

Teaching Beyond the Human Form: Avatar as Multimedia Expression

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Synchronous Learning in a Virtual Classroom

Online virtual environments hold the promise of creating an immersive, shared educational experience. Realizing this promise has largely been a failure. Fundamentally, the issue has been one of reality. The reality that online three-dimensional environments neither function like nor are governed by the physical laws of the real world. Generated by lines of code and engaged via mouse and screen, the virtual space remains a Graphic User Interface (GUI). Conventions of two-dimensional interactivity and interface design are applicable. This includes the construct of the avatar, the visual representation of the user/teacher within the virtual world. The avatar is a multimedia expression whose humanoid form can be transcended. The avatar is a platform, a node for delivering information into a scene. Transforming like a multimedia slideshow presentation, the teacher's avatar can deliver images, objects and even environments directly to a group of students.

The concept of a slide show is important, it is a standard practice among educators worldwide. Whether they use PowerPoint or overhead projection, teachers successfully bring a variety of information into their classrooms via this mode of presentation. Online, the multimedia slideshow is the primary means of delivering information in current synchronous, 2D, distance learning environments. Expanding the multimedia slideshow construct into 3D addresses failings both 2D and prior 3D approaches.

- Approach does out useable amounts of 3D interactivity.
- Small landscapes and models provide focus on learning – *not navigation & interaction*
- Unwieldy mouse-driven, screen-based interaction/navigation is removed.
- Replacing the human form with content utilizes the fullest amount of screen real estate.
- Provides an intuitive mechanism to guide the social dynamic.
- Performer/Teacher exercises control over the scene through graphically dominant action.
- Performer/Teacher is intuitively responsible for new content appearing on screen.
- Students retain sense of immersion and of a virtual community

Application - Bespace

Application of the avatar as multimedia expression methodology can be found in several projects[†] including Bespace (2003). A synchronous distance-learning project at Georgia Tech and Georgia State University, Bespace utilizes the avatar as multimedia expression methodology to deliver an in depth, hour-long lecture educational lecture on cultural factors and forces that influenced Charles Darwin.

On many levels the Bespace project maintains the look and feel of realistic space. The desire was to promote the sense of an actual classroom, with fellow students and a live human teacher and then blend that sense with the immersive and interactive educational properties of virtual space. In this manner, the project uniquely brings a sense of human touch and presence to the learning environment. Simple rules of classroom engagement such as the raising of a student's hand to ask a question remain a part of the process. Hand raising requires only a single keystroke, yet the

visual act itself is a deft maneuver in online conversation management. The goal of this project is not to deny the role of reality within the virtual, it is to question and direct the application of the real, to blend it with the affordances of the GUI to meet the needs of the students. The core of this process is simply to route useable amounts knowledge directly in front the students through the teacher's avatar.

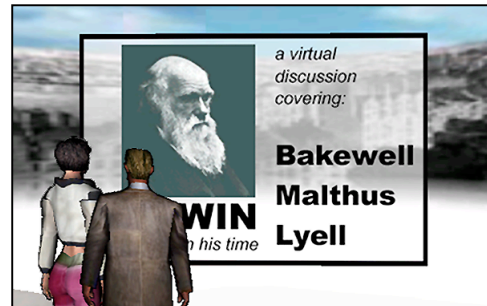


Figure 001 The Teacher as title slide



Figure 002 The Teacher as interactive 3D cow

Conclusion

Online distance learning projects typically lack a human dimension, a real-world, real-time sense that students are a part of a community of learners. Synchronous web3D spaces address this void directly. The limitations of reality are discarded, while the humanity, the sense of personal contact and connection remain. Human interaction is empowered not replaced by a digital agent. In the case of education, it is the teacher who becomes a magical shape-shifting agent of new learning. This process is merely one of adapting the fundamentals of human expression into a new medium, into a computer-generated environment. The choice of Charles Darwin in the education prototype was no accident. The evolution of the human form in a computer-generated environment is now beginning. The rules of natural selection have become digital.

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† Guynup, S. Bespace. (2003) <http://www.bespace.lcc.gatech.edu/single/>
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