

A simple primer to the wonders of the World Wide Web

LRIGHT, you've been hearing about the World Wide Web for months now — maybe you've even been bandying about the term yourself — but secretly you still have barely a clue as to exactly what the Web is or how to get on. Or maybe you're not even sure if you want to.

You're not alone. The media hype over the Web is deafening, but rarely does anyone bother to define exactly what it is they're talking about. So let's break from tradition and get the dirty work out of the way right now.

The Web Defined

Many people think the Internet and the Web are interchangeable terms. They're not. The Internet is a network of computer networks —

computers that can share data across company, city and even national boundaries, allowing anyone with access to it to share data, files, programs, pictures, you name it.

The Web is just a means of "browsing" that portion of the Internet that offers multimedia data — text, graphics, even sound, video and animation — without having to type in arcane computerese commands.

Though the Internet is just over 25 years old, the Web is relatively new. A researcher invented it in 1989 as a means of allowing scientists to easily locate related scientific papers that included text as well as graphics. By 1991, the first commercial Web browser (Mosaic) was available. Within four years, the Web evolved from a sparsely populated wasteland of geeks to the rich, incredibly diverse collection of information it is today, with sites visited by an estimated 3-4 million users.

At last count, there were some 40,000 Web sites up and running — including everything

from government sites set up by the White House to corporate marketing sites to pages where you can order flowers, music or pizza, to offbeat little sites set up and maintained by individuals. "Surfing" these pages can be an exhilarating, addictive experience.

It is not unusual for a Web user to spend hours just aimlessly moving from one Web site to the next. Because there's no central authority controlling, creating or maintaining the Web, it is always surprising because you never know where it will lead you. And you never quite know what to expect.

The real power of the Web is in a technology called "hypertext," which is simply a way of building electronic documents that allows you to click on a term to pop up other documents that may be linked to it. In fact, that's why they call it a Web.

Via the Web, all information on the Internet is somehow interconnected. Starting from any

Gina's Top Web Picks

Once you're up and running, here's a list of 20 Web sites you might want to check out. Following are their descriptions, along with their URL (Uniform Resource Locator) addresses. The URL is just the location address you can type into your Web browser to go directly to a page. Later on, you can depend on hypertext links to get around, or save your favorite Web site URLs in a "bookmark" list you can return to anytime. My list has over 1,000 sites so far, and it's still growing!

(Note: There are no breaks or hyphens in a URL address. Some may appear in this list because of typesetting limitations. Just ignore them. The occasional tilde accent mark — ~ — is for real, though.)

Yahoo
http://akebono.stanford.edu/
This index of Web sites got so popular, the two Stanford students who created it are starting a business based on it. This one is a must-have on your bookmark list.

The Ultimate Band List
http://americanrecordings.com/
http://www.music4u.com/
This is the most complete compendium of bands and music I've ever seen.

CommerceNet
http://www.commerce.net
[See WEB SITES, B-6]



EXCLUSIVE E-MAIL: For status-conscious executives, normal e-mail catches up as a post office box in Turlock. Much cooler—having your own personal domain.

AN ALMOST AUTOMATIC CHRISTMAS TREE-WATERING DEVICE: A sleeping bag and overnight bag in one, and a new "jacket pad" to protect in-line skaters' back ends. In the Patent column.

IN MONDAY'S EXAMINER

In Defense of DOS

Politically correct voices loudly proclaim the demise of DOS. Windows, they cry, represents the dawn of the millennium. Bow down, bow down, the Emperor is at hand.

We need to talk about this. Windows is not really what it's advertised to be. It's not the answer to a madman's prayer. Actually, it's not even about these things. Windows is about control and about selling software.

At best, any one of us in the industry can know, say, 10 percent of what there is to know about computers. If you know 10 percent, you belong at the head of the class. But nobody acknowledges that out loud, so we're

overwhelmed by all that we don't know. Our perception is that everybody else knows everything else. Consequently, when others sing praises, we raise our voices in harmony. Because we don't want to be found out as 10 percenters.

An example: At a software association mixer, I joined a group that was extolling the wonders of Windows. Joyful consensus abounded. To generate some excitement, I said Windows was garbage. The reaction startled even me. I didn't get the expected arguments, but a flood of hyper-tension-inducing war stories about the difficulties of Windows. Given permission to be politically incorrect, the group consensus immediately turned anti-Windows.

But the industry continues to

push Windows, even though it's hard; it's slow; it has problems. It's a memory hog that turns a large, fast computer into a small, slow computer. They sell it anyway. It's easy to go with the flow and hard to be different.

My company, BDL Home-ware, publishes home and home-business applications software for noncomputer people. We focus on the user, not the technology. We don't care if our users exploit just a fraction of their computer's power or ever get good at using a computer. We care that our software helps our customers do what they need to do. We care about our software not giving our customers heartburn or ulcers. We care about being a blessing and not a curse.

Word has it that DOS is hard.

[See VIEWPOINT, B-6]



By Bettie Laswell
SPECIAL TO THE EXAMINER

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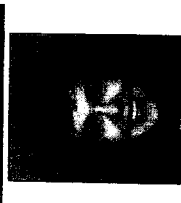
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PERSONAL



BETTIE LASWELL

“If the computer industry wants to reach beyond the technologically persuaded, efforts to convert the unpersuaded must cease. Offer customers what they want to buy rather than what you want to sell. It's called pleasing the customer.”

NAME: Bettie Laswell
BORN: Scranton, Penn.
TITLE AND BUSINESS: President, BDL HomeWare, of Turlock, Calif., makers of home and business software for people who don't have computers and don't want to.

EDUCATION: B.B.A., Ohio University
FAMILY: Divorced, I have two children (Joanna and Matthew). I live in Tucson, Arizona.

WHAT YOU LIKE BEST ABOUT YOUR JOB: When I have a chance to talk to customers.

WHAT YOU LIKE LEAST ABOUT YOUR JOB: The hours can get a little over a/nighting at times.

LAST BOOK READ: "How to be a Motivated Christian," by Stuart Briscoe
FAVORITE ESCAPE: I forget how to leave my computer.

◆ WEBZ from B-5

Wonders of the Web

where, you can get just about any- where else — just by following the

Using hypertext to surf, or navi- gate, the Web is loosely analogous

Links galore

Say you were reading my per- sonal Web site. There you could see

Firm moving HQ to San Jose facility

EXAMINER NEWS SERVICES

SAN JOSE — Diamond Multi- media Systems Inc. has moved its

The headquarters, which dou- bles the size of Diamond's previous

Diamond Multimedia's new cor- porate headquarters is at 2880

WHAT IT COSTS TO WANDER THE WEB

A sampling of Internet service rates from commercial services and traditional

- Compuserve: For Compuserve's basic monthly membership fee of \$9.95, you get three free hours of In-

EXAMINER GRAPHICS

and from there, possibly to meteo- rological listings, or to a travel

The text-heavy discussion areas and libraries of data are interesting

Getting on the Web

Well, obviously, you need a mo- dem — preferably a fast one capa- ble of transmitting data at the rate of

Sounds tough? Until very re- cently, it was. People like me had

◆ TOP 20 from B-5

Gina's top 20 Web picks

Wondering how you can do business on the Web? Me, too.

The Opera Page

This is an opera-information page that lists who's who — and

Mr. Potato Head

http://winnie.acesu.buffalo.edu/cgi-bin/potatoe

Feedex Arkhill Tracking Form

One of my favorite sites on the net, this allows you to track specific

The Internet Fax Server

Can't get to a fax machine? Well, if you've got a little time on

Last In Space

Long before Billy Mumy was on "Star Trek: Babylon Five," he was

Gina Smith's Home Page

http://www.ziff.com/people/gina/

WEB WORDS

A brief glossary of World Wide Web terminology:

- Browser — generic term for programs that allow a person to navigate and view documents on the Web.

EXAMINER GRAPHICS

Worlds Chat

http://www.kaworlds.com If you've got a fax, 486 and mo-

The Games Domain

http://www.dhnm.com/ip.html Do you just love to play games?

The Ziff-Davis Home Page

http://www.ziff.com

TECHNOLOGY

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Software Firm to Offer Colorful Imagery for User Chats

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By JARED SANDBERG

Staff Reporter of THE WALL STREET JOURNAL
NEW YORK—Virtual worlds, as on-line computer buffs call them, may be the next part of the Internet to get mighty crowded.

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Already, users from around the world meet in cyberspace to swap real-time text messages, discussing everything from sports cars to Chinese politics. But such meetings are visually limited to type on a computer screen.

To enhance the experience, a host of companies are working to render on-line hangouts—with a cover charge. They hope to add "3-D" imagery and characters to the Internet, which boasts thousands of bulletin boards, hundreds of role-playing games and live typing discussions.

Knowledge Adventures will offer a colorful cyber-hangout, dubbed Worlds Chat. Users can chat while wandering through the "space station," which resembles a textbook diagram of a water molecule. Inside, they can stroll hallways that look like those aboard the Starship Enterprise, meander through wood-paneled rooms and head outdoors to an open plaza. Users

can select 3-D characters to represent them, picking from a palette of images that includes random people, chess pieces and a blowfish. Aside from the prospect of a talking blowfish, the images are photo-realistic.

Rivaling TV Reruns

"We're doing this to change the way people communicate with each other," said Greg Beasley, general manager at Knowledge Adventure Worlds. "I see this as stealing half an hour away from watching TV reruns."

Elsewhere in cyberspace, Fujitsu Ltd.'s Cultural Technologies unit recently unveiled its upcoming Worlds Away service. While it won't allow photo-realistic 3-D wandering, it will let CompuServe users select their own animated characters, whose typed messages are accompanied by shrugs and smiles.

Last month, software company Ubique Ltd. rolled out a service where photos of "chatters" appear on screen as they type messages on the World Wide Web, the multimedia portion of the Internet. Separately, Community Co. is spearheading development of 3-D rendering software for widespread use on the Internet, known as the Virtual Reality Modeling Language, which will eventually include chat capabilities.

"All of these things presage the new telecommunications medium that is going to replace the telephone touch-tone key-

pad," said Jerry Michalski, editor of ED-venture Holdings Inc.'s technology newsletter Release 1.0. Such chatting in virtual worlds, he predicts, could become "the backdrop" for on-line business meetings.

On-Line Worlds Fair

Indeed, Knowledge Adventure Worlds has set sights on business. Next October it plans to launch an on-line Worlds Fair (and owns rights to that name), which will feature business-sponsored pavilions. By year end, the company plans a Worlds Trade Center where companies can display their wares.

The efforts have drawn the interest of advertisers. The new service "gives you the sense of being in the environment in a way that you haven't had on the Internet," said Andrew Frank, a partner at WPP Group's Ogilvy & Mather Direct. That company and two other ad shops are developing interactive "billboard space" for clients whose pitches will appear in the 3-D worlds that users visit.

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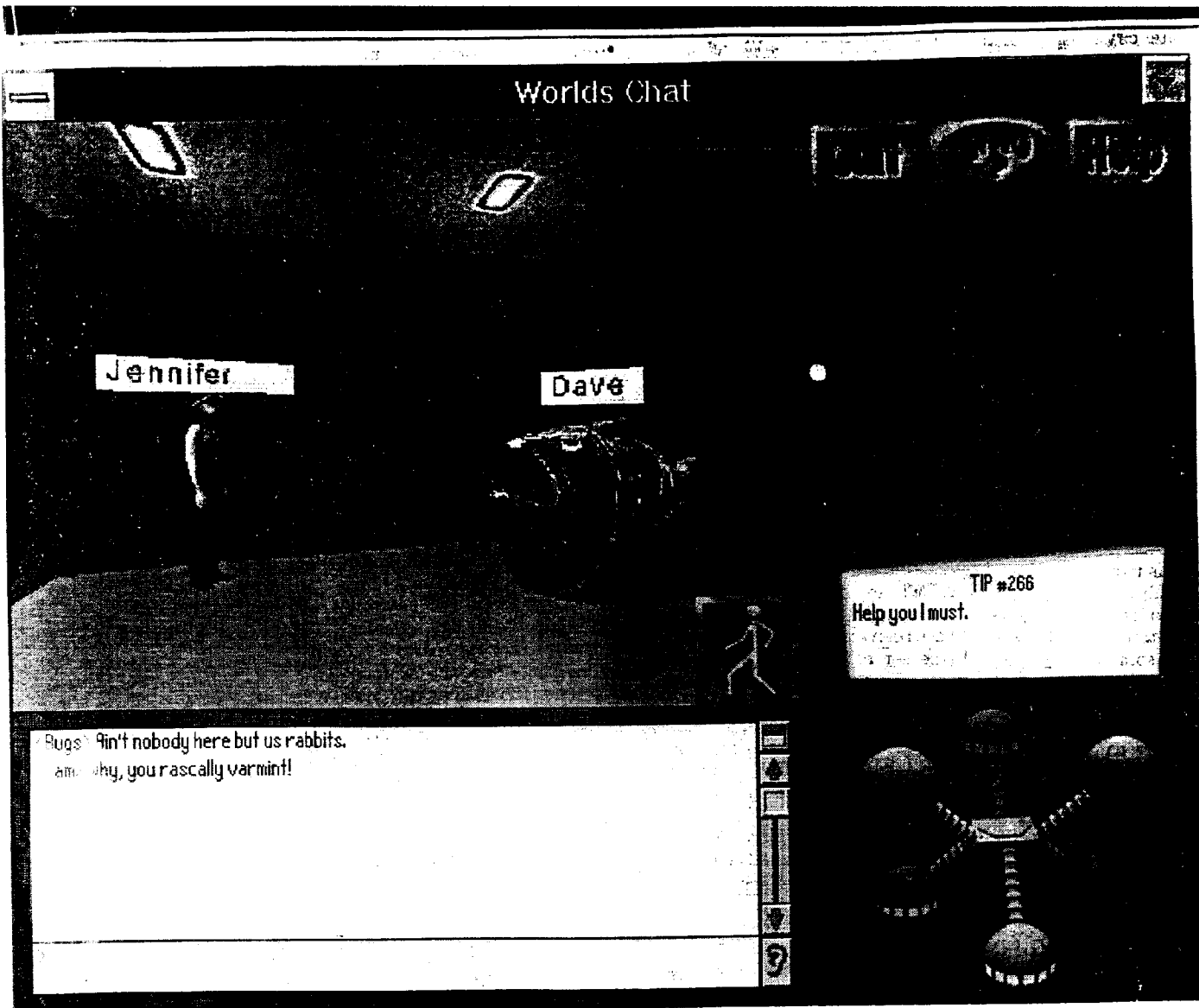
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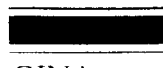


Virtual surreality: A giant fish named Dave and another avatar meet in a variety of "rooms" in the Worlds Chat environment.

Whole new Worlds on-line

S.F. STARTUP MAKING WAVES
WITH 3D VIRTUAL REALITY WORLD
ON THE INTERNET

A CREATURE named Lionman is leading me around a checkered hallway. "Have you



the Internet I've seen. And unlike every other hyped-up story about virtual reality you've

S.F. STARTUP MAKING WAVES WITH 3D VIRTUAL REALITY WORLD ON THE INTERNET

A CREATURE named Lionman is leading me around a checkered hallway. "Have you visited the planes of geometry yet?" he wants to know, and when I ask him what he's talking about, he just says, "Follow me." We walk and walk until finally, after meeting up with a giant fish named Dave and an overgrown chess piece named Joe, we arrive.

The 3-D view before me goes on and on. It is breathtaking.

"So what do you think?" Lionman wants to know. "I can show you some more secret places, if you want." I spend the next two hours following Lionman around, and I'm not the only one. By the end of the evening, there's a whole parade of pilgrims following Lionman's every lead. "Where did Lionman go?" my new friend the Knight asks the minute Lionman disappears. "Still here," comes Lionman's message. "Sorry, but I had to take a phone call."

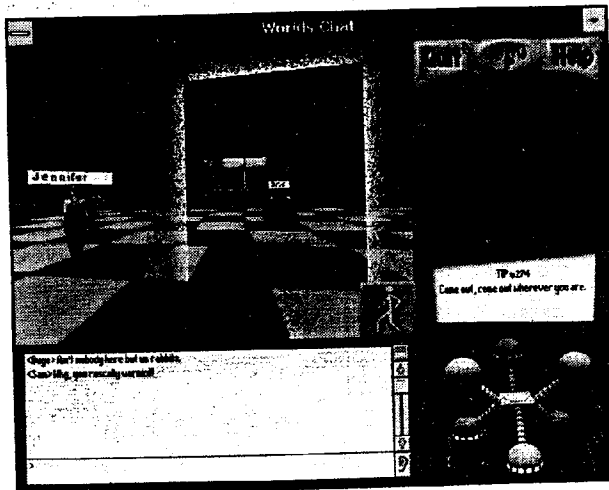
A surrealistic dream? Not quite. A little digging revealed that Lionman was actually Cole Larson, chief technical officer and one of eight co-founders of Worlds Inc., the San Francisco firm that is responsible for this bizarre virtual environment I just experienced.

Worlds — a spin-off of La Crescenta-based edutainment firm Knowledge Adventure — has created World Chat. It is one of the first examples of virtual reality on

GINA SMITH INSIDE SILICON VALLEY

the Internet I've seen. And unlike every other hyped-up story about virtual reality you've heard of or read about, this VR doesn't just exist in the realm of someone's mind. It isn't a game. It doesn't require you to wear a funny-looking helmet. And it isn't a dorky text-based "Dungeons and Dragons" simulation, either.

World Chat is a virtually real, multi-user 3-D world that you can walk through and meet people in. And it exists today — provided of course, you have a fast-enough PC running Microsoft Windows (50MHz, 486 minimum) and a fast, direct modem connection to the Internet.



"This is the first time in history where we really have a chance to see how people react in a 3-D world," says World's senior VP Gregory Slayton, and he's not kidding. (Worlds should be charging behavioral psychologists admission!)

Sure, "live chat" has been around on

the Internet and on commercial services like America Online for years, where people from all over the world can hold live conversations with other people they've never met just by typing on screen. But World Chat is different. This isn't just text, it's a graphical environment.

When you enter, you choose a character (or
[See WORLDS, B-6]

Whole new Worlds on-line

(or "avatar") to represent you from the dozen or so 3-D cartoons and figures available. As you move around, you can see other peoples' avatars and they can see you, too. And you can chat — via typing — practically instantaneously. The effect is consuming.

Though several companies have been talking about and demonstrating similar ideas (CompuServe's Worlds Away, due later this summer, is one), this is the first one widely available. As a result, Worlds is causing quite a stir — not just in the on-line community, but in the financial community, too. The firm, in fact, is in the midst of a first round of funding, geared at getting the company a \$30 million post-investment valuation. Currently, Knowledge Adventure owns 19.5 percent of the firm, with the rest owned by company executives and employees.

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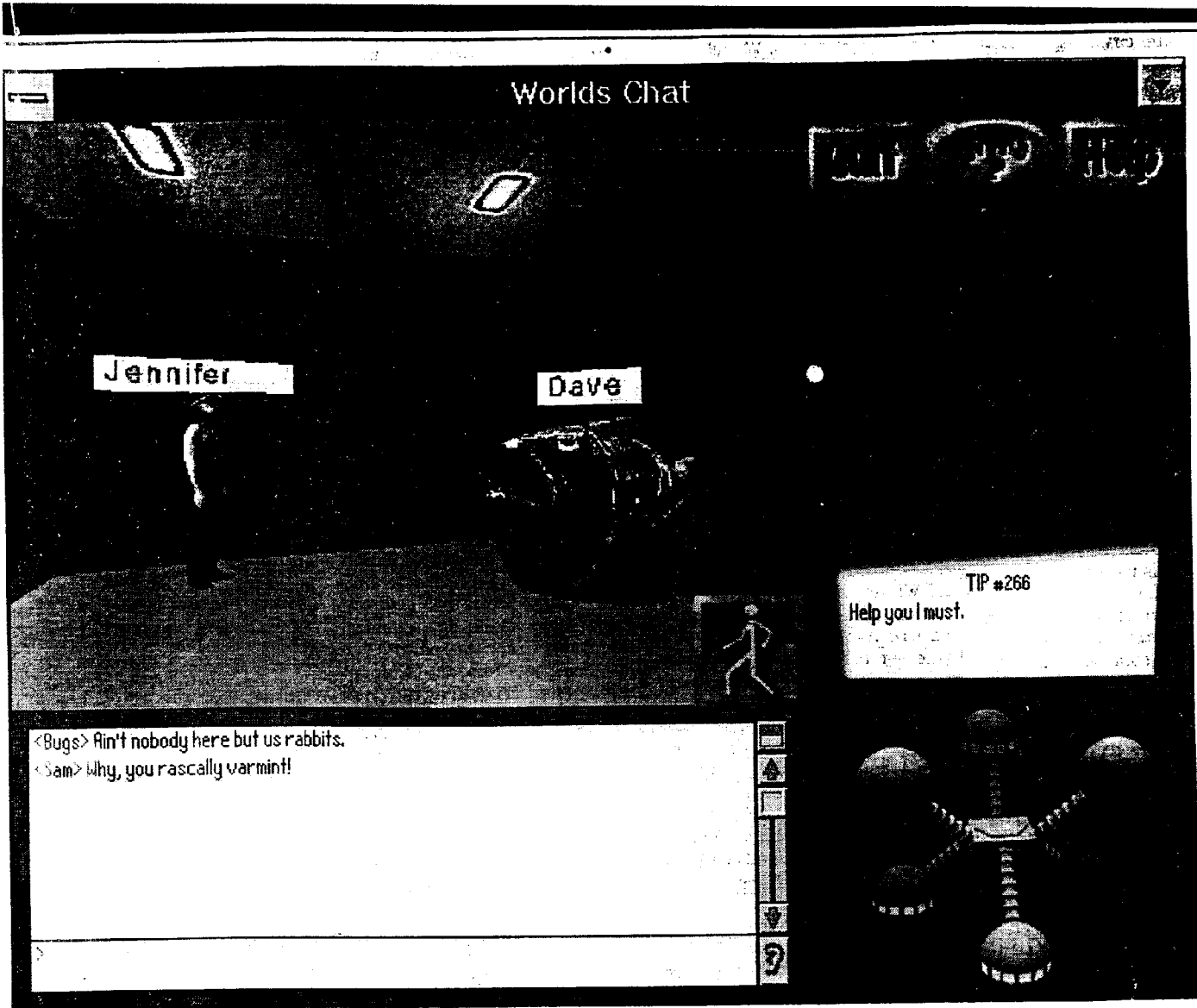
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SAN FRANCISCO EXAMINER

B-6 Sunday, May 14, 1995 ★ ★



Virtual surreality: A giant fish named Dave and another avatar meet in a variety of "rooms" in the Worlds Chat environment.

Whole new Worlds on-line

S.F. STARTUP MAKING WAVES
WITH 3D VIRTUAL REALITY WORLD
ON THE INTERNET

A CREATURE named Lionman is leading me around a checkered hallway. "Have you



the Internet I've seen. And unlike every other hyped-up story about virtual reality you've

S.F. STARTUP MAKING WAVES WITH 3D VIRTUAL REALITY WORLD ON THE INTERNET

A CREATURE named Lionman is leading me around a checkered hallway. "Have you visited the planes of geometry yet?" he wants to know, and when I ask him what he's talking about, he just says, "Follow me." We walk and walk until finally, after meeting up with a giant fish named Dave and an overgrown chess piece named Joe, we arrive.

The 3-D view before me goes on and on. It is breathtaking.

"So what do you think?" Lionman wants to know. "I can show you some more secret places, if you want." I spend the next two hours following Lionman around, and I'm not the only one. By the end of the evening, there's a whole parade of pilgrims following Lionman's every lead. "Where did Lionman go?" my new friend the Knight asks the minute Lionman disappears. "Still here," comes Lionman's message. "Sorry, but I had to take a phone call."

