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Table of Contents

EDUCATIONAL BACKGROUND	3
EMPLOYMENT HISTORY	3
CURRENT FIELDS OF INTEREST	3
I. TEACHING	4
A. Courses Taught	4
B. Continuing Education	5
C. Curriculum Development	5
D. Individual Student Guidance	6
E. Teaching Honors and Awards	11
II. RESEARCH AND CREATIVE SCHOLARSHIP	12
A. Thesis	12
B. Published Journal Papers (refereed)	12
B.1. Archival Journals	12
B.2. Archival Conference Proceedings	13
C. Published Books and Parts of Books (Refereed)	13
C.1. Chapters in Books	13
D. Edited Proceedings and Collections	14
D.1. Conference Proceedings	14
D.2. Journal Special Issues	14
E. Conference Presentations	14
E.1. Conference Presentations with Proceedings (refereed and archival)	14
E.2. Conference Presentations with Proceedings (minimally refereed or non-refereed)	16
E.3. Conference Presentations without Proceedings (abstract refereed)	17
E.4. Conference Presentations: Tutorial and Courses	19
F. Other	19
F.1. Technical Reports	19
F.2. Software	19
F.3. Published Papers (non-refereed)	20
G. Distinguished Lectures, Panels and other Invited Presentations	20
H. Research Proposals and Grants (Principal Investigator)	21
I. Research Proposals and Grants (Contributor)	24
J. Research Honors and Awards	25
III.SERVICE	26
A. Professional Activities	26
A.1. Memberships and Activities in Professional Societies	26
A.2. Conference Committee Activities	26
B. On-Campus Georgia Tech Committees	27
C. Member of Ph.D. Examining Committees	27
D. Consulting, Advisory, and Other External Appointments	28
IV.NATIONAL AND INTERNATIONAL PROFESSIONAL RECOGNITION	29
A. Honors and Awards	29
B. Invited Conference Session Chair	29
C. Media Coverage	29
D. Editorial and Reviewer Work for Technical Journals and Publishers	30
V. OTHER CONTRIBUTIONS	30
A. Seminar Presentations (Invited Papers and Talks at Meetings and Symposia)	30
B. Special Activities	31
VI.PERSONAL DATA	31

EDUCATIONAL BACKGROUND

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

EMPLOYMENT HISTORY

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

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. I am interested in understanding the fundamental (and often subtle) problems that have made augmented reality systems difficult to design and deploy, 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

Quarter/Year	Course Number & Title	Number of Students	Comments
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	
Seminars			
Fall 1999	CS 3351 Studio Design Project	5	Group Supervisor
	CS 8001 B Future Computing Environments Seminar	40	team-taught seminar (FCE)
	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)

Quarter/Year	Course Number & Title	Number of Students	Comments
Seminars (cont'd)			
Fall 2001	CS 4801S Building Ubiquitous Computing Devices and Software	14	seminar
Fall 2005	LCC 8803 Augmented Reality	14	seminar

B. Continuing Education

C. Curriculum Development

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

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)

Enylton Machado Coelho (CoC)

Fall 2000 – Present.

Publications: *E.1.15, E.1.9, E.2.6, E.1.5, B.2.1.*

Dealing with uncertainty in mobile 3D augmented reality.

Steven Dow (CoC HCC)

Fall 2004 – Present.

Publications: *B.1.1, E.1.3, E.1.2, B.2.2, E.2.4, E.3.3, E.1.7, E.2.5, E.2.3.*

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.1.7, E.1.8, E.1.10, E.2.5, E.2.8, E.2.10.*

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

Robert Jan Kooper (CoC)

Fall 1999 – May 2002.

Publications: *B.1.6, E.1.12, E.1.14, F.1.1.*

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

Maribeth Gandy (CoC)

Fall 2003 – Present.

Publications: *E.2.1, B.1.1, E.1.3,,E.1.2,E.1.6, B.2.2, E.2.3, E.3.3, E.1.7, E.1.8, E.2.4, E.2.5, E.2.7, E.2.8.*

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

Markus Haas (CoC)

Spring 2002 – Present.

