS)

Fall 2002 – Spring 2003.

Worked on prototyping of a mobile AR system for Battlefield Awareness.

Awarded CRA Computing Research Experience for Women (CREW) Fellowship.

Dawn Padula (CoC CS)

Fall 2002 – Spring 2003.

Worked on prototyping of a mobile AR system for Battlefield Awareness.

Awarded CRA Computing Research Experience for Women (CREW) Fellowship.

Graham Coleman (CoC CS, with Sha XinWei (LCC))

Spring – Fall 2002.

Implementation of Hubbub prototype for Dr. Sha’s topological media space project.

John McDole (CoC CS)

Summer 2002.

Worked on initial prototype of ARKraft, an augmented reality game for testing remote collaboration.

Sarah Moore (CoC CS)

Summer – Fall 2002.

Hardware system components for mobile AR.

Sami Deen (CoC CS)

Summer – Fall 2002.

Autocalibration of passive fiducials for AR tracking.

Vincent Fiano (CoC CS, with Sha XinWei (LCC))

Fall 2002.

Text Engine for Hubbub, Handheld interface for TGarden.

Rick Lane (CoC CS)

Fall 2002.

Synchronized capture and playback of video and sensor information for AR prototyping.

Joaquin Madruga (CoC CS)

Fall 2001 – Spring 2002.

Vision-based tracking for AR.

Russell Morris (CoC CS)

Summer – Fall 2001.

Built AR Xtras for Director, and assist with application development.

Im Chang Soo (CoC CS, with Beth Mynatt)

Summer 2001.

Work on augmented office project.

Chad Carpenter (CoC CS, with Beth Mynatt)

Summer 2001.

Work on augmented office project.

Austin Lee (CoC CS, with Beth Mynatt)

Summer 2001.

Work on augmented office project.

Kiana Tennyson (CoC CS)

Summer 2001.

Audio historical tour prototype.

Adam Eugene Bryant (CoC CS)

Summer 2001.

Authoring video texture animations.

Patrick Reyes (CoC CS)

Summer 2001.

Authoring video texture animations.

Hyun Lim (CoC CS)
Summer 2001.
Gesture recognition for AR.

Archana Jain (CoC CS)
Summer 2001.
Developing software for CS 6456/4470.

Brett Williams (CoC CS, with Beth Mynatt)
Spring 2001.
Work on augmented office project.

William Sjahrial (CoC CS)
Spring 2001.
Work on integrating handhelds into the RWWW.

Dominic Pucci (CoC CS)
Spring 2000.
Work on differential GPS and mobile augmented reality.

Joel McGuinness (LCC STAC)
Spring 2000.
Work on distributed 3D graphics using HLA.

Elissa Newman (CoC, with Larry Hodges)
Spring 1999 – Spring 2000.
Work on Augmented Reality for Phobia treatment.

Sanjay Bhatia (CoC)
Fall 1999 – Spring 2000.
Distributed programming on Windows.

About 10 other Undergraduate students from 1999 – Present at Georgia Tech.

E. Teaching Honors and Awards

1. Nominated for Georgia Tech. Outstanding use of Innovative Technologies in Teaching Award, 2002.

II. RESEARCH AND CREATIVE SCHOLARSHIP

A. Thesis

Ph.D. Thesis

Title: “*Exploratory Programming of Distributed Augmented Environments.*”

Date Completed: *December 1998.*

Advisor: *Dr. Steven Feiner.*

University: *Department of Computer Science, Columbia University.*

B.Math Thesis

Title: “*A Constraint-based Approach to Dynamic Colour Management for Windowing Interfaces.*”

Date Completed: *October 1991.*

Advisor: *Dr. William Cowan.*

University: *Computer Graphics Lab, University of Waterloo.*

Department of Computer Science Technical Report CS-91-55.

B. Published Journal Papers (refereed)

B.1. Archival Journals

- B.1.1 Kathryn Farley, Michael Nitsche, Jay Bolter and Blair MacIntyre. “Augmenting Creative Realities: The Second Life Performance Project.” *Leonardo Transactions*, Vol. 42, No. 1, February 2009, pages 96–97.
- B.1.2 Cindy M. Robertson and Blair MacIntyre and Bruce Walker. “An Evaluation of Graphical Context as a Means for Ameliorating the Effects of Registration Error.” *IEEE Transactions on Visualization and Computer Graphics*, 2009, 15(2), pp.179-192.
- B.1.3 Jay Bolter and Blair MacIntyre. “Is it Live or Is It AR?” *IEEE Spectrum*, Vol. 44, no. 8, August 2007, p. 30-35.
- B.1.4 Steven Dow, Blair MacIntyre, Jaemin Lee, Christopher Oezbek, Jay David Bolter and Maribeth Gandy. “Puppet Prototyping: Wizard of Oz Support throughout an Iterative Design Process.” In *IEEE Pervasive Computing: Special Issue on Rapid Prototyping for Ubiquitous Computing*, October 2005.
- B.1.5 Jay David Bolter, Blair MacIntyre, Maribeth Gandy, Petra Schweitzer. “New Media and the Permanent Crisis of Aura.” Accepted to *Convergence*.
- B.1.6 Nikitas Liogkas, Blair MacIntyre, Elizabeth D. Mynatt, Yannis Smaragdakis, Eli Tilevich, and Stephen Volda. “Automatic Partitioning: A Promising Approach to Prototyping Ubiquitous Computing Applications.” In *IEEE Pervasive Computing: Special Issue on Building and Evaluating Ubiquitous System Software*, July–September 2004, 3(3): 40–47.
- B.1.7 Blair MacIntyre and Jay David Bolter. “Single-Narrative, Multiple Point-of-View Dramatic Experiences in Augmented Reality.” In the *Journal of Virtual Reality (Special Issue on Storytelling in Virtual Environments)*, 7(1):10–16, December 2003. Springer-Verlag London Ltd.
- B.1.8 Stephen Volda, Elizabeth D. Mynatt, Blair MacIntyre, and Gregory M. Corso. “Integrating Virtual and Physical Context to Support Knowledge Workers”, In *IEEE Pervasive Computing*, 1(3):73–79, July–Sept 2002.
- B.1.9 Rob Kooper and Blair MacIntyre. “Browsing the Real-World Wide Web: Maintaining Awareness of Virtual Information in an AR Information Space.” In the *International Journal of HCI*, 16(3):425–446. Lawrence Erlbaum Associates.

- B.1.10 Blair MacIntyre, Marco Lohse, Jay Bolter, and Emmanuel Moreno. “Integrating 2D Video Actors into a 3D AR System.” In *Presence: Teleoperators and Virtual Environments*, 11(2): 189-202, Special Issue on Mixed Reality, April, 2002.
- B.1.11 Ron Azuma, Yohan Baillot, Reinhold Behringer, Steven Feiner, Simon Julier, and Blair MacIntyre. “Recent Advances in Augmented Reality.” In *IEEE Computer Graphics and Applications*, 25(6): 24–35, Nov-Dec 2001.
- B.1.12 Blair MacIntyre. “Exploratory Programming of Distributed 3D Graphics Applications.” In *Journal of Parallel and Distributed Computing Practices*, Special Issue on Parallel and Distributed Graphics, 3(3), September 2000.
- B.1.13 Steven Feiner, Blair MacIntyre, Tobias Höllerer, and Anthony Webster. “A Touring Machine: Prototyping 3D mobile augmented reality systems for exploring the urban environment.” In *Personal Technology*, 1(4): 208-217, 1997.
- B.1.14 Blair MacIntyre and Steven Feiner. “Future Multimedia User Interfaces.” In *Multimedia Systems*, 4(5): 250–268, 1996. .
- B.1.15 Steven Feiner, Anthony Webster, Theodore Krueger, Blair MacIntyre, and Edward Keller. “Architectural Anatomy.” In *Presence: Teleoperators and Virtual Environments*, 4(3): 318–325, Summer 1995.
- B.1.16 Steven Feiner, Blair MacIntyre and Dorée Seligmann. “Knowledge-Based Augmented Reality.” *Communications of the ACM* 36(7): 53–62, July, 1993.
- B.1.17 Blair MacIntyre and William Cowan. “A Practical Approach to Calculating Luminance Contrast on a CRT.” In *ACM Transactions on Graphics* 11(4): 336–347, October, 1992.

B.2. Archival Conference Proceedings

[ACM SIGGRAPH Proceedings papers ([B.2.7]) are considered final archival publications, with resubmission to a Journal not permitted. The CHI Letters designation ([B.2.5,B.2.6]) is given only to full ACM conference papers with original and substantial content. These papers have been accepted to conferences that follow a strict, rigorous, and highly competitive reviewing process, including a revision and rebuttal cycle.]

- B.2.1 Steven Dow and Manish Mehta and Blair MacIntyre and Michael Mateas. “Eliza meets the Wizard-of-Oz: Blending Machine and Human Control of Embodied Characters.” To appear in *ACM Conference on Computer-Human Interaction (CHI10)*, Atlanta, CA, U.S.A., 2010. 2009
- B.2.2 Duy-Nguyen Ta Huynh, Karthik Raveendran, Yan Xu, Kimberly Spreen, Blair MacIntyre. “Art of Defense: A Collaborative Handheld Augmented Reality Board Game.” To appear in *ACM SIGGRAPH 2009, Games Track*.
- B.2.3 Steven Dow, Manish Mehta, Ellie Harmon, Blair MacIntyre, and Michael Mateas. “Presence and Engagement in an Interactive Drama.” To appear in *ACM Conference on Computer-Human Interaction (CHI07)*, San Jose, CA, U.S.A, 2007.
- B.2.4 Enylton Machado Coelho, Blair MacIntyre and Simon Julier. “Supporting Interaction in Augmented Reality in the Presence of Uncertain Spatial Knowledge.” To appear as a Technote in *ACM User Interface Software and Technology (UIST05)*. [20%]
- B.2.5 Blair MacIntyre, Maribeth Gandy, Steven Dow and Jay David Bolter. “DART: A Toolkit for Rapid Design Exploration of Augmented Reality Experiences.” In *ACM User Interface Software and Technology (UIST04)*, CHI Letters 6(2): 197–206. [15%]

- B.2.6 Blair MacIntyre, Elizabeth Mynatt, Steven Volda, Klaus Marius Hansen, Joe Tullio, Gregory Corso. “Support For Multitasking and Background Awareness Using Interactive Peripheral Displays.” *ACM UIST 01 (ACM User Interface Software and Technology)*, CHI Letters 3(1): 41-50. [19%]
- B.2.7 MacIntyre, Blair and Feiner, Steven. “A Distributed 3D Graphics Library.” In *Proc. SIG-GRAPH 98*, pages 361–370, July 1998. [15%]

