

Curriculum Vitae

Martin Pinzger

November 15, 2009

Personal Data

Name	Martin Pinzger
Date of birth	September 8, 1974
Citizenship	AUSTRIA
Work	Delft University of Technology, Department of Software Technology Mekelweg 4, 2628 CD Delft, The Netherlands
Tel. work	+31-15-2785546
Fax	+31-15-2786632
Email	m.pinzger@tudelft.nl
WWW	http://swerl.tudelft.nl/bin/view/MartinPinzger/WebHome

Education

06/2005	Dr. techn. (Ph.D.) in Computer Science, <i>Vienna University of Technology</i> . Thesis: ArchView – Analyzing Evolutionary Aspects of Complex Software Systems. Advisors: Prof. Dr. Harald C. Gall, Prof. Dr. Mehdi Jazayeri.
06/2001	Diplomingenieur (M.Sc.) in Computer Science, <i>EADS Dornier GmbH & Vienna University of Technology</i> . Thesis: Reengineering von Flugplanungssoftware. Advisor: Prof. Dr. Harald C. Gall.
09/1995	Dipl.-Ing. (HTL), Kolleg for <i>EDV und Organisation at HBLV für Textilindustrie</i> , Vienna, Austria.

Employment History

12/2008 – present	Assistant Professor (Tenure-Track), Software Engineering Research Group, <i>Delft University of Technology</i> .
12/2007 – 11/2008	Senior Research Associate, Software Engineering Group, <i>University of Zurich</i> .
09/2007 – 11/2007	Visiting Researcher at Software Reliability Research Group, <i>Microsoft Research</i> , Redmond, USA.
07/2005 – 08/2007	Senior Research Associate, Software Engineering Group, <i>University of Zurich</i> .
07/2004 – 06/2005	Research Assistant, Software Engineering Group, <i>University of Zurich</i> .
09/2001 – 06/2004	Research Assistant, Distributed Systems Group, <i>Vienna University of Technology</i> .
07/1995 – 08/2001	Part-time software engineer, <i>EDV-Studio Valentini</i> , Landeck. Development of business applications with Gupta Team Developer.
01/1996 – 08/1996	Mandatory military service in the Austrian army.

Research

Areas of Interest

- *Software Evolution and Quality Analysis*. My activities in this research area concern methodologies and techniques to mine and visualize the data in software repositories for detecting shortcomings in the implementation, design, and evolution of large complex software systems.
- *Global Distributed Software Engineering* My interests in this area are in investigating the collaboration and communication structure of engineers in (globally distributed) software projects and analyzing its effects on software quality and reliability.

Visits

- *Microsoft Research*, Redmond, USA. Analyzing developer contribution networks of Microsoft Windows Vista. September-November, 2007.
- *Nokia Research Center*, Helsinki, Finland. Analyzing two large Cellular Phone Software Systems. August/September, 2002.

Tools

The ideas and results of my research activities were implemented in a number of prototype tools:

- *ArchView* is a stand-alone tool that provides user configurable views for trend analysis and hot-spot detection [4, 3]. It follows the principle of measurement mapping representing source code entities such as packages or classes with Kiviat diagrams. For each entity it visualizes multiple metrics from several releases and thereby shows the trend of an entity. From the trend the user can see a number of visual patterns that allow him to detect the hot-spots and unstable entities. The tool is used in the software evolution analysis domain but not limited to that.
- *DA4Java* (Dependency Analyzer for Java) is a graph-based visualization approach for understanding Java source code that we integrated into the Eclipse IDE [5]. It supports the creation of condensed, aesthetic graphs by visualizing only the information relevant to solve a program comprehension task. For this it uses nested graphs and a set of features that allow the user to incrementally compose, filter, and analyze source code dependency graphs. *DA4Java* enables the understanding of the big picture by hiding details as well as the understanding of details by hiding the irrelevant parts of the system.
- *Evolizer* is a platform to analyze source code and software project data [2]. It is implemented as a set of Eclipse plugins that provide models and importers for Java source code (FAMIX), fine-grained source code changes, CVS, and Bugzilla data. All models are defined with Java classes and Hibernate is used for the persistency of model data. Using the *Evolizer* extension and integration facilities the platform can be easily extended by new models, importers, and analysis tools. The platform is a joint work with members of the s.e.a.l. group.
- *SNACockpit* is an Eclipse plug-in developed on top of *Evolizer* to analyze the structure of developer contributions. It is based on the ideas presented in [6] in which we investigated the relationship between the structure of developer contributions and the number of post-release failures in Microsoft Windows Vista binaries. Data about developer contributions is

extracted from CVS repositories and visualized with graphs. Using an incremental layout algorithm the user can navigate contributions through time and spot contribution patterns such as 'One Developer', 'Few Balanced Developers', 'One Major Developer', or 'Many Balanced Developers' (see also [1]).