Publications: *E.1.8, E.2.8.*

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 – Present.

Publications: C.1.2, E.3.10.

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

Stephen Volda (CoC, with Elizabeth Mynatt)

Fall 2002 – Fall 2003.

Publications: B.1.3, B.1.5, C.1.3, E.1.8, B.2.3, E.3.8, E.3.9.

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)

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.

Marleigh Norton (CoC HCI)

Fall 2004 – Present.

Publications: E.1.1.

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

Parth Bhawalkar (CoC HCI, with GTRI)

Fall 2004 – Present.

Publications: E.2.2.

Augmented Reality Interfaces for Assembly line Inspection.

Jaemin Lee (LCC HCI)

Spring 2004 – Fall 2004.

Publications: B.1.1, E.1.4, E.1.3

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

Christopher Oezbek (CoC MS)

Spring 2004 – Summer 2004.

Publications: B.1.1, E.1.4, E.1.3

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

Steven Dow (CoC HCI)

Spring 2003 – Summer 2004.

Publications: *B.2.2,E.1.7,E.2.4,E.2.5.*
Physical Prototyping and Storyboarding of AR/MR experiences.

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

Fall 2003 – Present.

Publications: *E.3.6.*

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.1.3.*

Evaluation of JOrchestra as a platform for distributing UbiComp applications.

Jeannie Vaughan (LCC IDT, with Jay Bolter)

Summer 2001 – Fall 2001.

Publications: *E.1.8,E.2.8,E.2.10*

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.1.7,E.1.8,E.1.10,E.1.11,E.1.13,E.2.8,E.2.10.*

Interactive Narrative and Content Creation in AR Environments.

MS. Special Problems students.

Dave McColgin (Fall 2004)

(LCC HCI)

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

Parth Bhawalkar (Spring 2004)

(CoC HCI, with Jennifer Ockerman (GTRI))

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.1.7,E.1.13.*

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.

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 Jeliakov (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 McGuiness (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 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.” To appear in *IEEE Pervasive Computing: Special Issue on Rapid Prototyping for Ubiquitous Computing*, October 2005.
- B.1.2 Jay David Bolter, Blair MacIntyre, Maribeth Gandy, Petra Schweitzer. “New Media and the Permanent Crisis of Aura.” Accepted to *Convergence*.
- B.1.3 Nikitas Liogkas, Blair MacIntyre, Elizabeth D. Mynatt, Yannis Smaragdakis, Eli Tilevich, and Stephen Voids. “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.1.4 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.1.5 Stephen Voids, 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.1.6 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.1.7 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.1.8 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.1.9 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.1.10 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.1.11 Blair MacIntyre and Steven Feiner. “Future Multimedia User Interfaces.” In *Multimedia Systems*, 4(5): 250–268, 1996. .
- B.1.12 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.1.13 Steven Feiner, Blair MacIntyre and Dorée Seligmann. “Knowledge-Based Augmented Reality.” *Communications of the ACM* 36(7): 53–62, July, 1993.
- B.1.14 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.2.4]) are considered final archival publications, with resubmission to a Journal not permitted. The CHI Letters designation ([B.2.2,B.2.3]) 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 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 (UIST’05)*. [20%]
- B.2.2 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.2.3 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.2.4 MacIntyre, Blair and Feiner, Steven. “A Distributed 3D Graphics Library.” In *Proc. SIGGRAPH 98*, pages 361–370, July 1998. [15%]

C. Published Books and Parts of Books (Refereed)

C.1. Chapters in Books

- C.1.1 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.1.2 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.1.3 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.1.4 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. Conference Presentations with Proceedings (refereed and archival)