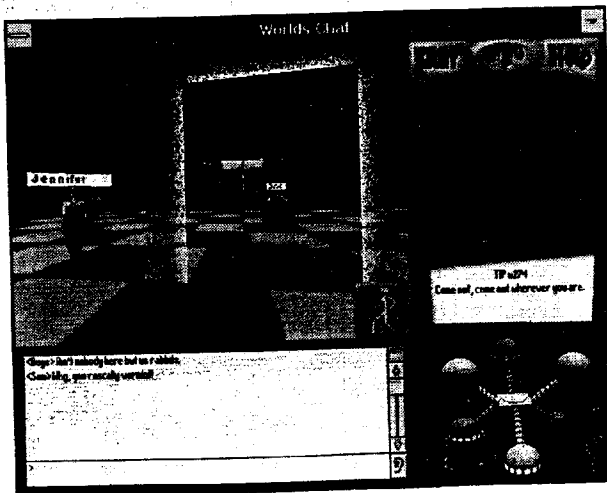
A surrealistic dream? Not quite. A little digging revealed that Lionman was actually Cole Larson, chief technical officer and one of eight co-founders of Worlds Inc., the San Francisco firm that is responsible for this bizarre virtual environment I just experienced.

Worlds — a spin-off of La Crescenta-based edutainment firm Knowledge Adventure — has created World Chat. It is one of the first examples of virtual reality on

GINA SMITH INSIDE SILICON VALLEY

the Internet I've seen. And unlike every other hyped-up story about virtual reality you've heard of or read about, this VR doesn't just exist in the realm of someone's mind. It isn't a game. It doesn't require you to wear a funny-looking helmet. And it isn't a dorky text-based "Dungeons and Dragons" simulation, either.

World Chat is a virtually real, multi-user 3-D world that you can walk through and meet people in. And it exists today — provided of course, you have a fast-enough PC running Microsoft Windows (50MHz, 486 minimum) and a fast, direct modem connection to the Internet.



"This is the first time in history where we really have a chance to see how people react in a 3-D world," says World's senior VP Gregory Slayton, and he's not kidding. (Worlds should be charging behavioral psychologists admission!)

Sure, "live chat" has been around on

the Internet and on commercial services like America Online for years, where people from all over the world can hold live conversations with other people they've never met just by typing on screen. But World Chat is different. This isn't just text, it's a graphical environment.

When you enter, you choose a character (or

[See WORLDS, B-6]

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users at once in their simulations could be a major money maker.

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SAN FRANCISCO EXAMINER

B-6 Sunday, May 14, 1995 ★ ★

Visa to Provide Internet Banking

It links up with S.F.'s World Inc.

By Peter Sinton
Chronicle Senior Writer

Visa U.S.A. and Worlds Inc. yesterday unveiled The Electronic Courtyard, the latest home-banking service to let consumers check account balances, transfer funds and apply for loans over the Internet.

Unlike the flat, two-dimensional "home pages" that many banks and other companies offer on Internet's World Wide Web, the alliance between the world's largest credit card network and the small San Francisco developer of three-dimensional interactive software makes banking by computer appear much like a video game.

With a few clicks of the personal computer mouse, consumers walk through the doors of a bank branch and are greeted by an "employee" who directs them to checking and savings account services, a credit card desk and loan and investment services.

With a few clicks of a mouse, consumers walk through the bank's doors and are directed to various services

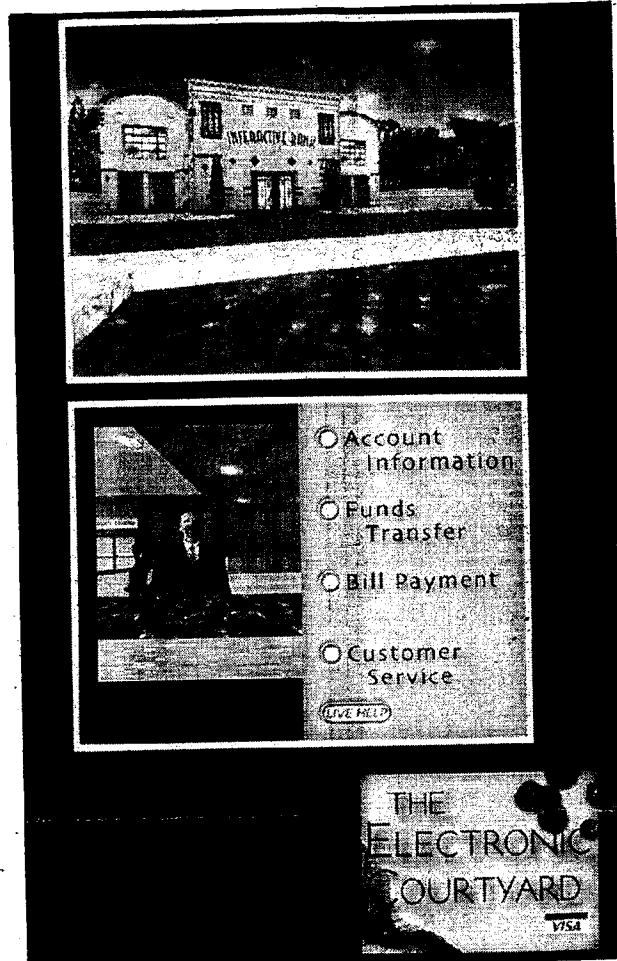
Against the background of gentle harpsichord music, ersatz employees answer all queries with friendly computer-chip voices.

"We believe connectivity to the consumer is very important," said Visa chief executive Carl Pascarella. "By recreating the familiarity of a branch, World Inc. has made it more inviting for people to enter the electronic commerce environment."

An increasing number of financial institutions are moving beyond brick and mortar branches and automated teller machines to offer banking services more cheaply and conveniently to their customers. To help its 20,000 member institutions serve 402 million cardholders and 13 million merchants electronically, Visa established its Visa Interactive unit a year ago. Yesterday it said it owns an equity interest in World Inc.

Pascarella showed The Electronic Courtyard technology on Tuesday to about 75 member banks and expects the first applications this fall. Visa is working with Microsoft Corp. to develop security measures to ensure that all financial transactions remain confidential.

World plans to expand its electronic mall to include retailers and other merchants who can sell their wares via home comput-



Visa hopes Electronic Courtyard will make home-banking fun

er. On Tuesday, International Business Machines and World said they would give away their 3-D technology, called Virtual Reality Modeling Language Plus, over the Internet to encourage its use.

In a separate announcement yesterday, MasterCard International and VeriFone Inc., a leading maker of devices for authorizing credit cards, formed an alliance to promote smart cards and debit programs.

VRML is All the Rage at Computer Graphics Show

By Karen Heyman

GRAPHICS VENDORS KICKED off the SIGGRAPH '95 exhibition in Los Angeles last month with a flurry of interactive products and authoring tools, most notably a number of developments in VRML technology.

Worlds Inc. announced that it will offer its formerly proprietary Worlds Chat technology for free to the development community as part of its attempt to see its protocols, dubbed VRML+, accepted into the next VRML standard. The San Francisco, CA company offered demonstrations of IBM Virtual World, the multiplatform, interactive VR environment it partnered with IBM.

Caligari Corp. (Long Beach, CA) gave preview demonstrations of Fountain, its VRML authoring tool that enables developers to create 3D shapes, arrange import-

ed 3D objects and edit textured surfaces. The product has pop-up 3D modeling tools with which users can alter and add to existing 3D spaces; it will debut at the end of September.

In addition to Fountain, Caligari also offered a 3D World Builder technology demonstration. Web developers using 3D WorldBuilder will be able to create 3D objects and link them to HTML documents on interactive Web sites.

Portable Graphics and Integrated Data Systems announced they will collaborate to offer VRealm, a Netscape-compatible VRML browser for viewing VRML and Open Inventor worlds, and VRealm Builder, an authoring tool that creates worlds viewable by VRML-compliant browsers. In addition, Portable Graphics will bundle support for VRML exten-

sions into Open Inventor, allowing developers to add Internet capabilities to existing applications. The products are expected to ship by early 1996 for all major platforms. A freeware version of the browser will be available from the companies' Web sites; users can register for \$29.95 and receive full technical support.

Adding to its WebForce product line, Silicon Graphics announced WebSpace Author, which adds 3D content tools to a Web site. This VRML authoring tool allows Web designers to import 3D models from various modeling software packages, assemble models into a scene, and create links from 3D objects within the scene to other Web content.

Cary, NC-based Virtus Corp. showed Virtus WalkThrough Pro and Virtus VR from its line of 3D modeling and visualization soft-

ware. The products let users create 3D objects and structures with texture-mapped surfaces on the desktop that can be added to Web sites; users can move around in these 3D objects and interact with them as they visit these sites.

Chaco Communications, Inc. (Cupertino, CA) previewed a beta version of its Pueblo 3D multimedia Internet game client. Based on VRML, Pueblo lets Web game developers create hypermedia MUDs with graphics, sound, puzzles, and navigational capabilities. The company has made a beta release of Pueblo designed to run on Windows 95 and Windows NT available from its Web site.

And finally, fittingly, another conference was announced: "VRML '95: The First Annual Symposium on the VRML" is scheduled to take place December 14-15 in San Diego. ■

Installing Windows 95?

Don't start it up until you read our guide.



where chat worlds collide
by Ken Coupland



A few years ago I fell in love with the book *Snow Crash*. The hacker hero of this cyberpunk cult classic logs on to a futuristic online world called the Metaverse and takes up residence on the town's main thoroughfare. Along the endless boulevard, lined with businesses and homes, thousands of cyberspace visitors work and play. The inhabitants are so breathtakingly realistic--their speech, gestures, and facial expressions so uncannily lifelike--that I wanted to go to the Metaverse, too.

Now, at last, I can. At this very moment, fantasy worlds much like the one that called out to me from the pages of *Snow Crash* are becoming realities--at least virtual ones. Thanks to a phenomenon called *animated chat worlds*, I've ventured of late to some astounding places. And now you can take the journey.

Chat worlds are animated, 3D versions of text-only chat lines, those popular fixtures long available on the Internet and online services. These still-emerging electronic hangouts have the power to propel you into worlds that bear virtually no resemblance to the flat, faceless chat lines we know today. They allow you to assume the persona of your choice and view your cyberfriends face-to-face. As you meet them, hang out with them, and even chat with them in real time, you become part of an enchanting new universe.

To get the most out your journey, it's best to check your expectations at the door. Still in their infancy, none of the chat worlds I visited allowed me to exercise all of the promised powers. But each one offered at least a glimpse of the future of animated chat. And let me tell you, it's tantalizing. My travels took me to Worlds Chat, which lets you explore a 3D graphical universe; Ubique's Virtual Places, where you can speak to other cybertravelers in real time; and CompuServe's soon-to-debut WorldsAway, in which your persona can smile, frown, wave, sit, and jump. A fellow traveler dropped by the Starbright World, a special chat world created just for seriously ill children.

one chat world for everyone?

Are these new chat worlds just a flash in the pan? Not likely. New chat worlds are already in the works. And while animated chat worlds aren't for everyone, I'm optimistic about their future. In fact, the very existence of animated chat still thrills me. It's clear that the chat worlds you and I can inhabit today are works

in progress.

I give Worlds Chat producer Andrea Gallagher a nod of agreement when she says we're still thousands of steps away from the universe described in *Snow Crash*. But just think: there I was only a few short years ago, longing to enter the Metaverse, with only my imagination to take me there. So while Virtual Places and Worlds Chat are still free, check out the world of animated chat for yourself. I hope you find these playful, make-believe places as delightful as I do. And if you wind up hopelessly addicted, don't say I didn't warn you.

Ken Coupland is a regular contributor for *Wired* and a contributing editor for *Graphis*, as well as coauthor of *The Multimedia Home Companion: A Guide to the Best in Interactive Entertainment* (Warner Books, fall 1994). Kristi Essick is an editorial assistant for c|net online.



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According to Paul Nahi, director of marketing for Diamond Multimedia Systems, who conceived the consortium, the key to success will be making multimedia on the Web more easily accessible for the average consumer by removing the barriers of low speed access and lack of interoperability among enabling technologies, products and services.

For The Consumer

"We're very consumer-oriented," he said. "We're trying to look at everything from the consumer's viewpoint."

In addition to Diamond, the consortium currently includes NETCOM (direct Internet access provider), SAIC (Internet Solutions (website developer),

schemes will take years to us pay mass-consumer basis.

Not Creating Standards

NetFX seeks to align Internet companies behind an interoperability standard for all multimedia-enabling technologies, so that all software, hardware, content and services work together (using ISDN) in an integrated way. Consumers then enjoy seamless, transparent use of multimedia on the Web.

Nahi said that NetFX is not a standard-setting body, nor is it trying to push a proprietary set of standards. "We're taking standards that are necessarily opened, that don't cost anything to the end user, and determining which of those, based on both empiri-

equipment costs from... According to Nahi, a solution is around the corner. In December, Diamond will bring to market a product for Windows 95 users called NetCommander, which basically provides all the hardware and software needed to get hooked up, configured, and running with ISDN. "It's plug and play," he said. And it only costs \$299. Nahi said Diamond is also setting up an ISDN "support center" where consumers can call up and ask anything, from "what is ISDN?" to "how do I install it?" Nahi said the company will order ISDN for you, if needed.

From a Web consumer's perspective, any help would be most welcome.//

Online Interview: Rosalind Resnick

continued from page 3

because it basically piggybacks on something women want to do already in cyberspace, which is communicate and interact with other people. I really think the key to success is creating virtual communities, the kind of communities where women want to spend time.

IPR: Do you see technologies like 3D, multi-user virtual worlds as a way to build these virtual communities effectively?

RESNICK: Exactly. The new technologies that I think have great promise for attracting women online are VRML [a programming language for creating 3-D objects], and *Worlds Chat*. I love *Worlds Chat*. [see <http://www.worlds.net/>] You go into this 3-D environment and you pick an avatar [the user's graphical representation] and you surf around. And I know they're working on commercial

applications so that you can surf to a virtual help desk for information. I think that's the kind of thing that would appeal to women. For example, a woman sees the blouse she likes, so she scoots on over to the blouse and as she gets closer the image gets larger and she can look at it from different angles. She can't try it on, but at least she can interact with it much more than simply seeing a static picture.

IPR: Any other survey findings that should interest marketers?

RESNICK: One of the interesting things I found in my survey was that women are a lot more turned on by e-mail than they are by the Web. The Web ranks kind of in the middle as far as women's favorite activities online. And e-mail ranks number one. Marketers, advertisers, publishers, who want to reach women

online, should not ignore the new technologies — *Worlds Chat*, all that. At the same time, marketers should understand that they need to woo them with words. Words appeal to women in a very visceral way. Women are turned on by text as opposed to picture.

IPR: How many women are online?

RESNICK: Nobody knows the exact number, of course. I like the O'Reilly survey because they actually did random digit dialing instead of being self-selecting. I think it's safe to say that between 30 and 40 percent of the online population is female. About half of our respondents were from the Internet.

IPR: Was there anything that surprised you in the survey?

RESNICK: What impressed me was

continued on page 9

Future Business



TOM ADAMS

The Internet is poised to revolutionize the businesses of both communications and entertainment, and we talked about the network and technology trends driving the phenomenon in last month's column. But while dropping prices for PC hardware and wider, cheaper Internet access are driving penetration rates, it is the evolution of Internet standard (TCP/IP) compatible software applications that we believe will shape the character of the Internet and how the Internet will affect your business.

The most fundamental software application for the Internet in its commercial capacity is the browser. The browser enables an end user to retrieve multimedia documents from the World Wide Web (WWW), the Internet's richest area for multimedia and graphics.

Spyglass Communications and Netscape Communications are the leading developers of browser applications, though there are a plethora of other browsers available. Spyglass is the exclusive licensor of the original NCSA Mosaic and its upgrade Enhanced Mosaic, while Netscape employs a number of the members from the original team that developed Mosaic for its own branded browser, the Netscape Navigator.

Spyglass has licensed Mosaic to a host of well-known companies including Microsoft, Spry/CompuServe, and AT&T. Netscape, meanwhile, has made its mark by offering free downloads of the browser (now in use by 75 percent of Web traffic), while making money on sales of its Web server software.

Both companies are vying to become the standard for browser software, the Microsoft of the Internet if you will, jockeying for position in

what is one of the most long-term promising yet short-term risky markets in existence today.

Beyond the basic browser, a number of companies are developing applications that take the initial ability of establishing graphic connection on the Internet and expanding that into diverse and innovative areas. Here's a quick rundown of some of the most exciting companies that we've seen:

VocalTec (Northvale, New Jersey) has software that enables real-time audio connection over the Internet with multimedia PCs. In other words, an *Internet telephone* that provides long-distance calls with only the charge of a local call.

The software originally debuted in February as "half-duplex," meaning that only one person could speak at a time. Just four months later though, in June, the software had been upgraded to "full-duplex," offering a fairly low transmission quality (something like a speaker phone), but still very usable.

Netcom, one of the largest providers of commercial Internet access, plans to incorporate the technology into its Web browser, while Motorola and Cirrus Logic have signed to build VocalTec software into their products. The bottom line is that PCs will soon come equipped to handle Internet phone calls.

Progressive Networks (Seattle, Washington) came up with an application earlier this year for Internet radio (AKA "netcasting"). The product, "Real Audio," is a combination of end-user, audio developer, and server software that enables once slow and bandwidth-starved audio files to be transported in real time to PCs on existing hardware platforms and infrastructures.

After announcing partnerships with Netscape, Microsoft, CapCities/ABC, National Public Radio, and others in March, the company had more than 50,000 downloads of the Real Audio Player (the end user component of the application) in the first six weeks.

Worlds, Inc. (New York) recently developed an Internet "chat" application, called World's Chat that enables Internet surfers to adopt 3D personas called avatars and interact with others in 3D environments on servers running the software. Worlds' technology was developed in conjunction with Steven Spielberg's Starbright foundation and is noted for its realistic human forms and movement.

White Pine Software (New York) licenses CUSeeMe, an Internet video-conferencing application. Any computer equipped with a microphone and a video camera can use CUSeeMe to have a real-time video chat over the Internet.

We can't help thinking of "Uncle Miltie" in a dress, the earliest popular application of the newfangled television set in the 1940s. A lot of the uses to which this latest revolutionary technology are being put to use are primitive, some even corny.

But few could conceive of VCRs, CNN, and living-room wars in 1950. That's one reason—though we don't know how—we think the ability to see, hear, interact, and ultimately to deliver audio/video programming over the Internet will change our lives profoundly. **PCW**

Tom Adams is president of Adams Media Research of Carmel Valley, California. AMR publishes two newsletters of financial and market analysis: the AIM Report on interactive multimedia and Hollywood Aftermarket on the post-theatrical markets for film.

TECHNOLOGY

Talking Blowfish to Enliven the Internet Software Firm to Offer Colorful Imagery for User Chats

By JARED SANDBERG
Staff Reporter of THE WALL STREET JOURNAL

NEW YORK—Virtual worlds, as on-line computer buffs call them, may be the next frontier of the Internet to get mighty attention.

One concern Knowledge Adventure Worlds Inc. is expected to roll out an on-line virtual "environment" this week, hoping hordes of internet users who now interact via bland text messages will want to grab and roam in a setting of mountains, spaceships and convention centers in simulated three dimensions.

Already, users from around the world meet in cyberspace to swap real-time text messages, discussing everything from sports cars to Chinese politics. But such meetings are visually limited to type on a computer screen.

To enhance the experience, a host of companies are working to render on-line hangouts—with a cover charge. They hope to add "3-D" imagery and characters to the Internet, which boasts thousands of bulletin boards, hundreds of role-playing games and live typing discussions.

Knowledge Adventures will offer a colorful cyber-hangout, dubbed Worlds Chat. Users can chat while wandering through the "space station," which resembles a textbook diagram of a water molecule. Inside, they can stroll hallways that look

like those aboard the Starship Enterprise, meander through wood-paneled rooms and head outdoors to an open plaza. Users can select 3-D characters to represent them, picking from a palette of images that includes random people, chess pieces and a blowfish. Aside from the prospect of a talking blowfish, the images are photorealistic.

"We're doing this to change the way people communicate with each other," said Greg Beasley, general manager at Knowledge Adventure Worlds. "I see this as stealing half an hour away from watching TV reruns."

Elsewhere in cyberspace, Fujitsu Ltd.'s Cultural Technologies unit recently unveiled its upcoming Worlds Away service. While it won't allow photo-realistic 3-D wandering, it will let CompuServe users select their own animated characters, whose typed messages are accompanied by shrugs and smiles.

Last month, software company Ubique Ltd. rolled out a service where photos of "chatters" appear on screen as they type messages on the World Wide Web, the multimedia portion of the Internet. Separately, Community Co. is spearheading development of 3-D rendering software for widespread use on the Internet, known as the Virtual Reality Modeling Language, which will eventually include chat capabilities.

All of these things presage the new telecommunications medium that is going to replace the telephone touch-tone keypad," said Jerry Michalski, editor of EDventure Holdings Inc.'s technology newsletter Release 1.0. Such chatting in virtual worlds, he predicts, could become "the backdrop" for on-line business meetings.

Indeed, Knowledge Adventure Worlds has set sights on business. Next October it plans to launch an on-line Worlds Fair (and owns rights to that name), which will feature business-sponsored pavilions. By year end, the company plans a Worlds Trade Center where companies can display their wares.

The efforts have drawn the interest of advertisers. The new service "gives you the sense of being in the environment in a way that you haven't had on the Internet," said Andrew Frank, a partner at WPP Group's Ogilvy & Mather Direct. That company and two other ad shops are developing interactive "billboard space" for clients whose pitches will appear in the 3-D worlds that users visit.

Knowledge Adventure Worlds, a spinoff of closely held Knowledge Adventure Inc., a CD-ROM software maker, is giving away its new "world" software over the Internet, hoping to hook "millions" of consumers, said the company's Mr. Beasley. But only high-power users who have special "SLIP" software will be able to use it. Eventually the company plans to charge customers an hourly fee like an on-line service.

EDITED BY PAUL M. ENG

NOW, A 'SPACE STATION' IN YOUR PC

VIRTUAL REALITY IS COMING to cyberspace. In March, CompuServe Inc. announced plans for new software that lets people in online chat rooms assume an onscreen persona—sort of a cartoon character that represents them. On Apr. 3, Knowledge Adventure Worlds, a San Francisco-based spin-off of multimedia software developer Knowledge Adventure Inc. in La Crescenta, Calif., will try its hand. The company says it will create a virtual world on the Internet where people can gather and chat online. Based on programming techniques used in Knowl-

edge Adventure educational programs such as Space Adventure, Knowledge Adventure Worlds creates a virtual space station inside a personal computer. By moving the mouse or using the cursor keys, computer users get a first-person perspective of moving about the station.

At first, the software and visits to Knowledge Adventure Worlds' Internet computer will be free. The company says it is launching this service as a pilot program for a larger online service called the Interactive World's Fair, which it expects to launch in Octo-

ber. Being developed in conjunction with theme-park creator Landmark Entertainment Group, the online World's Fair will feature virtual pavilions, exhibit halls, and possibly shopping malls. As in a real world's fair, corporations will be there to show off their wares and ideas. But in the virtual fairground, you would jump to the company's page on the Internet's World Wide Web. For now, Internetters will be able to download the free software, explore the space station, and find out more information by visiting Knowledge Adventure Worlds' World Wide Web site at: <http://www.kaworlds.com>.

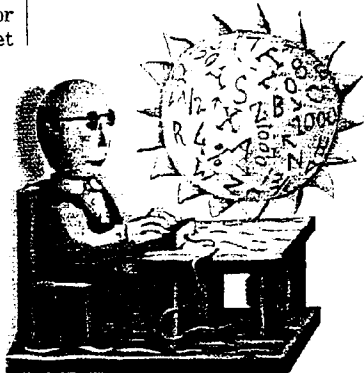
MAKE WAY FOR THE NEW CROP OF CYBERZINES

IS THE WORLD READY FOR multimedia magazines delivered on CD-ROM? Two companies are rushing to find out. In mid-April, New York-based 2Way Media Inc. will launch an electronic publication called, well, *Launch*. For \$35.99, subscribers will get six bimonthly issues full of video interviews with musicians, music-video segments, trailers for feature movies, and batches of interactive game-based ads.

Meanwhile, Medio Multimedia Inc. in Redmond, Wash., plans to combine a CD-ROM publication with live connections to the Internet. The CD-ROM will zap images and videos to a computer screen while related data stream in from the Internet. The idea is to help customers, starting in the Seattle area, form electronic communities. Price: \$9.95 for the first two months, \$19.95 a month thereafter.

