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Caption: Andrei State/University of North Carolina at Chapel Hill

This is an artist's rendering of the office of the not-too-distant future.

U. of U. Helping Take Video Conference From Realm of Sci-Fi Into Reality of Hi-Fi

3-D Video Conference in Works at U. of U.

Byline: BY PHIL SAHM THE SALT LAKE TRIBUNE

Sometime in the not-too-distant future, video conferences may be so realistic that people on opposite ends of the planet will appear in three dimensions to sit in the same office. Sounds like science fiction, but it's not. Researchers at the University of Utah and four other schools are working on technology to create the "Office of the Future", and it probably will include advances such as this. Technology already provides gadgets such as "smart phones" that receive E-mail, or wristwatches that double as personal digital assistants. "The primary goal is just a better everyday working environment," said Greg Welch, a computer science researcher at the University of North Carolina at Chapel Hill. Virtual reality now is created with the aid of a helmet, but researchers hope to make it happen with less cumbersome equipment. Welch and his colleagues are designing systems to project three-dimensional images for video conferences and other uses. But considerable technical challenges exist to create realistic images. Up to a dozen projectors costing \$7,000 to \$10,000 each and tied to computers must be mounted in an office or cubicle. The projectors must produce high-resolution images that can be seen on virtually every surface in an office -- walls, corners and desks. In theory, this can make video conferencing so realistic that people in different rooms, or different countries, appear as if they are in the same place. Researchers already use prototype systems to create 3-D images of objects on screens. "The result of this illusion is just amazing," said Russ Fish, a computer science researcher at the U. "You feel like you are really there." The U.'s role in the project is to use computers to design and build parts needed for imaging equipment. Besides video conferencing, 3-D images could be used for collaboration among workers at the same site, Fish said. A group of engineers, for example, could examine an image of a piece of machinery that gives an even better view than current 3-D images on a computer screen. Workers most likely would designate a particular area of their office -- a wall or other surface that easily reflects light -- to project video conferences, view the Internet, or collaborate with other workers to view an image. Even the most realistic image of a video conference will not replace face-to-face meetings, University of North Carolina researcher Herman Towles said. But more lifelike video conferences can improve communication between workers, and that can lead to better productivity when face-to-face meetings are not possible. In addition to the U. and the University of North Carolina, researchers at the California Institute of Technology, Brown and Cornell universities are collaborating on the project. The groups are

funded by a grant from the National Science Foundation Science and Technology Center in Computer Graphics, gifts from private sources and foundations and by their own universities. How soon this technology will be available remains conjecture. Chances are it will not be in large-scale use for at least a decade, researchers said.

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