Avatars98 and Avatars99: Pioneering the Medium of 3D Internet Cyberconferences

Bruce Damer, Stuart Gold and the Contact Consortium

For the past five years, the Contact Consortium (**www.ccon.org**) has been bringing together the global community of pioneers who are colonizing cyberspace. What do we mean by colonizing cyberspace? Well, in the beginning of the net there was the word, with email, Usenet, MUDs and other ingredients of an all-textual on-line experience. Next came the document, with the web and its many offshoots. And now finally we are moving toward "putting the space in cyberspace" with the rise of graphical virtual worlds inhabited by people interacting in real-time using digital personae known as avatars. In 1998, after failing to find an affordable "physical" venue for its third annual Avatars conference, the consortium opted to move the event "in-world" and worked with R&D studio DigitalSpace (**www.digitalspace.com**) and a large corps of volunteers to build a conference hall in cyberspace. We felt that moving the event on-line would reach a broader constituency and we were amazed by the response. Attendance shot from 400 people at the 1997 "meetspace" conference to over 4,000 avatar-attendees in 1998 and over 8,000 in 1999.

Paying homage to the annual Burning Man (**www.burningman.com**) Black Rock city-in-the-desert, we encouraged the event to grow organically from the bottom up. Thirty locations worldwide became "nodes" of the on-line event, hosting in-person gatherings and "jacking in" to the virtual event worlds. A database and ordinary web forms allowed companies and non-profit groups to specify and build their booths and speaking rooms. Some notable participating organizations included Boeing, NASA, the United Nations Food and Agriculture Organization, Orange County Convention Center (Orlando), the Electronic Cafe International, UC Santa Cruz, Cornell University, Art Center College of Design and numerous avatar design studios and groups. Next, individual artists and webcasters were able to "hang" their works in extensive galleries. Lastly, the annual "Avvy Awards" provided designers a venue to strut their stuff in the year's best avatars in categories such as "best humanoid" and "most bang for the buck."

Both of these events were presented at successive Web3D RoundUPs, and for each, the cast and crew who helped build and host Avatars98 and 99 reappeared in the worlds to reenact the experience for the audience. Presenting at the Web3D RoundUP with a live on-line space and remote performers was a bit more nerve-wracking than your average canned demo, but we feel it better communicated the experience and practicality of producing 3D multi-user cyberconferences for a wide audience. The Web3D RoundUP is an important venue for our nascent movement to present its pioneering work and recruit for next year's events.

A significant component of both events was built and hosted within the Active Worlds™ environment, running on ordinary home PCs on modem connections. Active Worlds supports a streaming "Lego" metaphor, facilitating social building and sharing for hundreds of thousands of 3D artists and community dwellers. *Editor's Note:* See Active Worlds article in this issue. Other platforms, including blaxxun, Onlive Traveler, Worlds-Away and other environments, were used for parallel events contributing to the Avatars conferences.

The Avatars cyberconferences may light the way to a new kind of cyberspace—an inhabited cyberspace that has a human face and finds its visionary roots deep in the matrix of William Gibson's Neuromancer and the metaverse of Neal Stephenson's Snow Crash.

We hope to meet you all "in-world" in the coming century!

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Damer, Figure 1: *Avatars98 showing the "ground zero" conference center on November 21, 1998: 4,000 on-line attendees stream through a single conference hall world featuring exhibits, art show, speakers in session "pods," webcast and awards ceremony.*

Figure 2: *Avatars99 ground zero, the centerpoint for 13 worlds hosting 8,000 attendees on December 4, 1999. Guideways leading to teleport centers taking attendees to other worlds can be seen in the background. A video webcast from one location is shown on the big screen while avatar-guests can converse on an audio "talk radio" accessed by clicking on the headphones object on the left.*

Alice: Model, Paint & Animate – Easy-to-Use Interactive Graphics for the Web

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Alice (**www.alice.org**) is an interactive 3D graphics programming environment for Windows 95/98/NT/2000 built by the Stage 3 Research Group at Carnegie Mellon University. The Alice project was designed as a public

