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Bell University Laboratories at the University of Toronto **Research on Highly Interactive Webcasting**

Web conferencing with audio, multipoint videoconferencing, and one-way webcasting with streaming video are used for communicating, collaborating, and sharing knowledge at a distance. Recent world events have increased interest in such systems. Yet environments often do not scale, and lack sufficient media quality and interactivity to engage the participants — the critical first step in online collaboration and learning. Rich electronic presence and highly interactive communications are not achieved. Systems fail due to insufficient attention to organizational behaviour, group process, and user psychology.

The Knowledge Media Design Institute has begun an iterative, user-centred design and research project with the goal of making webcasting

- Highly interactive
- More engaging
- Accessible in real-time and later via structured, navigable, searchable archives
- Useful for knowledge transmission, building, and sharing
- Scalable and robust.

Work to date, supported by the Bell University Laboratories at the University of Toronto, has succeeded in the creation of a viable and innovative webcasting infrastructure. This includes support for video, audio, and slide broadcasting; slide browsing and review; submitting questions, integrated moderated chat, and a prototype of the automated creation of event archives.

Sample applications include the use of Internet broadband transmission for:

- Distance learning, e.g., lifelong learning, continuing medical education
- Presentations by global corporations, e.g., annual meetings, analyst briefings
- Briefings for the public, e.g., health and safety information

There remain many research challenges and opportunities:

- Reducing resource requirements through automation
- Enhancing the sense of presence for and engagement of remote participants
- Supporting a “community” of online participants
- Providing structured, navigable, searchable archives
- Supporting knowledge building with video resources
- Understanding the value of remote viewing by groups as well as individuals
- More generally, evaluating impacts, short- and long-term.



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We actively seek research collaborators and sponsors. For further information about this project, please contact:

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