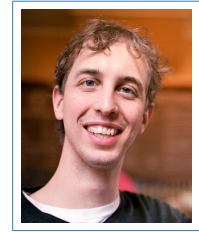


# Erik Karulf

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## Employment

- 2010–2011 **Director of Technology**, *Penny Arcade, Inc.*, Seattle, WA.
- 2007–2010 **Principal Engineer**, *Penny Arcade, Inc.*, Seattle, WA.
- 2003–2007 **Software Engineer**, *Penny Arcade, Inc.*, Seattle, WA.  
Designed, developed and maintained the digital infrastructure supporting the company. Managed technical teams of staff, contractors, vendors and volunteers. Key projects are listed below:
- Content Management System powering twelve sites—including:
    - Penny Arcade Webcomic (17.5 million readers annually)
    - Penny Arcade TV (0.5 million viewers annually)
    - Child's Play Charity (\$2.2 million raised annually)
    - Penny Arcade Expo (65 thousand attendees biannually)
    - Four product life-cycle releases over eight years
  - Ecommerce Frontend & Warehouse Management
    - Built internally and deployed within three months
    - Windows Mobile, Desktop, and HTML5 clients
    - Level 3 PCI compliant environment
  - Community discussion forum serving 50k daily visitors using PHP, MySQL and Sphinx
- 2008–2010 **Robotics Lab Manager**, *Washington University*, St. Louis, MO.  
Managed a team of graduate and undergraduate researchers working in the robotics laboratory. Maintained five Linux powered robots for instructional and research use. Created open-source project, <http://wu-ros-pkg.sf.net>, for ROS applications and libraries.
- 2008–2009 **Teaching Assistant**, *Washington University*, St. Louis, MO.  
Assisted with curriculum development, lecture topics, instruction and course grading in the Media and Machines Lab. Course listing: Video Game Programming (I/II), Mobile Robotics, Advanced Mobile Robotics and Robot Middleware Seminar.
- 2007 **Software Engineering Intern**, *NuParadigm Government Systems, Inc.*, St. Louis, MO.  
Obtained security clearance for on-site development and training with Department of Defense customers. Created custom security integrations in Java and C# environments.
- 2005–2007 **Network Engineer**, *ArcScale, LLC.*, San Jose, CA.  
Provided Facebook on-site support for picture storage area network. Deployed Apache, memcached and PostgreSQL servers in FreeBSD and Linux environments.

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## Education

- May 2011 **M.S. Computer Science and Engineering**, *Washington University*, St. Louis, MO.  
Combined Bachelor's/Master's program with Honors Master's Thesis, GPA 3.9/4.0
- December 2009 **B.S. Computer Science**, *Washington University*, St. Louis, MO, .  
Cum Laude with Honors Undergraduate Research, GPA 3.7/4.0

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## Master's Thesis

title	<i>Mixed-Mode Control Interfaces for Multiple Robot Teams</i>
supervisors	William Smart PhD, Caitlin Kelleher PhD and Chris Gill PhD
description	Applied various techniques and ideas, from the video game industry, to the design of a task-level interface for teams of mobile robots. The control interface allowed for "sliding autonomy," which enabled the assignment of differing levels of independence to the robots dynamically, contingent upon situational circumstances.

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## Publications

E. Karulf. Mixed-mode control interfaces for mobile robot teams. Master's thesis, Washington University, St. Louis, MO, USA, 2011.

E. Karulf, M. Strother, P. Dunton, and W. Smart. Ride: mixed-mode control for mobile robot teams. In *Proceedings of the 6th International Conference on Human-Robot Interaction*, HRI '11, pages 161–162, New York, NY, USA, 2011. ACM.

M. Swartwout. Scarab/bandit-d multi-vehicle proximity operations using a university nanosatellite. 2009.

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## Honors & Awards

dean's list	Fall 2007, Spring 2008, Spring 2009
department	WUSTL Outstanding Senior Award 2009: Computer Science and Engineering
scholarships	Eden Prairie Boosters Association 2004 Walt Disney Dreamers and Doers Award 2003

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## Technical Expertise

languages	C, C#, C++, Java, JavaScript, Python
web frontend	CSS, HTML, HTML5, JavaScript
web backend	Apache, Django <sup>1</sup> , Nginx, Varnish
data storage	BigTable, MySQL, memcached, PostgreSQL, Redis, Sphinx, SQLite, SQLServer
cloud services	Amazon AWS, Google App Engine, Microsoft Azure
operating systems	Android, CentOS, iOS, FreeBSD, Mac OS X, Ubuntu, Windows, Windows Server
graphics engines	DirectShow, Ogre3D <sup>1</sup> , Panda3D, Qt, Torque
robotics	CMU-IPC, Player, ROS <sup>1</sup>
alternative input	Microsoft Surface, Nintendo Wiimote, Stereo-vision cameras
source control	Git, Mercurial, Perforce, Subversion

<sup>1</sup> - Open-Source contributor noted in AUTHORS file

## References available upon request

Updated July 7, 2011