

EuroPLoP 2008

13th European Conference on Pattern Languages of Programs

EuroPLoP 2008 Focus Group Domain-specific Complex Event and Rule Patterns

http://www.biotec.tu-dresden.de/~adrianp/europlop08_cep/

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Irsee Monastery, Bavaria, Germany

<http://www.hillside.net/europlop/>

Organized by Adrian Paschke and Rainer von Ammon

Complex Event Processing CEP is an emerging enabling technology to achieve actionable, situational knowledge from distributed systems and data sources in real-time or almost real-time. Applications of CEP technologies arise in manifold domains such as Finance/Banking, Logistics, Automotive, Telco, Life science and the application scenarios range from, e.g., fraud detection, supply chain event monitoring, business activity monitoring and IT service management/governance to adaptive or self-autonomous reactive systems capable of handling e.g. pandemic situations. CEP is considered as the main prerequisites for many other emerging technologies such as predictive business enterprise networks (service supply chains), real-time adaptive enterprise or autonomic IT systems.

Reference models for CEP applications offer the potential for an additional increase (1) in efficiency, aimed at cheaper and faster delivery of CEP systems for specific domains, and (2) in reusability of successful CEP solutions in various domains. The models predefine a common frame of reference for a certain application domain, which can be customized to obtain models for specific applications in that domain.

Design patterns as more or less formalized descriptions of generic solutions to certain problem classes have become a wide-spread mean to transfer knowledge about successful designs. Hence, they qualify as an adequate representation format for the description of CEP patterns. A pattern language of domain-specific CEP patterns could establish a way to efficiently communicate about successful domain-specific CEP solutions and reuse them for devising concrete implementation solutions in potentially multiple domains. That is, the advantage of CEP patterns is their predefined, reusable, and dynamically customizable nature allowing the designer to reuse existing experience for building new CEP applications.

Structure of the Focus Group:

http://www.biotec.tu-dresden.de/~adrianp/europlop08_cep/CEP_Focus_Group_Patterns.pdf

- a. Discuss fundamental terminologies, definitions and relations and discourse the differences between the more behavioural oriented view on CEP addressing CEP models and CEP patterns and the more technical view on CEP addressing (complex) event patterns and processing of events in CEP media.
- b. Survey existing and newly submitted CEP and rule patterns as well as patterns from closely related domains such as BPM, BAM, ITSM, SOA, Coordination, Workflows, ...
- c. Discuss a suitable classification scheme for clustering CEP patterns into vertical domain-specific and generic horizontal across-the-domain patterns
- d. Categorize the patterns according to the classification scheme and discuss possible adaptation/extension of the general classification scheme
- e. Survey existing notational pattern languages and representation formats and discuss requirements and critical success factors for CEP pattern languages
- f. Brainstorming: Ideas on the (semi-) automated generation of new CEP applications by customization of reference models and their solution-oriented (design) pattern specifications to the context of a CEP application domain?
- g. Wrap-up: Summary of achieved results, ideas and next steps in the CEP pattern community

Should have any questions regarding the CEP Focus Group at EuroPLoP 2008 please send an eMail to:

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Participants

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Slides

http://www.biotec.tu-dresden.de/~adrianp/europlop08_cep/CEP_Focus_Group_Patterns.pdf

Literature Links

Paschke, A. and Rainer v. Ammon: CEP Patterns Focus Group, http://www.biotec.tu-dresden.de/~adrianp/EuroPLoP08_cep/CEP_Focus_Group_Patterns.pdf, EuroPLoP 2008 CEP Focus Group, Irsee, Germany, July 2008.

Paschke, A.: Design Patterns for Complex Event Processing, arXiv/0806.1100, 2008.

Paschke, A.: Design Patterns for Complex Event Processing, 2nd International Conference on Distributed Event-Based Systems (**DEBS'08**), Rome, Italy, 2008
<http://arxiv.org/ftp/arxiv/papers/0806/0806.1100.pdf>

Rainer v. Ammon, Christian Silberbauer, Christian Wolff, VIPSI 2007 Lake Bled, Slovenia, 8-11 October 2007

http://www.citt-online.com/downloads/ReferenceModelsEventPatterns_with_Appendix_v3.pdf