

DISTANCE LEARNING/WEB-BASED FORUMS

EAD's environmental projects involve dispersed groups and individuals who need to collaborate over time. Consequently, it is important that project information be captured, organized, and shared among the appropriate people. To facilitate this process, EAD leverages information technologies in the areas of groupware and knowledge management.

■ PROBLEM/OPPORTUNITY

EAD's environmental projects are frequently implemented by a project team composed of both internal and external groups and individuals. Team members need to collaborate over the duration of the project. Both asynchronous (e-mail, discussion forums, captured streamed multimedia, Web-specific forums) and synchronous (shared applications) information technologies are being utilized and explored for internal and interorganizational purposes.

For example, Web-based discussion forums offer an opportunity for a diverse community to participate in ongoing discussions. EAD's Technology Connection (TechCon) team utilizes the forums and specific Web-forum messaging to collect information on the needs of specific U.S. Department of Energy (DOE) sites and distribute it to potential vendors.

■ APPROACH

EAD's approach to the need for information capture, sharing, and organization is to explore leveraging of information technologies in the areas of groupware and knowledge management. Groupware is a set of loosely related software tools that support communication and collaboration; e-mail is an example. More complex groupware tools include process and task, support and structure, and multimedia interfaces. EAD is exploring both commercial packages and the development of specific tools.

The field of knowledge management is quite new and loosely defined. Many organizations are trying to adapt new, potentially useful information technologies to support organizational memory and diffusion of information and techniques. EAD is exploring interactive communication through the Internet, such as application sharing and presentation streaming.

■ RESULTS

Because of the communication advantages it affords, this field is rapidly expanding. Twenty-five web-based forums are now used in six EAD projects; TechCon is the largest. Also, more than 250 companies have submitted capabilities through TechCon's Web-based forum. The database conversion to Web-based systems has facilitated the formation of collaborations to identify and pursue opportunities for matching environmental cleanup needs with cleanup technologies, while reducing meeting and travel times.

The video capture for distance learning is in the start-up stage. Five internal software demonstrations are available on the Intranet and two streamed video clips (on TechCon and depleted uranium hexafluoride cylinders) are publicly available.

■ HISTORY/STATUS/FUTURE

Groupware use has progressed from simple e-mail, file transfer protocol (FTP), and file sharing to listservs, discussion forums, workflow systems (e.g., EAD's CRMS [Comment Response Management System]), and Web site interactive, collaborative management. EAD continually scans technologies for potential uses. Prototypes with distributed objects and push technology are under development. Other Web-based systems for distributed meetings continually arise and are evaluated.

The future for these technologies is bright. EAD is positioned to combine many collaborative elements from its projects, such as messaging, evaluation tools, administrative control, and human interfaces. These elements are being combined for distributed project management, distributed meetings, and emergency system prototypes such as the Soldier and Biological Chemical Command (SBCCOM).

■ COMMUNICATION OF RESULTS

- While many groupware projects are internal or prototypes, some earlier results have been presented at conferences:
 - "The Techcon Approach to Technical Assistance: Linking Public and Private Sector Technical Resources in Support of DOE Site Environmental Remediation Needs," was presented at Waste Management '99 in February 1999.
 - "Forum Use, Development, and Diffusion in a Learning Organization" was presented at the Midwest Computer Conference in March 1999.
- A number of Web sites utilize groupware techniques. TechCon is an example of a publicly available site; it can be accessed at www.ead.anl.gov/techcon.
- EAD maintains an active presence in the Learning Informatics Group at DePaul University in Chicago, which is pursuing both research and practical application of distance learning.



New groupware and knowledge management technologies help dispersed groups collaborate to quickly share information.

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