



**PLoP® 2011 Conference Proceedings**

**18th CONFERENCE ON PATTERN LANGUAGES OF PROGRAMS**

**October 21st – 23rd, 2011, Portland, OR, USA**

# Proceedings



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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® conferences are primarily promoted and sponsored by "The Hillside Group" ([www.hillside.net](http://www.hillside.net)). The Hillside Group through PLoP® and other activities promotes the use of patterns and pattern languages to record, analyze, and improve software and its development, and supports any new practices that help achieve these goals.

Preliminary versions of these papers were work-shopped at Pattern Languages of Programming (PLoP) '11 October 21<sup>st</sup> – 23<sup>rd</sup>, 2011, Portland, Oregon, USA. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission. Copyright is held by the authors.

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# Welcome to PLoP 2011

Welcome to beautiful Oregon and to PLoP 2011, the **18<sup>th</sup> 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!

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 start Thursday (October 20<sup>th</sup>) at the Boot Camp, a special session aimed at people new to patterns and/or PLoP, led by Robert Hanmer, Rebecca Wirfs-Brock and Joe Yoder. The main conference starts on Friday morning (October 21<sup>st</sup>).

The **Writers' Workshops** are the primary focus of our time at PLoP and it will be during these that we will discuss and review each other's papers in a very fruitful way. We have five groups of six to seven papers each, which were selected from an initial set of 41 submissions after a considerable period of shepherding. Papers of the Writing Group will have the opportunity of being evolved during PLoP with the mentoring of experienced pattern writers.

Very exciting this year is our invited talks which will surely expand our horizons. Richard P. Gabriel will share ideas from "A Life Spent on the Trampoline of Amnesia", and Willem Larsen will enlighten us on "Fluency Hunting: the Pursuit of Excellence".

There will be four afternoon focus groups on Saturday where participants are active in exploring ideas and learning from peer discussions. Our Sunday program is expanded into the afternoon to allow for a new event in 2011: 3 half-day PLoP workshops which will give the opportunity for more inspired discussions. There will also be 'Birds of a Feather' (BoF) sessions that let you informally organize discussions about topics you are interested in, as well as joint dinner opportunities.

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

After the conference, the authors are strongly encouraged to further evolve their papers in order to accommodate 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 2011 Proceedings.

We would like to thank all authors, shepherds, reviewers, and Program Committee members for their time and collaboration with PLoP 2011. Thank you!

All of these words just to say that we wish you an amazing and productive time during PLoP!

Lise B. Hvatum, PLoP 2011 Chair

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## PLoP 2011 Conference Description

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 the development of pattern languages, primarily about aspects of software: design and programming, testing, software architecture, user interface design, domain modeling, education, human relations, and software processes. Patterns and pattern languages for domains outside software are also welcome.

PLoP 2011 was held in Portland, Oregon from October 21-23, 2011.

### **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, Writers' Workshops and the Work of Making Things](#). 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.

# PLoP 2011 Invited Talks and Hot Topic Discussions

The PLoP '11 conference hosted presentations, focus groups and workshops concerning a number of hot topics in the patterns community. Following are a list of presentations and collaborative events from PLoP 2011:

- **"A Life Spent on the Trampoline of Amnesia"**  
by Richard P. Gabriel
- **"Fluency Hunting: The Pursuit of Excellence"**  
by Willem Larsen
- **"Focus Group: Educational Patterns"**  
by Christian Köppe and Christian Kohls
- **"Focus Group: The Role of Software Design in Agile Development"**  
by Eduardo Guerra
- **"Focus Group: Have all the Patterns been Mined?"**  
by Robert Hanmer
- **"Focus Group: Patterns for Internal Domain Specific Languages"**  
by Sebastian Günther
- **"Workshop: Language Hunting"**  
by Willem Larsen
- **"Workshop: Emergent Software Design in Practice"**  
by Eduardo Guerra
- **"Workshop: You Should Know this Pattern! aka Patterns Everyone Should Know!"**  
by Robert Hanmer

## PLoP 2011 Writer's Workshops

The primary focus of our time at PLoP is the Writer's Workshops where we discuss ways to improve the submitted papers. Below is the list of papers from PLoP 2011 that were revised and accepted for inclusion in the final proceedings. These paper titles reflect the final papers.

### **A. Mount St. Helens - Architecture, led by Ralph Johnson**

**"Development of Internal Domain-Specific Languages: Design Principles and Design Patterns"**

by Sebastian Günther

**"An Architectural Pattern Language of Cloud-based Applications"**

by Christoph Fehling, Frank Leymann, Ralph Retter, David Schumm, Walter Schupeck

**"Parallelizing Irregular Algorithms: A Pattern Language"**

by Pedro Monteiro, Miguel Monteiro, Keshav Pingali

**"HiLPR: Pretty Pictures for Pretty Complicated (Parallel) Patterns"**

by Donna Kaminskyj Long, Celina Gibbs, Nigel Horspool, Yvonne Coady

**"A Pattern System for Tracing Architectural Concerns"**

by Mehdi Mirakhorli, Jane Cleland-Huang

**B. Columbia - Design, led by Robert Hanmer**

**"Green Business Process Patterns"**

by Alexander Nowak, Frank Leymann, Daniel Schleicher, David Schumm, Sebastian Wagner