C. Published Books and Parts of Books (Refereed)

C.1. Chapters in Books

- C.1.1 Maribeth Gandy, Blair MacIntyre, Steven Dow, Jay David Bolter. “Supporting Early Design Activities for AR Experiences.” In M. Haller, M. Billinghurst, and B. Thomas (Eds), *Emerging Technologies of Augmented Reality: Interfaces and Design*, Idea Group Publishing, 2007.
- C.1.2 Cindy Robertson, Enylton Machado Coelho, Blair MacIntyre, Simon Julier. “Developing AR Systems in the Presence of Spatial Uncertainty.” In M. Haller, M. Billinghurst, and B. Thomas (Eds), *Emerging Technologies of Augmented Reality: Interfaces and Design*, Idea Group Publishing, 2007.
- C.1.3 Volda, S., Mynatt, E.D. and MacIntyre, B. (forthcoming). “Supporting activity in desktop and ubiquitous computing.” In V. Kaptelinin & M. Czerwinski (Eds.), *Designing integrated digital work environments: Beyond the desktop metaphor*. Cambridge, Massachusetts: MIT Press.
- C.1.4 Cindy Robertson and Blair MacIntyre. “Adapting to Registration Error in an Intent-Based Augmentation System.” In S.K. Ong and A.Y.C. Nee(eds), *Virtual and Augmented Reality Applications in Manufacturing*, London, Springer Verlag. 2004. ISBN: 1-85233-796-6. pp 143–164.
- C.1.5 Elizabeth D. Mynatt, Elaine. M. Huang, Stephen Volda and Blair MacIntyre. “Large displays for knowledge work.” In O’Hara, K., Perry, M., Churchill, E., Russell, D. (Eds.), *Public and Situated Displays*. Kluwer Academic Publishers. 2003. ISBN: 1-4020-1677-8. pp. 80–102
- C.1.6 Anthony Webster, Steven Feiner, Blair MacIntyre, William Massie and Theodore Krueger. “Augmented Reality Applications in Architectural Construction.” In D. Bertol (ed.), *Designing Digital Space: An Architects Guide to Virtual Reality*, pages 193–200, John Wiley and Sons, New York, 1997.

D. Edited Proceedings and Collections

D.1. Conference Proceedings

- D.1.1 Proceedings of the 16th annual ACM symposium on User Interface Software and Technology (Program Co-chair), Vancouver, BC, Canada. ACM Press, New York, NY, November, 2003.
- D.1.2 Proceedings of the Second IEEE and ACM International Symposium on Mixed and Augmented Reality (Program Co-chair), Tokyo, Japan, IEEE Computer Society Press, October, 2003.
- D.1.3 Proceedings of the Fourth International Symposium on Wearable Computers (Program Co-chair), Atlanta, GA, USA, IEEE Computer Society Press, October, 2000.

D.2. Journal Special Issues

- D.2.1 Co-editor of the November/December 2005 issue of IEEE Computer Graphics and Applications, with Mark Livingston (NRL). Special topic is “Moving Mixed Reality into the Real World.”

E. Conference Presentations

E.1. Invited Keynote Addresses

- E.1.1 Blair MacIntyre. “Handheld Augmented Reality Game Design.” Invited keynote at Qualcomm Corporate-wide QTek Forum, June 6, 2009.
- E.1.2 Blair MacIntyre. “From Alice’s Tea Party to SecondLife: Designing Augmented Reality Experiences, Art and Games.” Keynote talk at Australasian Computer-Human Interaction Conference (OZCHI) 2007, November 28, 2007, Adelaide, Australia.

E.2. Conference Presentations with Proceedings (refereed and archival)

[Refereed publications in respected conferences, with extensive reviewing, and appearing in archival proceedings.]

- E.2.1 Iulian Radu and Blair MacIntyre. “Augmented Reality Scratch: Designing a Childrens Immersive Authoring Environment.” In Proceedings of the 8th International Conference on Interaction Design and Children, Como, Italy, June 2009..
- E.2.2 Evan Barba and Yan Xu and Blair MacIntyre and Tony Tseng. “Lessons from a Class on Handheld Augmented Reality Game Design.” In ACM Foundations of Digital Games (FDG 2009), April 2009.
- E.2.3 Yan Xu and Maribeth Gandy and Sami Deen and Brian Schrank and Kim Spreen and Michael Gorbsky and Timothy White and Evan Barba and Iulian Radu and Jay Bolter and Blair MacIntyre. “BragFish: exploring physical and social interaction in co-located handheld augmented reality games.” In Proceedings of the 2008 International Conference on Advances in Computer Entertainment Technology (ACE 2008), pages 276-286, Dec 2008. **(Third Best Paper Award)**.
- E.2.4 Steven Dow and Blair MacIntyre and Micheal Mateas. “Styles of Play in Immersive and Interactive Story: Case Studies from a Gallery Installation of AR Faade.” In ACM SIGCHI Conference on Advances in Computer Entertainment (ACE08), Yokohama, Japan, 2008.
- E.2.5 Cindy Robertson and Blair MacIntyre and Bruce Walker. “An Evaluation of Graphical Context in Registered AR, Non-Registered AR, and Heads-Up Displays.” In Proceedings of International Symposium on Augmented and Mixed Reality (ISMAR08), Sept 15-18, 2008, Cambridge, England. pages 73-76. *[Submitted as a full paper, accepted as a short paper.]*
- E.2.6 Jiajian Chen and Greg Turk and Blair MacIntyre. “Watercolor Inspired Non-Photorealistic Rendering for Augmented Reality.” In Proc. ACM Symposium of Virtual Reality Science and Technology (VRST08), October 2008, Bordeaux, France.
- E.2.7 Steven Dow and Blair MacIntyre. “Experiences Employing Novice Wizards in a Gallery Setting.” In International Conference on Entertainment Computing (ICEC08), Pittsburgh, PA, 2008.
- E.2.8 Jiajian Chen and Blair MacIntyre. “Uncertainty Boundaries for Complex Objects in Augmented Reality.” In IEEE Virtual Reality (VR 2008), March 2008, pages 247–248. *[Submitted as a full paper, accepted as a short paper.]* labelpub:vr08-chen

- E.2.9 Cindy Robertson and Blair MacIntyre. “An Evaluation of Graphical Context as a Means for Ameliorating the Effects of Registration Error.” In *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR’07)*, Nara, Japan, Oct 2007. **(Best Student Paper Award)**.
- E.2.10 Manish Mehta, Steven Dow, Michael Mateas, and Blair MacIntyre. “Evaluating a Conversation-centered Interactive Drama.” To appear in *Conference on Autonomous Agents and Multi-Agent Systems (AAMAS07)*, 2007.
- E.2.11 Steven Dow, Manish Mehta, Annie Lausier, Blair MacIntyre, and Michael Mateas. “Initial Lessons from ARFacade, An Interactive Augmented Reality Drama.” In *ACM SIGCHI Conference on Advances in Computer Entertainment (ACE06)*, Los Angeles, CA, 2006. **(Outstanding Paper Award)**.
- E.2.12 Marleigh Norton and Blair MacIntyre. “Butterfly Effect: An Augmented Reality Puzzle Game.” To appear as a poster in *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR’05)*. [Submitted as a short paper, accepted as a poster.]
- E.2.13 Maribeth Gandy, Blair MacIntyre, Peter Presti, Steven Dow, Jay Bolter, Brandon Yarbrough, and Nigel O’Rear. “AR Karaoke: Acting in Your Favorite Scenes.” To appear as a short paper in *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR’05)*. [Submitted as a full paper, accepted as a short paper.] **[22%]**
- E.2.14 Steven Dow, Jaemin Lee, Christopher Oezbek, Blair MacIntyre, Jay David Bolter and Maribeth Gandy. “Exploring Spatial Narratives and Mixed Reality Experiences in Oakland Cemetery.” Accepted to *ACM SIGCHI International Conference on Advances in Computer Entertainment Technology (ACE 2005)*. **[19%]**
- E.2.15 Steven Dow, Jaemin Lee, Christopher Oezbek, Blair MacIntyre, Jay David Bolter. “Wizard of Oz Interfaces for Mixed Reality Applications.” Accepted to *ACM SIGCHI 2005*.
- E.2.16 Enylton Machado Coelho, Blair MacIntyre and Simon Julier. “OSGAR: A Scene Graph with Uncertain Transformations.” In *International Symposium on Mixed and Augmented Reality (ISMAR04)*, November 2-5, 2004, Washington, D.C., USA. **[19%]**
- E.2.17 Blair MacIntyre, Jay David Bolter, and Maribeth Gandy. “Presence and the Aura of Meaningful Places.” In *7th Annual International Workshop on Presence (PRESENCE 2004)*, Polytechnic University of Valencia, Valencia, Spain, 13-15 October 2004.
- E.2.18 Blair MacIntyre, Maribeth Gandy, Jay Bolter, Steven Dow, Brendan Hannigan. “DART: The Designers Augmented Reality Toolkit.” In *The Second IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR’03)*, Tokyo, Japan, October 7–10, 2003. Pages 329–330. [Presented as a poster and interactive demonstration as part of the demonstration program.]
- E.2.19 Blair MacIntyre, Jay David Bolter, Jeannie Vaughn, Brendan Hannigan, Maribeth Gandy, Emanuel Moreno, Markus Haas, Sin-Hwa Kang, David Krum and Stephen Volda “Three Angry Men: An Augmented-Reality Experiment in Point-of-View Drama.” In *1st International Conference on Technologies for Interactive Digital Storytelling and Entertainment (TIDSE 03)*, Darmstadt, Germany, March 24–26, 2003.
- E.2.20 Blair MacIntyre, Enylton Coelho and Simon Julier “Estimating and Adapting to Registration Errors in Augmented Reality Systems.” In *Virtual Reality 2002*, pp. 73-80, March 2002. **[27%]**
- E.2.21 Blair MacIntyre, Jay David Bolter, Emmanuel Moreno and Brendan Hannigan. “Augmented Reality as a New Media Experience.” In *International Symposium on Augmented Reality (ISAR’01)*, 2001, pp 197–206. **[32%]**

