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present the 2006 RESCUE SEMINAR SERIES

Ontologies for the Semantic Web

DATE: Friday, March 10, 2006

TIME: Refreshments served at 10:30 a.m.; talk begins at 11:00 a.m.

LOCATION: Computer Science Building, Room 432

RELATED LINK: www.isi.edu/~hobbs/

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SPEAKER

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Ontologies for the Semantic Web

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Broadly shared ontologies are important for the success of the Semantic Web. It won't help to have only one style of data structure if the concepts expressed in these data structures do not align. In my lecture I will describe several efforts to develop ontologies for very basic and very important concepts.

Time: OWL-Time is an ontology of time that has been developed in the past four years. It covers the topological properties of time, such as the "before" relation and the relations in Allen's interval calculus; measures of duration; clock and calendar concepts; and temporal aggregates. We are currently developing an approach to the implicit duration information in event descriptions.

Events: In 2004 we developed a language called Video Event Representation Language (VERL) for defining and representing composite events in video data. We are currently extending this to an ontology of processes and events that will mediate among several frameworks for representing events, including the Process Specification Language(PSL) and the abstract event-related predicates of ResearchCyc.

Information Structure and Commonsense Psychology: Another ontology-building effort we are involved in concerns, first of all, the structure of information as exhibited in symbolic systems of various sorts, including language, diagrams, documents, Web pages, and face-to-face conversation. Some issues are the meanings of atomic elements, how elements compose into complex meanings, and coreference relations among elements. Annotation of these things in Web pages, for example, could lead to more accurate searches for images and diagrams. An ontology of information structure should be grounded in an ontology of commonsense psychology, and this is something we are also developing. It is intended to cover such concepts as memory, belief, envisioning, planning, goals, and similarity judgments.

Biography:

Dr. Jerry R. Hobbs is a prominent researcher in the fields of computational linguistics, discourse analysis, and artificial intelligence. He earned his doctor's degree from New York University in 1974 in computer science. He has taught at Yale University and the City University of New York. From 1977 to 2002 he was with the Artificial Intelligence Center at SRI International, Menlo Park, California, where he was a principal scientist and program director of the Natural Language Program. He has written numerous papers in the areas of parsing, syntax, semantic interpretation, information extraction, knowledge representation, encoding commonsense knowledge, discourse analysis, the structure of conversation, and the Semantic Web. He is the author of the book "Literature and Cognition", and was also editor of the book "Formal Theories of the Commonsense World". He led SRI's text-understanding research, and directed the development of the abduction-based TACITUS system for text understanding, and the FASTUS system for rapid extraction of information from text based on finite-state automata. The latter system constituted the basis for an SRI spinoff, Discern Communications. In September 2002 he took a position as senior computer scientist and research professor at the Information Sciences Institute, University of Southern California. He has been a consulting professor with the Linguistics Department and the Symbolic Systems Program at Stanford University. He has served as general editor of the Ablex Series on Artificial Intelligence. He is a past president of the Association for Computational Linguistics, and is a Fellow of the American Association for Artificial Intelligence. In January 2003 he was awarded an honorary Doctorate of Philosophy from the University of Uppsala, Sweden.