

Jaime Montemayor

Senior Research Scientist

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Education

- 2003 PhD in Computer Science, University of Maryland, College Park, Maryland. Advisors: Allison Druin and Jim Hendler.
- 1999 MSc in Computer Science, University of Maryland, College Park, Maryland.
- 1992 Diploma in Classic Culinary Arts, French Culinary Institute, New York, New York.
- 1986 BSc in Civil Engineering, University of California, Berkeley, California.

Awards and Honors

R. W. Hart Prize, The Johns Hopkins University Applied Physics Laboratory, 2003.

Selected to the CHI2001 Doctoral Consortium.

Finalist, 2000 Invention of the Year, for A Storytelling Robot for Pediatric Rehabilitation, University of Maryland Office of Technology Commercialization Research and Graduate Studies.

University of Maryland Graduate School Fellow, 1997 to 1999.

American Society of Civil Engineers Concrete Cube Contest, 1986, 2nd Place.

Research Experience

2003 - Current Senior Research Scientist, The Johns Hopkins University Applied Physics Laboratory.

I am working on problems in cognitive engineering and human-machine interaction. Recently I have been thinking a lot about hyper-graphs and how a human can find whatever is important within her analytical context. I have also begun to think about issues that surround human to autonomous spacecraft interactions.

1998 - 2003 Graduate Research Assistant, Human Computer Interaction Lab, University of Maryland.

Research Experience, continued

1997 - 2003 Graduate Research Assistant, Autonomous Mobile Robotics Lab, University of Maryland.

I was member of an interdisciplinary and intergenerational research team. We developed new participatory design methods and new entertainment and educational technology for children. During the past few years, we created two concept prototypes. The first is called PETS, a Personal Electronic Teller of Stories. This is an interactive robot that acts out emotions when a computer narrates stories written by children. A version of this robot was awarded Finalist in the Invention of the Year 2000, by the University of Maryland. The second prototype is called StoryKit, a construction kit that allows children to build fully physical, immersive, and interactive environments in which they can experience stories.

As part of my duties, I also advised numerous undergraduate students from computer engineering, computer science, and mechanical engineering.

NSF, the European Union, the i3 Experimental Schools Initiative, DARPA, IBM, and the University of Maryland Institute for Advanced Computer Studies have generously funded my research.

Teaching Experience

Summer 2005 adjunct faculty, The Johns Hopkins University. Human-Computer Interaction.

Fall 1997 teaching assistant, University of Maryland. Introduction to Discrete Structures.

Refereed Conference Papers

Montemayor, J., Druin, A., Chipman, G., Farber, A., and Guha, M. L. (2004) Tools for Children to Create Physical Interactive StoryRooms. In Computers in Entertainment.

Montemayor, J., Druin, A., Farber, A., Simms, S., Churaman, W., and D'Amour, A. (2002). Physical Programming: Designing tools for children to create physical interactive environments. In Proceedings of Human Factors in Computing Systems. ACM Press.

Montemayor, J. (2001) Physical Programming: Software You Can Touch. In Extended Abstracts (Doctoral Consortium) of CHI2001.

Plaisant, C., Druin, A., Lathan, C., Dakhane, K., Edwards, K., Maxwell Vice, J., and Montemayor, J. (2000) A Storytelling Robot for Pediatric Rehabilitation. In Proceedings of ASSETS'2000, Washington DC, Nov. 2000, ACM, New York.

Refereed Conference Papers, continued

- Alborzi, H., Druin, A., Montemayor, J., Platner, M., Porteous, J., Sherman, L., Boltman, A., Taxén, G., Best, J., Hammer, J., Kruskal, A., Lal, A., Plaisant-Schwenn, T., Sumida, L., Wagner, R., and Hendler, J. (2000) Designing StoryRooms: Interactive Storytelling Spaces for Children. In Proceedings of Designing Interactive Systems (DIS-2000), ACM Press, pp 95-104.
- Druin, A., Montemayor, J., Hendler, B., McAlister, B., Boltman, A., Fiterman, E., Plaisant, A., Kruskal, A., Olsen, H., Revett, I., Plaisant-Schwenn, T., Sumida, L., and Wagner, R. (1999) Designing PETS: A Personal Electronic Teller of Stories. In Proceedings of CHI'99, ACM Press, pp 326-329.

