Advancing Technologies for Internet Video

Ohio State University engineers are using video recordings of comedian Jay Leno and other TV personalities to test software that transmits more information in an Internet video using less bandwidth. The results could improve distance learning on the Internet.

One of the obstacles to online learning is the difficulty with viewing lectures, explained James Davis, professor of computer science and engineering. A high-resolution video of a speaker takes too long to download, but a low-resolution video makes fine details such as the speaker’s face and hands appear fuzzy.

“When we communicate, we say a lot with our face and hands,” Davis said. “Our voice, gestures and facial expressions are all intertwined. If I’m watching a lecture and I’m trying to learn something, I need to be able to see the speaker’s face and hands.”

He and his students created software that zeroes in on a speaker’s face and gesturing hands and sharpens the image in just those spots, while slightly lowering the resolution of the rest of the image. They inserted their algorithms into a publicly available MPEG encoder — the software that compresses video for efficient digital transmission on the Internet — and an MPEG decoder that converts the digital signal back to video so a user can view it on their computer. The final video communicates more information without increasing bandwidth.

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Check out the full article at http://researchnews.osu.edu/archive/facevid.htm.