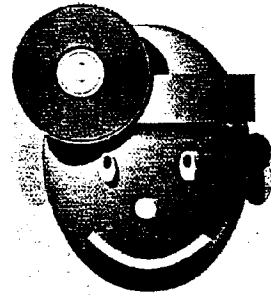
LETTING THE BLIND OPEN WINDOWS

BRAILLE COMPUTERS AND PCS EQUIPPED WITH ARTIFICIAL-speech synthesizers to speak the words on the screen have made it possible for blind users to do pretty much anything a sighted user can—that is, as long as they do not need to work on an application using Microsoft Corp.'s Windows software. The icons, overlapping windows, and point-and-click mouse that are the hallmarks of Windows-based programs are barriers to sightless users.



Enter TeleSensory Corp. in Mountain View, Calif., and its ScreenPower for Windows software, which translates the graphics depicted on the screen into usable, character-oriented information for blind people. ScreenPower identifies each icon, button, scroll bar, and command element and translates those descriptions into braille or artificial speech. It works by building a "tree" of information, with braille or audio "branches" that correspond to windows in the software program. Elements in the tree are identified by function rather than by how they look. With the computer's numeric keypad, the user can approximate the functions of a mouse, while being guided by voice prompts. The product is available now in braille-only, speech-only, or dual-mode versions for \$995. It is compatible with more than 30 speech synthesizers and TeleSensory's own line of braille devices, including a laptop braille computer.

SCALPEL SUTURES. MOUSE



TELEVISION SHOWS SUCH as *ER* and *Chicago Hope* have been a popular success for the networks. Now, the surging interest in medical drama seems to be catching on in the computer-game world.

Emergency Room is a forthcoming CD-ROM from IBM's Multimedia Publishing Studio in Atlanta that gives PC users the chance to play armchair doctor. Players begin the game as first-year residents in a hospital emergency room, where they interview patients in the waiting room, decide who should get examined first, order medical test procedures, read X-rays and CAT scans, and call upon specialist doctors and technicians who are played by actors in over 35 minutes of digitized videos. If players order too many unnecessary tests, they'll get a reprimand from the hospital administrator. Handle enough cases well, on the other hand, and they'll soon be in the much-vaunted position of chief of staff and given the tough cases such as gunshot wounds and coronaries. IBM says the \$70 CD-ROM will be available by July at most consumer software outlets.

INTERACTIVE AGE
Manhasset, NY

BI-WEEKLY

60,000

APR 24, 1995

LUCE

M85504

PRESS CLIPPING

Worlds Inc. unveils 3-D multi-user chat program

SAN FRANCISCO — Online chat will take on a new look this week as Worlds Chat, a three-dimensional, multi-user chat environment, debuts on the World Wide Web. Created by Worlds Inc. (formerly Knowledge Adventure Worlds), the initial version lets users adopt animated characters that interact with other online participants in a graphically rich space-station setting. Worlds Inc. is giving away Worlds Chat software free at their Web site, at <http://kaworlds.com>. The program runs on any 486 chip-based PC with a 14.4-kilobit-per-second modem and a TCP/IP connection. A version for the Macintosh is promised for next month.

Monday

D 46.926

APR 24, 1995

45782

RUCE PRESS CLIPPING

Program lets Internet users show a face while chatting

THE ASSOCIATED PRESS

NEW YORK — Knowledge Adventure Worlds Inc. today was to distribute software that lets people who use chat features of the Internet create a visual representation and move around the "room" where discussions are happening.

The San Francisco software company is distributing the program, called World's Chat, in the World Wide Web portion of the Internet. It is an early step in the development of a visual "virtual world" that exists only on a communications network that is accessed via computer.

People will control how they are portrayed on-line by choosing their "digital actor," or animated character, from a selection that includes a colorful trout and an eerie disembodied head.

Up to 1,000 people will be able to appear simultaneously

in a virtual space station with several bays and many rooms. Movement is controlled by a mouse or other cursor control. People "hear" the discussions closest to them.

The discussions are actually typewritten messages that appear when they are created by the participants.

Initially, Knowledge Adventure Worlds' program is for Windows-based PCs that use 486 or Pentium chips. A Macintosh version will be ready in a few weeks.

The company formally announced World's Chat April 3 but has been working out bugs since then to be ready for distribution this week.

CompuServe Inc. last month announced it is working with Fujitsu Ltd. to provide a similar feature for CompuServe subscribers later this year. It plans to let people design their own actors, sometimes called avatars.

Software from Knowledge

Adventure Worlds Inc. will let people who use chat features of the Internet create a visual representation and move around the "room" where discussions are happening. The San Francisco software company will distribute the program, called World's Chat, in the World Wide Web portion of the



Internet. It is an early step in the development of a visual "virtual world" that exists only on a communications network that is accessed via computer. People will control how they are portrayed on-line by choosing their "digital actor," or animated character, from a selection that includes a colorful trout and an eerie disembodied head. Initially, Knowledge Adventure Worlds' program is for Windows-based PCs that use 486 or Pentium chips. A Macintosh version will be ready soon.

Interactivity discovers new dimension

By Ellis Booker

Welcome to the space station. Gliding through a corridor, which is fully rendered in 3-D, you eagerly await another person.

This is Worlds Chat, a three-dimensional interactive environment for the Internet from Worlds, Inc.

"We think our interface is revolutionary when compared [with two-dimensional] graphical interfaces," said

Gregory Slayton, chief financial officer and senior vice president of business development at the San Francisco-based company.

Two other companies have 2-D interactivity products — Ubuque Ltd. in San Francisco, which last month unveiled a system

for adding interactivity atop World-Wide Web pages, and Fujitsu Ltd., which last month demonstrated WorldsAway, a 2-D interactive service that will first be available to CompuServe subscribers in July.

So what?

Nevertheless, analysts said, business application of 2-D and 3-D environments — for virtual electronic shopping, for example — will take time.

"The point is, how does this enhance productivity?" said Daniel

Duncan, a principal consultant specializing in virtual reality at the New Research Group in San Francisco.

A number of analysts said the first non-game use of this technology will be for customer help desks.

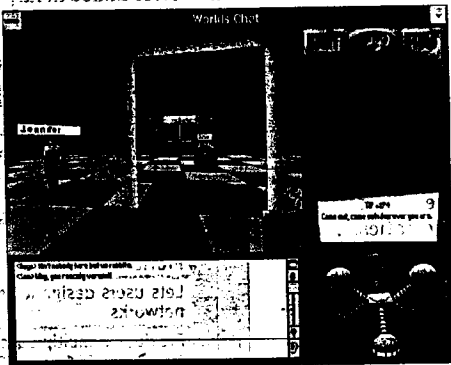
Users on the Worlds Chat server appear to one another by selecting a 2-D "avatar" — a Hindu word for "incarnation" adopted by the virtual reality crowd to express how one appears to others in a virtual world.

Users in 2-D spaces, represented as icons or movable cartoons, are limited to motion in the 2-D plane. Worlds' product increases verisimilitude by putting a 2-D virtual self inside a 3-D space. This allows users to travel down hallways, explore rooms and circle 3-D objects.

Two weeks ago, Worlds — formerly Knowledge Adventure, Inc. — offered its proprietary browser free on the Internet (<http://www.kaworlds.com>).

Another avenue for 3-D in cyberspace is the Virtual Reality Modeling Language (VRML), a 3-D viewer that runs atop the National Center for Supercomputing Association's Mosaic and Netscape Communications Corp.'s Navigator.

In April, Silicon Graphics, Inc. in Mountain View, Calif., and Template Graphics Software in San Diego introduced WebSpace, an add-on module for Web browsers and the first VRML-compliant tool.



Worlds Knowledge Adventure World is a free proprietary browser on the net

MAY 2, 1995

N2342

LUCE PRESS CLIPPINGS

Chatters select an icon, then join the party line

Knowledge Adventure Worlds Inc. has distributed software that lets people who use chat features of the Internet create a visual representation and move around the "room" where



discussions are happening. The San Francisco software company planned to distribute the program, called World's Chat, in the World Wide Web.

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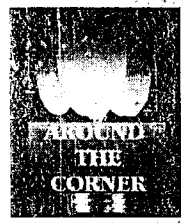
USA TODAY JOINS NET: USA Today has launched its national on-line service, featuring full-color photos and graphics that are continuously updated. It's on the World Wide Web, but you need special software to gain access. The base price is \$14.95 a month for three hours and \$3.95 for each additional hour.

ELECTRONIC AUCTION: The Internet has become the place to trade not only e-mail messages and high-tech trivia but also permits to pollute the air over Los Angeles. During a five-day auction, billed as "the first electronic, interactive smog exchange," 47,000 credits to emit one pound of nitrogen oxide each over Southern California, were traded on the computer highway. The auction is the brainchild of economists from the California Institute of Technology in Pasadena.

GO TO COLLEGE: Jones International Ltd., the parent of cable television systems operator Jones Inter-cable Inc., plans to establish a "cyberspace business college" for working adults. International University College will offer a master's degree in business communications through the Internet.

Windows 95 won't search for bugs in your system

Don't plan on using your anti-virus programs when you upgrade to Microsoft Windows 95. Windows 3.11 included a free anti-virus pro-



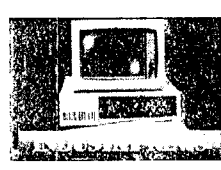
gram. Windows 95 doesn't have one of its own. To make things worse, the older anti-virus programs won't work with it. That means home users will need to buy an anti-virus program made for Windows 95. But the lack of virus protection could be a nightmare for business users who will install hundreds or even thousands of copies of Windows 95.

STACKING UP PCs: Unisys Corp. has begun selling a new line of computers powered by dozens of microprocessors - the same chip that runs a PC - working together. It also created a new operating software for running such a powerful machine and said it would license the program to any computer manufacturer, hoping to achieve a standard the way Microsoft Corp. did with MS-DOS in PCs.

PHASING OUT 486: Intel Corp. will soon stop making most 486 microprocessors, making the successor Pentium chip its core product. By the end of the year, Intel expects to make 486 processors only for notebook computers and electronic products, such as photocopiers and car engine controls.

Justice Department blocks sale of Intuit to Microsoft

In a stunning setback for Microsoft Corp., the Justice Department has sued to block the company's acquisition of Intuit Inc., maker of the popular personal finance program Quicken. The Justice Department said it filed a lawsuit opposing the deal because "it would likely lead to higher prices and lessened innovation" in the growing market for personal finance software. It would have been the largest software industry merger ever.



GRAY TAKES LOSS: Cray Research's first-quarter earnings plunged, mostly due lower sales and costs for restructuring. The supercomputer company said it lost \$48.3 million, or \$1.90 a share, compared with a profit of \$22 million, or 84 cents a share, in the same quarter a year ago.

LOTUS CUTS BACK: Lotus Development Corp., moving to cut costs following an unexpected first-quarter loss, will lay off 15 percent of its managers by July, according to an internal memo from chief executive Jim Manzi.

Compiled from the wires of Copley newspapers

MAY 7, 1995

N2204

LUCE PRESS CLIPPINGS

Chatters select an icon, then join the party line

Knowledge Adventure Worlds Inc. has distributed software that lets people who use chat features of the Internet create a visual representation and move around the "room" where discussions are happening. The San Francisco software company planned to distribute the program, called World's Chat, in the World Wide Web. Up to 1,000 people will be able to appear simultaneously in a virtual space station with several bays and many rooms.



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Whole new Worlds on-line

(or "avatar") to represent you from the dozen or so 3-D cartoons and figures available. As you move around, you can see other peoples' avatars and they can see you, too. And you can chat — via typing — practically instantaneously. The effect is consuming.

Though several companies have been talking about and demonstrating similar ideas (CompuServe's Worlds Away, due later this summer, is one), this is the first one widely available. As a result, Worlds is causing quite a stir — not just in the on-line community, but in the financial community, too. The firm, in fact, is in the midst of a first round of funding, geared at getting the company a \$30 million post-investment valuation. Currently, Knowledge Adventure owns 19.5 percent of the firm, with the rest owned by company executives and employees.

Though Slayton wouldn't name any potential investors except for board member and UB Networks head Roel Pieper, sources close to the company say Intel Corp. and AT&T are likely players as well. Reportedly, AT&T and Worlds have been showing around a prototype for a future on-line service based on Worlds' 3-D technology, and Intel is heavily involved with Worlds in other matters. Last week, movie director Steven Spielberg announced that his nonprofit Starbright Foundation is working with Worlds, Intel, UB Networks and Sprint to create a 3-D environment where hospitalized children can play and socialize with each other.

Any way you look at it, Worlds' business model is a crafty one. "Rather than bet the company on a few consumer products that may or may not sell well, we have a commercial division set up for low-risk, moderate income," Slayton says, but it all depends on how you define "moderate."

The firm's commercial ventures include its first project, a 3-D museum it created for Absolut Vodka last year, as well as a medical training simulation for the Department of Defense. That system will eventually allow medics treating injuries in the field to enter the 3-D environment in real-time with other experts who can show them exactly how to repair such wounds, rendered in 3-D graphics.

Thanks to deals like these,

a few months in business last summer. And today, just a year after its founding, Worlds already has 50 employees and \$3 million in revenues. For a startup in the blood-thirsty multimedia business, that's definitely atypical.

Despite its emphasis on its commercial business, Worlds has a consumer plan as well. World Chat, its first consumer product, is more like an experiment than a money-maker. The firm is letting people download and use it for free. However, insiders say the firm is already getting feelers from big advertising agencies and product companies hoping to place billboards and other advertisements in the 3-D landscape that is the World Chat world.

The system is designed to eventually allow developers to easily add new rooms, characters, even musical and video "objects" that visitors can play with and experience. Slayton wouldn't comment on a time frame for the release of third-party developers kits, but insiders expect such products by the end of the year.

Also by the end of the year, Worlds plans to unleash its Worlds Fair, a multi-user 3-D entertainment and educational environment. And insiders say an entertainment project created with the help of a games company is due out this summer. It certainly isn't hard to imagine firms such as Maxis and Id Software, the makers of SimCity and Doom respectively, being very interested in this technology. A multi-user, on-line environment capable of immersing hundreds of

could be a major money maker.

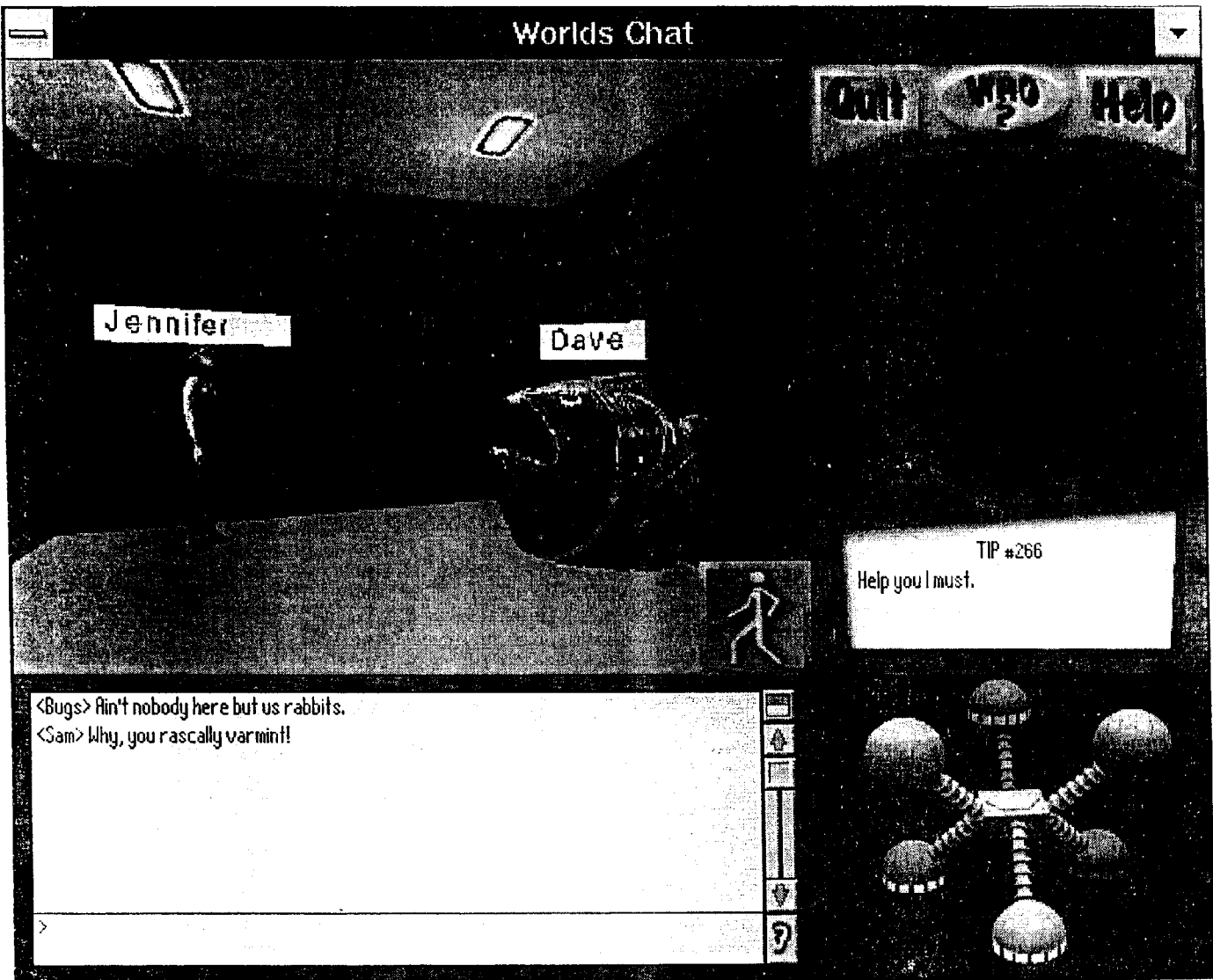
Down the road, we're guessing that Intel will play a major role in the worlds of Worlds. Its Proshare videoconferencing technology (part of the Starbright deal) is an obvious complement to all this, and certainly as computer performance improves (Intel is planning 180MHz and faster versions of its microprocessors for release next year), something like World Chat can really show what these new chips have to offer.

The World Chat of today will look primitive in comparison, certainly. Right now, there's not much to do there except explore the world and interact with the other people checking it out. But on the Internet, where nothing like this exists or potentially will exist for months, that's novelty enough to warrant the hour it takes to download the software and get up and running. Want to try it for yourself? Go to World's web address at <http://www.kaworlds.com> and jump right in.

Next Sunday: Not sure how to get on the Web or what else there is to do there? You're not alone. Stay tuned for next Sunday's edition for the Inside Silicon Valley inside scoop on the Web.

Gina Smith's new book, "101 Computer Answers You Need To Know," is in bookstores now. She also hosts "On Computers with Gina Smith and Co.," a nationally syndicated radio show that airs locally on KPIX 95.7 FM and KFBK 1550 AM from 10 a.m. to 1 p.m. every Sunday.

Got a comment? Visit her web page at www.ziff.com/ripeople/gina/ or send e-mail to ginas@hooked.net.



Virtual surreality: A giant fish named Dave and another avatar meet in a variety of "rooms" in the Worlds Chat environment.

Whole new Worlds on-line

S.F. STARTUP MAKING WAVES
WITH 3D VIRTUAL REALITY WORLD
ON THE INTERNET

A CREATURE named Lionman is leading me around a checkered hallway. "Have you visited the planes of geometry yet?" he wants to know, and when I ask him what he's talking about, he just says, "Follow me." We walk and walk until finally, after meeting up with a giant fish named Dave and an overgrown chess piece named Joe, we arrive.

The 3-D view before me goes on and on. It is breathtaking.

"So what do you think?" Lionman wants to know. "I can show you some more secret places, if you want." I spend the next two hours following Lionman around, and I'm not the only one. By the end of the evening, there's a whole parade of pilgrims following Lionman's every lead. "Where did Lionman go?" my new friend the Knight asks the minute Lionman disappears. "Still here," comes Lionman's message. "Sorry, but I had to take a phone call."

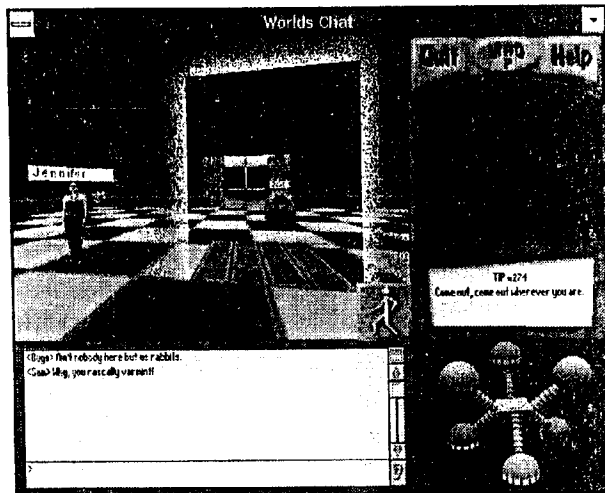
A surrealistic dream? Not quite. A little digging revealed that Lionman was actually Cole Larson, chief technical officer and one of eight co-founders of Worlds Inc., the San Francisco firm that is responsible for this bizarre virtual environment I just experienced.

Worlds — a spin-off of La Crescenta-based edutainment firm Knowledge Adventure — has created World Chat. It is one of the first examples of virtual reality on

GINA SMITH
INSIDE SILICON VALLEY

the Internet I've seen. And unlike every other hyped-up story about virtual reality you've heard of or read about, this VR doesn't just exist in the realm of someone's mind. It isn't a game. It doesn't require you to wear a funny-looking helmet. And it isn't a dorky text-based "Dungeons and Dragons" simulation, either.

World Chat is a virtually real, multi-user 3-D world that you can walk through and meet people in. And it exists today — provided of course, you have a fast-enough PC running Microsoft Windows (50MHz, 486 minimum) and a fast, direct modem connection to the Internet.



"This is the first time in history where we really have a chance to see how people react in a 3-D world," says World's senior VP Gregory Slayton, and he's not kidding. (Worlds should be charging behavioral psychologists admission!)

Sure, "live chat" has been around on the Internet and on commercial services like America Online for years, where people from all over the world can hold live conversations with other people they've never met just by typing on screen. But World Chat is different. This isn't just text, it's a graphical environment.

When you enter, you choose a character (or

[See *WORLDS*, B-6]

MAY 29, 1995

M15100

LUCE PRESS CLIPPINGS

Sun, Others Trot Out Software To Jazz Up Web

By FRED DAWSON

Sun Microsystems Inc. has unleashed a new development language into the Internet which aims to equip commercial service developers with a means to implement CD-ROM-like capabilities in the World Wide Web environment.

The development language, known as "Java," and an attendant Web browser, known as "HotJava," are part of a sweeping initiative by Sun that also includes the release of a new security system, a new Internet server, administrative tools and "netware" capabilities, which pertain to collaborative computing.

Sun's leap from being the leading supplier of Unix workstations in the Internet environment to providing key enabling software is meant to expand Internet use and therefore increase demand for its hardware, said Kim Polese, product manager for Sun.

"Companies interested in Java and HotJava are interested in a whole range of products [that] we can supply them," Polese said. "So their use of the software becomes part of a larger relationship."

Java has been quietly

offered in Alpha release over the Internet at no cost for about one-and-a-half months, Polese said, and it is already being widely used in development of Web pages. "We've seen people develop HotJava pages in two days with full-motion animation and a lot of complexity," she added.

For example, one application — a tutorial on the use of the abacus — allows users to experiment with the ancient calculation tool by moving beads around on-screen, Polese said.

The Java language gives HotJava users the power to develop small, specialized software applications, or "applets," which are distributed to users as they click onto commands just as typical Web pages are downloaded. But the difference between the usual Web page and the applet is that the applet contains a short program that allows users to interact with what's on the page, rather than waiting for another page to download.

"HotJava is much more graphically rich than what you usually see online," said Geof Katz, vice president of new electronic media technologies at Foote, Cone & Belding, which has begun using the

browser in projects with a number of clients. "You have the ability to use audio and animation to support real-time gaming and 3-D navigation."

Katz, noting that Netscape Communications is now supporting the new Sun language,

*"Most, if not all,
Web browsers will
be interactive
within the next
year or two."*

**Kim Polese,
product manager,
Sun Microsystems**

said he expects to see Java becoming the standard development language for the Internet very quickly. "We've got a lot of things going at a number of Web sites across North America, and they all use Java," he said.

