AsianPLoP 2020

AsianPLoP® 2020 Conference Proceedings

9th Asian CONFERENCE ON PATTERN LANGUAGES OF PROGRAMS

September 2-4, 2020

Proceedings

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Welcome to AsianPLoP 2020

Dear PLoPers of AsianPLoP 2020:

Welcome to the ninth edition of AsianPLoP. Although COVID-19 has prevented us from gathering in Taipei for the second time, we are pleased to announce that this edition continues the excellent tradition of AsianPLoP in sourcing patterns across a wide range of topics including software, education and learning, and social science. All papers accepted to the Writer's Workshop went through at least two iterations of shepherding, and received at least three votes from program committee members to put them in the Writer's Workshop. All keynotes, tutorials, and Writer's Workshops will meet online. While it will probably be a while for us to meet in one place and enjoy each other's presence again, we hope you'll enjoy this online edition of AsianPLoP.

All the best,

Conference co-chairs:

Kai H. Chang, Auburn University, USA

Hironori Washizaki, Waseda University, Japan

Chui-Yu Chiu, Taipei Tech, Taiwan

Program co-chairs:

Yung-Pin Cheng, National Central University, Taiwan

Takashi Iba, Keio University, Japan

Wen-Chun Ni, Galaxy Software Services, Taiwan

AsianPLoP® 2020 Conference Proceedings

Asian Conference on Pattern Languages of Programs (AsianPLoP) is a premier event for pattern authors and users to get together, discuss and learn more about patterns and pattern languages in the Asia region as well as other regions. The purpose of AsianPLoP is to promote development of patterns, pattern languages, technologies and experiences of patterns primarily about software as well as domains.

A preliminary version of this paper was presented in a writers' workshop at the 9th Asian Conference on Pattern Languages of Programs (AsianPLoP). AsianPLoP'20, March 4th - 6th, 2020, Taipei, Taiwan; (due to COVID-19 pandemic, the conference was held online September 2nd - 4th, 2020;) Copyright 2020 is held by the author(s).

AsianPLoP 2020 Conference Description

Asian Pattern Languages of Programs (AsianPLoP) conference is a venue for pattern authors to have their pattern languages reviewed by fellow authors. The purpose of AsianPLoP is to promote the development of pattern languages, primarily about aspects of software: design and programming, testing, software architecture, user interface design, domain modelling, education, human relations, and software processes. Patterns and pattern languages for domains outside software are also welcome.

AsianPLoP 2020 was held online from September 2-4, 2020.

Suggested topic areas of interest include, but are not limited to:We invited contributions from practitioners and researchers on the following:

- New patterns and pattern languages of:
    - machine learning patterns,
    - innovation patterns,
    - business patterns,
    - requirements patterns,
    - analysis patterns,
    - architecture patterns,
    - design patterns,
    - programming and refactoring patterns,
    - testing and maintenance patterns,
    - process and organizational management patterns,
    - pedagogical and education patterns,
    - communication patterns,
    - other non-software patterns
- Critiques, researches, and case studies of:
    - patterns and pattern languages,

o related areas, such as agile development and Wiki

AsianPLoP is different from other conferences. It is run as a "writers' workshop," 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 prepare it for AsianPLoP. After shepherding, the program committee reviews the papers for final acceptance. The writers' workshops provide more feedback, and authors revise their papers again after AsianPLoP. The papers here are these final, revised versions, not the ones reviewed at AsianPLoP.

AsianPLoP 2020 Writers' Workshops

Writers' workshops help the pattern community to improve their patterns and pattern languages. These workshops are the primary focus at AsianPLoP, and in them we discuss accepted papers. There are four self-organized writer's workshops featuring 13 papers in AsianPLoP 2020 and 2 of the papers were withdrawn and are not included in the post-conference proceedings. Below is the list of papers that were workshopped at AsianPLoP 2020 and are included in these proceedings.