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

- E.1.1 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.1.2 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.1.3 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.1.4 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.1.5 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.1.6 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.1.7 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.1.8 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.1.9 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.1.10 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.1.11 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.1.12 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.1.13 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.1.14 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.1.15 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.1.16 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.1.17 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.1.18 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.1.19 Feiner, Steven, MacIntyre, Blair, Hiller, 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.1.20 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.1.21 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.1.22 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.1.23 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.2. 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.2.1 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.2.2 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.2.3 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.2.4 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.2.5 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.2.6 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.2.7 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.2.8 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.2.9 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.2.10 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.2.11 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.2.12 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.2.13 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.2.14 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.3. Conference Presentations without Proceedings (abstract refereed)

- E.3.1 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.3.2 Steven Dow, Blair MacIntyre, Maribeth Gandy. “Tools for Designing Computational Spaces” In *ACM SIGCHI 2005 Workshop on The Future of User Interface Tools*.
- E.3.3 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.3.4 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.3.5 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.3.6 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.3.7 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.3.8 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.3.9 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.3.10 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.3.11 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.3.12 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.3.13 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.3.14 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.3.15 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.3.16 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.3.17 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.3.18 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.4. Conference Presentations: Tutorial and Courses

F. Other

F.1. Technical Reports

- F.1.1 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.1.2 Blair MacIntyre. “Repo: An Interpreted Language for Exploratory Programming of Highly Interactive, Distributed Applications.” GVU Technical Report 99-34, 1999.
- F.1.3 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.1.4 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.1.5 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.1.6 Blair MacIntyre. “Repo Programmers Guide and Reference Manual.” Columbia University, Department of Computer Science Research Report CUCS-024-97.

F.2. Software

- F.2.1 *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.2.2 *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.2.3 *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.2.4 *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.2.5 *Video Xtra*. Feeds real-time video into texture memory for video-mixed AR in Macromedia Director. Designed and implemented by Blair MacIntyre. 2000.
- F.2.6 *Repo-3D. Distributed 3D graphics library*. 3D graphics component of Coterie, produced as part of doctoral work, topic of SIGGRAPH '98 paper (B.2.4) Designed and implemented by Blair MacIntyre. 1998.
- F.2.7 *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.2.8 *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.3. Published Papers (non-refereed)

- F.3.1 Ben Anderson and Blair MacIntyre. "Programming Languages: A Play in Three Acts." In *ACM SIGCHI Bulletin* 28(3): 15–19, July, 1996.
- F.3.2 Farshad Nayari and Blair MacIntyre. "Critical Mass JVM: Modula-3 Befriends Java." In *Threads: The Modula-3 Systems Journal*, Issue 3, Fall 1997.
- F.3.3 Thomas Meyer-Boudnik and Blair MacIntyre. "Session Report: Multimedia Documents and Mailing." In the post-workshop report of the
- F.3.4 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. "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.0.2 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.0.3 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.0.4 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.0.5 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.0.6 Blair MacIntyre. "Design Exploration of Interactive Augmented Reality." FriamGroup Applied Complexity Lecture Series, Santa Fe Institute, Santa Fe, NM. October 26th, 2004.
- G.0.7 Blair MacIntyre. "Augmented Reality Experiences." Half-day lecture at the annual Tamagawa University Lecture Series, June 2004, Tokyo, Japan.
- G.0.8 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.0.9 Blair MacIntyre. "Rapid Prototyping of Augmented Reality Systems. Invited talk at *Eikoh Software Symposium*, Tokyo, Japan, May 10–16, 1998.
- G.0.10 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.0.11 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 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.1.2 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.1.3 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.1.4 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.1.5 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.1.6.

H.1.6 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.1.19.

H.1.7 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.1.8 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.1.9 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.1.10 Three-Angry Men: A Dramatic AR Experience.

Sponsor: GVVU Center Seed Grant.

Investigator(s): Blair MacIntyre, Jay David Bolter, Maribeth Gandy.

Amount: \$10,000

Funded: September 2002-December 2002.

H.1.11 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.1.12 Authoring Abstract Reactive Multi-user Interactive Spaces.

Sponsor: GVVU 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.1.13 Presenting Narrative Information in an Augmented Reality Environment.

