Call for Papers

Provenance-Aware Case-Based Reasoning

Provenance, Trust, and Reputation in CBR, with Applications to Reasoning, Metareasoning, Maintenance and Explanation (PA-CBR 2010)

A Half-Day Workshop at ICCBR-10

Provenance has emerged as a burgeoning research area in scientific computing and the semantic Web. Case-based reasoning systems exploit the results of prior reasoning, by storing cases for reuse. However, comparatively little attention has been devoted to how CBR can exploit knowledge of the provenance of stored cases. Such knowledge may include information about external sources of cases and the context in which they were captured, derivation traces of cases and other meta-data. For example, case provenance information can be used to assess trust in sources, and confidence in related cases, or for metalearning to determine the effectiveness of the various adaptation strategies which produced a system's solutions, in order to improve future reasoning. This workshop investigates the interplay of case provenance with areas such as trust and reputation, reasoning and metareasoning, and explanation.

Many domains offer opportunities for capture of provenance and meta-data useful for CBR applications. For example, in e-science, interest in the collection of provenance information from the execution of scientific workflows provides a knowledge source for CBR applications within this domain. In e-commerce, information about communities of recommenders may provide useful information for assessing and applying their recommendations. In help-desk domains, information about the context in which faults occur (e.g., available technicians and client locations) may provide important clues for fault diagnosis and recovery.

Likewise, the CBR cycle itself provides numerous opportunities for the capture and use of provenance information, for example to inform reuse and retention, and the use of this 'internal' provenance can inform many tasks in the wider CBR process, such as case-base maintenance, explanation, and confidence estimation.

The workshop's broad goals include: (1) clarifying the nature of provenance, trust, and reputation, as they relate to CBR; (2) examining how provenance information may be used at multiple points in the CBR cycle, and (3) advancing the state of the art in relation to how provenance and meta-data should be captured, represented, and exploited in CBR systems.

Topics of Interest

Topics include, but are not limited to:

- Interplay between case provenance, trust, and confidence
- Connections between provenance and derivational analogy
- Workflow provenance, capture, and reuse

- Ramifications of semantic Web provenance and meta-data for CBR
- Use of provenance and meta-data in knowledge discovery, data mining, and text mining for case acquisition
- Use of provenance and meta-data for explanation and confidence estimation in CBR systems
- Industrial and scientific applications of provenance-aware CBR systems
- Use of stored provenance and meta-data for evaluation of CBR systems and meta-reasoning
- Dimensions and characterizations of provenance and meta-data
- Design, representation, and integration implications of provenance and meta-data for CBR systems
- Management and acquisition of provenance and meta-data
- The use of provenance information for case adaptation
- The use of provenance information for case-base maintenance
- Interactive presentation of provenance information

Workshop Submissions

Workshop participants will submit brief position papers (2-6 pages in the Springer LNCS format). Each will be reviewed by three members of the workshop program committee. Accepted submissions will be circulated to participants prior to the workshop. For electronic submission instructions see http://www.cs.indiana.edu/pa-cbr2010

Workshop Format

The workshop is a half-day session organized around short presentations and discussions led by invited discussion leaders. The workshop will begin with a session discussing the relationship between fundamental concepts such as provenance, trust, and explanation. Based on the number of submissions and specific interests identified from the submitted position papers, presentations will be organized into 2-3 sessions of brief presentations, each to be followed by a discussion led by a selected discussant. The workshop will close with a summary session to consider future activities, including possibly a paper to disseminate insights from the workshop.

Organizing Committee

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Important Dates

Submission deadline: 16 April, 2010
Acceptance notification: 3 May, 2010
Receipt of camera-ready copy: 24 May, 2010

Workshop held at ICCBR-10 in Alessandria, Italy: 20 July 2010