

**TRUE:**  
**Traces for Reusing Users' Experiences –**  
**Cases, Episodes, and Stories**

Workshop at the  
Twentieth International Conference on  
Case-Based Reasoning  
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## Preface

There has been recent interest in artificial intelligence approaches based on *traces* of various activities. For example, an important part of users' experience interacting with computer systems may be captured in traces of their activities recording their interactions with applications, games, and other systems. Collecting traces and stories enables extracting and reusing relevant parts of past user experiences in case-based reasoning (CBR) processes. Therefore, traces constitute a knowledge container from which a CBR process may build and reuse cases. The goal of the workshop is to gather and contrast approaches to exploiting traces for various tasks and domains through CBR.

This workshop is the sequel to a first workshop on traces, organized at ICCBR 2003 in Trondheim, Norway. Since this first workshop, the theory of exploiting traces has matured, and numerous projects have been carried out. Over the past several years, papers on this topic have appeared in the ICCBR main conference, numerous ICCBR workshops and various other international conferences. User traces remain relevant to many focus areas in CBR (e.g., learning by observation/demonstration, trace-based reasoning, opponent modeling in games). The motivation for this workshop is to encourage the exchange of ideas among CBR researchers working in this area.

The workshop program includes eight papers representing various approaches to reasoning from traces and stories. Mathern, Mille, Cordier, Cram and Zarka propose combining knowledge engineering techniques with a knowledge discovery cycle for building knowledge interactively with the user and benefitting from existing knowledge. Their methodology is illustrated with several complementary tools supporting the knowledge discovery cycle. Zarka, Champin, Cordier, Egyed-Zsigmond, Lamontagne and Mille present the trace-based management system TStore which handles the storage, transformation, and reuse of modeled traces. The approach is applied to Wanaclip, a video clips composer. Fuchs and Belin present an interactive trace-based approach for experience management which allows integrating knowledge in the discovery cycle. The approach is illustrated in two application domains, musical analysis and video annotation. Thevenet, Lefevre, Cordier and Barnachon present a trace-based framework for a gesture-based interface and show how to exploit gestural interaction traces to provide assistance to users. Rubin and Ram describe an architecture for capturing and reusing users traces in the domain of computer role playing games. Traces are first captured in a training phase and a planner adapts them dynamically to reproduce behaviors in another context. The paper from Lamontagne, Rugamba and Mineau proposes acquiring cases by the segmentation of traces in sequential game environments. Traces are broken down into episodes describing states of the game board and actions taken. Cases are built by grouping consecutive correlated episodes with low conditional entropy.

Coman and Muñoz-Avila study how to generate collections of diverse stories using a case-based planning approach in the context of computer games. Finally, Ontañón, Zhu and Plaza present a story generation system that uses amalgama-

tion operations between stories for generating new stories that combine aspects of the reused cases.

Overall, these papers represent a good sample of the recent trends in CBR approaches to reasoning from traces for reusing user experiences, and we expect the workshop discussions to further clarify and advance work in this area. We would like to thank everyone who contributed to the success of this workshop, especially the authors, the program committee members, and the organizers of the ICCBR 2012 conference.

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