

Demonstration and Discussion on a 3D Graphical MOO being Pilot Tested at the University of North Texas

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Abstract: This poster session will demonstrate a 3D graphical on-line multi-user package that the Department of Technology and Cognition at the University of North Texas has been pilot testing during the Fall of 2002 to enhance instructor and student interactions for classroom and on-line courses. The Created Realities Group's 3D graphical MOO has provided students with a wider range of interactions within a single interface. This poster session will show the technology, its use, and will discuss thoughts resulting from the ongoing pilot testing.

Introduction

During the Fall of 2002, the Department of Technology and Cognition began pilot testing the Created Realities Group's (CRG) 3D graphical learning environment in an assistive manner for selected on-campus/on-line Computer Education and Cognitive Systems (CECS) courses. The next step in the testing will be to offer selected courses using the solution as the delivery method during the Spring 2003 semester. Using on-line 3D environments to facilitate on-line learning and education has been attempted with varied success over the past several years. With the recent changes in both delivery technologies and interfaces, this new solution looks promising.

3D On-Line Environments

MUDs (Multi-User Domains/Dungeons) have been around for over two decades now (Holmevik & Haynes, 2000). Richard Bartle of Essex University in the United Kingdom developed the first MUD in 1979. MOOs (Multi-User Object-Oriented) have been used for learning, training, and collaboration since the early 1990's. The MIT Media Lab demonstrated that virtual meeting spaces have significant potential for training and collaboration (Bruckman, 1992).

The created realities concept is to take current off-the-shelf commercial approaches that provide contextually accurate software-derived 3D environments and then overlay collaborative groupware, unified communications, and other instructional tools to create a single distance/distributed educational delivery interface. The use of state-of-the-art real-time rendering on consumer PC platforms allows students and instructors to have a 'lean-forward' (engaged) seamless peer-to-peer educational experience. (CRG 2002)

Changes in Technology and Interfaces

There have been attempts to provide on-line 3D environments over the past ten years, but the primary barrier to success has been the cost and availability of personal computers equipped with 3D graphics adapters. The first wave of 3D graphical MUDs began in 1999 with the release of Everquest developed by Verant (Sony, 2002). Since then more entertainment titles have been developed. These software titles reflect the number of personal computers capable of supporting or being upgraded to support these advanced 3D graphic interfaces. In 2001, over 70% of PCs with Windows OS shipped supported a 3D video graphics adapter (Jon Peddie Associates, 2001). The ability to provide the instruction/interaction via 3D graphics which are created among distributed clients holds great potential for lowering the cost of technology delivery and the amount of bandwidth required to deliver the instruction.

Pilot Testing Fall 2002/Spring 2003

Several classes within the department have used the CRG software during the fall 2002 test. These included the courses on Educational Telecommunications, Survey of Educational Programming Languages, and Instructional Systems Design. Two sections of the course on Educational Telecommunications were offered off-campus at the UNT System Center in Dallas and for two cohorts located in Austin and Houston. The CRG system was used to allow the distant groups of students to interact and discuss the materials during one part of the course on distributed learning. The Survey of Educational Computer Languages course used the CRG software in an assistive manner. The class met every other week in-person and used several different Internet-based systems to supplement discussion between class meetings. One student, who was visually impaired, used the CRG software to participate in all the classes from home. Another student participated while on a business trip, dialing in on her laptop via a 28.8Kbps modem connection. The system also allowed the instructor to capture his presentations directly onto the server and students who could not make the scheduled meeting would login later to review the synchronized presentations (audio/overheads/whiteboard). This allowed the faculty member to deliver the course in a more natural method, and at the same time, capture the lesson with no extra work for the instructor or staff in the department. The Instructional Systems Design course used the software to provide a means of holding on-line audio discourse for the course. In semesters past, the instructor had used streaming audio that was one-way to the students in the course. The CRG system allowed a much easier and more cost effective means for him to deliver the audio segments in this manner and it provided the students with the ability to have more immediate feedback during the live sessions.

It is planned that the Survey of Educational Computer Languages will use the CRG system as the primary delivery means during the Spring of 2003. CRG has announced that they are working on a VNC (AT&T, 2002) plug-in which will allow the instructor to display his actual PC work to anyone in the classroom. This will allow the instructor to display his programs during course discussion and be able to view and put up student work (if they are running a VNC server).

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