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The Fourth International and Interdisciplinary Conference on Modeling and Using Context

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■ The Fourth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-03) took place at the Stanford University Center for the Study of Language and Information in Stanford, California, on 23 to 25 June 2003. Like the previous conferences, CONTEXT-03 fulfilled its aim of bringing together representatives of many different research areas, spanning the whole range of the cognitive and information sciences, and with interests ranging from the use of context in specific, commercial applications to highly general philosophical, psychological, and logical theories.

The Fourth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-03) took place at the Stanford University Center for the Study of Language and Information (CSLI) in Stanford, California, on 23 to 25 June 2003. Previous CONTEXT conferences were held in Rio de Janeiro, Brazil (1997); Trento, Italy (1999); and Dundee, Scotland (1999). The conference chair was Fausto Giunchiglia, University of Trento. The program chairs were Patrick Blackburn, INRIA Lorraine; Chiara Ghidini, the Centre for Scientific and Technological Research in Trento; and Roy Turner, University of Maine. There were 77 submissions, from which 31 papers and 14 posters were selected.

One of the aims of the CONTEXT conferences is to bring together representatives of many different research areas, spanning the whole range of the cognitive and information sciences, and with interests ranging from the use of context in specific, commercial applications to highly general philosophical, psychological, and logical theories. Like the previous conferences, CONTEXT-03 fulfilled this aim, and papers and posters were presented in several areas in which understanding the role of context and contextual information is crucial. Sessions were included on natural language, context-aware applications, logic, cognitive modeling, and philosophical foundations. The track on natural language proved to be the most extensive, followed immediately by the track on logic and context-aware applications. Additionally, some less than traditional areas of research were represented, including web applications, neural networks, ubiquitous computing, and knowledge management. Perhaps reflecting an increasing maturity in this area, this CONTEXT conference was the first that held software demonstrations. Overall, the diverse backgrounds of participants at this conference led to a rich and lively exchange of ideas, allowed comparisons of techniques and frameworks, and increased the cooperation and communication across disciplines that has been the hallmark of these conferences since 1997.

Three invited talks were given during the conference, covering different aspects of the research community traditionally attending this conference. David Leake (Computer Science Department, Indiana University) gave a comprehensive talk on the relation between context and case-based reasoning (CBR): how prior experiences provide a rich source of context for new reasoning, how CBR can be a useful paradigm for modeling and studying context, and how a CBR-inspired treatment of context can provide powerful tools for context-based support in human-centered computing. Several case studies highlighting the role of context in CBR were presented, and some provocative questions on how to bridge the gap between context and CBR were discussed.

Keith Devlin (CSLI, Stanford University) centered his invited talk on mathematical frameworks he is developing for representing context-influenced reasoning processes. Real-life, evidence-based reasoning is rarely a matter of linear, logical deduction; rather, it is about marshaling evidence to arrive at a conclusion. If the reasoner wants to attach a reliable degree of confidence to the conclusion, he/she must keep track of the sources of all the evidence used, the nature and reliability of these sources, and the reliability of the reasoning steps used in the pro-

cess. He presented preliminary results on a mathematical framework to model and an associated calculus for analyzing evidence-based, context-influenced reasoning processes, stressing the similarities and differences between this framework and classical formal logic.

Patrick Brézillon (University of Paris VI) gave an entertaining and informative talk on context's contribution to, and potential for, practical applications. He presented the context-based formalism of contextual graphs that he and his collaborators have developed as part of a decision support system for traffic regulation after subway accidents. The system has the ability to represent practices for solving an accident that are appropriate for the context in which the accident occurs; take into account the evolution of the context during the execution of practices; and acquire new practices, if needed, thus opening the way for the use of this approach in other applications.

A workshop entitled "Barwise and Situation Semantics" was colocated with CONTEXT-03 and chaired by Tim Fernando (Trinity College). The workshop was based on the work of Jon Barwise and John Perry on *situation semantics,* a semantic framework that analyzes context in terms of situations. It provided a forum to discuss what problems, issues, or insights connected with Barwise's work motivate today's research.[1]

We would like to thank the following for supporting CONTEXT-03: the University of Trento (Italy); Stanford University's CSLI; and the departments of linguistics, philosophy, and psychology at Stanford.

The location for CONTEXT-05 had not been decided at the time of writing. However, the conference will focus, as have all the CONTEXT conferences, on the interdisciplinary study of the ways to represent and use context and contextual information.[2]

Notes

1. See www.cs.tcd.ie/Tim.Fernando/sab.html for details.

2. Conference information, when available, will be posted at context.umcs.maine.edu/CONTEXT-05.

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