- E.2.22 Emmanuel Moreno, Blair MacIntyre, and Jay David Bolter. “Alices Adventures in New Media: An Exploration of Interactive Narratives in Augmented Reality.” In *CAST 01* (also appears as a special issue of the web journal <http://netzspannung.org/journal/special/>), Bonn, Germany, September 21-22, 2001, pp 149-152.
- E.2.23 Rob Kooper and Blair MacIntyre. “An Interface for a Continuously Available, General Purpose, Spatialized Information Space.” In *HCI International 2001*, New Orleans, LA, August 5–10, 2001. [Conference requires refereed abstracts, this special session on AR peer-reviewed the full papers.]
- E.2.24 Blair MacIntyre, Marco Lohse, Jay David Bolter, and Emmanuel Moreno. “Ghosts in the Machine: Integrating 2D Video Actors into a 3D AR System.” In *International Symposium on Mixed Reality*, Yokohama, Japan, March 14–15, 2001. [33%]
- E.2.25 Rob Kooper and Blair MacIntyre. “The Real-World Wide Web Browser: An Interface for a Continuously Available, General Purpose, Spatialized Information Space.” At *International Symposium on Mixed Reality*, Yokohama, Japan, March 14–15, 2001. [Presented as a poster.]
- E.2.26 Blair MacIntyre and Enylton Coelho. “Adapting to Dynamic Registration Errors Using Level of Error (LOE) Filtering.” In *International Symposium on Augmented Reality (ISAR 2000)*, pages 85–88, Oct 5-6, 2000, Munich, Germany. [Presented as a poster.]
- E.2.27 Kidd, Cory, Orr, Robert, Gregory D. Abowd, Gregory, Atkeson, Christopher, Essa, Irfan, MacIntyre, Blair, Mynatt, Elizabeth, Starner, Thad and Newstetter, Wendy. “The Aware Home: A Living Laboratory for Ubiquitous Computing Research.” In N. Streitz, J. Siegel, V. Hartkopf, S. Konomi (Eds) *Proceedings of the Second International Workshop on Cooperative Buildings (CoBuild '99)*, Pittsburgh, PA, October 1-2, 1999. LNCS 1670. Springer: Heidelberg,
- E.2.28 Butz, Andreas, Hllerer, Tobias, Feiner, Steven, MacIntyre, Blair, and Beshers, Clifford. “Enveloping Users and Computers in a Collaborative 3D Augmented Reality.” In *IWAR 99 (International Workshop on Augmented Reality)*, pages 35–44, October 20–21, 1999, San Francisco, CA.
- E.2.29 Feiner, Steven, MacIntyre, Blair, and Höllerer, Tobias. “Wearing it out: First Steps Toward Mobile Augmented Reality Systems. In *Mixed Reality: Merging Real and Virtual Worlds (Proceedings of the First International Symposium on Mixed Reality)*, pages 363–377, March 1999, Yokohama, Japan.
- E.2.30 Feiner, Steven, MacIntyre, Blair, Hllerer, Tobias, and Webster, Anthony. “A Touring Machine: Prototyping 3D Mobile Augmented Reality Systems for Exploring the Urban Environment.” In *Proc. ISWC 97 (International Symposium on Wearable Computers)*, pages 74–81, Cambridge, MA, October 13–14, 1997.
- E.2.31 MacIntyre, Blair and Feiner, Steven. “Language-level Support for Exploratory Programming of Distributed Virtual Environments. In *Proc. UIST 96 (ACM Symposium on User Interface Software and Technology)*, pages 83–94, Seattle, WA, November 6–8, 1996. [25%]
- E.2.32 Webster, Anthony, Feiner, Steven, MacIntyre, Blair, Massie, William, and Krueger, Theodore. “Augmented Reality in Architectural Construction, Inspection and Renovation.” In *Proceedings of the ASCE Third Congress on Computing in Civil Engineering*, pages 913–919, Anaheim, CA, June 17–19, 1996.
- E.2.33 Feiner, Steven, MacIntyre, Blair, Haupt, Marcus and Solomon, Eliot. “Windows on The World: 2D Windows for 3D Augmented Reality.” In *Proc. UIST 93 (ACM Symp on User Interface Software and Technology)*, pages 145–155, Atlanta, GA, November 3–5, 1993.

- E.2.34 Feiner, Steven, MacIntyre, Blair and Seligmann, Doree. “Annotating the Real World with Knowledge-Based Graphics on a See-Through Head-Mounted Display.” In *Proc. Graphics Interface 92*, pages 78–85. Vancouver, Canada, May 11–15, 1992. [29%]

E.3. Conference Presentations with Proceedings (minimally refereed or non-refereed)

[Publication (as a full paper, a short paper or a technical note) in conference/workshop proceedings, with less stringent refereeing (e.g., refereed abstracts, two or less reviewers, invited papers).]

- E.3.1 Steven Dow and Blair MacIntyre and Micheal Mateas. “Understanding Engagement: A Mixed-Method Approach to Observing Game Play.” In Workshop on Evaluating User Experience in Games. In Conference on Computer-Human Interaction (CHI’08), Florence, Italy, 2008.
- E.3.2 Steven Dow, and Blair MacIntyre. “New Media Collaborations through Wizard-of-Oz Simulations.” To appear in the *Workshop on HCI and New Media Arts: Methodology and Evaluation* at the *ACM SIGCHI Conference on Computer-Human Interaction (CHI’07)*, San Jose, CA, 2007.
- E.3.3 Steven Dow and Blair MacIntyre. “Reflecting on Production Tools and Methods for Mixed Reality Design.” Presented at the *Workshop on What is the Next Generation of Human-Computer Interaction?*, at ACM SIGCHI 2006, Montreal, Sunday, April 23, 2006.
- E.3.4 Peter Presti, Maribeth Gandy, Blair MacIntyre. “A Sketch Interface to Support Storyboarding of Mixed Reality Experiences.” To be presented as a poster at *ACM SIGGRAPH’05*, July 31–August 4, 2005, Los Angeles, CA, USA.
- E.3.5 Sim Harbert, Parth Bhawalkar, Blair MacIntyre. “Augmented Reality Systems Applied to Poultry Grading and Inspection.” Refereed abstract to be presented at *The American Society of Agricultural Engineers Annual International Meeting (ASAE 2005)*, July 17-20, 2005, Tampa, Florida. Session on SENSING AND AUTOMATION.
- E.3.6 Maribeth Gandy, Blair MacIntyre, Steven Dow. “Making Tracking Technology Accessible in a Rapid Prototyping Environment.” Presented as a poster and demonstration at *International Conference on Mixed and Augmented Reality (ISMAR04)*, November 2-5, 2004, Washington, D.C., USA.
- E.3.7 Maribeth Gandy, Steven Dow and Blair MacIntyre. “Prototyping Applications with Tangible User Interfaces in DART, The Designer’s Augmented Reality Toolkit.” Position paper at *Toolkit Support for Interaction in the Physical World Workshop at IEEE Pervasive Computing 2004*, April 20, 2004.
- E.3.8 Blair MacIntyre, Maribeth Gandy, Jay Bolter, Steven Dow, Brendan Hannigan. “DART: The Designers Augmented Reality Toolkit.” In Proceedings of the 16th annual ACM symposium on User Interface Software and Technology (UIST’03), Vancouver, BC, Canada. November 2–5, 2003. [Presented as a poster and interactive demonstration as part of the demonstration program. Not included in archived proceedings, available to attendees as part of demonstration proceedings.]
- E.3.9 Enylton Machado Coelho and Blair MacIntyre. “High-Level Tracker Abstractions for Augmented Reality System Design.” In *The First International Workshop on Software Technology for Augmented Reality Systems (STARS’03)*, held at The Second IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR’03), Tokyo, Japan, October 7, 2003. [Position paper, reviewed by program committee.]

- E.3.10 Blair MacIntyre and Maribeth Gandy. “Prototyping Applications with DART, The Designers Augmented Reality Toolkit.” In *The First International Workshop on Software Technology for Augmented Reality Systems (STARS’03)*, held at The Second IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR’03), Tokyo, Japan, October 7, 2003. [Position paper, reviewed by program committee.]
- E.3.11 Blair MacIntyre, Jay Bolter, Jeannie Vaughan, Brendan Hannigan, Emanuel Moreno, Markus Haas, and Maribeth Gandy. “Three Angry Men: Dramatizing Point-of-View using Augmented Reality.” In *SIGGRAPH 2002 Technical Sketches*, page 268, San Antonio, TX, July 2002. [1 page refereed abstract, 30 minute presentation.]
- E.3.12 Blair MacIntyre. “Authoring 3D Mixed Reality Experiences: Managing the Relationship Between the Physical and Virtual Worlds.” At *ACM SIGGRAPH Campfire on Content Creation for 3D Graphics*, Snowbird, UT, May, 2002 [Invited position paper, minimally reviewed.]
- E.3.13 Blair MacIntyre, Jay Bolter, Brendan Hannigan, Jeannie Vaughan, Emanuel Moreno. “Using Augmented Reality for Entertainment.” In *International Workshop on Entertainment Computing (IWEC2002)*, Special Session on Mixed Reality Entertainment Computing, Makuhari, Japan, May 14-17, 2002. [Refereed abstract]
- E.3.14 Blair MacIntyre, and Jay David Bolter. “A Multi-Disciplinary Course on Augmented Reality Design.” In *Designing Augmented Reality Environments (DARE 2000)*, page 144, Elsinore, Denmark, 12–14 April 2000. [Refereed by program chairs, presented as a poster.]
- E.3.15 Gregory Abowd, Christopher Atkeson, Aaron Bobick, Irfan Essa, Blair MacIntyre, Elizabeth Mynatt and Thad Starner. “Living Laboratories: The Future Computing Environments Group at the Georgia Institute of Technology.” In *Proc. ACM CHI 00 Organizational Overviews*, April 1–6, 2000, The Hague, The Netherlands. [Appears in companion proceedings.]
- E.3.16 Blair MacIntyre and Elizabeth Mynatt. “Augmenting Intelligent Environments: Augmented Reality as an Interface to Intelligent Environments.” In *Intelligent Environments Symposium, AAAI Spring Symposium Series*, Stanford University, Technical Report SS-98-02, March 23–25, 1998.
- E.3.17 Blair MacIntyre and Steven Feiner. “New Multimedia User Interfaces: Virtual Environments and Ubiquitous Computing.” In *Proc. Schloss Dagstuhl Seminar on Fundamentals and Perspectives on Multimedia Systems*, Seminar No. 9427, Report No. 92, Schloss Dagstuhl, Germany, July 4–8, 1994. [Invited paper.]

E.4. Conference Presentations without Proceedings (abstract refereed)

- E.4.1 Blair MacIntyre. “Handheld Augmented Reality Game Design.” At the Game Developer Conference, Mobile Game Summit, Design Track. March 23, 2009.
- E.4.2 Iulian Radu and Blair MacIntyre. “Augmented Reality Scratch: A Tangible Programming Environment for Children.” In *ACM CHI Workshop on Tangibles for Children*, Boston, USA, April 2009.
- E.4.3 T. H. Duy Nguyen and Karthik Raveendran and Yan Xu and Blair MacIntyre. “Art Of Defense: a Mobile AR Game with Sketch-Based Interaction and Dynamic Multi-Marker Building Techniques,” Demo presentation in the 7th IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR 2008), Cambridge, UK, 15-18th, September, 2008.
- E.4.4 Steven Dow and Manish Mehta and Blair MacIntyre and Michael Mateas. “AR Faade: An Augmented Reality Interactive Drama.” In *Extended Abstracts of the ACM Symposium on Virtual Reality Software and Technology (VRST’07)*, Newport Beach, CA, U.S.A., Nov. 5-7, 2007. xxxxx

