SPIDER

Sharing Pertinent Information in Dynamically Evolving Repositories

Research efforts of a large institute, such as the Coleman Institute for Cognitive Disabilities, produce enormous amounts of information. The ability for groups within and outside of the institute to effectively utilize this information is most important.

Problem: The existence of information is not enough

There are many WWW portals that provide access to information on almost every conceivable disability. For example, Yahoo! alone has over 600 highly specialized discussion forums on disabilities alone. The problem is not that there is a lack of information. Instead, the problem is an inability to find information that is relevant to the task at hand.

- *Browsing* can be a useful technique for novices to explore unfamiliar territory, but as repositories become very large, long explorations can often wind up in dead-ends.
- *Searching* can be useful for experts, especially in large repositories, but novices are unaware of what information exists or what keywords to use.

Current systems rarely account for the unique background knowledge of the individual who is seeking information. This can result in:

- relevant, but inappropriate information given the user's background.
- a static organization of information that is not well-suited for a diversity of conceptual models (e.g., as may exist among diverse domain groups).

The SPIDER project acknowledges that what is needed is not just another super portal for information on disabilities, but rather better mechanisms to help a diversity of groups and individuals to collect, organize and utilize information on disabilities.

Self-application of information sharing principals

Our group has been working for the past two years on understanding how to develop socio-technical solutions to problems faced by people with disabilities and their caregivers. Just over this short period of time we have amassed a wealth of information that has been generated by our group and also collected from the vast body of disabilities research that already exists.

The information management problems that we have encountered are not unique to our group. In many respects they are universal problems. Studying this problem in the context of our information sharing needs will help us gain insight in to the information sharing issues of other groups.

Approach

We will examine how our group tries to cope with managing information overload while simultaneously trying to maintain a global awareness of all the project activities within the group. We believe that this is not only presents technical challenges, but also social challenges and that any technical solution will require a deep understanding of the social issues surrounding information sharing.

The SPIDER research will focus on personalized information systems used in social group settings. This will include research in the following areas:

- *User Modeling*—to model a user's background knowledge and interests
- *Task Analysis*—to model a user's immediate goals
- *Social Filtering*—to help a group benefit form the experiences of its individual members
- *Adaptive Web sites*—to dynamically tailor the organization of information for more effective information exploration

Expanding scope through iterative community design

As we better understand our group's information sharing needs, we will begin to examine other groups within the Coleman Institute. This will be done though strategic partnerships, ethnographic studies, and requirements gathering. As we look to build solutions for other research groups, we will also look at ways to support the inter-group collaboration that is necessary for the Coleman Institute to fully utilize its resources.