

Report on the Fourth International Conference on Knowledge Capture (K-CAP 2007)

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■ *The Fourth International Conference on Knowledge Capture was held October 28–31, 2007, in Whistler, British Columbia. K-CAP 2007 included two invited talks, technical papers, posters, and demonstrations. Topics included knowledge engineering and modeling methodologies, knowledge engineering and the semantic web, mixed-initiative planning and decision-support tools, acquisition of problem-solving knowledge, knowledge-based markup techniques, knowledge extraction systems, knowledge acquisition tools, and advice-taking systems.*

The Knowledge Capture 2007 (K-CAP 2007) Conference was held in Whistler, British Columbia (Canada), October 28–31, 2007. This was the fourth in a series of meetings; the first was held in Victoria, British Columbia, in 2001; the second was collocated with the ISWC meeting and was held on Sanibel Island, Florida, in October 2003; and the third meeting was held in Banff, Alberta, in October 2005. The conference was held at the Fairmont Chateau in Whistler. Whistler is a spectacular setting and is one of the principal sites of the 2010 Winter Olympic Games. Views from the conference hotel were breathtaking, and many of the participants took advantage of the venue to participate in various forms of outdoor sports.

The topics covered in the invited talks, technical papers, posters, and demonstrations included knowledge engineering and modeling methodologies, knowledge engineering and the semantic web, mixed-initiative planning and decision-support tools, acquisition of problem-solving knowledge, knowledge-based markup techniques, knowledge extraction systems, knowledge acquisition tools, and advice-taking systems.

Many of the presentations touched upon the special relationship that knowledge capture and knowledge engineering currently have with the semantic web, as the web is seen as a resource that can be exploited by knowledge capture techniques; and in turn the resulting

knowledge-based systems can enhance the web environment.

The first day of the conference featured a series of focused and lively workshops. These events, which were organized by John Gennari (University of Washington), featured workshops titled Semantic Authoring, Annotation, and Knowledge Markup; the Second International Workshop on Modular Ontologies; Knowledge Capture and Constraint Programming; and Knowledge Management and Semantic Web for Engineering Design.

The topics of the two invited talks covered different aspects of innovative approaches to knowledge capture. As Derek Sleeman noted in his introductory comments, knowledge capture is now a "broad church" that includes "traditional" knowledge engineer-expert dialogues, PSM-directed (problem-solving method) knowledge acquisition systems such as MOLE, SALT, and OPAL/Protégé, as well as machine-learning approaches. In the last decade or so, knowledge capture has again expanded its horizons significantly to embrace information-extraction techniques, and more recently the web and enhanced connectivity have led to further significant developments. We are of course referring to systems like OpenMind where many ordinary users answer a range of questions about commonsense topics such as *What is the main emotion you feel on your birthday?* Alternatively, such users are asked to complete paragraphs or sentences. Statistical techniques are then used to extract information from the sizeable bodies of data produced. Both these exciting topics were featured as the two invited talks.

The first invited talk by Oren Etzioni (University of Washington, Seattle), "Everything I Know I Learned from Google: Machine Reading of Web Text," argued lucidly that information-extraction (natural language-processing) techniques have matured to the point where they can be used as very effective knowledge-capture tools. Further, Etzioni showed how this work has been influenced by, and has taken advantage of, the web, which of course contains a vast number of text-based documents.

The second invited talk at this K-

CAP was engagingly presented by Luis von Ahn (Carnegie Mellon University, Pittsburgh); he spoke on the cutting-edge topic of extracting information from web-based game-playing systems. Many people worldwide daily invest large amounts of time playing games, and this research seeks to redirect part of this effort to have them, among other things, label images on the web. The title of his talk was "Human Computation."

The best student paper award was presented to Michele Banko for her paper (with Oren Etzioni) titled "Strategies for Lifelong Knowledge Extraction from the Web." This paper nicely complemented Etzioni's invited talk and gave some technical details of the systems being developed at the University of Washington to support the visionary talk that Etzioni presented earlier at the meeting. (Interested readers are also referred to Banko and Etzioni's paper in the IJCAI-2007 proceedings.) The best technical paper award was presented to Kai Eckert, Heiner Stuckenschmidt, and Magnus Pfeffer for their paper "Interactive Thesaurus Assessment for Automatic Document Annotation." In this paper the authors present their techniques for improving the quality of a thesaurus before it is used by automated document-indexing approaches; the results of that phase are then often used by document retrieval algorithms.

On behalf of the organizing committee of K-CAP 2007 and all attendees, it is our pleasure to acknowledge the sponsorship of SIGART/ACM, AAAI, Boeing, Vulcan Inc., and Knowledge Web.

Organizing a conference at a remote site is demanding. Rob Kremer (University of Calgary) was the person who primarily chose the conference site and hotel and liaised over local arrangements. We introduced various innovations at this K-CAP Conference, including using an ACM-recommended registration system that was linked to the ACM accounting system; this greatly simplified the administration. David Corsar very ably configured the registration pages, dealt with all aspects of the K-CAP 2007 website, and handled registration. ACM again took

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charge of the production of the proceedings.¹ Ken Barker and John Gennari had primary responsibilities for the conference and workshop programs. At various significant points along the way we were pleased to get advice from the K-CAP steering committee. So once again the organization of K-CAP 2007 was very much a team effort!

Since the K-CAP series was initiated, the K-CAP and European Knowledge Acquisition Workshop (EKAW) meetings have been held in alternate years, with the K-CAP meetings taking place in North America and the EKAW meetings in Europe. The range of topics covered at both meetings is very similar, and in 2006 it was agreed by the steering committees of the two series that there should be more interaction between them, with some active planning taking place to ensure a level of coordination. Derek Sleeman and Mark Musen are, for the moment, the two contact persons and are members of both steering committees. The 2008 EKAW meeting was held during September–October in Catania, Italy.

Note

1. See www.csd.abdn.ac.uk/kcap07/proceedings.php.

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