Other firms jumping into early use of Java include Toshiba Corp.'s Advanced Technology Division, which is developing a variety of interactive publishing applications; Dimension X, a Web production company now producing a

Cont. →

site based on Fox Broadcasting Inc.'s *The Simpsons*; and Starwave Inc., a Seattle-based online developer. Starwave is developing an interactive version of ESPNnet along with other content categories for its Web pages.

The Sun software, which is accessible from Sun's HotJava home page, can currently be used with SunOS, Solaris and Windows NT, with Microsoft Windows 95 and Apple MacOS 7.5 ports to follow in late summer. The beta release of Java and HotJava will be in late summer. Although the core code is available at no cost, commercial developers will pay a low licensing fee for use in their applications, officials noted.

The next-generation browser is the beginning of what promises to be a variety of approaches to taking the Internet to a level of functionality and interactivity once deemed impossible in today's narrowband environment.

In fact, said Rob Schmults, spokesman for Worlds Inc., another software system developer, HotJava doesn't even meet the criteria for interactivity that his firm has set.

"To us, interactivity means real-time interaction with

other people online, not a download of something into your computer which you interact with," Schmults said. "Our tools allow people to build environments where interaction in 3-D takes place online."

Worlds' first release into the Internet is Worlds Chat, which allows people to communicate with each other using 3-D avatars that the company refers to as "Digital Actors" set in a graphically rich space station.

Worlds Chat is available free for now through Worlds' home page on the Internet. But the capabilities that Worlds is using in working with developers, including its own compression system, require a close working relationship with Worlds. This is in contrast to the approach taken by Sun, Netscape and others, where the basic tools are made available at little or no cost.

Sun is talking with most of the major commercial online service providers in hopes of winning them over to Java, said Polese. "Whatever approach people take, my guess is most, if not all, Web browsers will be interactive within the next year or two," she said. —BW

Here's a chat room worth talking about



**TODD
COPILEVITZ**
LIFE ON-LINE

Let's talk chat.

For lots of America Online users and recently, even Prodigy users, computerized chat has become addictive. But I've al-

ways found it so impersonal.

Say, just for the sake of argument, I drop in on a room called hubbahubba-hottub. Other than the name, there's nothing to differentiate it from any other room. Same white screen, same scrolling lines of text appearing as feverishly as the "speakers" can type them.

Wouldn't it be better to chat in a virtual world with real rooms, halls, lobbies? The rooms have brick or wood walls, the ceilings have light fixtures. The concourse even has escalators that move you along.

Best of all are the people, real people, faces, bodies and all. Now we're talking. Now we're in Worlds Chat.

Worlds Chat is the hottest innovation the Internet will see this year. Write it down, take it to the bank. It may well be the most important, too, not just for the innovation it marks but the potential it brings to cyberspace.

Worlds Chat is a new service from Worlds Inc. of San Francisco. It uses direct Internet connections, the type offered by local service providers and CompuServe, to gath-

Wouldn't it be better to chat in a virtual world with real rooms, halls, lobbies?

er users from around the world.

Before logging in, users must select a "body" from the gallery to represent themselves, literally a room with pictures on the walls and a checkerboard floor. In the jargon of virtual worlds, they're selecting avatars, or Digital Actors, as the service calls them.

Click on a picture and the body becomes a 3-D photo that can be viewed from all sides. Pick from teenagers, punkers, businessmen, fish, chess pieces, even a floating head of Nicole Brown Simpson. Once users embody an avatar, they zip into the Worlds Chat space station.

There, users move about using the arrows on the keyboard. The floors scroll by; walls and doors have perspective as you turn.

The station's hub is a lobby of sorts, with doors leading to the six wings. Other users appear as their avatars with their names overhead. If you're behind someone, they don't see you. If they log off, their avatar disappears in a flash of blue.

The discussion still scrolls by in a gray window, but now everything is in a real environment. There are small rooms with brick walls and large conference style rooms. There are even outdoor lobbies where users can admire the moving star

fields and Earth as it rotates.

Amazingly, all this is free. Download the software from the Worlds Inc. Web site (<http://www.kaworlds.com>) and off you go.

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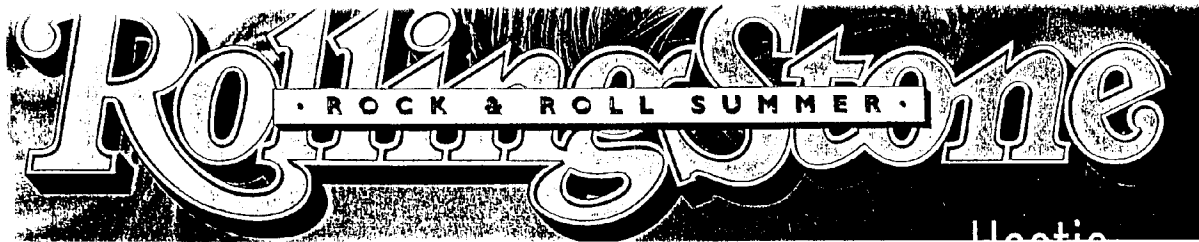
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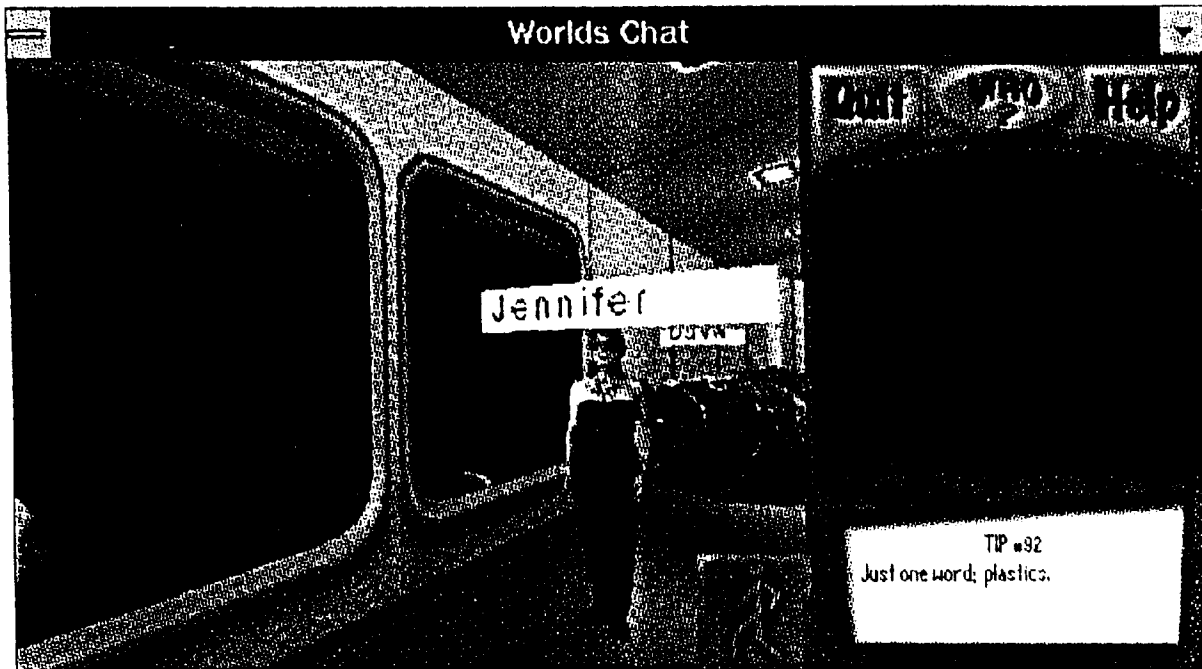
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6-15-95

HOT STUFF SITES SEEING ON THE WEB

BY STEWART WOLPIN



▲ **WORLDS CHAT** (<http://www.kaworlds.com>) One of the most impressive Web advances is for one of the net's most popular features: chat. Download an entire 3-D environment à la *Myst*, pick an icon to represent you – a fish, a chess piece, a cartoon – and either explore the environs or cozy up to a group of other icons and join the virtual cocktail party. Other Worlds to come include a physiological anatomy tool and a World's Fair. These and a Mac version are due this fall.

Worlds Chat is not your ordinary on-line chat room

Tallahassee, FL
Democrat
Tallahassee Met Area

Sunday

SUN 80.926

JUN 18, 1995

N1910

LUCE PRESS CLIPPING

Real people in real rooms — even a real escalator — sets Worlds Chat apart from everything that has come before it.

By Todd Copilevitz
DALLAS MORNING NEWS

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WEB SITE
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Internet connections gather users from around world

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There, users move about using the arrows on the keyboard. The floors scroll by; walls and doors have perspective as you turn. There's even Muzak-style music playing in the hallways.

Best of all: It's free, just to prove it could be done

The station's hub is a lobby of sorts, with doors leading to the six wings. Other users appear as their avatars with their names overhead. If you're behind someone, they don't see you. If they log off, their avatar disappears in a flash of blue.

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Virtual room from Worlds Chat is hottest innovation in cyberspace

By Todd Copilevitz
Dallas Morning News

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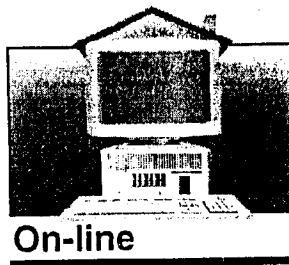
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Worlds Chat virtual room cyberspace's hot innovation

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— Todd Copilevitz writes about computer trends for the *Dallas Morning News*. He can be sent electronic mail on America Online (DallasNews), on CompuServe (CIS:TODDCOP), on Prodigy (JXFH59A) or on the Internet (toddco@namp.net), or he can be reached by regular mail at Box 655237, Dallas, Tex. 75265.

Worlds Chat may revolutionize Internet

By Todd Copilevitz
Dallas Morning News

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JUN 25, 1995

N3288

LUCE PRESS CLIPPINGS

Body by Internet

In the novel "Snow Crash," Neal Stephenson envisions a cyber-world in which users are represented by electronic avatars. In cyberspace, your avatar can walk through virtual worlds and interact with other users' avatars.

That's science fiction. Worlds Chat, however, is science fact. A new service from Worlds Inc. of San Francisco, it uses the Internet to unite users from around the world.

Before logging in, you select a "body" from a gallery to represent yourself. Click on a picture and the body becomes a 3-D photo that can be viewed from all sides. Pick from teenagers, punks, fish, chess pieces, even a Nicole Brown Simpson lookalike.

Next, you zip into the Worlds Chat space station. There, you move about using the arrows on the keyboard. The floors scroll by, walls and doors have perspective as you turn. Muzak-style music plays in the halls.

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ONLINE

NEXT BEST THING TO BEING THERE?

Having an online conversation with another PC user traditionally meant taking turns typing words into a dark, nearly empty PC screen. But even online chatting services are getting multimedia fever.

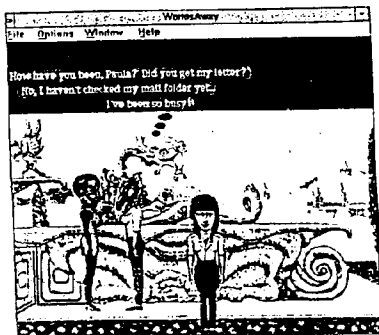
CompuServe recently unveiled a more lifelike chatting feature called WorldsAway. Chatters still converse by typing text messages into their PCs. But instead of scrolling across a blank screen, words appear inside balloons emanating from cartoon characters. Users assemble their animated likenesses—called “avatars”—from a selection of faces, body parts, and clothing. Avatars can smile, frown, sit, stand, and even go for a stroll.

Environment sounds, such as footsteps, help enliven the virtual experience. Many of the objects shown on the background displays can be picked up and even purchased with tokens earned by work at virtual “jobs.”

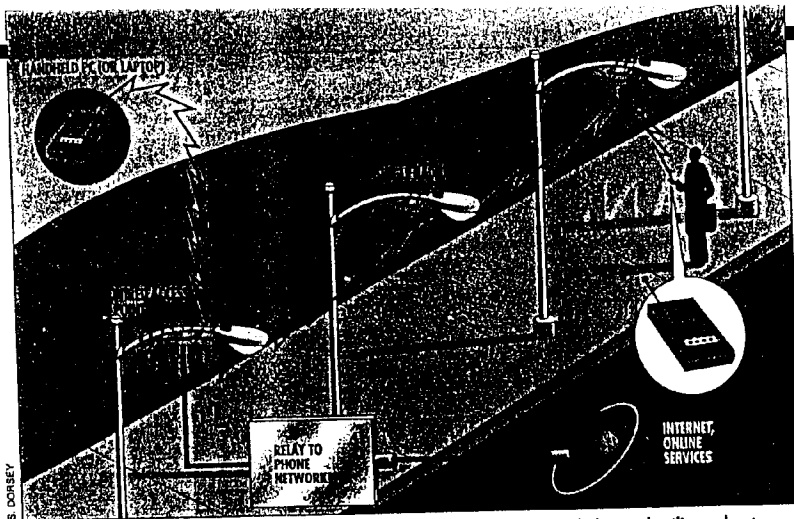
Many people still hide behind the mask of false identities. But the ability to see some representation of your counterpart and show feelings through visible gestures and expressions is a step forward.

Knowledge Adventure Worlds offers a multimedia chat service of its own, called Worlds Chat, for Internet surfers. Worlds Chat has photorealistic 3-D graphics and is set in a virtual world that is supposed to resemble a space station. You choose a 3-D character to be your persona and then wander about the various rooms and “outdoor” spaces, meeting and greeting people.

You need a connection to the Internet's World Wide Web to access Worlds Chat. (The online Web address is <http://www.kaworlds.com>.) CompuServe users can enter WorldsAway by typing “Go Away.”—M. H.



CompuServe's new WorldsAway service lets you adopt a cartoonlike persona while chatting.



The Ricochet network uses radio transmitter-receivers mounted on street lights and utility poles to relay wireless signals between portable PCs and online services.

COMMUNICATION

LIGHTPOLE LINKS

A new type of wireless PC network is taking shape in a portion of the radio frequency spectrum normally reserved for garage door openers and car alarms—and with signals that travel atop pedestrian fixtures like street lights and utility poles.

Called Ricochet, the wireless network forgoes the usual system of separate radio towers. Instead, it transmits signals through shoebox-sized radios that are mounted on pole tops from one-quarter to one mile apart. For each 100 to 120 pole tops, Metricom builds a “wired access point” in the form of a cluster of radios that are tied into the phone network, allowing communication with the wired world. Small, battery-powered modems enable you to connect a laptop or handheld PC with company networks, the Internet, and online services like America Online and CompuServe.

The Ricochet network is being rolled

out gradually by Metricom, a ten-year-old Los Gatos, Calif., company. Metricom began selling modems and access to its public wireless network last November in the San Francisco area. Next on the list for expansion are Boston, the Redmond-Bellevue area of Washington state, and Austin, Texas.

Because the network operates in the 902- to 928MHz license-free band, it costs less than existing wireless services such as Ardis and RAM Mobile Data. Metricom offers several flat-fee plans that give you unlimited access to the network for \$30 to \$50 per month. Modems cost \$299 with a year's subscription, or \$600 separately. Ricochet modems work with standard communications software, and the network has a top speed of about 100,000bps, compared to 19,200bps for RAM or Ardis, which are nationwide services.

Metricom has to share its slice of the radio pie, but the company claims that isn't a problem because the spectrum is so large and because its radios change channels every 25 milliseconds using a frequency-hopping system.—S. R.

CD-ROM

SUPER DISCS

Today's CD-ROMs hold up to 700MB of words, pictures, and sounds—yet even that's not room enough for applications like huge databases and sophisticated animation. But thanks to research aimed at developing digital video discs, next year may bring a second generation of CD-ROMs

capable of storing several thousand megabytes, or gigabytes (GB), of information.

The new CD-ROMs will likely use one of the two digital video disc formats currently being proposed [see Electronics Newsfront, Apr.]. The two-sided disc backed by Toshiba and Time Warner holds 10GB (5GB per side), while the single-sided disc from Sony and Philips holds 7.4GB. Despite its lower capacity, the single-sided format may be a better medium

for CD-ROM titles since PC users wouldn't have to flip the disc over and publishers wouldn't have to break software into halves.

You'd need a new CD-ROM reader to take advantage of either format, but any high-capacity reader should be able to play existing titles. Among the earliest programs expected to take advantage of the extra space would be CD-ROM phone directories, encyclopedias, and games.—Hal Glatzer

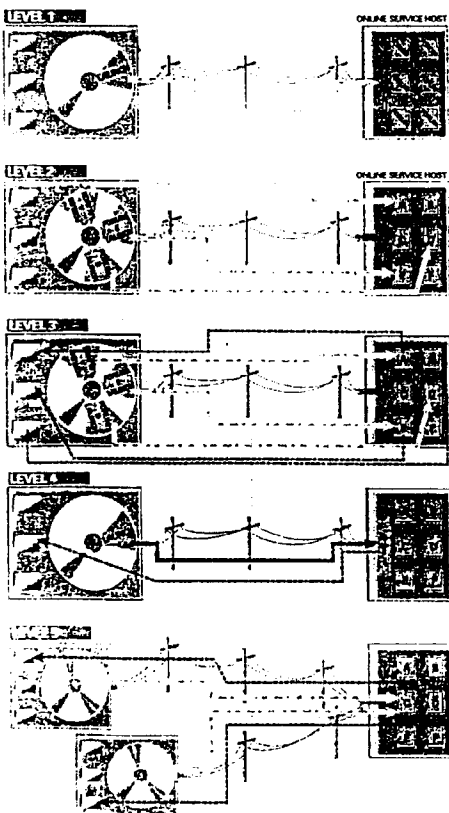
New Media
 Sunnyvale CA
 monthly 40,000
 Jun 1995

ROM so that when a user requests information from a selected list of update topics, it calls up a remote server, retrieves the latest data and then sends it to the user's hard disk. Customers can either use Teleshuttle's server or license the server software to bring it in house. The first product to use the Teleshuttle system—*The World Health Organization's International Digest of Health Legislation*—shipped earlier this year.

Closed-system updating efforts like these are likely to move beyond simple fetch operations as they evolve into more flexible software-agent systems. In future versions that employ sophisticated search engines, a double-click on any word should prompt the disc to search the server for the latest information, scouring a variety of databases and even remote sources across the Internet. No longer would users be limited to a prescribed list of topics and a discrete area of the online database.

FACING UP TO MULTIPLAYER GAMES

Perhaps the area that holds the most promise for online/CD-ROM fusion is multiplayer games. In this pairing, graphics and other media depicting players and scenes are stored locally (on the players' front ends), while the phone line transmits information regarding cursor movement and other position changes.



PAGE 40 BY WALTER BAKER

Worlds Inc.'s World's Fair invites users to explore an online 3-D playground filled with digital avatars.



Because bandwidth constraints have limited online gaming possibilities, multiplayer game services like the ImagiNation Network have concentrated on strategy games such as chess or casino that rely on coordinate updates of simple reference points. Attempts by Sega, Atari and Nintendo to offer online systems for action "twitch" games have been less successful. The large installed base of 2,400- and 9,600bps modems must struggle to keep up with the rapid-fire shoot-'em-ups that have players navigating swarms of virtual enemies. Systems based on this model—such as Nintendo's Family Computer Network—have thus far failed to catch on, either here or in Japan.

While few online gamers use CD-ROM as a launch medium, there is movement in that direction. Los Angeles-based Activision, for example, is producing a Hollywood-style

VIRTUAL CHAT

CD-ROM spy thriller—*The Great Game*—that will have an online component. And Microsoft has demonstrated "future technology" that will turn any of its games into multiplayer contests.

A more revolutionary approach to multiplayer games looks back to Lucas-Film's *Habitat*, an online environment in which players adopt an animated online persona, or *avatar*, that communicates and interacts with other avatars. The *Habitat* project first surfaced on QuantumLink's Club Caribe online service and eventually migrated to Japan, where it was licensed and re-engineered by Fujitsu, using CD-ROM-based FM Towns PCs as front ends.

Hybrid CD-ROM/online projects take five main approaches. The most popular hybrid is simply a launch utility for the online service embedded in the CD-ROM program, such as the Prodigy Instant Launch program. CompuServe's Multimedia Publishers Partnership Program offers a slightly more sophisticated service in which scripts embedded in the program allow you to click a button to log on automatically to a related forum. In a few hybrid projects, such as H&R Block's *Managing Your Money Plus* and Allegro New Media's *Business 500*, which link respectively to CompuServe and Prodigy, this forum-specific link also automatically downloads updated information and displays it seamlessly in the CD-ROM interface. Services from search companies such as Dataware Technologies and Teleshuttle Corp., which are still offering Level 3-type links, are evolving into agent-based systems where a query from multiple areas of the CD-ROM program could launch an agent that would search out multiple locations for the right updated information. Finally, multiplayer games and virtual chat services are built upon dedicated client/server networks, enabling the server software to partition the client CD-ROM to load appropriate media based on the commands and position changes sent by the client user.

Habitat has now found its way back to this country under the name *WorldsAway*. In its new "virtual chat" incarnation, the CompuServe-Fujitsu collaboration is scheduled to run in test markets this spring (see "Nice Pecs Are Just *WorldsAway*," May, page 127). The avatars dwell in a fantasy society that has its own rules, economy and social customs. Typed-in dialog appears in cartoon balloons. A central Fujitsu Server monitors and executes object positions (transmitted via 28.8Kbps modems), and graphics are located on a CD-ROM.

Users will soon be able to find a similar experience at the Interactive World's Fair, a joint production of LandMark Entertainment, in North Hollywood, California, and Worlds Inc. The service will provide the chance to congregate at a virtual theme park via avatars who roam from pavilion to pavilion in a mock cyberspace world's fair. The demo version features only a Trade Pavilion; other sites will be available by the time of the service's planned October release.

Worlds hopes to differentiate its project from *WorldsAway* through the use of 3-D graphics. Its on-the-fly compression system will allow players to use a mouse to navigate

Cont. →



**Allegro New Media's
Business 500 CD-ROM provides
automatic Prodigy
updates of 500 company profiles.**

the local 3-D environment stored on CD-ROM before going online to encounter other avatars, QuickTime videos, billboards and staged events orchestrated by the back-end server.

"Our goal is to provide SGI-quality graphics to people out there with Macs and PCs, and to do this using a very narrow bandwidth," says Gregory Slayton, the company's senior vice president of business development. "What we're trying to do is to make the interface as simple as possible for the mass market of America."

Using a Pentium PC as its main server, the prototype is able to run 128 sessions concurrently. And Worlds Inc. plans to conduct larger trials soon, using an SGI Challenge server. In addition, it claims to have network software capable of running 2,000 to 3,000 concurrent sessions. Slayton says that the navigable avatars will be fully articulated, with free-swinging arms and legs.

Hoping to raise the stakes in the avatar gold rush is Enter Television of Cupertino, which expects to launch its On-Live Network in early 1996. Like the World's Fair, the network will include 3-D virtual chat worlds complete with navigable avatars, but it will also enable users to simultaneously communicate by voice, using voice-over-data modems. The service will emphasize multiplayer games—in January, MCA Inc. announced it will produce interactive entertainment for the service, and the company is expected to acquire 10 percent of Enter Television.

THE WORST OF BOTH WORLDS?

Although linking CD-ROM and online technologies may ease bandwidth problems temporarily, such integration has its own technical problems. Despite faster PCs, better compression and speedier CD-ROM drives, CD-ROM is still a slow medium—which could prove deadly for online services that charge for connect time.

While some may argue that online vendors can simply download multimedia files directly to users' hard disks, Worlds' vice president of production, Dave Marvit, says that even this is problematic: Download times and storage space are both very real concerns for users. Then there is the problem

of modem speed. Although Fujitsu aspires to make its virtual-chat system accessible to 2,400bps modems, that could be wishful thinking. "I've seen the 28.8 version," says CompuServe's Daphne Kent, "and if people are going to try to do that at 2,400, they'll be waiting a long time."

However, the biggest obstacle to integrating the two media smoothly will be developing a sophisticated client/server software engine. According to Marvit, developing the system architecture for the server is one of the biggest challenges his company faces because the server must keep track of position, orientation and room location, and then do everything possible to ensure that the shared graphic environment is the same for all users.

The opportunities are intriguing, says Worlds' Rob Schmults. "We can also store stuff on the user's CD-ROM that they're not aware of and keep it there for a special event," he says. "Then one day, when they sign on, we activate those graphics by sending code down the wire. Say it's the Fourth of July. The user could sign on and there would be a fireworks display."