Pausch, Figure 1: The newest version of Alice incorporates a no-typing, drag-and-drop interface for building animations and interactions. Alice's many commands are easily accessible and common syntax errors have been virtually eliminated.
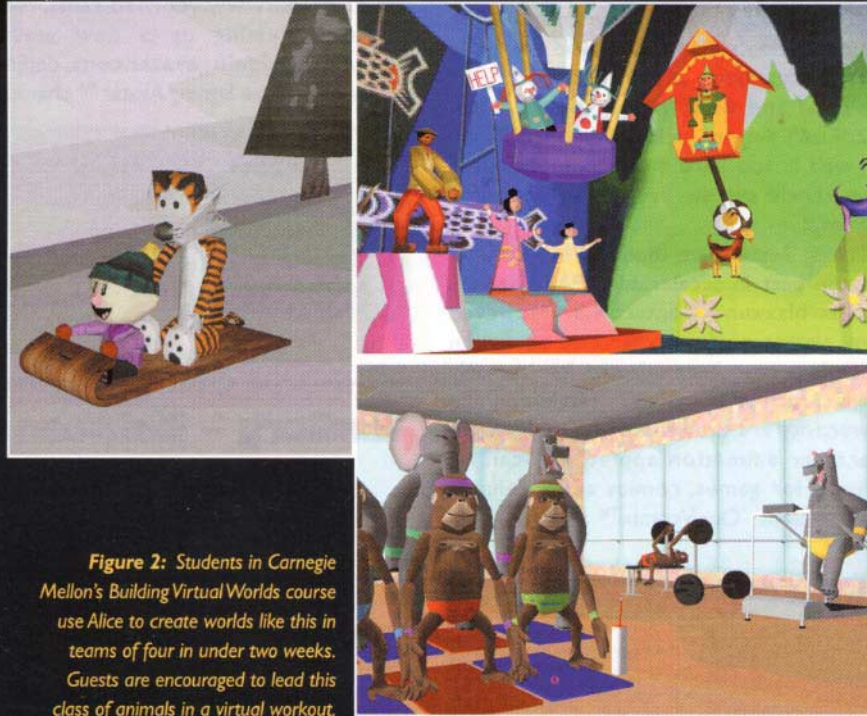
Figure 2: Students in Carnegie Mellon's Building Virtual Worlds course use Alice to create worlds like this in teams of four in under two weeks. Guests are encouraged to lead this class of animals in a virtual workout.

service to the wider computing and artistic communities. Our hope is to make it easy for novices to develop 3D environments, explore the new medium of interactive 3D graphics and share their creations on the web. We believe that computer programming in and of itself is not inherently difficult; it is the tools that are used to program that people may find hard to use. By discovering an easier and more natural method of presentation and implementation of 3D graphics, we hope to make graphics programming accessible to a wider audience.

The current version of the Alice authoring tool is free to everyone and can run on computers that are commonly available for reasonable prices. To date we have had over 80,000 copies of Alice downloaded via the web. Worlds created in Alice can be viewed and manipulated inside of a standard web browser once the Alice plug-in has been installed (a 750KB download). Users who do

not have their own website can choose to "Send their World to a Friend" - we host their world on our server and their friend receives email telling them to visit a specific URL. The average size of such a world is under 65KB.

The newest version of Alice, known as Alice99, incorporates a no-typing, drag-and-drop interface for building and interacting animations. Alice99 ships with an interactive on-line tutorial that guides novice users through the steps of building their first few worlds. Alice's many commands are easily accessible and common syntax errors have been virtually eliminated. These features allow the user to create 3D content, complete with original models and painting, without ever touching the keyboard, let alone typing a line of code (see Figure 1). Consequently, novices and experts alike are free to focus more on the content of their worlds and less on learning the tool. We have observed children

as young as eight producing and sharing interactive 3D environments with their friends on the Internet in a little more than an hour. However, Alice does run on top of C++ and Python (a free and "Turing Equivalent" programming language), so expert users are not limited to Alice's built-in commands.

Alice also includes the Teddy modeler, developed by Takeo Igarashi of the University of Tokyo. Teddy allows the creation of 3D hierarchical models using simple 2D mouse strokes. Coupled with AlicePaint, even novice users can quickly make and paint their own objects in their creation of 3D worlds. In addition to creating original models, users can import .3DS, .OBJ and .DXF files - all of which are available in abundance on the World Wide Web.

Alice is currently being used in a variety of classrooms, ranging from high school to college level. Users include Carnegie Mellon University's Building Virtual Worlds class, in which technical and non-technical undergraduate students work in teams building virtual environments (see Figure 2). Alice is also used as a rapid prototyping environment for conducting virtual reality research.

Carnegie Mellon University provides the authoring tool, plug-in and hosting service free of charge. Interested parties should visit **http://www.alice.org** to download both the authoring tool and plug-in and to view some on-line demos. Work from the Building Virtual Worlds class can be viewed at **http://etc.cmu.edu/projects/bvw.html**.

Randy's reaction after last SIGGRAPH: "As always, talking to the Web3D RoundUP makes one feel like China in a Bullshop. Through careful practice, Takeo Igarashi and I were able to show off both the Alice 3D system and his brilliant Teddy modeler to the delight of a large number of 3D enthusiasts. There's nothing like an audience armed with nerf weapons to bring the best out in speakers!"

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