15th CONFERENCE ON PATTERN LANGUAGES OF PROGRAMS

October 18th - 20th, 2008, Nashville, TN, USA

Proceedings

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Welcome to PLoP 2008

Welcome to PLoP '08, the 15th Conference on Pattern Languages of Programs, a premier event for pattern authors and pattern enthusiasts to gather, discuss and learn more about patterns, pattern writing, pattern reviewing, shepherding, software development, collaboration, and more, much more.

To accomplish this, the conference program offers a rich set of activities that altogether promote a friendly and effective environment to share expertise, and to give and get feedback from fellow authors.

The pre-conference activities started Friday morning at the BootCamp, a special session aimed at people new to patterns and/or PLoP, led by Linda Rising and Robert Hanmer.

Writers' Workshops are the primary focus of our time at PLoP and it will be during them that we will discuss and review each other's papers in a very fruitful way. We have four groups of six papers each, which were selected from an initial set of around 40 submissions, and after a considerable period of shepherding. Papers of the Writing Group will have in addition the opportunity of being evolved during PLoP with the mentoring of very experienced pattern writers. We are excited to have two Invited Talks which will be time to get inspired and energized by the words and thoughts of Joshua Kerievsky, and Rebecca Wirfs-Brock on hot topics related with design and learning. But there is more. Other activities, such as the 'Birds of a Feather' (BoF), or the Monday's Workshops/Focus Groups let you informally organize your own session about topics you are interested in, or to attend already organized working sessions. Just announce them or subscribe to them!

After the conference, the papers are strongly encouraged to be further evolved in order to accommodate the suggestions for improvement gathered during the discussions at the conference. A final version of evolved papers will be published in the ACM Digital Library as PLoP 2008 Proceedings.

And last but not least, we have the Games, a well-established and very important activity at PLoP. Guided by Robert Hanmer, the games will help us all on ice-breaking, to exercise our body and mind, to collaborate better, and to reinforce a community of trust. Some of the games have become 'traditions', while others will be a surprise.

This year PLoP is not in the beautiful scenery of Allerton Park, the original PLoP location, where most conference editions took place. The notable exception is PLoP06, which was collocated with OOPSLA'06, in Portland, Oregon. This one is again co-located with OOPSLA, in this wonderful city of Nashville, Tennessee, the city of music.

We would like to thank all authors, shepherds, reviewers, and Program Committee members for their time and collaboration with PLoP. Thank you!

Ademar Aguiar and Joe Yoder, PLoP Chairs

PLoP® 2008 Conference Proceedings

Pattern Languages of Programs (PLoP®) conference is a premier event for pattern authors and pattern enthusiasts to gather, discuss and learn more about patterns and software development.

PLoP 2008 Conference Description

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Pattern Languages of Programs (PLoP) conference is a place for pattern authors to have their pattern languages reviewed by fellow authors. The purpose of PloP is to promote development of pattern languages on all aspects of software, including design and programming, software architecture, user interface design, domain modeling, and software process. Domain-specific patterns were encouraged for PLoP 2008.

PLoP 2008 was held in Nashville, TN, October 18-20 in conjunction with OOPSLA 2008.

We invited contributions from practitioners and researchers on:

- Patterns and pattern languages
- Critiques of patterns and pattern languages
- Research on patterns and pattern languages
- Case studies of the use of patterns and pattern languages

PLoP is different from other conferences. It is run in the "writers' workshop" style, as described in [Richard Gabriel's book](#). Before the conference, authors interact with a "shepherd" who helps them improve their paper to make it as ready for PLoP as possible. A program committee reviews the papers for final acceptance after they have gone through the shepherding process. The writers workshops provide more feedback, and so authors revise their paper again after PLoP. The papers here are the version produced by authors after PLoP, not the ones reviewed at PLoP.

Invited Talks

At the PLoP '08 conference a number of invited speakers spoke on topics pertinent to pattern writing and developing trends in the software community. Following are list of the invited talks, including speaker information and a short synopsis of the talk:

"Learning & Teaching Design Patterns"

Joshua Kerievsky, Saturday, 19, 16:30-17:30 (Room Belmont)

Joshua Kerievsky has been programming professionally since 1987. He founded Industrial Logic, a company specializing in patterns, Extreme Programming (XP), and other techniques for more successful software development. He began his career as a professional programmer on Wall Street, where he developed numerous financial systems for credit, market and global risk departments. Kerievsky is an active member of the patterns and XP communities, and the author of many articles, simulations, and games.

Joshua recently published a book called RefactoringToPatterns.

"Explaining and Exploring Design Patterns"

Rebecca Wirfs-Brock, Sunday, 20, 09:00-10:00 (Room Belmont)

In 1989 Kent Beck and Ward Cunningham introduced CRC (Class- Responsibility-Collaborator) cards to the OOPSLA crowd as a tool for teaching object-oriented thinking. In that classic paper, they also hinted at the power of using CRC cards as a technique for gently, gradually introducing complex designs. This talk re-introduces several informal techniques that can be helpful in deciphering patterns as well illustrating new patterns. And just for balance, we'll briefly look at how UML (Unified Modeling Language) can be simply used to express design subtlies. There's a time and place for both informal and more formal views.