Projects

- *Software Evolution, Refactoring, Improvement of Operational & Usable Systems (SERIOUS)*
EUREKA/ITEA project if04032, September 2005 – September 2008.
Role: Project manager, Software Engineering Group, University of Zurich. *Cooperation with:* Nokia Research Center (Finland), Philips (The Netherlands), University of Antwerp (Belgium).
- *Controlling Software Evolution (COSE)*
Swiss National Science Foundation (SNF) project, July 2005 – June 2007.
Role: Principal investigator, Software Engineering Group, University of Zurich.
Cooperation with: University of Lugano.
- *FACT-based Maturity through Institutionalisation Lessons-learned and Involved Exploration of System-family engineering (FAMILIES)*
EUREKA/ITEA project ip02009, July 2003 – June 2005.
Role: Principal investigator, Distributed Systems Group, Vienna University of Technology & Software Engineering Group, University of Zurich.
Cooperation with: Nokia Research Center (Finland), Philips (The Netherlands), Fraunhofer IESE (Germany).
- *From Concepts to Application in System Family Engineering (CAFÉ)*
EUREKA/ITEA project ip00004, July 2001 – June 2003.
Role: Principal investigator, Distributed Systems Group, Vienna University of Technology.
Cooperation with: Nokia Research Center (Finland), Philips (The Netherlands), Fraunhofer (Germany).

Professional Activities

Chairs

- WCRE'10 Program Co-Chair - Working Conference on Reverse Engineering. Boston, USA, October 2010
- ICSM'10 Publicity Chair - International Conference on Software Maintenance. Timișoara, Romania, September 2010
- WCRE'09 Tool Demonstration Chair - Working Conference on Reverse Engineering. Lille, France, October 2009
- CSMR'09 Doctoral Symposium Chair - European Conference on Software Maintenance and Reengineering. Kaiserslautern, Germany, March 2009
- WCRE'08 Workshop Chair - Working Conference on Reverse Engineering. Antwerp, Belgium, October 2008

- ECOWS'06 Poster Session Chair - European Conference on Web Services. Zurich, Switzerland, December 2006
- MSR'06 Challenge Chair - Special track within the International Workshop on Mining Software Repositories (MSR'06). Shanghai, China, May 2006

Program Committee Memberships

- ESEM10 International Symposium on Empirical Software Engineering and Measurement
- ICSM10 International Conference on Software Maintenance
- ICPC10 International Conference on Program Comprehension
- MSR10 Working Conference on Mining Software Repositories
- CSMR10 European Conference on Software Maintenance and Reengineering
- IWSE09 International Workshop on Software Ecosystems
- DEFECTS'09 - International Workshop on Defects in Large Software Systems
- ICSM'09 - International Conference on Software Maintenance
- ICPC'09 - International Conference on Program Comprehension
- CSMR'09 - European Conference on Software Maintenance and Reengineering
- ICSOFT'09 - International Conference on Software and Data Technologies
- MSR'09 - Working Conference on Mining Software Repositories
- FAMOOSr'08 - Workshop on FAMIX and Moose in Reengineering
- ICSM'08 - International Conference on Software Maintenance
- WASDeTT'08 - International Workshop on Advanced Software Development Tools and Techniques
- DEFECTS'08 - International Workshop on Defects in Large Software Systems
- APSEC'08 - Asia-Pacific Software Engineering Conference
- ICSOFT'08 - International Conference on Software and Data Technologies
- MSR'08 - Working Conference on Mining Software Repositories
- CSMR'08 - European Conference on Software Maintenance and Reengineering
- FAMOOSR'07 - Workshop on FAMIX and Moose in Reengineering
- IWPSE'07 - International Workshop on Principles of Software Evolution
- APSEC'07 - Asia-Pacific Software Engineering Conference
- MSR'07 - International Workshop on Mining Software Repositories
- ICSOFT'07 - International Conference on Software and Data Technologies
- CSMR'07 - European Conference on Software Maintenance and Reengineering

