

THE DISTRIBUTED ENGINEERING WORKFORCE VERTICALLY INTEGRATED PROJECTS TEAM

TEAM TITLE: Distributed Engineering Workforce VIP Team

GOALS: Modern engineering projects, whether large or small, require the integration of components and concepts from a wide variety sources. Rarely are these sources all co-located in one facility and we rely on communicating with fellow engineers to design and build systems. Computers to automobiles to large buildings all require such collaborations. Increasing emphasis on time to market, customization, just-on-time delivery, more sophisticated systems, and globalization of design and manufacturer dramatically increase the need for effective collaborations. Supporting those collaborations requires three elements – 1) the technology in place for effective collaboration, 2) Engineers trained and experienced in such collaborations, 3) evaluation of what technology, and what experience, supports and enhances that process. Extending this success to distributed design and research is even more challenging. It will require new approaches to creating the socio-technical infrastructure that enable virtual teams and distributed workers within and across organizations to collaborate as well as if they are in close proximity to each other.



TECHNOLOGIES: Smart environments, immersive environments,, IP networking, speech recognition, distributed databases, image/video processing, novel user devices and systems, graphical user interfaces, human factors, cognitive science, pedagogy, evaluation techniques.

RESEARCH ISSUES: High-definition video system for near immersive environments; data mining; archiving, indexing and retrieval of discussions; automated inclusion of experts in discussions; document sharing and creation; impact of social networks.

TEAM ADVISORS: Randal Abler (ECE), Elliot Moore (ECE), Ghassan Alregib (ECE), Julia Melkers (Public Policy), Fred Juang (ECE), Ed Coyle (ECE)

PROJECT PARTNERS AND SPONSORS: Arbutus Center, Digital Media Laboratory.

DESIRED DISCIPLINES AND PREPARATION:

EE/CmpE/CS – Background or a general interest in the following areas: networking, video/audio processing, embedded systems, user interface design, data security, collaborative systems, software development, immersive environments, databases and data mining.
Public Policy – Evaluation of effectiveness of collaborative systems.

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