Rebecca Wirfs-Brock is an internationally recognized leader in the development of object design methodologies and is a consultant to enterprises of complex object architectures and designs. She invented the set of development practices known as Responsibility-Driven Design. Among her widely used innovations are use case conversations and object role stereotypes. Via her courses and conference tutorials she has taught object design concepts to thousands of programmers.

She is the regular design columnist for IEEE Software and the author of the classic text, Designing Object-Oriented Software. Her most recent book, Object Design: Roles, Responsibilities and Collaborations, was published in 2002. She also blogs regularly.

Other Workshops

SPaQu'08

The 2nd Workshop on Software Patterns and Quality (SPAQu'08) was held as a workshop at the 15th Conference on Pattern Languages of Programs (PLoP '08), to discuss the theoretical, social, technological and practical issues related to quality aspects of software patterns, including security aspects. The papers listed were presented at the SPaQu'08 workshop.

The proceedings include a **"Report on the 2nd Workshop on Software Patterns and Quality (SPaQu'08)"** written by Hironori Washizaki, Nobukazu Yoshioka, and Eduardo B. Fernandez.

The following are the accepted peer-reviewed papers that were accepted and presented at SPAQu. The report and three reviewed papers are included in the PLoP Proceedings.

> **"DEQUALITE: Building Design-based Software Quality Models"**
> Foutse Khomh and Yann-Ga¨el Gu´eh´eneuc
>
> **"Quality of Test Specification by Application of Patterns"**
> by Justyna Zander-Nowicka and Pieter J. Mosterman
>
> **"Abstract security patterns"**
> by Eduardo B. Fernandez, Hironori Washizaki and Nobukazu Yoshioka

UI Patterns Workshop

UI Patterns workshop focused on how to recognize interface patterns, how to write them, how to organize a library of them, how to complement them with code and stencils, and how to design, prototype and build with them.

The workshop was conducted by Erin Malone, founder of the Yahoo! Design Pattern Library, Christian Crumlish, curator of the Yahoo! Design Pattern Library, and Lucas Pettinati, User Experience Lead for the Yahoo! User Interface Library.

Writer's Workshops

'Design & Architecture' Group
led by Ralph Johnson

"Patterns for Data and Metadata Evolution in Adaptive Object-Models"
Hugo Sereno Ferreira, Filipe Figueiredo Correia, Leon Welicki

"Freeway Patterns for SOA systems"
Vinod Sarma, Srinivas Rao

"Enterprise Architecture Management Patterns"
Alexander M. Ernst

"Patterns for Understanding Frameworks"
Nuno Flores, Ademar Aguiar

"The Dynamic Factory Pattern"
Leon Welicki, Joseph W. Yoder, Rebecca Wirfs-Brock

"A Pattern Language for Developing Analog to Digital Converter Data Sampling Firmware"
Sachin Bammi, Peter Swinburne and Adefeyike Odutayo

'Software & People' Group
led by Linda Rising and Joshua Kerievsky

"Learning and studying Interaction Design through Design Patterns"
Miguel Carvalhais

"Continuous Feedback Pedagogical Patterns"
by Kathleen A. Larson, Frances P. Trees, D. Scott Weaver

"Thoughts on Weak Links and Alexandrian Life in Scrum"
Pam Rostal

"Additional Patterns for Fearless Change"
by Mary Lynn Manns, Linda Rising

" The Relation between Design Patterns and Schema Theory"
Christian Kohls, Katharina Scheiter

"Fundamental Banking Patterns"
Lubor Sesera

'Processes and Services' Group
led by Lise Hvatum and Bobby Woolf

"Runtime Mix'n Match Design Pattern"
Paul G. Austrem

"Deferred Cancellation. A Behavioral Pattern"
Philipp Bachmann

"Handling Transactional Business Services"
Geert Monsieur, Lotte De Rore, Monique Snoeck, Wilfried Lemahieu

"A Pattern for Monitoring Scenarios to Handle State Based Crosscutting Concerns"
Mark Mahoney, Tzilla Elrad

"Coordinator-Worker-Context Process Pattern"
John Liebenau

'Security & Quality' Group
led by Bob Hanmer and Brian Foote

"The Secure Blackboard Pattern"
Jorge L. Ortega-Arjona, Eduardo B. Fernandez

" A Catalogue of Bug Patterns for Exception Handling in Aspect-Oriented Programs "
Roberta Coelho, Awais Rashid, Uira Kulesza, Arndt von Staa, Carlos Lucena, James Noble

"Patterns for the Secure and Reliable Execution of Processess"
Eduardo B. Fernandez, David laRed Martinez

"Web Security Patterns for Analysis and Design"
Takao Okubo, Hidehiko Tanaka

"Patterns for ADT Optimisation"
David J. Pearce, James Noble

Committees

The PLoP Conference would not be a success without the volunteer help of the shepherds and program committee members. The shepherds devote hours of their time to helping authors improve their papers pre-conference. The program committee members help organize the conference, handle requests, and communicate with attendees.

We would like to thank all those who helped make PLoP 2008 a complete success.

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