Invited Book Chapters

- Montemayor, J., Druin, A., and Hendler, J. (2002) From PETS to storyrooms: constructive storytelling systems designed with children, for children. In *Socially Intelligent Agents - creating relationships with computers and robots*, K. Dautenhahn, A. Bond, L. Canamero, and B. Edmonds, Eds. Kluwer Academic Publishers.
- Montemayor, J., Druin, A., and Hendler, J. (2000) PETS: A Personal Electronic Teller of Stories. In *Robots For Kids*, Druin, A. and Hendler J. (eds.) Morgan Kaufmann, San Francisco, CA., pp 74-108.

Workshops, Short Papers, Video Papers, Posters

- Gersh, J., Cropper, K., Fitzpatrick, W., McKerracher, P., Montemayor, J., and Ossing, D. (2005) "And You Did That Why?" - Using an Abstraction Hierarchy to Design Interaction with Autonomous Spacecraft. In *Persistent Assistants: Living and Working with AI: Papers from the 2005 Spring Symposium*, ed. Daniel Shapiro, Pauline Berry, John Gersh, Nathan Schurr, pp 22-25. Technical Report SS-05-05. American Association for Artificial Intelligence, Menlo Park, California.
- Montemayor, J., Druin, A., Chipman, G., Farber, A., and Guha, M. L. (2004) Tools for Children to Create Physical Interactive StoryRooms. In *Computers in Entertainment*.
- Montemayor, J. (2003) Physical programming: tools for kindergarten children to author physical interactive environments. Doctoral dissertation, department of computer science, University of Maryland.
- Montemayor, J., Druin, A., Chipman, G., Farber, A., and Guha, M. L. (2003) Sensing, storytelling, and children: putting users in control. University of Maryland Institute for Advanced Computer Studies technical report UMIACS-TR-2003-16.
- Sherman, L., Druin, A., Montemayor, J., Farber, A., Platner, M., Simms, S., Porteous, J., Alborzi, H., Best, J., Hammer, J., Kruskal, A., Matthews, J., Rhodes, E., Cosans, C., Lal, L. (2001) StoryKit: Tools for Children to build room-sized interactive experiences. Appears as an Interactive Video Poster in CHI2001.

Workshops, Short Papers, Video Papers, Posters, continued

- Lathan, C., Vice, J. M., Tracey, M., Plaisant, C., Druin, A., Edward, K., & Montemayor, J. (2001) Therapeutic Play with a Storytelling Robot. In the Demonstrations of CHI2001.
- Montemayor, J., Alborzi, H., Druin, A., Hendler, J., Pollack, D., Porteous, J., Sherman, L., Afework, A., Best, J., Hammer, J., Kruskal, A., Lal, A., Plaisant-Schwenn, T., Sumida, L., and Wagner, R. (2000) From PETS to Storykit: Creating New Technology With An Intergenerational Design Team. In Workshop on Interactive Robotics and Entertainment (WIRE-2000), Pittsburgh, April 2000.
- Druin, A., Best, J., Hammer, J., Kruskal, A., Lal, A., Plaisant Schwenn, T., Sumida, L., Wagner, R., Alborzi, H., Montemayor, J., and Lisa Sherman. (2000) Computers and Kids: How Do Adults and Children Work Together to Design New Technology? In SIGCHI Bulletin, April 2000, Volume 32, Number 2.
- Montemayor, J., Hendler, J., and Druin, A. (2000) PETS: A Personal Electronic Teller of Stories. In i3 Magazine, no. 9, November 2000.

Invited Presentations, Symposia, and Tutorials

- 2005 Human Computer Interaction Lab. 22nd Annual Symposium and Open House. Workshop on Exploratory Search. Title: Supporting Insight-based Information Exploration in Intelligence Analysis.
2002. Human Computer Interaction Lab. 19th Annual Symposium and Open House. Tutorial on Classroom of the Future: Bringing Together Technology and User Centered Design in the Classroom, with Allison Farber and Sabrina Liao.
2001. IEEE Symposia on Human-Centric Computing Languages and Environments. Student Participant of the special event: Children's Programming Odyssey. Title: Physical Programming: Technology Tools for Kindergarten Children to Program Physical Interactive Environments.
2001. Human Computer Interaction Lab. 18th Annual Symposium and Open House. Panelist on Mining Creativity.
2001. Human Computer Interaction Lab. 18th Annual Symposium and Open House. Tutorial on Introduction to Kids, Technology and Education, with Glenda Revelle and Allison Farber.
2000. Participatory Design Conference 2000. Tutorial on Introduction to Participatory Design, assisted Sarah Kuhn, Michael Müller, and Allison Druin.
2000. Participatory Design Conference 2000. Workshop on Participatory Design with Children: Techniques, Challenges, and Successes, with Allison Druin and Donaë Stanton.
2000. IEEE International Conference on Robotics and Automation (ICRA 2000). Workshop on Personal Robotics for Education.

