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## Virtual Reality Could Revive Great Minds

*"I see dead people..."*

Sci-Fi fans are used to seeing virtual avatars that talk to you, answer your questions, and even do something more...physical. Remember the virtual doctor from "Star Trek - Voyager", or "Andromeda", or "Stargate Atlantis" with its very realistic virtual archive that turned out to be a real Ancient? Those of you for whom this doesn't ring a bell, imagine having conversations with 3-D, life-sized representations of Albert Einstein or Isaac Newton about the nature of the universe, or taking military strategy lessons from Julius Caesar, Napoleon or Alexander the Great, that look you in the eye, examine your body language, consider voice nuances and phraseology of your questions, then answer you in a way that is so real you would swear they were alive. A new research project between the University of Illinois at Chicago and the University of Central Florida in Orlando may soon make such imaginary conversations a reality. Technology from computer games, animation and artificial intelligence provide the elements to make this happen, but the project will focus on the computer graphics and interaction and, at the same time, it concentrates on artificial intelligence and natural language processing software. "The goal is to combine artificial intelligence with the latest advanced graphics and video game-type technology to enable us to create historical archives of people beyond what can be achieved using traditional technologies such as text, audio and video footage," said Jason Leigh, associate professor of computer science and director of UIC's Electronic Visualization Laboratory. Leigh is UIC's lead principal investigator. The idea is to build a state-of-the-art motion-capture studio to digitize the image and movement of real people who will go on to live a virtual eternity in virtual reality. Knowledge will be archived into databases. Voices will be analyzed to create synthesized but natural-sounding "virtual" voices. Mannerisms will be studied and used in creating the 3-D virtual forms, known technically as avatars. Naturalism will be the key word: "Imagine a computer smart enough to have the avatar respond 'Do you understand what I'm saying?' in the natural way humans communicate with each other," said Leigh. There will definitely be commercial market applications for preserving virtual people whose critical or unique knowledge is vital to operations of corporations and other institutions, and faster, more powerful computers in the future will likely enhance the realism of these interactive avatars. How they will be used is limited only by one's imagination.