Meanwhile, multimedia analysts are divided. "I don't see a whole lot of hybrid systems out there," says Jeff Silverstein, publisher of a software industry bulletin put out by the Digital Information Group in Stamford, Connecticut. "The technology isn't really optimized for that now. Online is superior for transactions; CD-ROM has its advantages as a visual medium. Each offers something on its own, but I don't know that they really enhance each other that much." Silverstein says it will be difficult for the relatively slow hybrids to compete with new 64-bit video game applications. "In this context, it is going to be difficult for people to deal with any kind of hybrid system."

Lorraine Sileo, a new-media information specialist at SIMBA Information Inc. in Wilton, Connecticut, is more optimistic. She sees hybrid unions—such as *CompuServeCD*—as a means for online services to sell advertising to merchants that offer products online. "The advertisers want an option, and they want to get into the arena," says Sileo. "They don't want to wait for broadband, so this is an interim solution. For companies like CompuServe—with two-thirds of its customers also owning CD-ROM drives—this is a natural."

Marvit is also bullish on hybrids. "The truth is, it's time for a hybrid system," he says. "Sure, there are all kinds of things you can do with a broadband system that you can't do otherwise, but I am not going to wait. There are things that you can do now that are very cool, and I want to do those things."

Whether pro or con, most observers see the convergence of CD-ROM and the online world as an interim phenomenon. How long that interim will be is up for debate: It could only be a few years or it could be more than a decade. No matter what the outcome, it's clear that we'll see many more intriguing hybrid experiments before broadband interactivity arrives. **M**

Domenic Stansberry is lead writer and associate designer on In the First Degree, an interactive courtroom drama forthcoming from Broderbund.



Inside the Hybrid Link

Multimedia developers seeking online links for their CD-ROM titles face challenges that compound as integration tightens. For example, developers wishing to create a program linking the user to a particular online forum will likely need to look beyond off-the-shelf multimedia authoring programs.

Typically, a developer might use Macromedia Director to create a CD's interactive shell and then Lingo to link that material to the online service's API. However, according to systems analyst Mikè Kennedy, who works in CompuServe's advanced technology group, this entails scripting X-commands, which are written in C++—a task beyond the ken of many multimedia developers. "The developer might do everything up to that point," says Kennedy, "and then we write the X-commands."

To encourage deeper integration, CompuServe has developed a CD-ROM Integration Kit, in it the company offers developers its communication software, APIs, file servers and a helper program. The kit also includes CompuServe—essentially a series of X-commands that act as an agent, allowing the user to locate information in the online database, funnel it back to the CD, download it onto the hard disk and present it in an open file. —D.S.

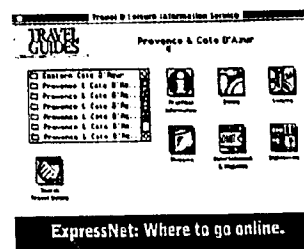
CONTACTS:

2Market: (619) 956-1967
Activision: (408) 477-7650
Allegro New Media: (201) 808-1392
CompuServe Multimedia Publisher
Partnership Program: (610) 538-4472
Creative Multimedia Corp.: (503) 241-4351
Dataware Technologies: (617) 621-0820
Digital Information Group: (203) 348-2752
Enter Television: (714) 988-0600

ImagInation Network: (800) 452-4500
LandMark Entertainment: (818) 253-6700
Media Multimedia: (206) 667-5500
Microsoft: (206) 307-8080
Philips Media: (310) 444-5500
Prodigy: (914) 448-8000
Teleshuttle Corp.: (212) 673-0225
Ventana Communications Group:
(919) 942-9220
Worlds Inc.: (415) 381-1300



marketing, media, advertising, and public relations at <http://www.AdMarket.com> ... Digital Planet Corp.'s new subsidiary, Digital Planet NetCount, launched a service it describes as "a universally recognized ratings system (comparable to the Nielsens) that provides precise traffic information, broken down by web site, subject, page, day and hour," info at <http://www.digiplanet.com> ... Prodigy's president and CEO Ross Glatzer was set to retire May 1, to be replaced by cable TV (VH1, Comedy Central) Edward A. Bennett, who is expected to make Prodigy more appealing to the youthful (25-35) audience, where it has lost ground to America Online. Glatzer's departure came just one month after the resignation of Prodigy executive vp Scott Kurnit, who left to lead MCI's Internet push ... Delphi Internet Services—the infogroove jewel in media baron Rupert Murdoch's crown—named veteran online producer Stuart Rohrer vp of service design and content architecture. Rohrer will design the "look and feel" of Delphi Internet's new and expanded service, the company said. Rohrer created the ExpressNet travel area in America Online ... New Line Television (a division of movie maker New Line Cinema, which is a division of Turner Broadcasting



System) and America Online announced a 50/50 joint venture to develop The Hub, an entertainment and merchandising online offering for young adults, set to debut on AOL this summer; watch for Web site and CD-ROM spin-offs.

financial terms were not announced ... Online information service Prodigy introduced ISDN access using IBM's \$495 7485/WaveRunner modem and ISDN lines from BellSouth, NYNEX and Pacific Bell. An ISDN line has three channels rather than the single channel of a traditional phone line, so Prodigy subscribers will be able to download files while talking on the phone ... Palo Alto, CA-based Foresight Institute proposes adding "backlinks" to the WWW's hypertext system, to "show links into a document made by readers and later authors." Foresight is offering to write public domain program code to implement these backlinks and run the code on its server, and is seeking \$100,000 for the project (Contact: Foresight, foresight@cup.portal.com; 415-917-1122; fax 415-917-1123) ... Progressive Networks—the Seattle, WA company founded by former Microsoft multimedia honcho Rob Glaser—said its RealAudio Player will be distributed with Web browsers from Netscape, Microsoft, Spry, and Spyglass. RealAudio enables Internet and online users equipped with conventional multimedia personal computers and voice-grade telephone lines to browse, select and play back audio in real time, "as easily as using a standard videocassette player/recorder." The music is not CD quality, however, but is 8-bit sound sampled at 8KHz (similar to standard telephone audio) ... 3D graphics workstation specialist Silicon Graphics has teamed with Template Graphics Software to develop and distribute WebSpace, which they call the first commercially available 3D viewer for the World Wide Web, which will let Web cruisers fly or walk through 3-D scenes, set to be available last month ... Intervista Software said that it is in the final stages of development of Intervista WorldView, a VRML 3D World Wide Web browser, to be released as freeware later this month, based on RealityLab 3D graphics technology from Microsoft. It works as a companion to almost all HTML-based Web browsers, such as NCSA Mosaic, Quarterdeck's QMosaic, and Netscape Navigator ... Worlds, Inc. (formerly Knowledge Adventure Worlds) announced Worlds Chat, "the first online 3D

chat environment for the PC" for "a more immersive level of online communication." Worlds Chat software, for Windows, is available at <http://www.kaworlds.com>. Participants are represented by 3D body icons called "digital actors" which can be people, chess pieces, cartoon characters and fish ... MCI announced the opening of the networkMCI Developers Lab site on the World Wide Web, an online source for information on infogroove technology and a way for developers to test their technology with MCI's live voice and data network, at www.mci.com/developerslab ... Interactive multimedia development resources can be found at Resources in Interaction Design, at <http://www.io.tudelft.nl/www/uiworld/intro.html> ... The Open Software Foundation Research Institute is giving away World Wide Web software to non-commercial users for secure document distribution, email, agents and more, at <http://riwww.osf.org/> ... MultiMedia Dimensions promises multimedia design tricks, tips and utilities at <http://www.cybercom.com/~mediama/mmdimen.html> ... Multimedia-over-LANs specialist Starlight Networks opened a Web page at <http://www.starlight.com> that provides information about how to add video to existing networks or create new networked multimedia applications ... Interactive multimedia developers interested in Texas Instruments' DSP chips and other technologies may want to check out the company's new Web site at <http://www.ti.com> ... Intelligent agent alert: ConQuest Software (800-787-1715) announced intelligent agent software called NetQuest. Intext Systems (415-391-5290) of Folsom, CA announced an intelligent agent tool kit called Object Router, a C language subroutine library priced from \$5,000 to \$150,000, for Windows 3.1, SunOS, Solaris, AIX and HP-UX ... InTEXT also announced InTEXT Precision, which promises to automatically determine a document's key words and phrases, convert the document to SGML and HTML formats and create a condensed document that will reduce full-text indexes by five to 10 times ... HotWired, Advertising Age and Organic Online announced AdMarket, a WWW service for

WebWorld

the nation's largest newspaper companies—representing 5 newspapers—are forming a company, New Century, to create a national network of local online newspapers on the WWW. Participating companies include Time Warner Publications, Cox Newspapers, Gannett, Hearst, Knight-Ridder, Times Mirror, Tribune Company and The Washington Post. The Coriolis Group announced a new WWW title, *Explore the Grand Canyon*, which includes the necessary software to access the site's World Wide Web hyper-multimedia wonderland for updates ... CBS is working to launch a 200 TV station affiliates on the Internet, too, working with a VA-based InfiNet L.C. to help BS affiliates establish Internet "online newsrooms" and provide technical support, <http://www.infi.net> ... Regie Mellon University said Microsoft a license to the *Catalog of the Internet*, for the Microsoft Network online service. The Lycos Catalog is located at <http://lycos.cs.cmu.edu> ... An 11 percent stake in high-flying Netscape Communications reportedly cost \$10 million, says Hearst, Knight-Ridder, TCI Online Ventures, and Times Mirror—a cool \$20 million total, according to industry insiders, but

News

Chat comes to the Web

Prospero, Worlds, Ubique systems build home page loyalty

By Richard Karpinski

SAN FRANCISCO – A number of commercial-grade platforms and tools have emerged to help companies set up real-time chat rooms or stage celebrity chat events on the World Wide Web.

Last week, Prospero Systems Inc. released Global Chat, free end-user software that works with its Global Stage chat server.

Meanwhile, two other companies – ~~Worlds Inc.~~ and Ubique Inc. – are quietly preparing enhancements to their existing products, both of which

freeware program that runs on existing, unmodified Web servers and browsers, as well as various solutions that let users Telnet into a chat session directly from a Web site. Such systems are often more complicated to use than the newer chat systems.

"Chat gives back what the Web has taken away [from the online experience] – the interactivity side of things," said Karl Jacob, CEO at Dimension X, a Web production house based here that has examined a wide variety of chat programs, including serving as a beta user for systems from Ubique and Prospero Systems.

"The problem we have now is that you've got potentially millions of people forming a community around a site, but you can't talk to them and they can't talk to you. That's a shame."

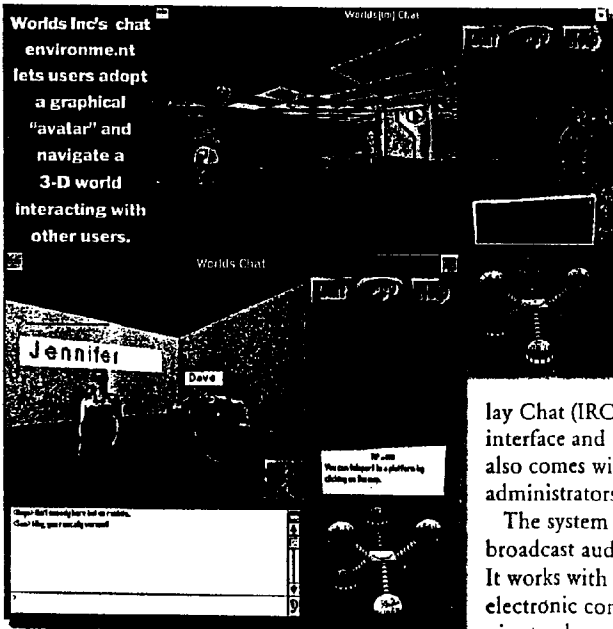
Prospero Systems (<http://www.prospero.com/globalstage>) has developed a mainly text-based chat server called Global Stage, which lets companies hold chat events and host chat channels on their home pages.

Global Stage is based on the protocols used for Internet Relay Chat (IRC) systems, but it sports a simpler interface and is fully integrated into the Web. It also comes with a full suite of tools to let site administrators stage and manage chat events.

The system also lets system administrators broadcast audio, graphics or URLs out to users. It works with First Virtual Holding Corp.'s electronic commerce system, enabling companies to charge users a small fee for attending a chat event, said Stefan Sharkansky, president of Prospero Systems, based here.

The current system can run chat events with up to 1,000 users. A release planned for later this year will support 5,000 to 10,000 users.

See Chat, page 6



enable companies set up chat systems that let users adopt a graphical persona, or avatar, to communicate with others on the Internet.

These systems aim to move beyond the current systems for offering chat on the Web, such as Web-Chat (<http://www.irsociety.com/webchat.html>), a

Cont. →

Chat

► *Continued from page 4*

Global Stage is in beta testing now, and pricing is not yet set. Prospero will sell the server and will also host chat rooms and events for other companies. The system works with any IRC client software, but to take advantage of the multimedia capabilities of the server, users will need Prospero's own client software, which as of last week can be downloaded for free from the company's home page.

For something completely different in chat, companies can turn to Worlds Inc. (<http://www.kaworlds.com>), which has ported a demonstration version of its three-dimensional virtual chat environment – called WorldChat – that runs over the Internet. Users running WorldChat are not connected to the Web; instead, they interact via the Internet within a completely separate 3-D world. Users get to choose their own avatar, or graphical icon, and then enter a virtual world and interact with other avatars. The current WorldChat version, accessible since April, features a fully imagined 3-D space station.

Freeware versions of the WorldChat client software are available on the company's home page. Worlds Inc., based here, eventually plans to custom-build 3-D environments for companies wanting to offer chat services.

Worlds Inc. is about to announce that it will release a new product on the Web later this summer with which end users will be able to design and build a new 3-D environment live on the Web, according to Rob Schmults, director of market-

ing at Worlds Inc. After building the virtual world, users will be able to populate it and interact with other individuals.

Schmults imagines the creation of 3-D worlds, such as sports bars, where people can come together and talk about and watch sporting events together online, or shopping malls, where users can interact with virtual sales clerks.

Ubique (<http://www.ubique.com>), meanwhile, is pitching an avatar-based system. Unlike Worlds Inc., Ubique places users directly on the Web.

The company's Virtual Places technology lets users pick a graphical icon to represent themselves. The user then clicks on a button to tap into a Virtual Places server, which works in tandem with a Web site provider's Web server. Users can then see and communicate with other users' avatars on the provider's home page.

Users can even "hold hands" with other avatars and take tours of the Web together, jumping to other home pages also running the Virtual Places server.

In the next release of Virtual Places, expected later this year, Ubique will change its business model a bit by no longer tying its Virtual Places server so tightly to a particular Web site. Instead, a company could set up a centralized Virtual Places server – in essence, creating a virtual world or community of interest apart from the Web – that users could leap to from any home page hot-linked to that server, said Kirk Scott, product designer of Virtual Places.

Ubique, based here, sells a 10-user, Unix-based version of its server for \$1,495. A Unix version of its client software costs \$49; a pre-release of a Windows version is free. ■

JUL 16, 1995

N1916

LUCE PRESS CLIPPINGS

Software makes 'chat' more interesting

One intriguing aspect of online services is the capability to "chat" with other members in an immediate or real-time way. You write something, hit the Enter key, and everyone in the group sees what you have said.

The chat feature on America Online, for example, lets as many as 25 people assemble in one virtual room. As you might imagine, such large discussions can easily turn into mindless gibberish and often do, but that's another story.

Chat can be better than e-mail, which requires waiting until the other person receives your note and then replies. It also has an edge over corresponding through "newsgroups," which also require a waiting period between correspondence.

But chat can be time-consuming and therefore costly to use, since online services charge by the hour.

Still, it's comforting to know the chat feature is there even if you rarely use it. An investor with a pressing question, for example, could find someone in a chat room that may be able to point him in the right direction or even answer the question on the spot.

Real-time chat has been available on the Internet for some time but never in the same way as on the online services. Last week, someone showed a program called Worlds Chat that provides a 3-D visual chat feature for the Internet.

The program is an eye-opener and it is free. Worlds Chat, from Worlds Inc., provides a three-dimensional portrayal of cyberspace and allows people using it to take on a digital appearance, an avatar, while chatting. It looks and behaves a little like the game Doom in that the program makes it appear as though



Frank Ruiz

you are moving through three-dimensional virtual rooms when of course you are really at your computer the whole time. It's an interesting experience.

To try this program, you may get a copy using a modem (9600 bits per second or faster) and a little know-how about that rapidly growing region of the Internet called the World Wide Web. Just log into <http://www.kaworlds.com> and follow directions for transferring a copy to your computer. The transfer can take an hour or so. Follow directions for setting up Worlds in your machine. Next time you're on the Internet, click on the Worlds icon in your computer and you'll experience a whole new way to chat, one unlike the online services.

■ ■ ■

Windows 95: It took just under an hour to set up a test copy of Windows 95 on the computer at work. I did that last Monday, before the holiday. Shortly after I had finished, a small band of newsroom geeks hovered around the computer to see Windows 95 in action. It wasn't very exciting and they dispersed. Soon after I registered the software, using the modem, and as I sat exploring, — actually I was checking to see what I had screwed up — I received a message from a "B. Gates" that read: "You are mine." One of the geeks was having fun. On Wednesday, I dismantled everything. In the vernacular, I "uninstalled" Windows 95 to see if my computer would be returned to its original state, as promised by the company. It did.

Having done that, I set the Windows 95 installation procedure in motion once again. This

Windows 95 version is called "Build 490," a preview of the commercial software that is scheduled by Microsoft Corp. for commercial release in August.

I wanted to try the program on one of the slowest, most ill-equipped computers known to man but one which still met the Win95 criteria. I didn't have to look any further than my desk. The computer is rated as "SX-25" if that tells you anything. In real terms, the computer I put Windows 95 on is typical of what is found in most business offices, perhaps even better than some. But it's about five times less powerful than what most people probably have at home.

So far, nothing has gone wrong. And my first impression is: I like it. I'll continue reporting impressions in this space. Meantime, these notes:

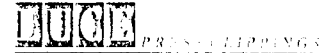
I found I could keep three or four programs running simultaneously and even be connected to the Internet at the same time without anything going wrong. Before, my Windows for Workgroups program usually crashed if I tried to open a couple of large programs at one time (depending on which programs). I can still use DOS programs while keeping Windows programs working, without having to restart anything. I still have not opened the instruction book, and I did not do anything special before installing the program.



You can reach Frank Ruiz through Prodigy e-mail at yudt33a or via the Internet at frankr@packet.net. On CompuServe, his address is 76124,2351. You can write him at The Tampa Tribune, P.O. Box 191, Tampa, Fla. 33606, or post messages on the bulletin boards on Tampa Bay Online, the Tribune's computer online service on Prodigy.

JUL 15, 1995

N1916



Innovative Worlds Chat virtual room warps into 3-D cyberspace

■ By TODD COPILEVITZ

Let's talk chat.

For lots of America Online users and recently, even Prodigy users, computerized chat has become addictive. But I've always found it so impersonal.

Say, just for the sake of argument, I drop in on a room called hubbahubba-hottub. Other than the name, there's nothing to differentiate it from any other room. Same white screen, same scrolling lines of text appearing as feverishly as the "speakers" can type them.

Wouldn't it be better to chat in a virtual world with real rooms, halls, lobbies? The rooms have brick or wood walls, the ceilings have light fixtures. The concourse even has escalators that move you along. Best of all are the people, real people, faces, bodies and all.

Worlds Chat is the hottest innovation the Internet will see this year. Write it down, take it to the bank. It may well be the most important, too, not just for the innovation it marks but the potential it brings to cyberspace.

Worlds Chat is a new service from Worlds Inc. of San Francisco. It uses direct Internet connections, the type offered by local service providers and CompuServe, to gather users from around the world.

Before logging in, users must select a "body" from the gallery to

represent themselves, literally a room with pictures on the walls and a checkerboard floor. In the jargon of virtual worlds, they're selecting avatars, or Digital Actors, as the service calls them.

Click on a picture and the body becomes a 3-D photo that can be viewed from all sides. Pick from teens, punkers, businessmen, fish, chess pieces, even a floating head of Nicole Brown Simpson. Once users embody an avatar, they zip into the Worlds Chat space station.

There, users move about using the arrows on the keyboard. The floors scroll by; walls and doors have perspective as you turn. There's even Muzak-style music playing in the hallways.

The station's hub is a lobby of sorts, with doors leading to the six wings. Other users appear as their avatars with their names overhead. If you're behind someone, they don't see you. If they log off, their avatar disappears in a flash of blue.

Created just because

Amazingly, all this is free. Download the software from the Worlds Inc. Web site (<http://www.kaworlds.com>) and off you go.

That's because Worlds Chat was created just to prove it could be done, says company spokesman Rob Schmults. Rather than trying to explain virtual worlds to customers,

the company just created one. Worlds Chat does all the talking needed.

Later this year CompuServe will launch a chat service with avatars as well. But that service, Worlds Away, is more of a virtual comic book, with cartoon-like characters and chat confined to quote bubbles.

It's the first-person perspective, looking through the eyes of your avatar, that sets Worlds Chat apart from everything that's come before it. The technology will be used for teaching anatomy and physiology. It has already been used to create a cybermuseum for Absolut Vodka.

Consider the potential here.

Take a walk in an on-line library, with real books lining the walls. Click on one and up it pops. Got a question? Ask a real librarian behind the counter who receives your question on-line.

Shop in a virtual store with real clerks who can help you. Or meet with your friends and see pictures of their faces. It's all possible now, Mr. Schmults says.

"There's no question that it can be done," he says. "It's really a question of what do we do first and whom will we do the work for?"

This fall, the company will launch the Internet Worlds Fair to further showcase its work and that of its clients.

I can't wait.

Todd Copilevitz writes for The Dallas Morning News.

JUL 21, 1995

P5320

WUC PRESS CLIPPINGS

□ LIFE ON LINE

Worlds Chat virtual room hottest innovation currently in cyberspace

By TODD COPILEVITZ
Dallas Morning News

Let's talk chat.

For lots of America Online users and recently, even Prodigy users, computerized chat has become addictive. But I've always found it so impersonal.

Say, just for the sake of argument, I drop in on a room called hubbahubba-hottub. Other than the name, there's nothing to differentiate it from any other room. Same white screen, same scrolling lines of text appearing as feverishly as the "speakers" can type them.

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Best of all are the people, real people, faces, bodies and all. Now we're talking. Now we're in Worlds Chat.

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The station's hub is a lobby of sorts, with doors leading to the six wings. Other users appear as their avatars with their names overhead. If you're behind someone, they don't see you. If they log off, their avatar disappears in a flash of blue.

The discussion still scrolls by in a gray window, but now everything is in a real environment. There are small rooms with brick walls and large conference style rooms.

Amazingly, all this is free.

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"I can't wait."

WEEKLY
JUL 29, 1994

workstation in a modem rack is nowhere near being NEBS-compliant," Andrieu says.

The Telcos' Role

There are several ways telcos can take advantage of the Internet to increase revenues and add value to other services. For starters, they could leverage their existing data networks for a commercial Internet access service.

At the moment, Pacific Bell and Ameritech are the only two local exchange carriers that offer Internet service to corporate customers over leased lines. No LEC offers a dial-up service yet.

"What is nice about our particular market is that current estimates indicate that over 25% of the connections on the Internet come from California," notes Ron Hronicek, executive director for advanced communications services for Pacific Bell Internet services.

Hronicek says that the two key differentiators of Pacific Bell's Internet service are its turnkey operation and 24-hour service and support. For the turnkey service, Pacific Bell is using routers from Cisco Systems and servers from Sun and Netscape.

All three of the big long-distance carriers, on the other hand, have some kind of Internet offering. Sprint has long provided a leased-line link to Sprint's internal high-speed backbone. MCI has recently rolled out networkMCI service for businesses and Internet-MCI for consumer access to the Internet.

AT&T recently announced an agreement with BBN Networks to roll out nationwide Internet access by the end of September. AT&T will be offering BBN's Site Patrol service that protects and monitors a company's network on a 24-hour basis to maintain security.

Although all of the telcos are putting some of their own information onto the Internet, these offerings are pretty much limited to the distribution of information. Sprint is the only interexchange carrier that has started using its World Wide Web (WWW) page to support its business processes by enabling customers to order and pay

for services on-line.

