

3rd Workshop on PROCESS-ORIENTED CASE-BASED REASONING PO-CBR@ICCBR-2017

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1 Workshop overview

The third workshop on Process-oriented Case-based Reasoning (PO-CBR) is dedicated to address the challenges of integrating Case-Based Reasoning (CBR) with process-oriented research areas like Business Process Management, Workflow Management and Planning. Consequently, several types of processes are in the interest of this workshop, mainly business processes, software processes, planning processes, and search processes.

Business Process Management (BPM) is a set of activities aimed at defining, executing, monitoring and optimizing BP, with the objective of making the business of an enterprise as effective and efficient as possible, and of increasing its economic success. Such activities are highly automated, typically by means of the workflow technology. BPM activities, and BP optimization in particular, may ask the enterprise to be able to flexibly change and adapt the predefined process schema, in response to expected situations (e.g. new laws, reengineering efforts) as well as to unanticipated exceptions and problems in the operating environment (e.g. emergencies).

The agile workflow technology is the technical solution which has been invoked to deal with such adaptation and overriding needs. In order to provide an effective and quick workflow change support, many agile workflow systems share the idea of recalling and reusing concrete examples of changes adopted in the past. To this end, Case-based Reasoning (CBR) has been proposed as a natural methodological solution.

Software Processes can be studied from different points of view. In the Software Engineering field, artifacts like models, diagrams, etc. define Software Development Processes that can be reused to generate new applications. There is also a significant trend on reusing different software components to compose a workflow that models the behavior of a system. Web Services, Scientific Software or Product Lines are some

examples of such approaches. In this topic we cannot forget a closely related domain like Planning. All these areas are related to Software Processes and can take advantage of the CBR paradigm to reuse existing solutions, components, compositions or plans.

As a matter of fact, in recent years many examples of CBR-based process change reuse and workflow adaptation support have been proposed in the literature. The workshop should serve as a means for exchanging novel as well as more consolidated ideas and examples in the field, and to identify promising research lines and challenges for the future. Furthermore, the automatic monitoring and anomaly detection (real time or retrospective) in Business processes, including the automation of decision support on Business Process execution and design is becoming important. Finally, the reuse of knowledge across Business processes and workflows, cold start challenges and case base maintenance are other challenges in this area.

This year the PO-CBR workshop also hosts two papers focusing on health-care applications.

1.1 Key workshop areas of interest

The Key areas of interest for the workshop are:

- Methodological issues:
 - Case-based representation of process knowledge (by workflows, traces, plans, etc.)
 - Case-based retrieval for process optimization
 - Similarity measures for process optimization
 - Experience reuse in PO-CBR
 - Case-based adaptation for process optimization
 - Extraction of process knowledge
 - Visualization and explanation of process knowledge
 - Cross-process knowledge reuse
 - Maintenance of business process knowledge
 - process-oriented transfer learning
- Applications, systems and tools:
 - PO-CBR applications in Business Process Management, Software Processes, E-Science, Web Science, E-Governance, E-Health, product development, search, games, cooking, and further application domains
 - Evaluating CBR tools for PO-CBR
 - Agile workflow technology with CBR components
 - CBR in (commercial) workflow management tools
 - Applications of PO CBR in Health
- Lessons learned in PO-CBR investigations
- Challenge tasks for CBR systems in the context of business processes, software processes, planning processes, search processes, monitoring processes and decision support processes

1.2 Workshop Organisation

Workshop Organisers

- Miltos Petridis, University of Middlesex, London, UK
- Mirjam Minor, Goethe University, Frankfurt, Germany
- Stefania Montani, University of Piemonte Orientale, Italy
- Odd Erik Gundersen, NTNU, Norway

Programme committee

- Klaus Dieter Althoff, DFKI / University of Hildesheim, Germany
- David Aha, Naval Research Lab, USA
- Ralph Bergmann, University of Trier, Germany
- Isabelle Bichindaritz, State University of New York at Oswego, USA
- Juan Manuel Corchado, University of Salamanca, Spain
- Pedro A. González-Calero, Complutense University of Madrid, Spain
- Stelios Kapetanakis, University of Brighton, UK
- David Leake, Indiana University, USA
- Beatriz Lopez, University of Girona, Spain
- Jixin Ma, University of Greenwich, UK
- Cindy Marling, Ohio University, Athens, USA
- Hector Muñoz-Ávila, Lehigh University, USA
- Luigi Portinale, Università del Piemonte Orientale "A. Avogadro", Italy
- Juan A. Recio-Garcia, Universidad Complutense de Madrid, Spain
- Rainer Schmidt, University of Rostock, Germany
- Barbara Weber, University of Innsbruck, Austria