Sponsor: GVVU 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.1.14 **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.1.15 **Industrial Augmented Reality Applications.**
Sponsor: GVV Industrial Affiliates Program funding from Siemens.
Investigator(s): Blair MacIntyre.
Amount: \$30,000
Funded: September 1999.
- H.1.16 **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.1.17 **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.1.18 **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.1.19 **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 **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.

3. Not Funded

- H.3.1 **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.3.2 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.3.3 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.3.4 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.3.5 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.3.6 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

I.1.1 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

I.2.1 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.

3. Not Funded

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 Co-Chair, IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2003
2. Program Co-Chair, ACM User Interface Software and Technology (UIST), 2003
3. Program Co-Chair, IEEE and ACM International Symposium on Wearable Computers (ISWC), 2000
4. Program Committee, Associate Chair, ACM CHI 2006.
5. Program Committee, Intelligent Technologies for Interactive Entertainment (INTERTAIN), 2005
6. Program Committee, International Symposium on Interactive 3D Graphics (I3DG), 2005
7. Program Committee, International Workshop on Exploring the Design and Engineering of Mixed Reality Systems (MIXER), 2004
8. Program Committee, Graphics Interface (GI), 2003
9. Program Committee, Smart Graphics, 2003
10. Program Committee, IEEE Virtual Reality, 2000, 2001, 2002
11. Program Committee, International Workshop on Mixed and Augmented Reality, 2002
12. Program Committee, International Symposium on Mixed Reality, 2001
13. Program Committee, Workshop on Artificial Intelligence in Mobile Systems (AIMS), 2000, 2001, 2002
14. Program Committee, International Symposium on Augmented Reality (ISAR), 2000, 2001
15. Program Committee, Designing Augmented Reality Environments (DARE), 2000.
16. Program Committee, ACM User Interface Software and Technology (UIST), 1999, 2001, 2002
17. Program Committee, International Workshop on Augmented Reality (IWAR) 1998, 1999
18. Technotes Program Committee Chair, ACM UIST 99
19. Paper Reviewer, GI '04

20. Paper Reviewer, ACM SIGGRAPH 99 00 01 '03 '04
21. Paper Reviewer, ACM CHI 95 97 98 99 00 01 '02 '03
22. Demo Program Committee Chair, ACM UIST 98
23. Paper Reviewer, ACM UIST 97 98 99 00
24. Paper Reviewer, IEEE VRAIS 98
25. Student Volunteer Chair, ACM UIST 96 and ACM UIST 97
26. Demo Program Committee, ACM Multimedia 95

B. On-Campus Georgia Tech Committees

1. College of Computing Undergraduate co-Coordinator (2005-present).
2. College of Computing Interface Computing Division (ICD) Undergraduate Coordinator (2004-present).
3. College of Computing Faculty Advisor for Computational Media undergraduate degree and co-chair of CM Undergraduate Committee (2004–present)
4. 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)
5. 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)
6. Chair (Elected), Georgia Tech's College of Computing Dean's Advisory Committee (2003–2004).
7. Member (Elected), Georgia Tech's College of Computing Dean's Advisory Committee (2001–2003).
8. Member, Georgia Tech's College of Computing CNS Advisory Committee (2001-2002).
9. Member, Georgia Tech's College of Computing Graduate Committee, Graphics Area Representative (2000–2001)
10. 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. Lilia Moshkina, College of Computing, Georgia Tech., Not yet proposed..
Thesis Title: Something in the area of Affective Robotics
Principal Advisor: Dr. Ron Arkin.
2. Michael Terry, College of Computing, Georgia Tech., Summer 2005 (expected).
Thesis Title: "Principles of Set-Based Interaction"
Principal Advisor: Dr. Elizabeth Mynatt.