Hundreds of Internet shopping malls are springing up. They add value to individual stores by providing security and transaction processing services to vendors. MCI has rolled out its MarketplaceMCI that lets companies run secure Internet stores that feature multimedia catalogs of their products. The stores allow anyone with a Netscape client to log in and securely send credit card information over the Internet.

AT&T has created AT&T Interchange, a page where a number of publishers post items ranging in value from a few cents for most newspapers to high-quality analyses produced by the Gartner Group that can cost hundreds of dollars.

"It is a very powerful publishing tool in terms of being able to make the publications look how they want them to," says Ed Belove, director of technology for AT&T Interchange.

It is impossible to define exactly how a page on the WWW will look to a user. Because each user's Web browser allows font selection, a WWW document designer has no control over either the font or the exact page layout. Interchange, in contrast, lets publishers specify the exact layout of all pages.

Customers sign up for services with individual publishers and AT&T handles the billing.

"Publishers run their own service on Interchange," Belove notes. "No one signs up to Interchange. They sign up to the Ziff Davis computer or the Washington Post. The customer will pay one bill, which then gets divided between us and the publishing services they subscribe to. We collect from the users, and divide the [amount] up among the publishers—and they actually get the vast majority of it."

A tremendous opportunity exists for LECs to post their Yellow Page directories on the Internet to generate additional advertising revenues. So far, though, Nynex has been the only LEC to take advantage of this new potential revenue stream. Unfortunately, they

continued on page 44

More stuff is coming

For users with a modem transmitting at 14.4 kb/s or less, the Internet has been a rather slow place. Although documents and some pictures are easy to download, uncompressed sound and movies can take what seems like forever.

Until recently, for example, it took a personal computer user 10 seconds to download every second of sound or music from the Internet.

A startup company, Progressive Networks of Seattle, recently released RealAudio, a program that enables Macintosh and PC users to listen to AM-quality audio in real time. The key to RealAudio is compression and the server that streams audio data to users. Dozens of Internet radio stations have already sprung up all over the world because of this new program.

There are also a number of companies and groups creating 3-D browsers that enable users to walk through models retrieved over the Internet and even meet other people. The most popular effort seems to be the virtual reality market language standard. A number of companies are planning to create browsers that support it.

Worlds Inc., New York, has already released World Chat onto the Internet for free. It is a 3-D client that enables you to walk around a 3-D world that has already been downloaded and type messages to other people looking at the same world. The company is selling the tools to create—and the servers to run—3-D worlds.

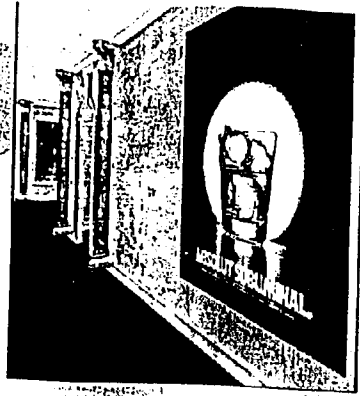
The next step in the evolution of World Wide Web (WWW) documents is Hot Java (*Telephony*, May 22, page 15). Sun Microsystems developed this programming language for creating applications that can be played on a client's PC. It uses RSA algorithms developed by RSA Data Security to encrypt data between the client and the server so a user can create secure applications. Sun has placed the code for Hot Java on the Internet so others can develop their own applications. Hot Java applications include stock tickers, games, interactive maps and cartoons.

Initially only people with high-speed connections to the Internet could hope to talk to each other. A number of Internet voice communications products, however, have emerged over the years for home PC users, although most of these have been slow and difficult to use.

continued on page 44

Electronic
Entertainment
Monthly 120,000
01 1995

featured an audio sample of their new album's title track, a link to the Geffen Library on CompuServe's Recording Industry forum, and a special order button that gave you a \$5 credit if you ordered the album. The CD's shopping portion contains a



Tour the Absolut Museum to check out your favorite vodka ads.

photo directory linked to all of its Electronic Mall merchants, along with a handful of merchant specials that give you audio and video clips, photographs, and text information about featured products. Simply click on the shopping-bag icon and your computer dials up CompuServe and sends in your order. CompuServe shoppers can look forward to an exclusive shopping edition of CompuServeCD in time for the 1995 holidays.

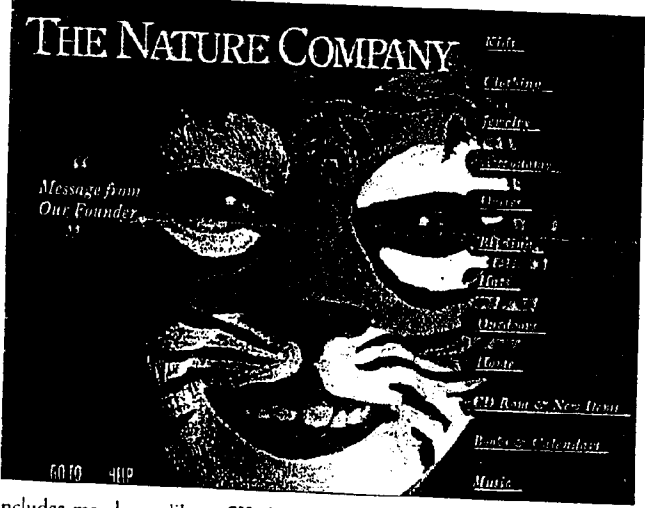
Online advertising may really take off, though, when new players such as Microsoft and Worlds Inc. (formerly called Knowledge Adventure Worlds) join the fray. Microsoft hopes that The Microsoft Network, an integrated part of its upcoming Windows 95 operating system, will take online services—and interactive marketing—further into the mainstream. The company hopes to do this by making the Network easy and affordable to use, for both consumers and marketers. According to Ken Schneider, group manager of advertising and electronic commerce for The Microsoft Network, online advertising and marketing will help bring down online charges by subsidizing the service.

But the real key to success, Microsoft says, will be providing individually meaningful ads. Schneider calls each Network subscriber a "market segment of one,"

making placement of marketing messages more important than the number of people exposed to them. A sports-equipment ad in the Network's basketball forum, he hopes, might be more successful than the same company's home page accessible to millions more

right peepers. His company will also narrowly target ad placement in its upcoming CD-ROM/online service Interactive Worlds Fair. The product, due by the end of this year, is a virtual version of a world's fair that includes various pavilions for visitors to explore. The World Fair's 3-D environment will be contained on a CD-ROM, but the activities—games, shopping, looking at exhibits—will take place online.

Other CD-ROM/online approaches include MusicNet, which plays you samples of hundreds of new CDs and then puts together your order, and 2Market, which not only



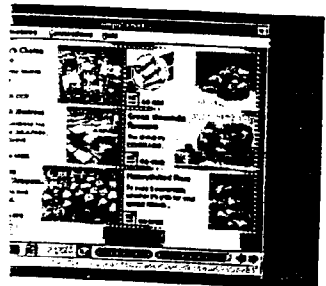
2Market: A disc of junk mail with instant shopping access.

includes merchants like Land's End on its CD and its AOL forum, but also gives you a chatty onscreen personal shopper who will help you pick out gifts and remind you when to send them. "Everybody has gift anxiety," 2Market chief operating officer Tom Burt says cheerily.

Magazines, traditionally supported by print advertising, are bringing the ad-driven concept to their multimedia CD-ROM editions. The disc versions of PC World and Car and Driver, for example, both contain messages from the same advertisers you might see in their newsstand edi-



Car and Driver '95 Buyer's Guide gives you the facts—and the ads.



CompuServe's Electronic Mall lets you browse on disc, then shop online.

Net surfers on the World Wide Web. Gregory Slayton, senior vice president of business development of Worlds Inc.—the company that helped create the Absolut Museum, a virtual collection of some 200 Absolut Vodka ads on disc—agrees that it's not how many eyeballs see an online ad, but whether they're the

FUSION
Lombard, IL

MONTHLY 250,000

JUL 1995

M82626

LUCE PRESS CLIPPINGS

WORLDS CHAT PUTS NETTERS IN SPACE

Worlds Chat lets Internet users choose 3-D avatars to represent themselves, as they move through a virtual space station. The chat environment is temporarily free for download (www.kaworlds.com).

It provides a navigation system that lets users move through the artificial setting, as they view each other as three-dimensional photorealistic icons, which may be

human, chess pieces, cartoon characters or fish. They'll be capable of complex motions, such as walking, running, jumping, flying and more.

This is the first product from Worlds, Inc. (a spin-off of Knowledge Adventure, Inc.), but there is more to come. **The Internet Worlds Fair**, coming in October, will be a complete, fully functional entertainment and educational environment using the same technology.



Visualizing Chat

By Eric Brown

Twenty years ago, during my hitchhiking days, CB radio exploded on the scene and changed the experience of the road. It seemed that everyone had a squawking box under the dashboard—lean white-cross truckers, middle-aged insurance salesmen, furry freaks in Volkswagens. The reason, they told me, was safety—and to keep Smokie at bay. But the real motive seemed to be loneliness: Long-distance drivers wanted someone to talk to—even strangers—and a cacophony of voices was safer than a scraggly hitchhiker. Soon I couldn't buy a ride.

Eleven years ago, I wrote a story for *PC World* called "Fear and Lurking on CB Simulator." After spending months of intensive immersion in CompuServe's pioneering CB chat line, I reported how this scrolling free-for-all was changing the rules of communication. The synergy between intertwined conversations among people who might never meet face to face exposed fascinating connections among topics. Fantasy thrived, with MUD folk speaking in medieval tongues and dashing off to pursue their quests on private channels, and CompuSex devotees explored the erotic power of green words.

For months afterward I stayed up late glued to CB—and then suddenly I stopped. The layered conversations began to seem less like the artistry of a Robert Altman film than the confused babblings of the bored and the boring.

About a year later, I was at a game preserve in the dry tropical forests of the Venezuelan Llanos. After observing howler monkeys as they congregated in trees, grooming each other and shooting the breeze, it struck me how much their constant overlapping conversations resembled an online chat session. It occurred to me that CompuServe's CB would be a lot more compelling if it felt more like sitting in a tree, if it

were three-dimensional and you could comment on things passing by. After all, for primates—even the online variety—what interface could be more natural?

I still tend to avoid chat, unsatisfied with an interface that hasn't changed appreciably in over a decade. I've migrated to the World Wide Web. But there's still something missing. The Internet is ripe with store-and-forward communications, but most Web sites lack threaded e-mail and real-time chat is rare. Nonetheless, on America Online, even if I don't chat, the fact that it's there makes the place seem more alive. By comparison, most Web sites seem lonely, a place for documents, not for people.

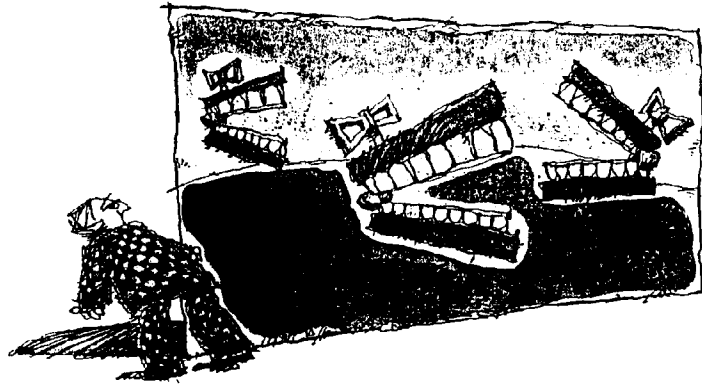
Last week, I saw an eye-opening demo that may be the answer: World Chat, a no-charge, 3-D virtual chat Web site from

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You view the same old scrolling-text typed dialogue, but—just like being at a real party—you only "hear" nearby conversations. The ability to comment on one another's visual personae gives you an ice-breaker. Later this summer, the chat rooms should also be populated with movable objects and media elements. And the full World's Fair promises sports bars and shopping malls. Worlds is working with Steven Spielberg's StarBright Foundation to create a similar environment for seriously ill children, and Intel is integrating its ProShare video-conferencing product with the network.

Worlds is not alone. This fall, Fujitsu and CompuServe will launch Worlds-Away—it's only 2-D, but the word balloons are a nice touch. Early next year, Enter Television will introduce a 3-D environment called the On-Live Network that will add a voice option.

All of this is good news for the tired medium of chat. As the client-server software that links CD-ROM multimedia with



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AUG 5, 1995

N1870

LUCE PRESS CLIPPINGS

On-screen characters give chatting a new dimension

By Joe Kilsheimer

OF THE SENTINEL STAFF

Chatting on the Internet has taken on a new dimension — a third dimension as a matter of fact. If you have ever used your computer before to chat with other computer users, you know what it looks like — line after line of text scrolling up on your screen. As you train your attention on the screen, the moving text gels into something like a virtual cocktail party.

But until recently, chatting was only a 2-D experience. What you saw on your flat computer screen was all you got.

Now a new site on the Internet lets you chat with on-screen cartoon characters — called avatars — and move about in a three-dimensional setting. The site was put up in April by Worlds Inc. of San Francisco and currently attracts up to 1,000 people a day.

The look and feel of 3-D chat is very similar to playing the computer game Doom. On-screen, you “look” through the eyes of your avatar and see the avatars of other users gliding about on the screen. You maneuver with your mouse, pushing it up to move forward through virtual hallways and side-to-side to turn.

INTERNET TREK

Chatting in 3-D is one of the coolest new things you can do in cyberspace. It's also one of the next “big things.” CompuServe and Fujitsu Corp. already have announced plans to launch a similar service in October. Insiders at America Online, the king of all chat services, say they are very interested in the concept. Prodigy says it is studying it.

Worlds Inc., which currently offers this service at no cost to Internet users, is planning an even larger 3-D chat site on the Internet for which it will charge a monthly subscription. To be called the Interactive World's Fair, it also will launch in October. Prices have not been announced, but a company spokesman said it will be low; the idea is to attract a lot of users.

To be able to chat in 3-D, you need at least three things: a fairly powerful computer, the Worlds Chat software and a direct connection to the Internet.

At minimum, you need a 486-class PC running at 50 megahertz. You also need at least eight megabytes of random access memory and a 9,600-baud modem. The system runs optimally on a 486-66 machine with 16 megs of RAM and a 14,400-baud modem. Obviously, Pentiums with 28,000-baud modems work even better.

The Worlds Chat software is available for free from the company's home page on the World Wide Web. It takes about 40 minutes to download with a 14,400-baud modem and will consume about three megs of your hard drive.

Look for the software at this address:
<http://www.worlds.net>

Right now, the software is available only for Windows users. A Macintosh version will be unveiled later this year.

Once you download the software, you will need to install it — just like any other Windows-based program. From the program manager, choose Run from the File menu and click on the file that you downloaded.

You'll also need an account with a company that provides direct-access to the Internet. You might be able to download the software with the Web browsers offered by America Online, Prodigy or CompuServe, but you won't be able to access the chat. Central Florida has at

Cont — D

least 17 local Internet service providers.

After you have downloaded and installed the software, here's where the cool part begins. Double clicking on the World Chat icon automatically engages your modem and links you to the service.

Once you log in, you are asked to create your own avatar and choose a nickname. On screen, you glide through a hallway lined with posters containing potential choices. Among the possibilities, you can choose to be a fish, a lion, a penguin, a man in a business suit, a teen-aged boy or a free-floating head of a blond woman.

Once you make your choice, the program says: "Embody me." Click on that button, and the service "transports" you to the hub of a space station, floating above the earth. Outside the space station's windows, a star field slowly passes by.

Aboard the virtual space station, you can select one of five different themed "platforms." They are titled: Words, Ideas, Technology, Food and Geometry. The chat is supposed to follow those themes, but users seem still too thrilled with the concept to chat along those themes.

Click on one of the platforms and you wind up with an on-screen vaguely reminiscent of the bar scene in the original *Star Wars* movie: Penguins talking to tuna fish; blue teddy bears strolling for escalators; chessmen "poofing" as they flash to another platform. The nicknames are placed in small billboards atop each avatar's head.

The chatting takes place in a separate window on the screen. Right now it looks like any other chat window — one line scrolling over another — but further advances will place the text in little cartoon bubbles appended to each avatar.

And because this is the Internet — the world-spanning computer network — you wind up talking to the strangest looking characters from every corner of the globe. The other day, I talked to an Alice-in-Wonderland from Oxford, England; a chess knight from Israel and a penguin from western

HOW TO GET ON THE INTERNET

For direct Internet service, you can call one of the following direct-access providers:

■ **AccNet:** (Casselberry), (407) 834-2222.

■ **Cybergate:** (Deerfield Beach), 1-800-638-4283.

■ **Dynasty International Services Corp:** (Altamonte Springs), (407) 682-3067.

■ **Florida Online:** (Melbourne), (407) 635-8888.

■ **GlobalNet:** (Orlando), (407) 894-7672.

■ **GS-Link:** (Winter Park), (407) 671-8682.

■ **Infinite Space:** (Orlando), (407) 850-2404.

■ **Internet U:** (Palm Bay), (407) 952-8487.

■ **Internet Access Group:** (Altamonte Springs), (407) 786-1145.

■ **MagicNet:** (Orlando), (407) 657-2202.

■ **Netcom Online Communications Services:** (San Jose, Calif.), 1-800-353-6600.

■ **Onet Inc.** (Altamonte Springs), (407) 291-7000

■ **Online Orlando** (Orlando), (407) 647-7559

■ **PSS Internet Services:** (Daytona Beach), 1-800-463-8499

■ **Sundial Internet Services:** (Orlando), (407) 438-6710.

■ **Tachyon Communications:** (Melbourne), (407) 728-8081.

■ **World Ramp:** (Winter Park), (407) 740-5987.

Australia.

It was one of those mind-blowing experiences. I couldn't stop laughing.

Next week: The differences among Web browsers.

Online services reporter Joe Kilsheimer welcomes your comments via e-mail — America Online (OSO-joekils), Prodigy (Dycw98a), CompuServe (75404,2076) or direct access (jkils@osentinel.com) — or you may phone him at (407) 420-5483.



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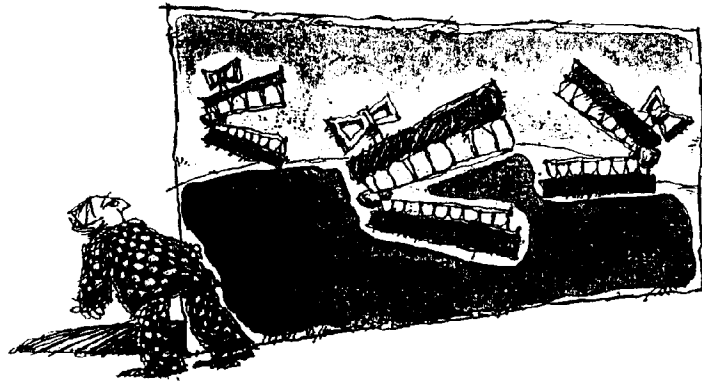
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LEISURE & ARTS

Your On-Line Chance to Be Alice in Wonderland

by KAREN BACK

Light, a Chinese mask, swoops into the textures zone, glides through a closed door, flows toward outer space and stops near TMAN1838, a teddy bear alone on the roof of a space station.

"Do you like being alone out here?" asks Light.

"I don't like being lonely," answers TMAN1838.

This isn't a science-fiction movie; it's Worlds Chat, a 3-D virtual environment that's been on the Internet since April. The Chinese mask is an avatar (originally the word for a manifestation of a Hindu deity on earth), a visual embodiment of myself I chose from a gallery that includes Alice in Wonderland, a man in a denim shirt and a lowfish.

TMAN1838 responded to me instantly, which is unusual in on-line chat, where responses are often delayed while people type back an answer. It turns out my first experience connecting in the social 3-D chat community is with a robot.

I've always felt like an outsider in on-line chat areas, haven't felt comfortable waltzing into a stranger's conversation. But when given the chance to communicate visually, I jumped in, excited to explore the next step in the evolution of on-line communication.

The laws of physical—and psychological—reality are suspended here. My avatar becomes transparent, goes through doors. I'm in a world where gender bend-

ing—women choosing to appear as men, men as women—is common. Because you can never be sure who you're talking to, the playing field is even. Or is it? Some women appearing as men do it so they won't be hassled, and vice versa. As one user puts it, "It gets racy on here at night."

This is how the physical set-up works: You launch your avatar from a space station where you can choose from six different zones—Food, Geometry, Ideas, Technology, Textures, Words—that unfortunately all look the same. There's a black-and-white grid, a door on either side, stars in the sky. You navigate freely, without menus. The "Help" box includes the option "What Do I Look Like," in case you forget what avatar you chose. A small box constantly offers random thoughts.

Tip 87: In cyberspace, no one can hear you scream.

The hot button for teleportation is a stick figure, which kept reappearing when I didn't want it to. While exploring this world, I discovered I needed help with mouse technique. The man who initially guided me through Worlds Chat and gave me mouse lessons ("Lift it, pick it up, scrub it on the pad in the direction you want to go") was Ken Locker, vice president of strategic

planning for Worlds, Inc., the company that launched Worlds Chat a year after it spun off from Knowledge Adventure Worlds in April 1994.

In Mr. Locker's small Beverly Hills office, my Chinese mask avatar floats into



Chinese-mask avatar

Worlds Chat's Food zone, then up an escalator to check out the private meeting rooms. That damn stick figure pops up again. I manage to click him off. Gliding, I move toward a room called Cheeseburgers but suddenly my way is blocked by another Chinese mask called Wintermute. I move. Wintermute shoves ahead of me, plants himself smack in front of the Cheeseburgers door. This ticks me off. I think, "Are we going to fight?" I decide I'd rather talk, so write: "Hello, how are you?" I wait. And wait. No response.

A sexy-looking avatar named Stacy wearing a leather skirt and boots enters the area, slides her body against Wintermute and says hello to him. He doesn't answer her. She leaves in a huff. I look around at other rooms: Burritos, Blowfish Burger. I want Chinese food. But there isn't any.

So I choose Blowfish Burger and slip inside. There are four walls paneled in faux wood. That's it. No food. No furniture. No-

body else comes in. Nothing happens.

Tip 312: Something's going to happen. Something wonderful.

Mr. Locker introduces me to a secret zone where the visuals change to a red and-black checkerboard grid. We glide right up to the edge and unexpectedly drop down.

Alice in Wonderland is there. Her name is Janis Joplin. I wonder why someone named Janis Joplin looks like Alice in Wonderland. "We have limited avatars," says Mr. Locker as he types to Janis Joplin (Thus the reason everyone chooses a name after picking one of the 15 avatars).

"How did you know how to get to the secret zone?" asks Kenla, which is Mr. Locker's cyberspace name.

"Cool," says Janis Joplin, who seems to be talking to someone else (though we can't see another avatar). "Someone told me," she replies to Kenla.

"Who?" he asks.

"Where are we?" (her parallel conversation). Her attention shifts to Kenla, "a couple people."

"How come you look like Alice in Wonderland and call yourself Janis Joplin?"

"Personal style," she answers.

"Are you schizophrenic?" asks Kenla.

"Yes," says Janis Joplin.

Tip 69: No matter where you go, there you are.

"Worlds Chat is not a product. It's designed as a beta test to find out how people will use a social computing environment," says Mr. Locker. "And we'll use it to point to products we're going to be releasing. This is really out there as a den of our technology and really allows us to study it. It's like a laboratory, an ongoing laboratory."

If you want to be studied in this laboratory, you can dial into the World Wide Web and download Worlds Chat (<http://www.kworlds.com>) for free; to use it you need state-of-the-art computer—the program is six megabytes and requires a 256 VG monitor.

Avatars are intriguing but transitional: a step toward videophones. "What we're doing will go away," admits Dave Marx, Worlds Inc.'s vice president of production on the phone from his San Francisco office. "I'm sure in a year or two, Worlds Chat will be laughable. But I think it's the kind of thing we'll look back on much as you look back at PONG now thinking, 'That was pretty cool, might even still be kind of fun, but who would've thought there'd be a multi-billion dollar industry based on the descendants of this product?' That's kind of how I feel about Worlds Chat. It'll be sort of cool."

Tip 704: All these moments will be here in time like tears in rain.

Ms. Back is a writer in Los Angeles.

Audio-visuals bring cyberspace closer to virtual reality

By Bruce Haring
USA TODAY

The long-promised world of instant audio-visual interaction via computer hasn't arrived, but several techniques that simulate such communication are here today.

