The Future of Work

Made in IBM Labs: IBM Develops a "Rehearsal Studio" to Let You Practice Your Job in a 3-D World

New 3-D studio helps IBM employees gain hard-to-learn skills in a virtual world

ARMONK, N.Y. –April 3, 2008—IBM Research today announced that it has created a "rehearsal studio" that enables employees to rehearse their jobs and client engagements interactions in a virtual, three-dimensional world.

Movie casts, sales groups, orchestras and football teams all practice -- or rehearse -- on a regular basis to improve their performance as a team. And research shows that people learn most of their required skills on the job rather than classrooms.

IBM has created a virtual worlds rehearsal environment designed to help its employees practice and learn high-level skills with their teammates primarily gained through real-life experience.

"We see many possible applications for this technology that lets you practice, play out different scenarios and gain insight quickly—an ideal environment for learning in a range of jobs," said Jim Spohrer, director of service research, IBM Almaden Research Center. "Learning in a virtual world helps us move the participants to front and center stage while still receiving valuable backstage coaching."

IBM Research has specially designed a 3-D environment to help IBM employees conduct more successful client engagements in diverse services such as implementing a software system in a constantly changing auto parts business and conducting crisis management. In the rehearsal space, IBM Global Services teams interact with avatars in real-time and learn how to implement a successful services project. In one scenario, an IBM project manager tests out different auto parts production schedules -- doing "what-if" analysis, such as creating excess inventory and sourcing different suppliers. The session runs eight hours in total and is recorded as a video, which can be searched and replayed to identify key episodes and provide feedback.

IBM internal research shows that compared to traditional classroom environments, on-the-job virtual learning can deliver improved efficiency and speed of learning by 10 times while decreasing the cost by a factor of 10.

"The feedback we've gotten from participants indicates that using avatars in a virtual world empowers them to take more risks, test their judgment and see the results of their decisions quickly," said Spohrer. "Having IBM employees practice services engagements in a virtual world helps expose them to business situations they wouldn't necessarily experience until clocking in many more hours of real-life work. Since typical services projects can run months or even years, using rehearsal means people can compress many months of learning in days. "

By tapping a virtual world for learning, IBM researchers are aiming to overcome two obstacles facing workplace education today. First, the virtual world places learning in an interactive, social context, shattering a bubble of individual isolation. Second, the virtual world embeds learning as part of employees' every day work experience, rather than a special out-of-the-office training.

IBM is developing a software toolkit that is interoperable with other virtual worlds such as Second Life and Active Worlds that allows software developers to design rehearsal scenarios using drag-and-drop icons. By creating a toolkit, IBM imagines that one day experts could customize and design rehearsals for such difficult-to-learn capabilities as medical surgery and financial negotiations.

IBM's work in virtual worlds has also been helpful in IBM's expansion in emerging markets to assimilate new employees quickly. In India and China, for example, IBM has thousands of new employees who are using virtual worlds to learn about IBM culture and business practices, and meet their global teams.

This rehearsal experience was developed by IBM service experts and researchers in collaboration with the principals at WTRI, Inc (www.wtri.com). The project was led by a team at IBM Almaden Research Center in Silicon Valley, including virtual worlds experts and ethnographers specializing in analyzing behavioral and social practices and researchers from WTRI's San Diego labs, who are experts in accelerated organizational change. The IBM Almaden researchers excel in the emerging field of service research called "service science." This research has become increasingly valuable as services overtake products as the dominant economic model in the U.S. and around the world.

For more information about IBM's 3-D Internet initiatives, please visit http://www.ibm.com/virtualworlds/.

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