3. 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.
4. David Krum, College of Computing, Georgia Tech., December 2004.
Thesis Title: "Wearable Computers and Situational Visualization"
Principal Advisor: Dr. William Ribarsky.
5. 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.
6. 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. Brian Landry, College of Computing, Georgia Tech., Spring 2005.
2. Stephen Volda, College of Computing, Georgia Tech., Fall 2003.
3. Jay Summitt (HCI), College of Computing, Georgia Tech., Fall 2002.
4. Kent Lyons (HCI), College of Computing, Georgia Tech., Fall 2002.
5. Chad Wingrave (Graphics), College of Computing, Georgia Tech., Fall 2002.
6. Mel Erickson (Graphics), College of Computing, Georgia Tech., Fall 2002.
7. Joe Tullio (HCI), College of Computing, Georgia Tech., Spring 2001.
8. Khai Truong (HCI), College of Computing, Georgia Tech., Spring 2001.
9. David Krum (HCI), College of Computing, Georgia Tech., Spring 2001.
10. Lonnie Harvel (HCI), College of Computing, Georgia Tech., Fall 2001.

Ph.D. Examining Committee – External

1. 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. 2002-present: 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. 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

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

1. 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.
2. Carol Coletta. Interviewed for Smart City, an NPR talk show, on my work. 10 minute segment aired April 16th, 2005.
3. 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.)
4. Tim Edwards. Writer for UK Gamer magaize. Interviewed about Mixed Reality games, Feb 10, 2005.
5. XXXXX. Something in French Futur(e)s magazine.
6. 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]
7. 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. Reporter asking questions regarding the agreement to have Galileo and US GPS interoperate (June 2004).

2. 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.
3. Bennett Daviss, NEW SCIENTIST Magazine, quoted in article on GPS and the HP Cooltown project.

Coverage of Augmented Reality for Construction (ARC B.1.12) 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.1.13) 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. Reviewer for Presence: Teleoperators and Virtual Environments.
3. Reviewer for ACM Transactions on Computer-Human Interaction (TOCHI), Transactions on Graphics (TOG).
4. Reviewer for IEEE Computer, IEEE Computer Graphics and Applications.
5. Reviewer for Auditory Display: Sonification, Audification and Auditory Interfaces.
6. 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, 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.
2. Blair MacIntyre. "Designing Dramatic Augmented Reality Experiences." Invited talk at Sony Computer Science Labs, Tokyo, Japan. Wednesday, June 16, 2004.
3. Blair MacIntyre. "Designing Dramatic Augmented Reality Experiences." Invited talk at NTT Science and Core Technology Lab, Atsugi, Japan. Thursday, June 17, 2004.

4. Blair MacIntyre. "Designing Dramatic Augmented Reality Experiences." Invited talk at NiCT/ATR, Kyoto, Japan. Friday, June 18, 2004.
5. 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.
6. Elizabeth Mynatt and Blair MacIntyre. "Using Design Challenges to Drive a Computing Research Agenda." Invited talk at Ricoh Innovations Lab. Friday August 1st, 2003.
7. Blair MacIntyre. "Three Angry Men: Dramatizing Point-of-View using Augmented Reality" Talk at UNC Chapel Hill, Computer Graphics and VE Group, Jan 30, 2003.
8. Blair MacIntyre. "Augmented Reality in Modula-3." At *OOPSLA 95 Modula-3 Users Group Meeting*, October, 1995.

B. Special Activities

1. Demonstration of Four Angry Men for TTI Vanguard. December 1, 2004.
2. Demonstration of Four Angry Men for I.D.E.A.S. visitors and GTRI. November 30, 2004.
3. 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.
4. Assisted with AR demonstration as part of Klaus Building Virtual Groundbreaking, April 2004. My group's software (DART) was used to build the demonstration.
5. Presentation to CoC BACKUP Alumni Event, Fall 2002.
6. Presentation to FOCUS program, Spring 2001. Met with FOCUS students, Spring 2001, 2002.
7. Presentation to GVV Industrial Affiliates, Spring 1999, Spring 2000.
8. Organizing the GVV Augmented Reality Research Initiative and Corporate Partnership (currently folded into the Aware Home Research Initiative)
9. Supervised the creation of the Ghost Viewer for the Beware Home demos during the Fall 2000
10. GVV 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>