- E.4.5 Jay Bolter, Blair MacIntyre, Maribeth Gandy. “The Aura of Digital Artifacts.” At the ICT and the Humanities Summer School at Sodertorns University, Stockholm. June 4th, 2005.
- E.4.6 Steven Dow, Blair MacIntyre, Maribeth Gandy. “Tools for Designing Computational Spaces” In *ACM SIGCHI 2005 Workshop on The Future of User Interface Tools*.
- E.4.7 Enylton Machado Coelho and Blair MacIntyre. “Augmenting Real Environments.” In *The Third Young Investigator’s Forum in Virtual Reality (YVR 2005)*, February 24-25, 2005, Pohang, Korea.
- E.4.8 Steven Dow, Blair MacIntyre, Maribeth Gandy and Jay David Bolter. “A Demonstration of Capture/Playback: A Strategy for Prototyping Applications in the Physical World.” In the demonstration program at *International Conference on Ubiquitous Computing 2004 (Ubi-comp’04)*.
- E.4.9 Blair MacIntyre. “Bringing History Alive: Dramatic Augmented Reality Experiences in Historic Settings.” Presented at the *Consortium for Computers in the Humanities* meeting at the *Canadian Congress of the Humanities and Social Sciences*, Winnipeg, Manitoba, Canada, June 1, 2004.
- E.4.10 Blair MacIntyre. “Bringing History Alive: Dramatic Augmented Reality Experiences in Historic Settings.” Presented at the *Canadian Historical Association* meeting at the *Canadian Congress of the Humanities and Social Sciences*, Winnipeg, Manitoba, Canada, June 5, 2004.
- E.4.11 Jennifer Ockerman, Blair MacIntyre, Kedar Shiroor. “Augmented Reality to Guide Task Completion in a Food Processing Facility.” In *The International Workshop on Potential Industrial Applications of Mixed and Augmented Reality*, held at The Second IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR’03), Tokyo, Japan, October 7, 2003. [Position paper, reviewed by program committee.]
- E.4.12 Blair MacIntyre. “Using Interactive Augmented Reality Narratives for Activity Awareness in Augmented Office Environments.” Position paper at *ACM Computer-supported Collaborative Work (CSCW) 2002 Workshop on Storytelling in Collaborative Systems*, November 16, 2002, New Orleans, LA. [Accepted and distributed to workshop attendees, did not attend for medical reasons.]
- E.4.13 Stephen Volda, Blair MacIntyre, and Elizabeth D. Mynatt. “Supporting Collaboration in a Context-Aware Office Computing Environment.” Position paper at *ACM Computer-supported Collaborative Work (CSCW) 2002 Workshop on Collaboration with Interactive Walls and Tables*, November 16, 2002, New Orleans, LA.
- E.4.14 Stephen Volda, Elizabeth D. Mynatt, Blair MacIntyre. “Supporting Collaboration in a Context-Aware Office Computing Environment.” Position paper at *Ubicomp 2002 Workshop on Interacting with Wall-sized Displays*, Sept 29–Oct 1, Goeteborg, Sweden.
- E.4.15 Cindy Robertson and Blair MacIntyre. “Adapting to Registration Error in an Intent-Based Augmentation System.” Poster presentation at *UIST 02 (ACM Symposium on User Interface Software and Technology)*, Paris, France, October 27-31, 2002.
- E.4.16 Jay David Bolter, Blair MacIntyre, Kavita Philip and Terry Harpold. “Cultural Narrative in Augmented Reality.” presented by Bolter at *Digital Arts and Culture (DAC) 2000*, Bergen, Norway. August 2-4, 2000. [Refereed abstract with no full paper proceedings.]
- E.4.17 Blair MacIntyre. “Context-Aware Personal Augmented Reality.” Position paper at *CHI 00 Workshop on Research Directions in Situated Computing*, The Hague, The Netherlands, April 2, 2000.

- E.4.18 Blair MacIntyre. “COTERIE: Columbia Object-oriented Toolkit for Exploratory Research in Interactive Environments.” Position paper at *IEEE WETICE 97 (Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises) Workshop on Distributed Systems Aspects of Sharing a Virtual Reality*, Cambridge, MA, June 18–20, 1997.
- E.4.19 Steven Feiner, Anthony Webster, and Blair MacIntyre. “ARC: Augmented Reality for Construction.” At *ACM 97*, San Jose, CA, March 1–4, 1997. *[(Invited demonstration of system built by MacIntyre and undergraduate students, under supervision Feiner and Webster).]*
- E.4.20 Blair MacIntyre. “Augmented Computing Environments: Augmented Reality and Ubiquitous Computing.” Position paper at *CHI 97 Workshop on Research Issues in Ubiquitous Computing*, Atlanta, GA, March 22–27, 1997.
- E.4.21 Blair MacIntyre and Steven Feiner. “Language-level Support for Exploratory Programming of Distributed Virtual Environments.” Demonstration at *UIST 96 (ACM Symp on User Interface Software and Technology)*, Seattle, WA, November 6–8, 1996. *[Demonstration of system built by MacIntyre, under supervision of Feiner.]*
- E.4.22 Anthony Webster, Steven Feiner and Blair MacIntyre. “Augmented reality system for space-frame assembly.” Demonstration at *ASCE Third Congress on Computing in Civil Engineering*, Anaheim, CA, June 17–19, 1996. *[Demonstration of system built by MacIntyre and undergraduate students, under supervision Feiner and Webster.]*
- E.4.23 Blair MacIntyre. “A Testbed for Distributed Augmented Reality Systems.” Position paper at *OOPSLA 95 Workshop on Reliability and Scalability in Distributed Object Systems*, Austin, TX, October, 1995.

E.5. Conference Presentations: Tutorial and Courses

- E.5.1 Blair MacIntyre. “Handheld AR Game Design.” 2 hour tutorial at *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR) 2009*. October, 2009. 2009
- E.5.2 Mark Billinghurst, Blair MacIntyre, Daniel Wagner. “Handheld Augmented Reality.” Half day tutorial at *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR) 2008*. September 15, 2008.
- E.5.3 Istvan Barakanyi, Mark Billinghurst, Blair MacIntyre, Daniel Wagner. “Handheld Augmented Reality.” Full day tutorial at *IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR) 2007*. November 13, 2007.
- E.5.4 Istvan Barakanyi, Mark Billinghurst, Blair MacIntyre, Daniel Wagner. “Handheld Augmented Reality.” Full day tutorial at *IEEE Virtual Reality (VR) 2007*. March 11, 2007.

F. Other

- F.0.1 Maribeth Gandy and Yan Xu and Brian Schrank and Sami Deen and Kim Spreen and Michael Gorbisky and Timothy White and Evan Barba and Iulian Radu and Jay Bolter and Blair MacIntyre. “BragFish: Exploring Handheld Augmented Reality Game Design and Evaluation.” Submitted to *CiE (ACM Computers in Entertainment Magazine)*. 2009

F.1. Submitted Conference Papers

- F.1.1 Evan Barba, Rebecca Rouse, Jay Bolter, Blair MacIntyre. “Thinking Inside the Box: Space and Time in a Handheld Augmented Reality Experience.” Submitted to *ACM DIS 2010*. 2009

F.2. Technical Reports

- F.2.1 Blair MacIntyre and Rob Kooper. "The Real-World Wide Web Browser: An Interface for a Continuously Available, General Purpose, Spatialized Information Space." GVU Tech Report GIT-GVU-00-21, 2000.
- F.2.2 Blair MacIntyre. "Repo: An Interpreted Language for Exploratory Programming of Highly Interactive, Distributed Applications." GVU Technical Report 99-34, 1999.
- F.2.3 Andreas Butz, Tobias Höllerer, Clifford Beshers, Steven Feiner and Blair MacIntyre. "An Experimental Hybrid User Interface for Collaboration." Columbia University Computer Science Department Research Report CUCS-005-99, 1999.
- F.2.4 Blair MacIntyre, Steven Feiner and Thomas Dickes. "The Columbia Object-oriented Tracker Library." Columbia University, Department of Computer Science Research Report CUCS-028-97, 1997.
- F.2.5 Blair MacIntyre, Xinshi Sha, Steven Feiner and Thomas Dickes. "Obliq-VE: Adding Virtual Environment support to Obliq-3D." Columbia University, Department of Computer Science Research Report CUCS-025-97.
- F.2.6 Blair MacIntyre. "Repo Programmers Guide and Reference Manual." Columbia University, Department of Computer Science Research Report CUCS-024-97.

F.3. Software

- F.3.1 *Handheld AR Framework for iPhone*. Released a small programming framework for doing handheld AR on the iPhone (to select partners). Primary development by Kimberly Spreen. Spring 2009.
- F.3.2 *Handheld AR Framework for Nokia N95*. Released a small programming framework for doing handheld AR on the Nokia N95 phone. Primary development by Karthik Raveendran and Duy Nguyen. Fall 2008.
- F.3.3 *DART*. Macromedia Director-based prototyping environment for Augmented Reality, Mixed Reality, Ubicomp and VR experiences. Primary development by Maribeth Gandy and Steven Dow, under guidance of Blair MacIntyre. Incorporates ideas and software code from Emanuel Moreno. Initial demonstration version 2003. First public beta release Fall 2004.
- F.3.4 *DART Xtra*. Integrates functionality of VRPN and Video Xtras, plus marker tracking and camera calibration, into a single Xtra for Macromedia Director. Implemented by Blair MacIntyre, based on code from previous Xtras, with help from Steven Dow. Initial version 2003.
- F.3.5 *VRPN Xtra*. Integrates the VRPN tracking system (for VR and AR) into Macromedia Director. Implemented by Russell Morris, designed by Blair MacIntyre. 2001. Used by 3 groups outside Georgia Tech, including General Dynamics Land Systems.
- F.3.6 *OpenAL Xtra*. Integrates the OpenAL spatialized audio library into Macromedia Director. Implemented by Russell Morris, designed by Blair MacIntyre. 2001. Used by a half dozen groups outside Georgia Tech.
- F.3.7 *Video Xtra*. Feeds real-time video into texture memory for video-mixed AR in Macromedia Director. Designed and implemented by Blair MacIntyre. 2000.
- F.3.8 *Repo-3D. Distributed 3D graphics library*. 3D graphics component of Coterie, produced as part of doctoral work, topic of SIGGRAPH '98 paper (B.2.7) Designed and implemented by Blair MacIntyre. 1998.

- F.3.9 *Coterie. Programming environment for exploratory programming of distributed augmented reality applications.* Produced as part of doctoral work. Designed and implemented by Blair MacIntyre. 1997.
- F.3.10 *Repo. Distributed interpreted programming language with client-server and replicated data.* Programming component of Coterie, produced as part of doctoral work. Designed and implemented by Blair MacIntyre. 1996.

F.4. Published Papers (non-refereed)

- F.4.1 Ben Anderson and Blair MacIntyre. “Programming Languages: A Play in Three Acts.” In *ACM SIGCHI Bulletin* 28(3): 15–19, July, 1996.
- F.4.2 Farshad Nayari and Blair MacIntyre. “Critical Mass JVM: Modula-3 Befriends Java.” In *Threads: The Modula-3 Systems Journal*, Issue 3, Fall 1997.
- F.4.3 Thomas Meyer-Boudnik and Blair MacIntyre. “Session Report: Multimedia Documents and Mailing.” In the post-workshop report of the
- F.4.4 Schloss Dagstuhl Seminar on Fundamentals and Perspectives on Multimedia Systems, Seminar No. 9427, Schloss Dagstuhl, Germany, July 4–8, 1994.

G. Distinguished Lectures, Panels and other Invited Presentations

(Does not include presentations at PI meetings or interview talks.)