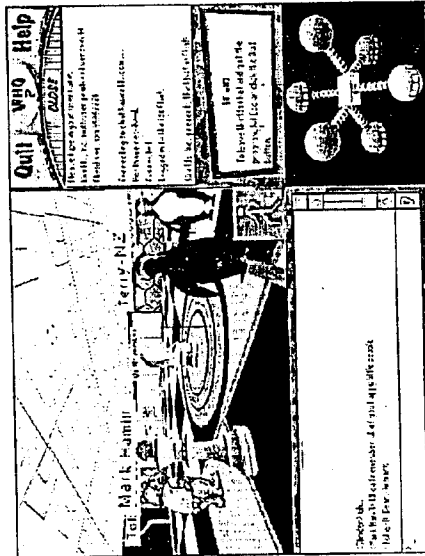
Commercial on-line and Internet services are offering new ways for users to break the boundaries of text-based contact. They're starting to use voice- and sound bites, video clips and particularly the cartoonlike on-screen representatives known as "avatars" to humanize and enhance the on-line experience.

The features are just a step away from actual two-way voice/video interaction. The technology for such communication exists today, but its availability is limited and the cost is prohibitive for most customers.

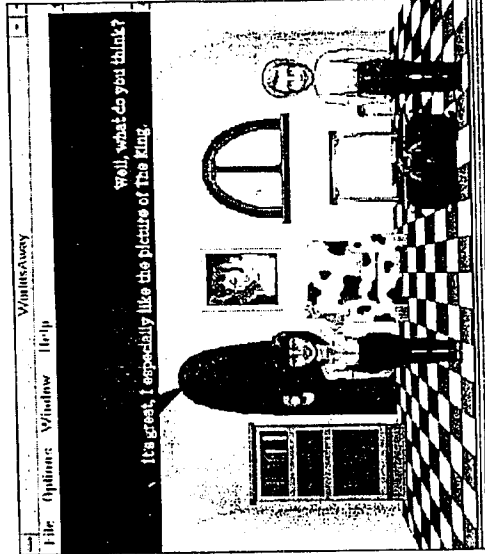
Audio enhancements arrived first. Apple's eWorld on-line service has introduced a feature called Speak, which lets users listen to an on-line conference instead of watching a screen of scrolling messages.

Speak allows users to assign different voices to conference-room members, letting users listen to chat while doing other things on the service.

Also bringing audio-visual components to users is CompuServe. Later this year it expects to offer a service that will bring frequently refreshed still video images and real-time closed-captioned text to computer screens, giving the impression of a slow-moving TV program. Users can join a communal chat session on the same screen as the images, presumably to comment on the broadcast.



WORLDS CHAT: The software's shifting 3-D environment features screen names, "digital actors" who move through 3-D spaces and ambient sounds.



WORLDSAWAY: CompuServe's upcoming chat environment lets users pick up and share objects and convey emotion via expressions and gestures.

movement and chat are sent through the Net, so users with slower modems can still have a reasonable reaction time.

Worlds Inc., creator of Worlds Chat, is designing an advanced system for Steven Spielberg's Starlight Foundation to link seriously ill children in hospitals across the country in a "virtual playground."

Worlds Chat is their laboratory. "We've learned how people react" in virtual chats, says Rob Schmulis, director of marketing. "They make eye contact, for example, just like in the real world."

"There shouldn't be a division between chat and other on-line areas," he says. "Just like everywhere you go in the real world is a chat space, you should be able to chat and meet people wherever you are in virtual space."

CompuServe is planning a similar avatar-based chat environment called WorldSAway, designed by Fujitsu. Dialogue appears above the avatar's head, as well as in an adjacent text area. Emotions can be conveyed by facial expressions and gestures, and objects in rooms can be picked up and shared. The rollout should start within weeks.

For those who desire more, however, the wait won't be long. Ted Leontis of America Online predicts two-way visual interaction is two to four years away. "All these technologies always seem to take longer to get there than you predict," Leontis says, "but when it gets there, it migrates into the mainstream much faster than you could have anticipated."

One site taking advantage of VRML is Worlds Chat, which went up on the Internet in April with little fanfare but has quickly captured attention for its unique use of 3-D icons to simulate real-life interaction.

Worlds Chats, Windows software operates through the user's Internet access-provider and can be downloaded from the Internet (http://www.worlds.net). The software creates a shifting 3-D environment through which visitors wander,

Users start by selecting a screen name and an avatar (known as a "digital actor") from a selection that includes a chess piece, a fish and a penguin, among many others. Then they enter a world of 3-D spaces — hallways, escalators, doorways and rooms. Names appear above each avatar's head, and on-line ambient sounds are provided. Actual "chat" still occurs in a voiceless text box.

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On-line communication is getting closer to the real thing

By BRUCE HARING
Gannett News Service

The long-promised world of instant audio-visual interaction via computer hasn't arrived, but several techniques that simulate such communication are here today.

Commercial on-line and Internet services are offering new ways for users to break the boundaries of text-based contact. They're starting to use voice and sound bites, video clips and the cartoon-like on-screen representatives known as "avatars" to humanize and enhance the on-line experience.

The features are just a step away from actual two-way voice/video interaction. The technology for such communication exists today, but its availability is limited and the cost is prohibitive for most customers.

Audio enhancements arrived first. Apple's eWorld on-line service has introduced a feature called Speak, which lets users listen to an on-line conference instead of watching a screen of scrolling messages.

Speak allows users to assign different voices to conference room members, letting users listen to chat while doing other things on the service.

Also bringing audiovisual com-

ponents to users is CompuServe. Later this year, it expects to offer a service that will bring frequently refreshed still video images and real-time closed-captioned text to computer screens, giving the impression of a slow-moving TV program. Users can join a communal chat session on the same screen as the images, presumably to comment on the broadcast.

Cable News Network will be the first to test the technology on CompuServe, offering portions of newscasts in real time, with the video images changed every 30 seconds.

Portions of audio and sound effects are expected to be available for downloading during the broadcasts.

Prodigy is also moving in a visual direction. The service is working with a film developer that digitizes photos for users, who can then attach them to electronic mail. Sound clips can also be attached to e-mail for rudimentary two-way communication.

While real-time audio/video communication still lies in the

future, a type of two-way interfacing is possible today with a new computer language allowing people to communicate with 3D images. Virtual reality markup language (VRML) is the next generation to hypertext markup language (HTML), the common denominator of the World Wide Web.

"It's HTML on steroids," says Peter Meehan of Siggraph 95 at an interactive communication conference through Friday in Los Angeles. "A year ago, you could have asked industry experts and they wouldn't have known what VRML is."

One site taking advantage of VRML is Worlds Chat, which went up on the Internet in April with little fanfare but has quickly captured attention for its unique use of 3D icons to simulate real-life interaction.

Worlds Inc., creator of Worlds Chat, is designing an advanced system for Steven Spielberg's Starbright Foundation to link seriously ill children in hospitals across the country in a "virtual playground."

Worlds Chat is their laboratory. "We've learned how people react" in virtual chats, says Rob Schmults, director of marketing. "They make eye contact, for example, just like in the real world."

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Sight, sound add dimension to net chat

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AUG 9 1995

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LUCE PRESS CLIPPINGS

By Bruce Haring
Cannell News Service

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There's more to see chatting in 3-D

New Internet site like playing Doom

Orlando Sentinel

Chatting on the Internet has taken on a new dimension — a third dimension as a matter of fact.

If you have ever used your computer before to chat with other computer users, you know what it looks like — line after line of text scrolling up on your screen. As you train your attention on the screen, the moving text gels into something like a virtual cocktail party.

But until recently, chatting was only a 2-D experience. What you saw on your flat computer screen was all you got.

Now a new site on the Internet lets you chat with on-screen cartoon characters — called avatars — and move about in a three-dimensional setting. The site was put up in April by Worlds Inc. of San Francisco and currently attracts up to 1,000 people a day.

The look and feel of 3-D chat is very similar to playing the computer game Doom. On-screen, you "look" through the eyes of your avatar and see the avatars of other users gliding about on the screen. You maneuver with your mouse, pushing it up to move forward through virtual hallways and side-to-side to turn.

Chatting in 3-D is one of the coolest new things you can do in cyberspace. It's also one of the next "big things." CompuServe and Fujitsu Corp. already have announced plans to launch a similar service in October. Insiders at America Online, the king of all chat services, say they are very interested in the concept. Prodigy says it is studying it.

Worlds Inc., which currently offers this service at no cost to Internet users, is planning an even larger 3-D chat site, to be called the Interactive World's Fair, on the Internet, for which it will charge a monthly subscription. It also will launch in October. A price has not been announced, but a company spokesman said it will be low; the idea is to attract a lot of users.

To be able to chat in 3-D, you need at least three things: a fairly powerful computer, the Worlds Chat software and a direct

connection to the Internet.

At minimum, you need a 486-class PC running at 50 megahertz. You also need at least eight megabytes of random access memory and a 9,600-baud modem. The system runs optimally on a 486-class, 66MHz machine with 16 megs of RAM and a 14,400-baud modem. Obviously, Pentiums with 28,000-baud modems work even better.

The Worlds Chat software is available for free from the company's home page on the World Wide Web. It takes about 40

minutes to download with a 14,400-baud modem and will consume about three megs of your hard drive.

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Coming Soon to the Internet: Tools to Add Glitz to the Web's Offerings

By JOAN E. RIGDON
Staff Reporter of THE WALL STREET JOURNAL
Bells and whistles are coming to the Internet's World Wide Web.

Several companies are developing software that will add pizzazz to Web pages, which now look like mishmashes of text and grainy photos. By year-end, Web users may be able to roam 3-D worlds or stores, sample music compact disks and watch personalized stock quotes, game scores and news scroll across their computer screens.

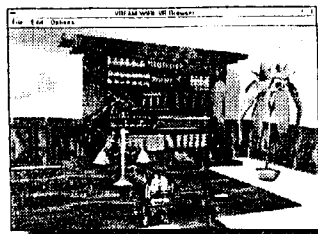
The tools won't transform the Web into a glitzy supermall, but they are a first step. With them, "We are finally seeing the [Web] graduate from being

a flea market to being a business," says Dataquest Inc. analyst Allen Weiner.

Some of the tools are already available on the Internet if you know where to look, but they'll soon be easier to get. Many of them are being licensed by companies that make software for browsing the Web.

Here's a peek at the tools and how companies plan to use them.

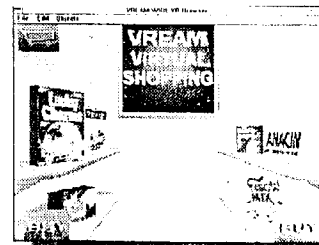
■ **SOUND:** Many sound files on the Internet take five times longer to download than to play. Progressive Networks Inc., Seattle, sells RealAudio software that can play files while they're being downloaded after only a short delay.



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grams that animate or rotate logos or other pictures alongside still text. These animations can either play automatically when a customer arrives, or when a button is clicked.

Starwave Corp., a Bellevue, Wash., company that has teamed up with ESPN to offer

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■ **3-D.** Critics say this technology may never take off because it's so hard to maneuver through three-dimensional

space on a computer. Many who try to do it crash into walls. Worse, the computer can't update images as fast as the human eye, so walking through 3-D cyberstores usually feels like staggering, which literally makes some people sick. "If you want 3-D, get your head out of the computer. It's all around you," sneers Sun's chief executive, Scott McNealy.

Still, several companies are betting that these glitches are nothing compared with the appeal of a world that looks more real than anything in two dimensions. Vream Inc., Chicago, makes a 3-D tool that will be incorporated in the next version of Netscape so that people can see sites on the Web in 3-D if the sites are built with a Vream tool. Dimension X Inc., San Francisco, created a tool called Iced Java that runs on top of Sun's Hot Java; Fox Broadcasting is using it to build a 3-D view of Springfield, where the Simpsons live.

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AUG 16, 1995

P3514

LUCE PRESS CLIPPING

On-screen characters give dimension to chats

By JOE KILSHEIMER
Orlando Sentinel

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If you've ever used a computer to chat with other computer users, you know what it looks like — line after line of text scrolling up on your screen. As you gain your attention on the screen, the moving text gets into something like a virtual cocktail party.

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Once you download the software, you will need to install it — just like any other Windows-based program. From the program manager, choose Run from the File menu and click on the file that you downloaded.

You'll also need an account with a company that

provides direct-access to the Internet. You might be able to download the software with the Web browser offered by America Online, Prodigy or CompuServe but you won't be able to access the chat.

After you have downloaded and installed the software, here's where the cool part begins. Double-clicking on the World Chat icon automatically engages your modem and links you to the service.

Once you log in, you are asked to create your own avatar and choose a nickname. On screen, you glide through a hallway lined with posters containing potential choices. Once you make your choice, the program says: "Embody me." Click on that button and the service "transports" you to the hub of a space station, floating above the Earth. Outside the space station's windows, a star field slowly passes by.

Aboard the virtual space station, you can select one of five different themed "platforms." They are titled: Words, Ideas, Technology, Food and Geometry. The chat is supposed to follow those themes, but users seem still too thrilled with the concept of chat along those themes.

AUG 30, 1995

P5096

FUGUE PRESS CLIPPING

Coming soon to the Internet: Tools to add glitz to the Web

By JOAN E. RIGDON
The Wall Street Journal

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3-D

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Reporter Online

Visit us on the Web at URL:
<http://www.abilene.com/arn/arnhome.html>

THE **Surfboard**

BY ERIC BERLIN AND ANDREW KANTOR

Cry Havoc!
And let slip the dogs
of surf!

Another World

What do you get when you cross Doom with Internet Relay Chat? It's called Worlds Chat, and it might be the coolest new Internet application we've seen. (And it's free.)

It works like this: When you start the software (Windows SLIP/PPP only, for now), you find yourself in a room. You can use your keyboard or mouse to walk around, but there's not much to see other than pictures of people, fish, cartoons, and other things. This is the gallery, and it's where you choose your "avatar"—the icon that will represent you. Then the software connects you to Worlds Chat's server in Washington state.

You can explore the Worlds Chat space station—including two hidden rooms—by walking through doors, down hallways, and up escalators, Doom-like. And if you see someone else, you can chat via your keyboard (voice is in the works).

Worlds Chat works well for one significant reason: The information about the environment is kept on your hard drive, so the only things coming over the modem are the movements and "speech" of the other people there. It *doesn't* work well, however, with computers short on RAM. Our 8MB Pentium system was heard to say, "I think I can! I think I can!" while our 16MB 486 zipped through the station like a hummingbird on caffeine.

The Worlds Chat concept is experimental. . . for the moment. But the giant Internet World's fair—with hundreds of rooms, roads, and pavilions—is scheduled to debut soon. Stay tuned. To get the software, use FTP to go to [ftp.kaworlds.com](ftp://kaworlds.com) and look in the /pub directory. Get the latest `chatnnn.exe` file (be warned, it's more than 2MB) and we'll see you out there.

I'll Be Seeing You

LUCE M89264
PRESS CLIPPINGS

When words are not enough, animated chat enters the picture BY GARY BRICKMAN

As Hiro approaches the street, he sees two young couples, probably using their parents' computers for a double date in the Metaverse ... He is not seeing real people, of course. This is all a part of the moving illustration drawn by his computer ... The people are pieces of software called avatars. They are the audiovisual bodies that people use to communicate with each other in the Metaverse. —Neil Stephenson, *Snow Crash*

The world of avatars, digital representations of computer users so prevalent in Stephenson's best-selling science fiction novel *Snow Crash*, won't be fiction for long. The major commercial online services and a host of high-tech start-up companies are racing to develop the next generation of chat technology—abandoning simple, text-based messages for elaborate animated conversations. Several systems have just launched, and others will debut online in the next year.

Online chat means big business. Anywhere from a quarter to a third of online subscribers visit chat rooms on a regular basis. Most chatters spend more hours cybersocializing than reading online news clips or booking flights to Paris. Those hours spent in deep chat translate to big bills at the end of the month. It's no wonder, then, that the big three online providers—CompuServe, America Online and Prodigy—are

hard at work enhancing their chat environments to keep users hooked.

Other growing online players also see chat as a major draw. Microsoft's Microsoft Network will offer traditional text-based chat initially, but the software giant is developing a sophisticated graphical world for chat users in the long term. Online gaming networks, such as AT&T's

CompuServe's WorldsAway appear to be the first—and possibly the most advanced—of these animated chat systems.

WHERE THERE'S AWAY ...

Beginning in July, CompuServe subscribers were to have gained access to WorldsAway, a two-dimensional online universe chock-full of rich graphics and strange alien characters. Chatters can custom build their own avatars. Picking from a Mr. Potato Head smorgasbord of hundreds of heads, bodies and costumes, users can transform themselves into a dragon, a buxom blonde or a macho stud.

WorldsAway subscribers interact using menu-driven point and click commands to move across a room, or gestures to indicate emotion. Instead of the tired emoticons and smileys of text-based chat, WorldsAway avatars can smile, frown or wave. To talk with other avatars, users type text that appears in thought balloons above



Conversation starter: WorldsAway co-creator Randy Farmer.

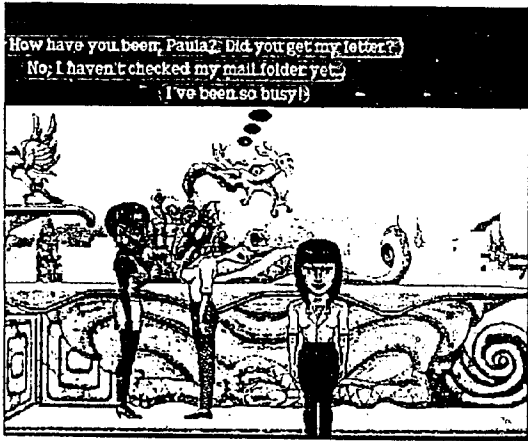
ImagiNation Network, also hope to cash in on the chat craze by incorporating users' photos and avatar-like characters into their systems. And the exploding popularity of the World-Wide Web is drawing interest from several companies that will offer Web users the chance to participate in animated chat.

Worlds Inc.'s Worlds Chat and

their characters. Avatars can sit in a chair or pick up objects in a room. A painting on the wall might become a gateway to another world. There is a variety of settings, from a town square, to a Middle Eastern desert kingdom. Each WorldsAway environment has its own social structure, complete with an economy where users can earn tokens that can be

bartered for objects or trips to new worlds.

Stanford University computer science professor Terry Winograd tested a demonstration version of WorldsAway and says he thinks the service will attract role-playing en-



That away: WorldsAway lets you choose your onscreen avatar.

thusiasts. However, he wonders if the cartoonish animation is a "gimmick" that will wear thin on users who just want to talk.

WorldsAway is the successor to Habitat, a virtual chat community created by programmers from Lucasfilm in the late 1980s. Originally developed for the Commodore 64 computer, Habitat currently serves 10,000 subscribers on NIFtyServe, Japan's biggest online provider.

CompuServe offers WorldsAway as an extended member service for a stiff \$4.80 per hour. It costs \$9.95 to download the software. Fujitsu Cultural Technologies built and operates WorldsAway, and it receives a percentage of the hourly usage fees. Subscribers who dial up CompuServe's Columbus, Ohio, headquarters are routed to Fujitsu's high-powered Unix system in San Jose, Calif. WorldsAway is specifically designed to reach the broadest number of consumers—it can be used on both Windows and Macintosh machines at modem speeds as slow as 2400 bits per second.

CompuServe has exclusive rights

to WorldsAway for one year. Meanwhile, Fujitsu is seeking to license its product to Hollywood studios, other content providers and businesses that will market products via the animated world.

CompuServe hopes WorldsAway will help it shed its stodgy, business-oriented reputation and appeal to a broader consumer base. "We believe it will bring in a whole new set of users," says a CompuServe spokesman.

CompuServe's competitors won't comment on specific plans to enhance their chat services but openly support the idea. "Anything that helps build a stronger sense of community is good," says America Online president Ted Leonis. "Making [online] systems more compelling, more multimedia, is great."

AS THE WORLDS CHAT

The other big player in the battle to win the hearts, minds and wallets of cyberchatters is San Francisco-based Worlds Inc. A spin-off from CD-ROM maker Knowledge Adventure, Worlds Inc. was the first company to launch a working three-dimensional chat world. In April, Worlds Inc. put its service, Worlds Chat, on the Internet. After downloading about 2 megabytes of software from the Worlds Inc. Web site, users can enter into chat with anyone else on the Internet who is using the Worlds Inc. software. The service charges no fees for using the software or any connect charges apart from accessing the Internet itself.

Once online, Worlds Chat users pick an avatar from a gallery of about a dozen stock characters. Users can become anything from Alice in Wonderland to an ancient

Asian warrior. Unfortunately, they can't modify their avatars to their own specifications. And unlike CompuServe's system, users of Worlds Chat can't see themselves as they wander through the space station that serves as the meeting place for Worlds Chat.

Avatars can meander through the station's many corridors and enter dozens of smaller rooms set up for more intimate chatting. The system employs convincing animation similar to that used in the game Doom. Users navigate avatars by mouse or cursor key. The motion controls are extremely sensitive—one small move of the mouse can send an avatar straight into a virtual wall.

Jason Lewis, a 23-year-old computer programmer from Seabrook, N.J., and confessed chat addict, loves the "interactive cyberfeel" of Worlds Chat. "The idea of looking at who you are talking to is really mind-blowing," he says. "I don't think it will convert die-hard chat people yet, but it is [fine] for the casual lurker."

As on CompuServe, avatars in Worlds Chat talk to each other in text—rather tiny text that can be hard to read at times. Avatars in this

■ You must be a CompuServe subscriber to use WorldsAway. Type go away to access the service.

■ To try Worlds Inc.'s Worlds Chat, set your Web browser to <http://www.kaworlds.com> and download the software.

universe don't have the same range of expressions as those in CompuServe. And though the space station environment is more lifelike than CompuServe's animated 2-D scenes, there are no objects to play

(page 2)

Manhasset, NY

Monthly 200,000
Aug 1995

with, and every room begins to look the same after a while.

Worlds Chat works best on Pentium-based PCs. Users need a minimum of 8 MB of RAM, a 16-bit sound card and a 14.4-kilobit-per-second modem. Users also need access to the Internet either through a direct connection or a dial-up SLIP (Serial Line Internet Protocol) or PPP (Point-to-Point Protocol) account. The system runs only on Windows, but there are plans for a Macintosh version later this year.

Worlds Inc.'s 3-D chat technology will also be a key component of World's Fair, an online interactive collection of exhibits and advertiser-sponsored cyberevents (see *Net-Guide*, March, page 70).

GOOD RADIO, BAD TV

Will these new graphically oriented chat services replace good, old-fashioned text-based chat? WorldsAway co-creator Randy Farmer thinks both flavors will always have a place. "It's like the difference between radio and television," he says. "Good radio is bad television. Television removes a little of your imagination, but replaces it with vivid imagery."

Mike Rinzel, an analyst at New York's Jupiter Communications, agrees—up to a point. Rinzel prefers the advanced 3-D-rendered space station created by Worlds Inc. over CompuServe's flat 2-D world. "People might be resentful about being restrained to a sort of stick-figure" representation, he says. Then again, he adds, too much imagery could end up destroying the anonymous appeal of the basic chat experience.

Concerns about realism and anonymity aside, the conversation medium of science fiction has arrived—a bit earlier than expected. It may not be as advanced as Neil Stephenson's Metaverse—yet—but it certainly will get people talking. @

Gary Brickman is a contributing editor for CMP's Interactive Age.

Talk, Don't Shoot

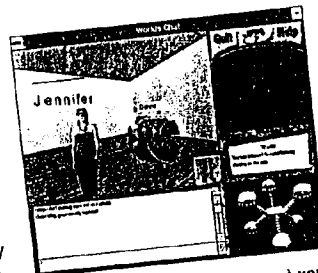
Imagine yourself at a cocktail party, chatting with an interesting-looking blowfish and surveying your host's stark but spacious space garden. To attend this party, however, you'll need to log onto *WorldsChat*, a groundbreaking new 3-D chat environment on the Internet's World Wide Web.

WorldsChat, a product of *Worlds Inc.* (formerly *Knowledge Adventure Worlds*), is free for the moment. Good thing, too, because you'll find cruising this first-person-perspective environment to be as addictive as *Doom*, but without the violence. As soon as you reach the Web site (<http://www.kaworlds.com>) and download the Windows software, you can use the Arrow keys or mouse to cruise through hi-res corridors, rooms, and outer-space platforms.