**"SACS - A Pattern Language for Safe Adaptive Control Software"**

by André A. Hauge, Ketil Stølen

**"Two patterns for distributed systems: Enterprise Service Bus (ESB) and Distributed Publish/Subscribe"**

by Eduardo B. Fernandez, Nobukazu Yoshioka

**"A Pattern Language for Release and Deployment Management"**

by Rick Rodin, Jon Leet, Maria Azua, Dwight Bygrave

**"Deployment Pattern"**

by Youngsu Son, Jiwon Kim, Donguk Kim, Jinho Jang

**C. Multnomah - Information, led by Eduardo Guerra**

**"Reusable Roles, a test with Patterns"**

by Fernando Barbosa, Ademar Aguiar

**"AOM Metadata Extension Points"**

by Patrícia Matsumoto, Filipe Figueiredo Correia, Joseph Yoder, Eduardo Guerra, Hugo Ferreira, Ademar Aguiar

**"The Annotated Test Step Pattern"**

by Marcus Floriano, Debora Chama, Eduardo Guerra, Fabio Silveira

**"Design patterns generic models"**

by Jyothish Maniyath

**"Patterns of Information Classification"**

by Filipe Figueiredo Correia

**D. Mt. Hood - People, led by Richard P. Gabriel**

**"Rural Outsourcing Pattern of Engagement"**

by Kamal W. Khan

**"The Art of Software Estimation Pattern Language"**

by Dmitry Nikelshpur

**"Extending Patterns for Fearless Change"**

by Daniel Cukier, Fabio Kon

**"A Pattern for Increased Monitoring for Intellectual Property Theft by Departing Insiders"**

by Andrew Moore, Michael Hanley, David Mundie

**"A Pattern for Trust Trap Mitigation"**

by David A. Mundie, Andrew P. Moore

**"Towards Patterns to Enhance the Communication in Distributed Software Development Environments"**

by Ernst Oberortner, Irwin Kwan, Daniela Damian

**"Conflicting Value Systems in Agile Software Development Projects"**

by Joerg Pechau

**E. Willamette - Pedagogy, led by Christian Köppe**

**"A Pattern Language for Teaching Design Patterns (Part 2)"**

by Christian Köppe

**"Grounded Theory for Geeks"**

by Rashina Hoda, James Noble, Stuart Marshall

**"P2N: A Pedagogical Pattern for Teaching Computer Programming to Non-CS Majors"**

by Zhen Jiang, Eduardo B. Fernandez, Liang Cheng

**"From Behavioral Description to A Pattern-Based Model for Intelligent Tutoring Systems"**

by Javier Gonzalez-Sanchez, Maria-Elena Chavez-Echeagaray, Kurt VanLehn, Winslow Burleson

**"The structure of patterns – Part II – Qualities"**

by Christian Kohls

**"Pedagogical Patterns for Creative Learning"**

by Takashi Iba, Chikara Ichikawa, Mami Sakamoto, Tomohito Yamazaki

**"Learning Patterns III: A Pattern Language for Creative Learning"**

by Takashi Iba, Mami Sakamoto



## 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 2011 a complete success!

## Conference Organization Committees

<b>Conference Chair</b>	Lise Hvatum ( <a href="#">Schlumberger</a> , USA)
<b>Publicity &amp; BootCamp</b>	Rebecca Wirfs-Brock ( <a href="#">Wirfs-Brock Associates</a> , USA) Bob Hanmer ( <a href="#">Alcatel-Lucent</a> , USA) Joseph Yoder ( <a href="#">The Refactory Inc.</a> , USA)
<b>Publications</b>	Joseph Yoder Lise Hvatum (Schlumberger, USA)
<b>Director of Local Operations</b>	Joseph Yoder
<b>Registrations</b>	Jason Frye ( <a href="#">Hillside Group</a> , USA)
<b>Submission System</b>	Michael Weiss ( <a href="#">Carleton University</a> , CA)
<b>Web Design</b>	Jason Frye

## Shepherds

Ademar Aguiar	Hironori Washizaki	Michael Weiss
Christian Kohls	Hugo Ferreira	Michael Stahl
Dave Isaacs	Jason Yip	Neil Harrison
Dave West	Jenny Quillien	Pam Rostal
Ed Fernandez	Joe Yoder	Philipp Bachmann
Eduardo Guerra	Kiran Kumar	Ralf Laue
Ernst Oberortner	Linda Rising	Rebecca Wirfs-Brock
Geert Monsieur	Lise Hvatum	Robert Hanmer
Gerard Meszaros	Mary Curtin	Sam Supakkul
Hans Wegener		

## **Program Committee**

Ademar Aguiar (INESC Porto/University of Porto, Portugal)

Joseph Yoder (The Refactory Inc., USA)

Linda Rising (Independent Consultant, USA)

Rebecca Wirfs-Brock (Wirfs-Brock Associates, USA)

Bob Hanmer (Alcatel-Lucent, USA)

Uwe Zdun (Vienna Technical University, Austria)

Eduardo Fernandez (Florida Atlantic University, USA)

Rosana Teresinha Vaccare Braga (ICMC, University of São Paulo, Brazil)

Hugo Sereno Ferreira (INESC Porto/University of Porto, Portugal)

Eduardo Guerra (Aeronautical Institute of Technology (ITA), São José dos Campos, SP, Brazil)

Klaus Marquardt (Dräger Medical, Germany)

Juha Pärssinen (VTT, Technical Research Centre of Finland, Finland)

Jenny Quillien

Christian Kohls (SmartTech, USA)

Pam Rostal, USA

Hironori Washizaki (Waseda University, Japan, Japan)

Christian Köppe (Institute for Information & Communication Technology, Hogeschool Utrecht)