- G.0.1 Blair MacIntyre. “Mobile Augmented Reality Experiences.” Invited keynote talk at QTech 2009, Qualcomm Corporate Wide engineering conference, San Diego, June 4, 2009.
- G.0.2 Blair MacIntyre. “Social Augmented Reality Experiences.” Invited talk at Disney Imagineering, June 2, 2009.
- G.0.3 Blair MacIntyre. “Augmented Reality Experience Design.” Invited talk at Qualcomm Corporate R&D, June 17th, 2008.
- G.0.4 Kathryn Farley, Blair MacIntyre, Michael Nitsche, Florian Schultz, Jay Bolter. “Digital Performance in Second Life.” Invited presentation at the Banff New Media Institute at the Banff Center for the Arts (as part of a week long residency by some of the group), March 20th, 2008.
- G.0.5 Blair MacIntyre and Jay Bolter. “Dramatic Augmented Reality Experiences.” Invited talk, Maverick Mondays Speaker Series, Turner Studios, Feb 25th, 2008.
- G.0.6 Blair MacIntyre. “Mobile Augmented Reality Experiences.” Invited talk at the Future Internet Symposium, Optical Fiber Communication Conference and Exposition and the National Fiber Optic Engineers Conference (OFC/NFOEC), February 26, 2008.
- G.0.7 Blair MacIntyre. “Bringing First Life into Second Life: Different Approaches to Authoring AR Experiences.” Invited talk at Graz University of Technology, Graz, Austria. October 15, 2007.
- G.0.8 Blair MacIntyre. “Designing Dramatic Augmented Reality Experiences.” Invited talk at Sony Computer Science Labs, Tokyo, Japan. Wednesday, June 16, 2004.
- G.0.9 Blair MacIntyre. “Designing Dramatic Augmented Reality Experiences.” Invited talk at NTT Science and Core Technology Lab, Atsugi, Japan. Thursday, June 17, 2004.
- G.0.10 Blair MacIntyre. “Designing Dramatic Augmented Reality Experiences.” Invited talk at NiCT/ATR, Kyoto, Japan. Friday, June 18, 2004.

- G.0.11 Blair MacIntyre. "Supporting Early Design Exploration of Mixed and Augmented Reality Experiences." University of Southern California, School of Cinema-Television Colloquium Series. Wednesday September 21th, 2005.
- G.0.12 Blair MacIntyre. "Estimating and Adapting to Registration Error in Augmented Reality Systems." University of Southern California, Department of Computer Science Colloquium Series. Tuesday September 20th, 2005.
- G.0.13 Blair MacIntyre. "Estimating and Adapting to Registration Error in Augmented Reality Systems." University of North Carolina at Chapel Hill, Computer Graphics Group. Wednesday September 14th, 2005.
- G.0.14 Blair MacIntyre. "Supporting Early Design Exploration of Mixed and Augmented Reality Experiences." New York University, Department of Computer Science Seminar Series. Friday September 8th, 2005.
- G.0.15 Blair MacIntyre. "Supporting Early Design Exploration of Mixed and Augmented Reality Experiences." Carnegie Mellon University, Human-Computer Interaction Institute Seminar Series. Wednesday August 31st, 2005.
- G.0.16 Blair MacIntyre. "Design Exploration of Interactive Augmented Reality." FriamGroup Applied Complexity Lecture Series, Santa Fe Institute, Santa Fe, NM. October 26th, 2004.
- G.0.17 Blair MacIntyre. "Augmented Reality Experiences." Half-day lecture at the annual Tamagawa University Lecture Series, June 2004, Tokyo, Japan.
- G.0.18 Blair MacIntyre. "Augmented Reality." Invited talk at the National Research Council of Canada Research Lab, Fredericton, New Brunswick, Canada. February 25th, 2004.
- G.0.19 Blair MacIntyre. "Augmented Reality for Construction and Building." Invited talk at the Symposium on Architecture, Engineering, Construction, Fredericton, New Brunswick, Canada. February 25th, 2004.
- G.0.20 Elizabeth Mynatt and Blair MacIntyre. "Using Design Challenges to Drive a Computing Research Agenda." Invited talk at IBM Almaden Research Center. Monday July 27th, 2003.
- G.0.21 Elizabeth Mynatt and Blair MacIntyre. "Using Design Challenges to Drive a Computing Research Agenda." Invited talk at Ricoh Innovations Lab. Friday August 1st, 2003.
- G.0.22 Chadwick Wingrave (Organizer), Mark Billinghurst, Doug Bowman, Deborah Hix, Blair MacIntyre, and Mark Mine. "Mixed reality: the continuum from virtual to augmented reality." Panel at *IEEE VR 2003*, Los Angeles, CA, March 22-26, 2003.
- G.0.23 Blair MacIntyre. "Three Angry Men: Dramatizing Point-of-View using Augmented Reality" Talk at UNC Chapell Hill, Computer Graphics and VE Group, Jan 30, 2003.
- G.0.24 Blair MacIntyre. "Rapid Prototyping of Augmented Reality Systems. Invited talk at *Eikoh Software Symposium*, Tokyo, Japan, May 10–16, 1998.
- G.0.25 Elizabeth Mynatt, Doug Blattner, Merrra Blattner, Blair MacIntyre, and Jennifer Mankoff. Panel presentation (and organization) on "Augmenting home and office environments." In *Proceedings of the Third International ACM Conference on Assistive Technologies*, pages 169–172, Marina del Ray CA, April, 1998.
- G.0.26 Steven Feiner and Blair MacIntyre. "Augmented Reality." Demonstration at *ONR 50th Anniversary Symposium*, National Academy of Sciences, Washington, DC, May 22, 1996.

H. Research Proposals and Grants (Principal Investigator)

1. Approved and Funded

H.1.1 **Software for AR Games Class.**

Sponsor: Qualcomm
Investigator(s): Blair MacIntyre (PI).
Amount: \$5,000 gift.
January 2010.

2009

H.1.2 **AR Games.**

Sponsor: Motorola
Investigator(s): Blair MacIntyre (PI) and Maribeth Gandy (co-PI).
Amount: \$85,000 gift.
August 2010.

2009

H.1.3 **THE NEXT STEP IN MOBILE AR: THE DEVELOPMENT OF AN APPLICATION EN- ABLEMENT Environment.**

Sponsor: Alcatel-Lucent
Investigator(s): Blair MacIntyre (PI) and Maribeth Gandy (co-PI).
Amount: \$150,000, plus an additional \$12,139 in March 2010.
September 2009–September 2010.

2009

H.1.4 **NVidia Professor Partnership: Handheld AR Games.**

Sponsor: NVidia
Investigator(s): Blair MacIntyre (PI).
Amount: \$30,000 gift plus some equipment.
August 2009.

2009

H.1.5 **Outdoor AR ARG's.**

Sponsor: Nokia
Investigator(s): Blair MacIntyre (PI).
Amount: \$50,000 gift.
August 2009.

2009

H.1.6 **A Study of Mobile AR and Social Networking.**

Sponsor: Qualcomm Corporate R&D.
Investigator(s): Blair MacIntyre (PI), Maribeth Gandy (co-PI).
Amount: Requested: \$125,078, Funded \$75,000 as contract, \$25,000 gift. (currently negotiating contract)
May 2009–December 2009.

H.1.7 **Outdoor Tracking for Augmented Reality.**

Sponsor: Nokia Research
Investigator(s): Blair MacIntyre (PI).
Amount: \$50,000 gift.
January 2009.

H.1.8 **Denial of Service v2.0: A Mobile Game Leveraging Device Virtualization.**

Sponsor: GVU/Motorola
Investigator(s): Blair MacIntyre (PI), Karsten Schwann (co-PI), Maribeth Gandy (co-PI).
Amount: Requested: ~\$50,000, funding for two students for one semester and Gandy for one month.
January 2009–May 2009.

- H.1.9 **Parallel Realities: Merging a Terrascale Virtual World with the Real World using Mobile AR**
Sponsor: Alcatel-Lucent.
Investigator(s): Blair MacIntyre (PI), Maribeth Gandy, Ed Price (coPIs).
Amount: \$230,000
December 2008-October 2009.
- H.1.10 **Augmented Reality Virtual Creatures.**
Sponsor: Qualcomm Corporate R&D.
Investigator(s): Blair MacIntyre (PI).
Amount: \$50,000 gift.
September 2008.
- H.1.11 **Handheld Augmented Reality**
Sponsor: Texas Instruments.
Investigator(s): Blair MacIntyre (PI)
Amount: *Total donated: \$50,000, plus Zoom development kits for OMAP3.*
July 2008.
- H.1.12 **Augmented Reality for AR/MMO Access.**
Sponsor: Media Power, Inc.
Investigator(s): Blair MacIntyre (PI), Maribeth Gandy and Ed Price (co-PIs).
Amount: *Total donated: \$47,000.*
June 2008.
- H.1.13 **Handheld Augmented Reality**
Sponsor: Motorola.
Investigator(s): Blair MacIntyre (PI)
Amount: *Total donated: \$45,000.*
May 2008.
- H.1.14 **Augmented Reality and Mobile Computing.**
Sponsor: Media Power, Inc.
Investigator(s): Blair MacIntyre (PI) and Elizabeth Mynatt (co-PI).
Amount: *Pledged \$5,000,000 gift. Total donated to date: \$100,000.*
May 2008.
- H.1.15 **Augmented and Mixed Reality Collaboration in Wonderland.**
Sponsor: Sun Microsystems.
Investigator(s): Blair MacIntyre (PI).
Amount: *\$80,000 gift plus \$29,848 equipment.*
Submitted: January 2008, approved May 2008.
- H.1.16 **Mobile Prototyping Project**
Sponsor: Turner Broadcasting.
Investigator(s): Blair MacIntyre (PI), Maribeth Gandy, Ed Price (coPIs).
Amount: \$73,447
Submitted January 25, 2007.
- H.1.17 **Game Mechanics and Users Interfaces for Mobile Augmented Reality Gaming.**
Sponsor: Nokia University Donation Program.
Investigator(s): Blair MacIntyre (PI).
Amount: *\$20,488 (15,833 EUR) for student support plus 1000EUR for materials and supplies, plus 2 \$750 Nokia phones.*
Submitted January 15th, 2007.