Professional Services

Panelist, National Science Foundation (NSF) Panel.

Poster Chair, International Conference for Interaction Design & Children (IDC).

Reviewer, Transaction on Computer and Human Interaction (TOCHI).

Reviewer, Conference on Human Factors in Computing Systems (CHI).

Reviewer, Conference on Designing for User eXperience (DUX).

Reviewer, International Conference for Interaction Design & Children (IDC).

Reviewer, Conference on User Interface Software and Technology (UIST).

Student volunteer, 2002 IEEE Symposia on Human Centric Computing Languages and Environments (HCC'02), Arlington, VA.

Industry Experience

1989 - 1997 Independent computer consultant

Designed and implemented many projects, including financial derivatives trading, job applicants tracking, human resource management, and advertisement publishing system.

Nomura Capital Services, Inc. (1989-1997)

Developed many projects, including: a legal documents generator, several derivatives trading user interface, a tickler system, and a bug tracking application.

OPtions Computer Consulting (1989-1997)

With Anthony Oppenheim, co-author of 4D|Toolkit, a powerful database applications development toolkit.

The Carson Group (1992-1997)

Technical consultant and developer of two major projects. The first was an application that served as the medium for The Carson Group's clients to view proprietary investor information. This information came from a parent database (the second project) that stored, massaged raw data, and output client specific data files.

Horizon Advisors (1992-1994)

Developed a system that maintained trading details on futures, options, and other derivative financial products.

Schulte, Roth & Zabel (1990-1991)

Developed an applicant tracking system for users to track the status of applications to the law firm, schedule interviews, and generate form letters.

Citibank Private Capitals, Select Client, and Investment Divisions (1989-1994)

Developed several multi-user programs to receive periodic updates from a central database, track historical information, and generate compensations reports.

Industry Experience, continued

The Citibank Private Bank (1989-1994)

Developed a user interface for users to define and generate highly customizable sales performance and compensations reports.

NYNEX (1990-1991)

Developed a client-server based, fully graphical executive information system and a project tracking system.

Guinan Publishing Corporation (1991-1997)

Developed various systems that tracked advertisements and billing information, printed checks from the payables system, and generated invoices and statements.

1988 - 1989 Technical support engineer, ACIUS, Inc.

ACIUS publishes a relational database management system. My responsibilities included telephone support, pre-release product testing, and write monthly technical notes for the developer community.

Media

January 2003, Voice of America. Produced by Larry Clamage.

December 2000, Discover Magazine, vol. 21, no 12. Future Tech: Practical Magic. Do Children know a better computer when they see it? By Paul Wallich.

November 2000, National Public Radio (NPR). Morning Edition.

June 2000, Pittsburgh Post-Gazette. Children help scientists, engineers design the toys of tomorrow. By Karen MacPherson.

December 1999, Moviefone.com on-line interview about Bicentennial Man and the capabilities of current robotics. By Rita Pietropinto.

January 1999, Maryland Public Television (MPT). Maryland State of Mind, Softer Software.

December 1998, The Baltimore Sun. Whiz.kids, Children first: In designing toys, one lab turns to the experts in the field. By Michael Stroh.

Community Services

Judge at the 2004 Statewide Maryland MESA (Mathematics Engineering Science Achievement) Day competitions.

Co-coach of Cheverly's Boys and Girls Club T-Ball, 2002.

Assistant coach at College Park Judo Club, 2002-2005.

Academic mentor to a 6th grade student at Friends Community School, Spring 1998.

Community Services, continued

Discussion Leader of BMUG's (Berkeley Macintosh Users' Group) Beginner-beginner group, 1987.

Personal Information

Citizenship: United States of America