Trip Report for DSU NASA SD EPSCoR Travel Grant

Travel Date: November 29th - 30th, 2007

Members of Traveling DSU Faculty Team (DSU team)

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Names of NASA Personnel (NASA team)

Jeanne Holm
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Rob Raskin
group supervisor and vice president of Earth Science information Partner Federation
NASA/Jet Propulsion Laboratory

Keri Murphy
Project Manager, Knowledge Engineering Network
NASA/Jet Propulsion Laboratory

Trip summary

The DSU team conducted a series of meeting with the NASA team. During the morning sessions, both teams shared information about research interests and ongoing activities. Discussion focused on mutual areas of interest pertaining to knowledge management projects and the knowledge engineering

network project and identifying potential grant opportunities. In these sessions, the DSU team also presented an overview of various research projects at DSU (see attached PowerPoint presentation).

During the afternoon session both teams worked collaboratively to develop a letter of intent for NSF-CDI grant announcement. The project is entitled "Knowledge Management Approaches for Improved Decision Support, Reuse, and Dissemination of Scientific and Engineering Knowledge in Collaborative and Distributed Environments" and builds on existing research projects at DSU and NASA. Specifically, the proposed project investigates the following three aspects of model management:

1. Model representation and capture using markup languages such as the Structured Model Markup Language (SMML), and their integration with domain ontologies.
2. Semantic web based information retrieval algorithms for model selection, search and discovery.
3. Workflow and AI planning techniques for model composition.

The purpose is to support the science and engineering communities by developing a model management framework that integrates distributed model repositories and provides mechanisms for model discovery and model composition. A key feature of this project is that it combines recent advances in web services and semantic web technology with new model management research to provide a collaborative environment for researchers in the science and engineering domains.

Summary of trip outcomes

1. The DSU team acquired an understanding of NASA requirements as related to knowledge management.
2. The DSU team was able to share its current expertise and research interests with its NASA counterpart.
3. A letter of intent for NSF CDI grant was submitted in collaboration with Dr. Raskin.
4. Discussions are ongoing related potential NASA ROSES and NSF CDI grant opportunities.