- H.1.18 **Presence in Augmented Reality.**
Sponsor: NSF IIS/Collaborative Systems.
Investigator(s): Blair MacIntyre (PI), Maribeth Gandy (Co-PI), Richard Catrambone (Co-PI), Jay Bolter (Co-PI).
Amount: \$599,010.00 total budget.
Submitted: May, 2005. Notified in August 2005 that it will be funded in FY06.
- H.1.19 **DART for Collaborating Entertainment.**
Sponsor: Turner Broadcasting.
Investigator(s): A joint grant headed by Elizabeth Mynatt, Janet Murray and Irfan Essa.
Amount: \$100,000 total budget, \$20,000 for me for a student.
Submitted: summer, 2005. Notified in summer funding would arrive.
- H.1.20 **AR/Facade.**
Sponsor: GVU Seed Grant
Investigator(s): Michael Mateas (PI), Blair MacIntyre (Co-PI).
Amount: \$20,000 total budget.
Funded: August 2005–May 2006, for one 9 month GRA.
- H.1.21 **Augmented Reality for Poultry Inspection.**
Sponsor: Georgia Tech Research Institute ATRP Special Project Proposal.
Investigator(s): Craig Wyvill and Blair MacIntyre.
Amount: approximately \$100,000
Funded July 2004–June 2005, for one 12 month student, one month summer support for MacIntyre, and partial support for multiple GTRI personnel.
- H.1.22 **CAREER– Supporting Design Exploration, Prototyping and Testing of Creative Augmented Reality Experiences.**
Sponsor: National Science Foundation CAREER Program.
Investigator(s): Blair MacIntyre.
Amount: \$545,000 (plus \$25,000 matching from Georgia Tech)
Requested: \$789,925 (plus \$25,000 matching from Georgia Tech)
Submitted: July 2003. Funded: April 2004–April 2009.
- H.1.23 **Design, Implementation and Applications of an Uncertainty-based 3D Scene Graph for AR Applications.**
Sponsor: General BAA, Office of Naval Research.
Investigator(s): Blair MacIntyre
Amount: \$368,539
Submitted: September 2003. Funded: November 2003–November 2006. Increment on H.1.24.
- H.1.24 **Error-based Interaction in Mobile AR Systems.**
Sponsor: General BAA, Office of Naval Research.
Investigator(s): Blair MacIntyre.
Amount: \$50,000
Submitted: September 2003. Funded: May 2003–October 2003. Increment on H.1.37.
- H.1.25 **Augmented Reality for Poultry Inspection.**
Sponsor: Georgia Tech Research Institute ATRP Special Project Proposal.
Investigator(s): Jennifer Ockerman and Blair MacIntyre.
Amount: \$76,799
Funded \$76,799: July 2003–June 2004, for two MS students and one month summer support for MacIntyre.

- H.1.126 **Practical Augmented Reality for Factory Environments.**
Sponsor: Georgia Tech Research Institute ATRP Special Project Proposal.
Investigator(s): Jennifer Ockerman and Blair MacIntyre.
Amount: \$26,163
Funded \$26,163: July 2002-June 2003, for one year student support.
- H.1.127 **Using Augmented Reality to Support Situation Awareness Between Mobile Warfighters.**
Sponsor: CRA/CREW Undergraduate Student Research Fellowship.
Investigator(s): Thembi Mitchell and Dawn Padula, Blair MacIntyre (advisor).
Amount: \$2,400
Funded: 2002/2003 Academic year, for one year student fellowships.
- H.1.128 **Three-Angry Men: A Dramatic AR Experience.**
Sponsor: GVV Center Seed Grant.
Investigator(s): Blair MacIntyre, Jay David Bolter, Maribeth Gandy.
Amount: \$10,000
Funded: September 2002-December 2002.
- H.1.129 **Seed Funding for a Course on AR Media Design.**
Sponsor: Dean's Office, the Georgia Tech College of Computing.
Investigator(s): Blair MacIntyre and Jay David Bolter (LCC).
Amount: \$20,000 (equipment money for hardware and software).
Funded: Fall 2001.
- H.1.130 **Authoring Abstract Reactive Multi-user Interactive Spaces.**
Sponsor: GVV Center Seed Grant.
Investigator(s): Blair MacIntyre, Sha Xin Wei, Brendon Hannigan, Erik Conrad.
Amount: \$20,000
Funded: for one year, beginning Summer 2001.
- H.1.131 **Presenting Narrative Information in an Augmented Reality Environment.**
Sponsor: GVV Center Seed Grant.
Investigator(s): Blair MacIntyre, Jay David Bolter, Kavita Philip, Wendy Newstetter, Noel Moreno, Lauren Keating, Jennifer Sheridan.
Amount: \$20,000
Funded: for one year, beginning September 2000.
- H.1.132 **Language Tools for Exploratory Programming of Highly Interactive Distributed Applications.**
Sponsor: Raytheon E-Systems Faculty Fellowship.
Investigator(s): Blair MacIntyre, Yannis Smaragdakis.
Amount: \$20,000
Funded: for one year, beginning September 2000.
- H.1.133 **Industrial Augmented Reality Applications.**
Sponsor: GVV Industrial Affiliates Program funding from Siemens.
Investigator(s): Blair MacIntyre.
Amount: \$30,000
Funded: September 1999.
- H.1.134 **Augmenting the Capture and Understanding of Everyday Experiences.**
Sponsor: National Science Foundation CISE Infrastructure Grant
Investigator(s): Gregory Abowd (PI), Atkeson, Essa, MacIntyre, Mynatt, Potts, Ramachandran, Ribarsky, Rugaber and Starner.

Amount: \$120,000 (with \$40,000 matching from Georgia Tech)
Amount requested: \$200,000 (with \$67,000 matching from Georgia Tech)
Funded: 3 years starting January 1999.

H.1.35 Distributed 3D Graphics.

Sponsor: Sun Microsystems Academic Equipment Grant.
Investigator(s): Blair MacIntyre
Amount: \$56,745 as equipment
Amount requested: \$80,920 as equipment.
Funded: February 2000.
Additional amount awarded: \$20,970 as equipment, May 2000.

H.1.36 Augmenting the Periphery With Large-Scale Visual Displays.

Sponsor: National Science Foundation HCI program.
Investigator(s): Elizabeth Mynatt (PI), Blair MacIntyre, Greg Corso (co-PIs).
Amount: \$577,191 (with \$60,000 matching from Georgia Tech)
Funded: for 3 years, beginning Summer 2000.

H.1.37 Adapting to Dynamic Spatio-Temporal Errors in Mobile AR Systems.

Sponsor: General BAA, Office of Naval Research.
Investigator(s): Blair MacIntyre
Amount: \$373,398 (plus \$25,000 matching from Georgia Tech).
Funded: April 2000–April 2003.

2. Pending

H.2.1 Augmented Reality Game Studio.

Sponsor: Qualcomm
Investigator(s): Blair MacIntyre (PI).
Amount: \$500,000 for one year
Submitted: April, 2010.

2009

H.2.2 An Augmented Reality Browser.

Sponsor: Alcatel-Lucent
Investigator(s): Blair MacIntyre (PI) and Maribeth Gandy (co-PI).
Amount: \$140,000 for one year.
Submitted: April, 2010.

2009

H.2.3 A Feasibility Study of Augmented Reality Games and Experiences on the Android Platform

Sponsor: Google Research
Investigator(s): Blair MacIntyre (PI)
Amount: \$25,000 gift.
Submitted: May, 2010.

2009

3. Not Funded

H.3.1 HCC: Seamless Rendering from Partial Scene Information for Augmented Reality.

Sponsor: NSF
Investigator(s): Greg Turk (PI) and Blair MacIntyre (co-PI).
Amount: \$500,000.
Submitted: Dec, 2008.

- H.3.2 Building and Virtualizing 4D Cities.**
Sponsor: STAR Center Proposal to Samsung.
Investigator(s): Frank Dellaert (PI), Blair MacIntyre (co-PI).
Amount: \$135,064 for one year.
Submitted: Nov, 2008.
- H.3.3 Mixed Presence using Video-based Interfaces to Persistent Virtual Worlds.**
Sponsor: STAR Center Proposal to Samsung.
Investigator(s): Blair MacIntyre (PI).
Amount: \$135,817 for one year.
Submitted: Nov, 2008.
- H.3.4 Enhancing Visual Clarity in Mobile Device Augmented Reality.**
Sponsor: STAR Center Proposal to Samsung.
Investigator(s): Greg Turk (PI) and Blair MacIntyre (co-PI).
Amount: ~\$75,000 for one year.
Submitted: Sept, 2008.
- H.3.5 Augmented Reality and Virtual Worlds.**
Sponsor: STAR Center Proposal to Samsung.
Investigator(s): Blair MacIntyre (PI).
Amount: \$66,450 for one year.
Submitted: Oct, 2007.
- H.3.6 HCC: Exploring a New Paradigm and Tools for Wizard-of-Oz Experience Design.**
Sponsor: National Science Foundation HCI program.
Investigator(s): Blair MacIntyre (PI).
Amount: \$450,000
Submitted: December, 2006.
- H.3.7 HCC: Exertion Interfaces to Increase Remote Connectedness.**
Sponsor: National Science Foundation HCI program.
Investigator(s): Blair MacIntyre (PI).
Amount: \$450,000
Submitted: December, 2006.
- H.3.8 Collaborative NUS Seed Grant.**
Sponsor: Seed grant as part of the GT/NUS collaboration, funded by Singapore Gov't.
Investigator(s): Adrian Cheok (PI), Rodney Berry (co-PI), Blair MacIntyre (co-PI).
Amount: no direct funds for GT, travel funds available for exchange, funding to send NUS students to GT.
Submitted: January, 2006.
- H.3.9 Aqueous Networks: The Welland and Lachine Canals and Urban Change in the 19th Century.**
Sponsor: National Endowment for the Humanities, Collaborative Research Grants Program
Investigator(s): John Bonnett (Brock University, St. Catharines, ON, Canada) (PI), Blair Macintyre (co-PI).
Amount: ~\$300,000 total budget, GT Amount: \$131,040.
Submitted: November, 2005.
- H.3.10 Geographically-Enabled Augmented Reality System for Dismounted Soldier.**
Sponsor: DARPA SBIR Phase I Proposal A05-119.
Investigator(s): Jannick Paula Rolland (UCF, Adastra Labs) (PI), Vesselin Shaoulov (Adastra) (co-PI), Ricardo Martins (Adastra Labs) (co-PI), Blair Macintyre (co-PI).

Amount: *Phase I: \$69,995 (GT amount \$21,000).*

Option: *\$49,973 (GT amount \$8,500).*

Submitted: *July, 2005.*

H.3.11 Adapting to Location Uncertainty in Human-Robot Task Interfaces.

Sponsor: NASA Human and Robot Technology (H&RT)

Investigator(s): Blair MacIntyre (PI), Reid Simmons (CMU), Matthew Turk (UCSB), Simon Julier (NRL), Terrence Fong (NASA ARC) (co-PIs). Ron Arkin (GT co-PI).

Amount: *\$12,993,635 total budget, \$6,506,609 GT budget.*

Submitted: *October, 2004.*

H.3.12 Differential RTK GPS System to Provide High Quality Outdoor Tracking for Augmented Reality Research.

Sponsor: DURIP Program, Office of Naval Research

Investigator(s): Blair MacIntyre (PI), Chris Shaw, William Ribarsky, Thad Starner (co-PIs).

Amount: *\$94,005.00 (Equipment)*

Submitted: *August, 2003.*

H.3.13 Media Computation to Motivate Women and Non-Majors in Computer Science

Sponsor: NSF Division for Undergraduate Education

Investigator(s): Mark Guzdial (PI) and Blair MacIntyre.