Reviewer of

Journals

- Transactions on Software Engineering and Methodology, ACM: 2009
- Transactions on Software Engineering, IEEE: 2005, 2006, 2007, 2008
- Transactions on Dependable and Secure Computing, IEEE: 2009
- IEEE Software, IEEE: 2008
- Empirical Software Engineering, Springer: 2007, 2008, 2009
- Journal of Software Maintenance and Evolution: Research and Practice, John Wiley & Sons: 2006, 2008, 2009
- Journal of Database Management, Special issue on Open Source Software, Idea Group: 2006, 2007
- Journal of Information Sciences, Elsevier: 2005, 2006
- Journal of Systems and Software, Elsevier: 2007
- Science of Computer Programming, Elsevier: 2009

International Conferences and Workshops

- International Conference on Software Engineering (ICSE), IEEE/ACM: 2006, 2007, 2008.
- European Software Engineering Conference & ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC-FSE), IEEE/ACM: 2005.
- International Conference on Automated Software Engineering (ASE), IEEE/ACM: 2004, 2006, 2007.
- International Conference on Software Maintenance (ICSM), IEEE: 2005, 2006, 2008.
- Working Conference on Reverse Engineering (WCRE), IEEE: 2005, 2006.
- European Conference on Software Maintenance and Reengineering (CSMR), IEEE: 2005, 2006, 2007, 2008.
- Fundamental Approaches to Software Engineering (FASE), Springer: 2006, 2007.
- European Conference on Web Services (ECOWS), IEEE: 2006.
- International Conference on Software and Data Technologies (ICSOFT), Springer: 2007, 2008.
- Asia-Pacific Software Engineering Conference (APSEC), IEEE: 2007, 2008.
- International Workshop on Mining Software Repositories (MSR), ACM: 2006, 2007, 2008.
- International Workshop on Program Comprehension (IWPC/ICPC), IEEE: 2005, 2007.
- International Workshop On Principles of Software Evolution (IWPSE), ACM: 2007.

- Workshop on FAMIX and Moose in Reengineering (FAMOOSr), 2007, 2008.
- International Workshop on Defects in Large Software System (DEFECTS), 2008.
- International Workshop on Advanced Software Development Tools and Techniques (WAS-DeTT), 2008.

Memberships in Computer Science Communities

- ACM Association for Computing Machinery
- IEEE Computer Society

Personal References

- Prof. Dr. Arie van Deursen, Software Engineering Research Group, Delft University of Technology.
- Prof. Dr. Harald C. Gall, Software Engineering Group, University of Zurich.
- Prof. Dr. Schahram Dustdar, Distributed Systems Group, Technical University of Vienna.
- Prof. Mehdi Jazayeri, Ph.D., Faculty of Informatics, University of Lugano.
- Prof. Dr. Andreas Zeller, Software Engineering Chair, Department of Informatics, Saarland University.
- Prof. Premkumar T. Devanbu, Ph.D., Department of Computer Science, University of California, Davis.

References

- [1] M. D'Ambros, H. C. Gall, M. Lanza, and M. Pinzger. *Software Evolution*, chapter Analysing Software Repositories to Understand Software Evolution, pages 37–67. Springer Berlin Heidelberg, 2008.
- [2] H. C. Gall, B. Fluri, and M. Pinzger. Change analysis with evolizer and changedistiller. *IEEE Software*, 26(1):26–33, 2009.
- [3] M. Pinzger. *ArchView - Analyzing Evolutionary Aspects of Complex Software Systems*. PhD thesis, Vienna University of Technology, 2005.
- [4] M. Pinzger, H. Gall, M. Fischer, and M. Lanza. Visualizing multiple evolution metrics. In *Proceedings of the ACM Symposium on Software Visualization (SoftVis'2005)*, pages 67–75, St. Louis, Missouri, USA, 2005. ACM Press.
- [5] M. Pinzger, K. Gräfenhain, P. Knab, and H. C. Gall. A tool for visual understanding of source code dependencies. In *Proceedings of the International Conference on Program Comprehension (ICPC'08)*, page to appear, Amsterdam, The Netherlands, 2008. IEEE Computer Society Press.
- [6] M. Pinzger, N. Nagappan, and B. Murphy. Can developer social networks predict failures? In *Proceedings of the International Symposium on Foundations of Software Engineering (FSE'08)*, page to appear, Atlanta, USA, 2008. ACM Press.