



PLoP® 2012 Conference Proceedings

19th CONFERENCE ON PATTERN LANGUAGES OF PROGRAMS

October 19th – 21st, 2012, Tucson, A USA

Proceedings



PLoP® 2012 is in cooperation with ACM and SPLASH 2012



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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). 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.

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Welcome to PLoP 2012

Welcome to Tucson and to PLoP 2012, the **19th 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 18th) at the Boot Camp, a special session aimed at people new to patterns and/or PLoP, led by Rebecca Wirfs-Brock and Joe Yoder. The main conference starts on Friday morning (October 19th).

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 34 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. Takashi Iba will share ideas from "Pattern Language 3.0: Making Pattern Languages for Human Actions", Trygve Reenskaug will enlighten us on "On the Powerful Symbiosis of Man and Computer", and Andrew P. Moore and David A. Mundie will present "Outside-the-Box Thinking for Patterns in an Evolving Organizational Security Domain".

There will be two afternoon focus groups and two workshops on Saturday where participants are active in exploring ideas and learning from peer 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 2012 Proceedings.

We would like to thank all authors, shepherds, reviewers, and Program Committee members for their time and collaboration with PLoP 2012. Thank you!

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

Eduardo Guerra, PLoP 2012 Chair

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PLoP 2012 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 2012 was held in Tucson, Arizona from October 19-21, 2012.

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 2012 Invited Talks and Hot Topic Discussions

The PLoP '12 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 2012:

- **“Pattern Language 3.0: Making Pattern Languages for Human Actions”**
by Takashi Iba
- **“Outside-the-Box Thinking for Patterns in an Evolving Organizational Security Domain”**
by Andrew P. Moore and David A. Mundie
- **“On the Powerful Symbiosis of Man and Computer”**
by Trygve Reenskaug
- **“Focus Group: You Manage your Environment HOW?”**
by Ralph Thiim and Lise Hvatum
- **“Focus Group: Agile and Sustainable Architecture”**
by Eduardo Guerra, Rebecca Wirfs-Brock and Joseph Yoder
- **“Workshop: Dialogue Workshop using the Learning Patterns”**
by Takashi Iba, Eri Shimomukai, Sumire Nakamura, Taichi Isaku, Ayano Tamefusa
- **“Workshop: Patterns for Effective Shepherding”**
by Neil Harrison

PLoP 2012 Writer’s Workshops

Writers' workshops are used by the pattern community to improve our patterns. These workshops are the primary focus of our time at PLoP and in them we discuss accepted papers. Below is the list of papers that were work-shopped at PLoP 2012. Revised versions of the papers were submitted in March 2013 for inclusion in these proceedings.

A. Elk, led by Christian Köppe

"Patterns for Managing an Escalated Issue"

by Fritz Gabriel Jr., Jean chu, Wen Cao, Shahid Zaheer

"Learning Patterns for Group Assignments - Part 1"

by Christian Köppe

"Patterns for Creative Thinking"

by Christian Kohls

"A Pattern Language for Teaching in a Foreign Language - Part 2"

by Christian Köppe, Mariëlle Nijsten

"Target and Spacing Sizes for Smartphone User Interfaces for Older Adults: Design Patterns Based on An Evaluation With Users"

by Roxanne Leitão, Paula Silva

"Change Making Patterns - A Pattern Language for Fostering Social Entrepreneurship"

by Eri Shimomukai, Sumire Nakamura, Takashi Iba - Writing Group

"Generative Beauty Patterns - A Pattern Language for Living Lively and Beautiful"

by Rinko Arao, Ayano Tamefusa, Megumi Kadotani, Kaori Harasawa, Shingo Sakai, Keishi Saruwatari, Takashi Iba - *Writing Group*

B. Rattlesnake, led by Richard P. Gabriel

"A pattern for the WS-SecureConversation standard for web services"

by Ola Ajaj, Eduardo B. Fernandez

"Catalog of Security Tactics linked to Common Criteria Requirements"

by Christopher Preschern

"A Security Pattern for the Transport Layer Security (TLS) Protocol"

by Ajoy Kumar, Eduardo B. Fernandez

"Effectiveness of a Pattern for Detecting Intellectual Property Theft by Departing Insiders"

by Andrew Moore, David McIntire, David Mundie, David Zubrow

"Multidimensional Pattern Languages"

by David A. Mundie, Andrew P. Moore, David McIntire

"Cloud Service Model Patterns"