Amount: *\$500,000*

Submitted: *June 2003.*

H.3.14 Designing Interactive Surfaces to Support Collaboration

Sponsor: NSF CISE IIS Digital Society and Technologies

Investigator(s): Elizabeth Mynatt (PI), Blair MacIntyre, Gregory Corso (co-PIs)

Amount: *\$534,506*

Submitted: *March 2003*

H.3.15 ITR – ARETE: Supporting Designers and Artists Prototyping Augmented Reality Experiences.

Sponsor: NSF ITR program.

Investigator(s): Blair MacIntyre (PI), Jay David Bolter, Maribeth Gandy, William Price (co-PIs)

Amount: *\$3,170,354*

Submitted: *February 11, 2003.*

H.3.16 User Interface Software Tools for Augmented Reality.

Sponsor: NSF CAREER Program.

Investigator(s): Blair MacIntyre

Amount: *\$595,686, plus \$28,000 Georgia Tech Matching, over 5 years.*

Submitted: *Summer 2001.*

I. Research Proposals and Grants (Contributor)

1. Approved and Funded

1.1.1 The Shadows of Oakland: A proposal for an historically accurate, augmented reality experience in the Oakland Cemetery in Atlanta, Georgia.

Sponsor: NEH Special Projects Planning Grant in the Division of Public Programs.

Investigator(s): *\$63,573 total budget.*

Amount: *Period of funding: July 2007 to June 2008.*

I.1.2 Education Delivery Using Wireless Appliances in Aware Environments.

Sponsor: HP Equipment Grant.

Investigator(s): In conjunction with numerous CoC and ECE Faculty.

Amount: \$71,276 in equipment (part of \$304,364 requested by ECE and CoC).

Funded: Summer 2001.

Additional amount funded: \$50,342 in equipment (part of \$112,218.00 requested by ECE and CoC).

Additional amount requested: \$25,232 in equipment (Spring 2003, not funded).

2. Pending

3. Not Funded

I.2.1 ERC: Intelligent Food Processing Systems.

Sponsor: NSF ERC Preproposal

Investigator(s): Led by Bonnie Heck Ferri, ECE. In conjunction with numerous GTRI and ECE Faculty.

Amount: *Amount Requested: \$16,249,998.*

August 2008 – July 2013.

I.2.2 CPATH CB: Building Community around Technology, Media, Arts and Humanities Curricula.

Sponsor: NSF CPATH.

Investigator(s): Robert B. Schnabel (Colorado) (PI), Diane Sieber, (Colorado) (Co-PI).

Amount: *\$499,295 total budget, with funding for one month (MacIntyre) and workshop expenses at GT.*

Period: 7/1/07–6/30/10.

I.2.3 CRI-IAD: The World is WAM (Wireless and Mobile).

Sponsor: NSF CRI.

Investigator(s): Ellen Zegura (PI), Gregory Abowd, Keith Edwards, Mostafa Ammar and Ling Lui (co-PIs).

Amount: *~\$2,000,000 total budget.*

Submitted: November 15th, 2006.

I.2.4 Aqueous Networks: The Welland and Lachine Canals and Urban Change in the 19th Century.

Sponsor: National Endowment for the Humanities

Investigator(s): John Bonnett (Brock University, St. Catharines, ON, Canada) (PI). Blair MacIntyre, Maribeth Gandy, Jay Bolter (Subcontractors)

Amount: *~\$443,000 total budget, GT Amount: \$136,137.*

Submitted: November, 2006.

I.2.5 SLC: Innovative Learning Environments for Distributed Science and Engineering Education.

Sponsor: NSF.

Investigator(s): In conjunction with numerous CoC and ECE Faculty.

Amount: *Amount Requested: \$20,000,000.*

August 2006 – July 2011.

J. Research Honors and Awards

- National Science Foundation, CAREER Award, 2004.

- Honorable Mention, 1996 American Institute for Architectural Research/Architecture Awards for Architectural Research (with Steven Feiner and Anthony Webster).

III. SERVICE

A. Professional Activities

A.1. Memberships and Activities in Professional Societies

- Member, Institute of Electrical and Electronics Engineers (IEEE).
 - IEEE Computer Society. 1993–1994, 1999–present.
- Associate Member, Association for Computer Machinery.
 - SIGGRAPH. 1990–present.
 - SIGCHI. 1994–present.

A.2. Conference Committee Activities

1. Program Committee, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D), 2009
2. Program Jury, ACM SIGGRAPH Emerging Technologies, 2007
3. Program Co-Chair, IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2003
4. Program Co-Chair, ACM User Interface Software and Technology (UIST), 2003
5. Program Co-Chair, IEEE and ACM International Symposium on Wearable Computers (ISWC), 2000
6. Program Jury Member, ACM SIGGRAPH Emerging Technologies, SIGGRAPH 2007.
7. Program Committee, ACM Interactive 3D Graphics and Games, ACM I3DG 2007.
8. Program Committee, Associate Chair, ACM CHI 2006.
9. Program Committee, Intelligent Technologies for Interactive Entertainment (INTERTAIN), 2005
10. Program Committee, International Symposium on Interactive 3D Graphics (I3DG), 2005
11. Program Committee, International Workshop on Exploring the Design and Engineering of Mixed Reality Systems (MIXER), 2004
12. Program Committee, Graphics Interface (GI), 2003
13. Program Committee, Smart Graphics, 2003
14. Program Committee, IEEE Virtual Reality, 2000, 2001, 2002
15. Program Committee, International Workshop on Mixed and Augmented Reality, 2002
16. Program Committee, International Symposium on Mixed Reality, 2001
17. Program Committee, Workshop on Artificial Intelligence in Mobile Systems (AIMS), 2000, 2001, 2002
18. Program Committee, International Symposium on Augmented Reality (ISAR), 2000, 2001

19. Program Committee, Designing Augmented Reality Environments (DARE), 2000.
20. Program Committee, ACM User Interface Software and Technology (UIST), 1999, 2001, 2002
21. Program Committee, International Workshop on Augmented Reality (IWAR) 1998, 1999
22. Technotes Program Committee Chair, ACM UIST 99
23. Paper Reviewer, GI '04
24. Paper Reviewer, ACM SIGGRAPH 99 00 01 '03 '04
25. Paper Reviewer, ACM CHI 95 97 98 99 00 01 '02 '03 '08 '09
26. Demo Program Committee Chair, ACM UIST 98
27. Paper Reviewer, ACM UIST 97 98 99 00
28. Paper Reviewer, IEEE VRAIS 98
29. Student Volunteer Chair, ACM UIST 96 and ACM UIST 97
30. Demo Program Committee, ACM Multimedia 95

B. On-Campus Georgia Tech Committees

1. Program Coordinator, Human-Centered Computing PhD (2009–present)
2. School of Interactive Computing Faculty Recruiting Committee (2009)
3. College of Computing Computational Media Undergraduate Committee (2006–2009)
4. School of Interactive Computing Undergraduate Coordinator (2007-present).
5. College of Computing Undergraduate co-Coordinator (2005-2007).
6. College of Computing Interface Computing Division (ICD) Undergraduate Coordinator (2004-2007).
7. College of Computing Faculty Advisor for Computational Media undergraduate degree and co-chair of CM Undergraduate Committee (2004–2006)
8. Member (and Lead College of Computing Member), Georgia Tech's College of Computing and School of Literature, Communication and Culture Committee for the design of a joint Undergraduate Program in Media Computation (resulted in the Computational Media undergraduate program) (2003–2004)
9. Member, Georgia Tech's College of Computing Committee for the design of a new Graduate Program in Human Centric Computing (Computing Sub-committee) (2003–2004)
10. Chair (Elected), Georgia Tech's College of Computing Dean's Advisory Committee (2003–2004).
11. Member (Elected), Georgia Tech's College of Computing Dean's Advisory Committee (2001–2003).
12. Member, Georgia Tech's College of Computing CNS Advisory Committee (2001-2002).
13. Member, Georgia Tech's College of Computing Graduate Committee, Graphics Area Representative (2000–2001)
14. Member, Georgia Tech's College of Computing, Ph.D. Admissions Committee (1999–2000)

C. Member of Ph.D. Examining Committees

Ph.D. Examining Committee – Georgia Tech.

1. Daniel Ashbrook, College of Computing, Georgia Tech., Proposed Feb 2009.
Thesis Title: Support Mobile Microinteractions
Principal Advisor: Dr. Thad Starner.
2. Seugyon Claire Lee, College of Computing, Georgia Tech., Proposed Jan 2009.
Thesis Title: Skin Beats: Supporting Mobile Multitasking with Wearable Tactile Displays
Principal Advisor: Dr. Thad Starner.
3. Stephen Volda, College of Computing, Georgia Tech., March 2008.
Thesis Title: Exploring User Interface Challenges in Supporting Activity-Based Knowledge Work Practices
Principal Advisor: Dr. Elizabeth Mynatt.
4. Dugald Ralph Hutchings, College of Computing, Georgia Tech., Summer 2006.
Thesis Title: MAKING MULTIPLE MONITORS MORE MANAGEABLE
Principal Advisor: Dr. John Stasko.
5. Michael Terry, College of Computing, Georgia Tech., Summer 2005.
Thesis Title: "Principles of Set-Based Interaction"
Principal Advisor: Dr. Elizabeth Mynatt.
6. Khai Nhut Truong, College of Computing, Georgia Tech., 2005 (expected).
Thesis Title: "INCA: An Infrastructure to Support the Generation, Preservation and Use of Memories from Everyday Life"
Principal Advisor: Dr. Gregory Abowd.
7. David Krum, College of Computing, Georgia Tech., December 2004.
Thesis Title: "Wearable Computers and Situational Visualization"
Principal Advisor: Dr. William Ribarsky.
8. Don Allison, College of Computing, Georgia Tech., December 2003.
Thesis Title: "Building and Using Educational Virtual Environments For Teaching About Animal Behaviors"
Principal Advisor: Dr. Larry Hodges.
9. Anind Dey, College of Computing, Georgia Tech., December 2000.
Thesis Title: "Providing Architectural Support for Building Context-Aware Applications."
Principal Advisor: Dr. Gregory Abowd.

Ph.D. Area Exam Committee – Georgia Tech. (Only listing students who are not directly supervised as Ph.D. students and whose thesis committees I am not on)

1. Betsy DiSalvo, College of Computing, Georgia Tech., Spring 2009.
2. Kurt Luther, College of Computing, Georgia Tech., Spring 2008.
3. Jeonghwa Yang, College of Computing, Georgia Tech., Spring 2008.
4. Brian Landry, College of Computing, Georgia Tech., Spring 2005.
5. Stephen Volda, College of Computing, Georgia Tech., Fall 2003.
6. Jay Summitt (HCI), College of Computing, Georgia Tech., Fall 2002.

7. Kent Lyons (HCI), College of Computing, Georgia Tech., Fall 2002.
8. Chad Wingrave (Graphics), College of Computing, Georgia Tech., Fall 2002.
9. Mel Erickson (Graphics), College of Computing, Georgia Tech., Fall 2002.
10. Joe Tullio (HCI), College of Computing, Georgia Tech., Spring 2001.
11. Khai Truong (HCI), College of Computing, Georgia Tech., Spring 2001.
12. David Krum (HCI), College of Computing, Georgia Tech., Spring 2001.
13. Lonnie Harvel (HCI), College of Computing, Georgia Tech., Fall 2001.