Japanese (Japan), led by Hironori Washizaki and Nobukazu Yoshioka

" A Pattern Language for Consultation of Heritage Inheritance for Individuals and Their Family"
by Ayano Hosotani, Chieko Horinoue, Yasuo Hosotani

" Patterns of Developing Training and Involving People with Agile"
by Ayana Chandler, Kotaro Ogino, and Yasuo Hosotani

" XDDP Patterns—A Pattern Language for eXtreme Derivative Development Process—"
by Noriko Kawaguchi

English 1 (US/Canada Eastern-Central), led by Joseph Yoder and Kai Chang

"Misuse Patterns Derived from Threats that Take Control of Radio Frequency Remote Controllers of Container Terminal Cranes"
by Virginia M. Romero, Eduardo B. Fernandez

" Software Engineering Patterns for Machine Learning Applications (SEP4MLA)"
by Hironori Washizaki, Foutse Khomh, Yann-Gaël Guéhéneuc

"Secure Distributed Publish/Subscribe (P/S) pattern for IoT"
by Eduardo B. Fernandez, Nobukazu Yoshioka, Hironori Washizaki

English 2 (Japan), led by Y C Cheng and Erica Liu

" Omotenashi Design Patterns"
by Miwane Umewaka, Ryohei Suzuki, Takashi Iba

"Taste Language for taste centered cooking: 14 patterns for Japanese soup stock"
by Chiaki Sano, Rioja Kuroda, Yuki Kawabe, Takashi Iba

"Patterns for Motivating Customers in a Pattern Language for Affective-Science-based Marketing"
by Takashi Iba, Miho Masai, Yuuri Abe, Yuji Kosaka

English 3 (Taiwan), led by Yung-Pin Cheng

" Design Patterns for Blockchain-assisted Accountable Data Dissemination between IoT Devices and Edge Server"
by Chun-An Lin, Chun-Feng Liao, Kung Chen

" Introducing Agile Practices in Object-Oriented Programming: Applying How To Solve It Patterns"
by Yu Chin Cheng, Kai Chang

Two papers were accepted and received additional shepherding during the conference. However, these papers are withdrawn and are not included in the final proceedings.

" A Test Model for Design Pattern Application"
by Nien-Lin Hsueh

" Suggestion of Pattern Language for Work in Pluriverse"
by Keiji Endo

Committees

The AsianPLoP 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 before the 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 AsianPLoP 2020 a complete success!

Conference Organization Committees

Conference Chairs	Kai H. Chang, Hironori Washizaki, Chui-Yu Chiu
Program Chairs	Yung-Pin Cheng, Takashi Iba, Wen-Chun Ni
Publicity	Emiliano Tramontana, Forest Tan, Nobukazu Yoshioka, Shang-Pin Ma
Finance and local arrangement	Yu Chin Cheng
Publication	Chien-Hung Liu, Chun-Feng Liao
Workshop chair	Erica Liu
Keynote chair	Joseph Yoder

Program Committee

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Alan Liu, National Chung Cheng University, Taiwan
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Don-Lin Yang, Feng Chia University, Taiwan
Duran Hsieh, Microsoft Taiwan
Eduardo B. Fernandez, Florida Atlantic University, USA
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Forest Tan, Singapore Institute of Technology, Singapore
Horng-Yi Yu, Universal Design Studio, Taiwan
Jiun-Hau Ye, IBM, Taiwan
Jung-Sing Jwo, Tunghai University, Taiwan
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Teddy Lee, Sunbird, Inc., Taiwan
Tomoki Furukawazono, PUARL, University of Oregon, USA
Tu, Pin-Ying, inline Ltd., Taiwan
Woei-Kae Chen, Taipei Tech, Taiwan
Yasuo Hosotani

Shepherds

Kai H. Chang, Auburn University, USA
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Yasuo Hosotani
Nien-Lin Hsueh, Feng Chio University, Taiwan
Chu-Ti Lin, National Chiayi University, Taiwan
Alan Liu, National Chung Cheng University, Taiwan
Augustin Lu, Far EasTone Telecommunications, Taiwan
Shang-Pin Ma, National Taiwan Ocean University, Taiwan
Konomi Munakata, Keio University, Japan
Emiliano Tramontana, University of Catania, Italy
Pin-Ying Tu, inline Ltd., Taiwan