by Keiko Hashizume, Eduardo B. Fernandez, Maria M. Larrondo-Petrie

C. Coyote, led by Lise Hvatum

"Graceful Patterns for Patterns in Grace"

by Michael Homer, James Noble

"Data Synchronization Patterns in Mobile Application Design"

by Zach McCormick, Douglas C. Schmidt

"Web Design Pattern for Mobile Devices"

by Jorge Ribeiro

"Patterns for Evaluating Usability of Domain-Specific Languages"

by Ankica Barišić, Pedro Monteiro, Vasco Amaral, Miguel Goulão, Miguel Monteiro

"Documenting Patterns with Business Process Models"

by Pedro Monteiro

"Organizing and Building Software"

by Ralph Thiim, Lise Hvatum

D. Roadrunner, led by Rebecca Wirfs-Brock

"Patterns for distributed machine control system data sharing"

by Marko Leppänen, Veli-Pekka Eloranta

"Patterns for Sustaining Muddy Architectures"

by Rebecca Wirfs-Brock, Joseph Yoder

"Basic Test Driven Development Step Patterns"

by Eduardo Guerra

"Pattern Language - Coherent Generational Design"

by Juan Reza

"Designing the Architecture of Clotho 3.0 - An Interactive Pattern Story"

by Ernst Oberortner, Swapnil Bhatia, Douglas Densmore, J. Christopher Anderson

"Interoperability Marshaller/Unmarshaller"

by Youngsu Son, Jiwon Kim, Donguk Kim, Jungmin Son - **Writing Group**

E. Cougar, led by Bob Hanmer

"An Approach to Evolutionary Design Pattern Engineering"

by René Reiners, Ragnhild Halvorsrud, Aslak Wegner Eide, Daniela Pohl

"Pattern Mining Patterns"

by Robert Hanmer

"A Serious Game to HCI Design Patterns Discovery and Dissemination: The PatternCity Concept"

by Benjamin Pick, Ahmed Seffah, Halima Habieb-Mammar

"A Pattern Language for Pattern Illustrating"

by Kaori Harasawa, Rinko Arao, Takashi Iba

"Meta Patterns for Developing a Minimalist Training Manual"

by Rick Rodin

"Holistic Pattern-Mining Patterns"

by Takashi Iba, Taichi Isaku - **Writing Group**

"Towards a Pattern Language for Affective Systems"

by Javier Gonzalez-Sanchez, Maria Elena Chavez-Echeagaray, Robert Atkinson, Winslow Burleson - **Writing Group**

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 2012 a complete success!

Conference Organization Committees

Conference Chair	Eduardo Guerra (Aeronautical Institute of Technology (ITA), São José dos Campos, SP, Brazil)
Publicity & BootCamp	Rebecca Wirfs-Brock (Wirfs-Brock Associates , USA) Joseph Yoder (The Refactory Inc. , USA)
Publications	Pam Rostal (USA)
Director of Local Operations	Joseph Yoder (The Refactory Inc. , USA)
Registrations	Jason Frye (Hillside Group , USA)
Submission System	Michael Weiss (Carleton University , CA)
Web Design	Jason Frye (Hillside Group , USA)

Shepherds

Alejandra Garrido	Jaap Kabbedijk	Pedro Monteiro
Ademar Aguiar	Jason Yip	Philipp Bachmann
Christian Kohls	Jenny Quillien	Rebecca Wirfs-Brock
Christian Köppe	Joseph Yoder	Robert Hanmer
Dave Isaacs	Kanwardeep Singh	Rosana Braga
Eduardo Fernandez	Kiran Kumar	Stefan Sobernig
Eduardo Guerra	Lior Schachter	Uirá Kulesza
Ernst Oberortner	Lise Hvatum	Uwe van Heesch
Filipe Correia	Michael Weiss	Veli-Pekka Eloranta
Hugo Ferreira	Michael Stahl	

Program Committee

- Ademar Aguiar ([INESC Porto/University of Porto](#), Portugal)
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- Lise Hvatum (Schlumberger, USA)
- Jenny Quillien (USA)
- Christian Kohls ([SmartTech](#), USA)
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- Christian Köppe ([Institute for Information & Communication Technology](#), Hogeschool Utrecht)
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- Jerffeson Teixeira de Souza (State University of Ceará - UECE, Brazil)
- Takashi Iba (Keio University, Japan)