Ph.D. Examining Committee – External

1. Daniel Wagner, Institute for Computer Graphics and Vision, Graz University of Technology, October 2007.
Thesis Title: “Handheld Augmented Reality”
Principal Advisor: Dr. Dieter Schmalsteig
2. Jeffery Chastine, Department of Computer Science, Georgia State University, unknown.
Thesis Title: “Collaborative Augmented Reality”
Principal Advisor: Dr. Ying Zhu

D. Consulting, Advisory, and Other External Appointments

1. Summer 2009: Consultant with Word World, LLC.
2. March 2009: Consultant for Moxie Interactive.
3. May-October 2008: Consultant with Magitech, a division of the MediaPower Group. Helped start Atlanta office, devoted to AR game and new media project development.
4. 2002-2006: Member of 4 person review board for the **Equator** EPSRC (Engineering and Physical Sciences Research Council) IRC (Interdisciplinary Research Center). A 6 year center across 8 British universities whose remit is to promote the integration of the physical with the digital by uncovering and supporting the variety of possible relationships between physical and digital worlds.

IV. NATIONAL AND INTERNATIONAL PROFESSIONAL RECOGNITION

A. Honors and Awards

1. Hesburgh Award Teaching Fellows Program, Center for the Enhancement of Teaching and Learning , Georgia Tech. Fall 2008.
2. GVU 15 Year Celebration, Impact Award (joint with Dr. Jay Bolter). For collaborative research. One of 15 awards given out to people who significantly impacted GVU over the first 15 year. Fall 2006.
3. The Class of 1969 Teaching Fellows Program, Center for the Enhancement of Teaching and Learning , Georgia Tech. Fall 2001.
4. Natural Science and Engineering Research Council of Canada (NSERC) Post-Graduate Scholarship, 1989–1991.

B. Invited Conference Session Chair

1. UIST 2004 conference session chair.
2. ISMAR 2003 conference session chair (Systems and Tools).
3. UIST 2002 conference session chair (Wall Sized Displays).
4. Ubicomp 2001 conference session chair.
5. UIST 2001 conference session chair (Tactile User Interfaces).
6. UIST 1999 conference session chair (Novel Output).

C. Media Coverage

Some general coverage of my work in the Augmented Environments Lab at Georgia Tech:

1. Significant blog coverage of our handheld AR games work, building off a talk on Handheld AR Game design at GDC, and media interviews and coverage after. Picked up by widely read iPhone and Apple sites, such as toucharcade.com and macrumors.com. Spring 2009.
2. Significant coverage about our work on the design of Augmented Reality games, in relation to the press about the \$5,000,000 gift promised to Georgia Tech to support my work.
3. An article on AR Second Life in the SL Engineer web magazine (www.slengineer.org), July 8th, 2007.
4. Article about a wide range of my labs' work, in Austrian. <http://derstandard.at/?url=/?id=3106315> November 2007.
5. An AP article on AR Facade, picked up by dozens of outlets. June 11 2007.
6. A number of Chilean newspapers ran a story of games research at Tech, including coverage of my work. Including a piece in El Mercurio, Chile's largest newspaper, in October 2006.
7. A number of news agencies picked up a GT press release about AR in Poultry inspection (work done with GTRI) on June 18-20, 2005. The Engineer Online, ACM Tech News, Science Daily News. Forthcoming articles expected in Sensors magazine, Poultry & Egg News, Automation World, World Poultry, Poultry International, WATT PoultryUSA, Photonics Spectra.

8. Carol Coletta. Interviewed for Smart City, an NPR talk show, on my work. 10 minute segment aired April 16th, 2005.
9. Michelle Delio. Augmented Reality: Another (Virtual) Brick in the Wall. 3 page article on my work, appeared on MIT Technology Review Web site, February 15, 2005. (Picked up by a variety of web news sites, such as ACM Technews.)
10. Tim Edwards. Writer for UK Gamer magaize. Interviewed about Mixed Reality games, Feb 10, 2005.
11. XXXXX. Something in French Futur(e)s magazine.
12. Pierre Vandeginste, Ch(c)ri, j'ai augment(e) le r(e)el. In Futur(e)s, December 2000, Vol. 2. Article on augmented reality that features my past work and the projects my students are currently working on, including numerous photographs. [In French]
13. Kevin Bonsor, How Augmented Reality Will Work. On HowStuffWorks, an electronic magazine. An article on how how augmented reality will work in the future, featuring quotes by me. <http://www.howstuffworks.com/augmented-reality.htm>

Other media coverage:

1. Interviewed for a story on the iTunes music store. Appeared in the Atlanta Journal Constitution,
2. Interviewed for a story about contact lens displays for National Geographic web site. http://news.nationalgeographic.com/news/2006/06/060615_bionic-eye.html
3. Interviewed extensively for perspective on XNA and gaming, surrounding the announcement of Microsoft's XNA tools for the Xbox 360. Included a live interview during drive-time on WJGO AM radio in San Francisco, front page article in Life section of USA Today. In all, there were 72 original articles in 120 media outlets, of which I was quoted in many of them. August 14th and later, 2006.
4. Interviewed for a quoted extensively in article for Wired entitled "Next Game Controller: Your Phone". by Lakshmi Sandhana, June 2006. <http://www.wired.com/news/culture/games/0,70941-0.html?tw=rss.index>
5. Interviewed for, and quoted in, "VIDEO GAMES: Choose your gaming weapon; The new consoles are hot, but the PC remains a potent gaming option." by Bob Keefe. May 2006.
6. Interviewed by Lakshmi Sandhana for an article on cell phones and games. May 2006.
7. Reporter asking questions regarding the agreement to have Galileo and US GPS interoperate (June 2004).
8. Harry Goldstein, IEEE Spectrum. Interview on the technical analysis of AR as presented in a new science fiction story by Vernor Vinge. April 2004, appeared summer 2004.
9. Bennett Daviss, NEW SCIENTIST Magazine, quoted in article on GPS and the HP Cooltown project.

Coverage of Augmented Reality for Construction (ARC B.1.15) system:

1. San Jose Mercury News, Tuesday, March 4, 1997, p. 10A. Discussion of ARC demo in special section on ACM 97, including photo by Len Lahman.

Coverage of Knowledge-based Augmented Reality Maintenance Assistant (KARMA B.1.16) system:

1. Pierre Vandeginste, Re'inventer l'interface? Ils l'ont fait! In SVM MAC, April 1994, Number 50, pp. 130-131. Has a cartoon drawing based on a photo of me using Karma. [In French]
2. Ken Sakamura, The Era of Ubiquitous Computing is Coming. In Kagaku Asahi (Asahi Monthly Journal of Science), Volume 55, Number 2, February 1995, pp. 96-100. [In Japanese]. Includes KARMA photo.
3. Thomas Borchert, Helfer auf Schritt und Tritt, Stern, Vol 43, October 19, 1995, 145-148. Includes KARMA photo.
4. Wendy Mackay, Re'alite' augmente'e: Le meilleur des deux mondes. La Recherche, 285, March 1996, pp. 32-37. Includes KARMA photo, discusses authors and their work.

D. Editorial and Reviewer Work for Technical Journals and Publishers

1. Associate Editor, International Journal of Human-Computer Studies (IJHCS), 2004-present.
2. Associate Editor, Journal of Virtual Reality, 2007-present.
3. Reviewer for Presence: Teleoperators and Virtual Environments.
4. Reviewer for ACM Transactions on Computer-Human Interaction (TOCHI), Transactions on Graphics (TOG).
5. Reviewer for IEEE Computer, IEEE Computer Graphics and Applications.
6. Reviewer for Auditory Display: Sonification, Audification and Auditory Interfaces.
7. Co-editor, Students Column, ACM SIGCHI Bulletin, 1995 - 1996.

V. OTHER CONTRIBUTIONS

A. Seminar Presentations (Invited Papers and Talks at Meetings and Symposia)

1. Blair MacIntyre. "Augmented Reality Experience Design." Invited talk at Magitech AR Meeting, Saturday Feb 16, 2008.
2. Blair MacIntyre, Maribeth Gandy, Jaemin Lee. "The Designer's Augmented Reality Toolkit (DART) BOF." Birds-of-a-Feather session for the user community of DART. Thursday, August 12, 2004. Los Angeles, CA.
3. Blair MacIntyre. "Augmented Reality in Modula-3." At *OOPSLA 95 Modula-3 Users Group Meeting*, October, 1995.

B. Special Activities

1. Organized and led GVU/IC meetings and proposals related Samsung STAR Center, Summer/Fall 2008.
2. Arranged for visit and tour of GVU/IC by executives from MTV/Viacom, Nov 7, 2008.
3. Assist Georgia Department of Economic Development with visit by two game companies (names withheld) to convince them to relocate to Georgia. Fall 2008.

4. Leading effort to develop a closer relationship between College of Computing and SCAD-Atlanta. Fall 2008 –present.
5. Arranged for visit and tour of GVU/IC by Jonathan Kendrick, Chairman of Rok Entertainment Group Inc. July 2008.
6. Ongoing demonstrations of Handheld AR Games to visitors to GVU and CoC. 2008–present.
7. Ongoing demonstrations of Four Angry Men and ARFacade to visitors to GVU and CoC. 2004–2007.
8. Google Faculty Summit, July 2006.
9. Demonstration of Four Angry Men for TTI Vanguard. December 1, 2004.
10. Demonstration of Four Angry Men for I.D.E.A.S. visitors and GTRI. November 30, 2004.
11. Invited participant at 2 day design charette for conceptual design of new interactive museum for Project Exploration in Chicago. Run by Bob Weis and Design Island Associates. Nov 17/18, 2004. Orlando, FL.
12. Assisted with AR demonstration as part of Klaus Building Virtual Groundbreaking, April 2004. My group’s software (DART) was used to build the demonstration.
13. Presentation to CoC BACKUP Alumni Event, Fall 2002.
14. Presentation to FOCUS program, Spring 2001. Met with FOCUS students, Spring 2001, 2002.
15. Presentation to GVU Industrial Affiliates, Spring 1999, Spring 2000.
16. Organizing the GVU Augmented Reality Research Initiative and Corporate Partnership (currently folded into the Aware Home Research Initiative)
17. Supervised the creation of the Ghost Viewer for the Beware Home demos during the Fall 2000
18. GVU Demo day, ISWC 2000 Demo Evening.

VI. PERSONAL DATA

Born: 16 December 1965, Hamilton, ON, Canada.
 Home Address: 1132 Rosedale Rd.
 Atlanta, GA 30306.
 Telephone: (404) 607-1739.
 Wife: Elizabeth D. Mynatt; married 24 May 2000.
 Children: Grace Elizabeth MacIntyre; born 8 April 2002.
 William Carter "Buzz" MacIntyre; born 19 April 2005.
 Citizenship: Canada (Permanent Resident of USA).
 Email: blair@cc.gatech.edu
 WWW: <http://www.cc.gatech.edu/~blair>