Even better, the other characters are real, represented on-screen by digital actors or avatars. Each of the *WorldsChat* "guests" can pick a human or other avatar to represent themselves. Experiment with being the opposite gender, or even another species. You converse by typing with any avatar you can see. Performance is snappy, even on a 486 with a slow-speed 9600-bps modem.

The company has plans for a Mac version, and it's developing new higher-tech environments. Once you've experienced *WorldsChat* in 3-D, you may find that plain, text-based chat no longer makes the grade. (*Worlds Inc.*; 800-446-3636; free)

—Donald St. John



Pick a digital actor to represent you in *WorldsChat*'s 3-D universe.

Platform: Windows for World Wide Web **Rating:** ☆ ☆ ☆ ☆ ☆

Cyber

317-6444

Life

Boise, ID
IDAHO STATESMAN

Boise
Met Area

Monday

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body me," demands the rotating penguin on the computer screen.

My fellow space traveler and I obey. With a touch of the button, we inhabit the computer-generated penguin and name him "LEGOking."

Now we can enter the space station. Among a motley, three-dimensional cast of characters lurking there we spy "Mia," a colorful and sleek fish.

On the computer screen, we type "Hi, Mia!"

Suddenly, a large, blonde female head named "Sexy" (she looks like Nicole Brown Simpson) moves in our path. Mia disappears.

We move our penguin body after Mia, using our mouse and cursor keys as propellants. As we travel, we hear spacey, whooshing noises like the ones you hear on Star Trek when people walk through doors. Eerie echoing birds chirp a space-age, rainforest-like chatter.

We type a message for anyone to hear: "Hello, out there."

A message from "Dana" pops up in reply. She says she's from Marietta, Ga., and asks our pen-

guin LEGOking if we, uh, come here often.

Hey, it's not rocket science.

It's just a bunch of computer users talking in Worlds Chat, a virtual discussion group on the Internet, in which you not only talk, you inhabit weird characters and move.

My fellow traveler and guide is Richard Wright, teacher at PCS Centers for Enriched Learning and frequent Worlds Chat visitor.

In the various rooms in Worlds Chat, you encounter blue-green bears, a chess piece, a blowfish, Alice in Wonderland. Like our penguin, they're called "avatars" — characters each participant chooses to represent him or herself. Each time you enter Worlds Chat, you may choose any avatar and any name.

Some of these computer heads may be telling the truth about their gender or occupations.

Some want to have meaningful conversations. Some drop in just to annoy other avatars. Others are first-timers who just marvel at its "gee-whizness".

This is what Worlds Incorporated, creator of Worlds Chat, has in mind when it tosses

around lofty concepts such as "social computing." Worlds Incorporated says it's examining the impact of electronic interaction on human beings.

As a result, the San Francisco-based company is taking communication on the Internet to another level. By allowing people to interact on a physical, as well as verbal level, it introduces a new dimension to on-line chat — which is typically done in a text-only format.

Characters seem to make eye contact when they talk. (When was the last time you made eye contact with a fish?) If you don't like someone, you can get away. You can talk privately to a person without the others hearing, even slipping off to another meeting room to talk privately if you wish.

"So much of our lives is geared around other people," says Rob Schmults, director of marketing at Worlds, a year-old spin-off from Knowledge Adventure Worlds. Schmults says Worlds Chat is a demo of the technology the company has developed, and that it's just the beginning.

"This enables your computer to be more than a one-way funnel of information; it makes it more of a window on the world. We're trying to harness the full potential of the computer."

Move Over Karaoke, Here Comes Virtual Oz

Oz is not only in color, but interactive 3-D. The latest and greatest after-hours entertainment scheme for some 38,000—mostly Japanese entrepreneurs in their 20s and 30s—is ESCOT's Cyber Oz City. The first two *real* floors, the ESCOT Bar & Grill, were expected to open to the Tokyo public today—complete with an Americanized menu and laptops. The laptops will initially take in-house and worldwide patrons (via their avatars) into 3-D chat rooms, based on an infrastructure and interface



from UB Networks and its equity partner, Worlds Inc. From there, visitors can be launched into the mostly two-dimensional World Wide Web. Plans are also underway to provide virtual travel services, which will let Cyber Oz City visitors virtually check out worldwide resorts and travel facilities. Sorry, games aren't on the menu yet. But how about considering virtual Karaoke?

Outside Looking In

THE WEB SITE OF THE FUTURE WILL BE COMING TO YOU IN 3-D

Bill Gates is behind the curve on the Internet, despite his protestations that

The Microsoft Network is the next flagship on the information high seas. But,

more surprising, so are Netscape and its founders, Jim Clark and Marc Andreessen. The Web is about to go 3-D in a big way, and hardly anyone is ready for it.

Don't fire your Webmeister just yet. Anybody marketing products on the Net will need all the expert help they can get once it has been given a dose of depth. The plain old 2-D HTML-based monster you've come to know and hate isn't going away; it's taking a backseat to the new driver on the information superhighway: VRML, the virtual reality markup language. VRML lets many users log in to a shared 3-D world, move around within it, and communicate with others who are there. Using standard objects and their own custom building blocks, people designing with VRML can create roads, businesses, and product displays—a much more powerful medium for creating brand recognition.

Netscape recognizes VRML's potential, but, so far, it only supports the language, rather than providing tools for building 3-D environments. Other companies, such as Worlds Inc. of San Francisco (<http://www.worlds.net>), are taking the lead in 3-D. I've been spending a lot of time lately in that company's distributed 3-D environment. Worlds' application is less than 2M bytes in size, yet it facilitates a rich graphical world.



**Mitch
Ratcliffe**

From the moment I arrived, the environment was startlingly different from any HTML page. I was parachuted into a town square. Buildings, parks, and gardens spread all around, and Alpha Street, the main drag, stretched to the horizon. Taking a stroll, I quickly bumped into a rudimentary avatar, basically a stick-figure representing another user, who was building a park. He planted several roses while I watched, then erected a water-

fall that poured out of midair.

Worlds' 3-D homesteads are essentially a big coordinate map that tells a TCP/IP client machine (Pentium-class preferred) where it should place design elements, like walls and windows, from a library of objects. That means the performance over a 28K-bps modem connection is very good. I could even "run" down the street, with objects coming quickly into view as I moved. Very little data painted a passable imitation of the look of Salt Lake City. Bland—but better than 2-D.

So what's the big deal? Now that you can take a walk in cyberspace you're probably not going to shoot the dog, cancel your newspaper subscriptions, and move into the network. But consider this: Compared with a 2-D interface, which forces consumers to move from page to page without forming a compelling mental picture of the

From the moment I arrived, the environment was startlingly different from any HTML page.

information they've encountered, 3-D spaces let people keep several information sources, retailers, or service providers in sight at one time.

We're talking comparative shopping here, folks. For example, on the main street of a VRML service, one will be able to take a

look down the sidewalk to find a selection of banks and investment services. The buildings constructed in VRML could act as interactive logos for the businesses they house. At a user's request, a virtual mall of related sites could be created. Consumers could browse the aisles until they find what they want, then dive in to interact with a particular service in two or three dimensions.

It all adds up to the first effective way to apply marketing savvy while letting consumers shop comparatively.

When Worlds ships its 3-D environment later this fall, stop by my place, Godsdog State Park and Remote Hideaway. It's at -1,151 on Alpha Street. And don't forget to say hello to my avatar. 🐕

Mitch Ratcliffe is editorial director of Digital Media newsletter. He can be reached at godsdog@digimedia.com.

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New York, NY

WEEKLY 215.947

SEP 18, 1995

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I-Way Patrol

Enter the Third Dimension, Iconovex AnchorPage, Internet Office 4.0

Web Navigation

Netscape's Navigator Personal Edition brings you the power of Navigator with the convenience of one-button I-Way access via your choice of five service providers.

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I-Way Meets Office

CompuServe's Internet Office 4.0 evolved from Spry's Air Series 3.0 and includes all the tools you need to I-Way-enable your LANs and WANs.

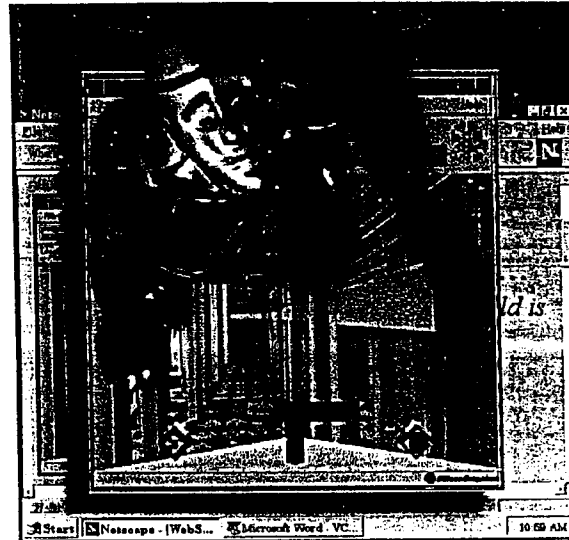
Internet Office 4.0 / CompuServe / (800) 777-9638 / \$49 to \$499 est. street price, depending on configuration / Reader Service No. 638

VRML VERTIGO

3-D Hits Cyberspace

Imagine being able to float through a cyberscene, moving up, down, forward, backward, sideways—you name it. Forget browsing and clicking with a mouse; you'll soon be flying through sites with Virtual Reality Modeling Language (VRML), a technology that brings 3-D images to the World Wide Web. Several VRML projects are currently under way, including InterVista Software's WorldView and Silicon Graphics' WebSpace.

For businesses looking to attract more hits to their home pages, VRML could be just the draw they need. Instead of scanning and clicking on a list of products as with conventional HTML, you float through a virtual store, and pick up and rotate the products for sale. Dozens of commercial organizations and companies—including Walt Disney, Ford Motors, and



Take Flight: Virtual Reality Modeling Language brings three-dimensional graphics to the World Wide Web.

Sony—have endorsed VRML 1.0 as an open standard for Web-based 3-D imaging.

The push to enliven the Web through innovative interactive technologies doesn't stop with VRML. Additional projects, such as Fujitsu Cultural Technologies' Worlds-Away, a two-dimensional, animated online community, and Worlds Inc.'s Worlds Chat, a 3-D graphical Web technology, are redefining the

online experience as well. And soon, these 3-D worlds will be animated via distributed applications. One such project is Sun Microsystems' HotJava (<http://java.sun.com>), which allows applets to be embedded and distributed on the Web. Currently, a special viewer, or interface, is required to access these technologies. See our "One Minute Guide," below, for information on where to find VRML viewers and sites.

ONE-MINUTE GUIDE VRML Viewers: 3-D Glasses for Your Browser

If you want to enjoy 3-D surfing, you'll need to add one of these VRML viewers:

WORLDVIEW InterVista's WorldView is a VRML viewer for Windows 3.11, Windows NT, and Windows 95 (<http://www.hyperion.com/intervista/technology.html>).

WEBSpace Silicon Graphics' WebSpace works only on high-end Silicon Graphics workstations, but a new Windows version of WebSpace is expected to be available

soon (<http://www.sgi.com/Products/WebFORCE/WebSpace/>).

VRML STUDIO Netpower's VRML Studio is a 3-D viewer (<http://www.netpower.com/>).

WIRL Vream's Web Interactive Reality Layer (WIRL) is a 3-D Web viewer (<http://www.vream.com/vream/index.html>).

VRML REPOSITORY The VRML Repository site at the San Diego

Supercomputer Center offers links to VRML software (<http://www.sdsc.edu/vrml/>).

VRML FAQs Got a question about VRML? Chances are it's been answered here (http://www.oki.com/vrml/VRML_FAQ.html).

WORLDS CHAT Worlds Inc.'s fully navigational, 3-D Web environment is the same technology used by Steven Spielberg's Starbright Pediatric Network for hospitalized children (<http://www.kaworlds.com/>).

Worlds Without End

A stunning new virtual world debuts on the Internet

Just by looking at him, I can tell that the Lionman is...well, benevolent. I mean, I've been badgering him for the last half hour with endless questions, and he hasn't seemed to mind. So I'm startled—and a little hurt, even—when he abruptly turns away from me and starts striding down a long corridor. "Hey," I want to shout, "are you going to just leave me here?"

"If you want to see the Planes of Geometry, follow me," he calls out. He is, I realize, offering to take me on a tour. So I follow him for what seems like a long time, down this hall, up another, until finally we arrive at our destination. When we do, I am stunned: as far as I can see, a seem-

ingly endless checkered plane stretches out before us, dotted with dozens of strange-looking characters milling about in groups of two or three. As we walk toward them, a few greet Lionman. One of them—an anthropomorphic chess piece—sidles up to me. "Oh, he took you here too?" he asks. "No big deal, you know. He does that with all the girls." I don't like his tone one bit.

A hallucinogenic fantasy? Not quite. The place I was exploring is an astonishing new online virtual environment called Worlds Chat, accessible through the Internet for the past six months to anyone with a decent modem and a sufficiently fast computer running Microsoft Windows. (By the time you read this, Macintosh users should have access as well.) My guide, the Lionman, was actually Cole Larson, chief technical officer at Worlds Inc., the San Francisco software company behind Worlds Chat. If you haven't yet

heard of Worlds Inc., you will. As a result of a series of major-league deals with a series of major-league players like Steven Spielberg, IBM, Visa, Sprint, and Landmark Entertainment, the one-year-old company is blossoming into a high-flying business. The centerpiece, of course, is Worlds Chat, by far the most outstanding example of virtual reality on the Internet today.

In essence, Worlds Chat is a "virtual" place where people from all over the world can come to explore the environment and meet one another. Unlike most of what passes for VR these days, Worlds Chat doesn't require you to wear a dorky helmet. To enter, all you need is a copy of Worlds's Worlds Chat software, which you can download for free from the company's site on the World Wide Web (point your browser to <http://www.worlds.net/>). On your first visit, you will be welcomed to a lobby where you'll be shown an array of a dozen or so cartoon, human, and animal figures. From these, you'll choose what's called your "avatar"—the character that will represent you in Worlds Chat, and through whom you will experience, explore, and interact with others in this online world.

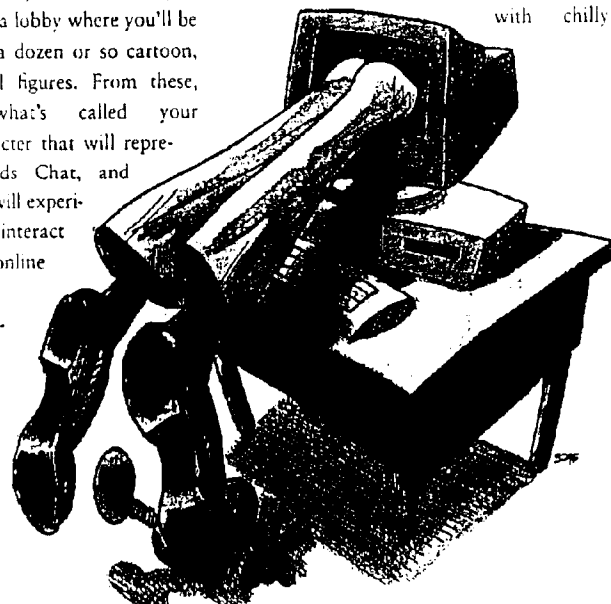
Using your computer's arrow keys and mouse to control speed and direction, with your avatar's view of things dis-

played on your monitor, you can begin to move about the Worlds Chat environment, which you'll quickly discover is some sort of giant spaceship. Before long, you'll run into other avatars who are also wandering around the ship. You can talk to them—or, rather, to the people behind them, who are that very moment sitting at their computers just like you—by typing short messages into an onscreen chat box, which will display their replies.

There is, of course, nothing new about live online chat. The ability to exchange typed messages with a number of people simultaneously in real time is one of the biggest draws of such popular commercial online services as Prodigy and America Online. But Worlds Chat isn't just chat. This is a virtually real world you can see and in which you can navigate.

Perhaps most significant, it's already spawned a very real if somewhat odd sort of community—a community that in just a few months has developed its own social mores and codes of behavior. For example, people in the Worlds Chat environment consider it quite rude when you walk through—as opposed to around—their avatars. Unsolicited sexual come-ons don't work here either, nor do critical comments about the appearance of someone else's avatar. When I told a blowfish that he resembled "last night's dinner"—a cute joke, I thought—I was greeted with chilly

Worlds Chat has already spawned a very real community with its own social mores and codes of behavior



"A lot of people say we're creating this terrible thing."

silence. "This is the first time in the world that we can watch what happens as a society forms, or even just how people react when they're thrown together," says Gregory Slayton, Worlds's vice president of development. He's not kidding. Worlds should be selling tickets to social and behavioral psychologists.

Not that money's a problem. The company, which was spun off last year from Knowledge Adventure, the Glendale-based multimedia firm known for such top-selling children's CD-ROMS as *3-D Dinosaur Adventure*, just closed its first round of financing having raised over thirty million dollars. It also has many more millions of dollars in contracts in hand—among them, a deal with Spielberg and his charitable Starbright Foundation to create a virtual world in which seriously ill children from around the world can talk and play together, a deal with the Department of Defense to design a virtual environment that

can be used to help train battlefield medics to treat wounded soldiers, and a deal with Visa to devise an online banking world. Though the folks at Worlds won't comment, insiders say the firm has also signed a seven-figure contract with publisher HarperCollins to create a multiuser three-dimensional anatomy adventure for science students. As a result, after just a year in business, Worlds is already operating in the black.

For all that, it's Worlds's entertainment work that should eventually prove the real cash cow. As Internet pundits and media executives scramble to figure out how to make money off the Net, Worlds has

already begun selling advertising on the walls of its spaceship—and the spaceship is just the beginning. By the end of the year, Worlds plans on unveiling a virtual Interactive Worlds Fair on the Internet. It's working on the project with the Landmark Entertainment Group, the second-largest theme-park developer (after Disney) in the world. Like a real theme park, the IWF will

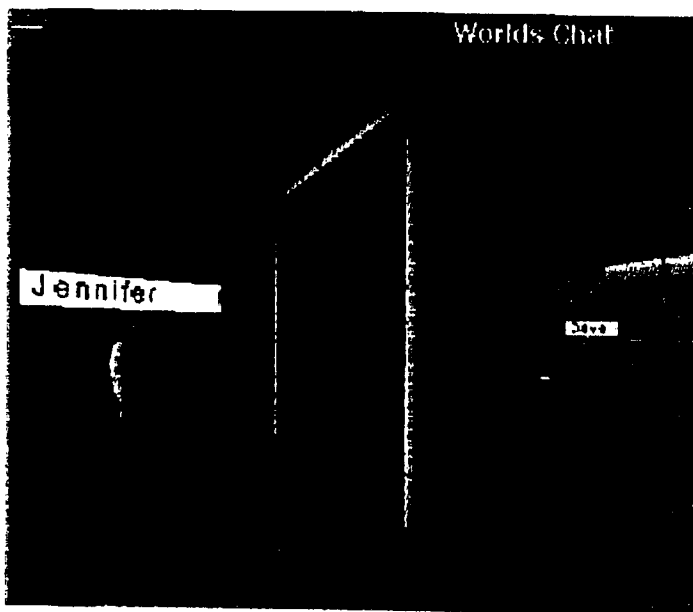
planet—accessible only by "teleporter" from the spaceship—on which people will be able to buy their own virtual houses (with virtual addresses, virtual furniture, even virtual pets), where they can meet privately with other virtual residents. Will Net users flock to this world as enthusiastically as they have to the Worlds Chat spaceship, which has already drawn some twenty thousand visitors? Worlds Chat, after all, is free. Whether Net users will be willing to pay for a virtual house and a virtual puppy on Worlds's virtual earth remains to be seen.

What also remains to be seen is society's reaction to the quirky virtual universe Worlds is trying to create. In a science-fiction novel published a few years ago called *Snow Crash*, author Neal Stephenson envisioned a world in which people, depressed and overwhelmed by crime, environmental catastrophe, and unemployment, regularly retreat to a VR world called the Metaverse. "A lot of people ask us if we

borrowed our ideas from *Snow Crash*," says Worlds's Beasley. "They say we're creating this terrible thing, this place for people to not be who they are."

In fact, Beasley insists, rather than providing an escape from reality, his company is "trying to create a world...to enhance what's out there in entertainment, education, whatever. It certainly is a more valuable escape than what today's couch potatoes have with TV." Beasley notes that in ancient Sanskrit, the word *avatar* refers to a god who has come to earth in human form. "What we're doing," he says, "is just the opposite."

—Gina Smith



Two 'avatars' meet in Worlds Chat's virtual reality. Coming soon, virtual pets

sell people full- or half-day tickets to visit pavilions representing virtually every interest you can imagine. Merchandisers will be invited to sponsor individual pavilions, and Worlds has already lined up the top names in the ad business—among them, BBDO and Ogilvy & Mather—to help develop the concept. "We are," says Greg Beasley, one of Worlds's founders, "inventing a whole new economic model here for the way advertising works."

That's not all Worlds is inventing. In addition to the Worlds Chat spaceship and the upcoming Worlds Fair, the company has also just announced plans to create an entire

OCT 2, 1995

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10 Hotlinks

ARTISTIC VISIONS

CDworld Discount Music Store
<http://cdworld.com>

BYRON PREISS MULTIMEDIA

Get information on *The Ultimate Einstein* and *The Civil War* CD-ROMs in Digital Bauhaus
<http://www.byronpreiss.com>

CAPSTONE SOFTWARE

Downloadable *Witchaven* demo and info on William Shatner's *TekWar*
<http://www.gate.net/~intracor/>

COMDEX

Register and get info on this fall's COMDEX
<http://www.comdex.com:8000>

CYBERIAN OUTPOST

Shop for all categories of computer products
<http://www.cybout.com/>

GOLF DIGEST

Billed as "Everything Golf on

the World Wide Web"
<http://www.golfweb.com/>

O'REILLY & ASSOCIATES

Latest research on Internet size and activity
<http://www.ora.com/survey/>

PF MAGIC

Downloadable samples of an unusual new screen saver called *Dogz* are scheduled to be available at this publisher's site this month.
<http://www.pfmagic.com/dogz/adopt>

WORLDS INC.

Worlds Chat, first on-line 3-D PC chat environment
<http://www.worlds.net>

ZIFF-DAVIS PUBLISHING

Tremendous amount of computer-related information and magazines
<http://www.zdnet.com>

September 15, 1995

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By Pamela Weintraub

NetGuide Magazine

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Most businesses on the World Wide Web have the feel of the Model-T: viable and innovative, but somehow hulking. One day, as sure as your mouse is moving, the Internet will inspire "starships." But right now, in the early days of this new medium, the messenger is strictly industrial age, delivering rough-hewn prototypes all the way.

One exception to the reasonable World Wide Web credo of "Keep it simple, stupid," has been delivered whole by a San Francisco start-up called Worlds Inc. In a nutshell, the company's self-stated mission is to allow users to select or

create their own, on-line digital actors — called "avatars" — that move through locally rendered three-dimensional spaces such as rooms, fields, game boards, or other private and public areas. Users can see all other "avatars" in a given space, where they can chat privately to an individual or the group.

If you think that Worlds has created this awesome system just for the fun of it, think again. "Our primary business is the creation of custom networked, navigable, graphically rich, multi-user environments," says Duncan V. Fraser, director of business development for Worlds. "These environments, or 'worlds,' can be thought of as a virtual representation of an organization with information cen-

ters, sales or service departments, training centers, and the like."

These departments would be located at the customer's desktop. That customer could then walk through the virtual environment, much as he or she might walk through a real store or building, and do business with a personal touch, on-line.

The good news for anyone with an Internet account and access to the World Wide Web is that entry to Worlds' domain, among the most exciting in cyberspace, is available now. To get a taste of the online future, point your Web browser to Worlds Inc.'s Welcome page at <http://www.worlds.net/> and explore.

Getting Worlds' software to work may take a few tries, so don't give up. First,

enter the special "World Chat" space and click on the download button. After you have agreed to company terms, the process may take as long as an hour — and longer if your modem is any slower than 14.4. After you've obtained the software, follow directions available at World Inc.'s site for installation. Specific directions go beyond the scope of this column, but suffice it to say that it's sometimes hard to access the software due to traffic at the site. Beyond that, you might have to go through the download process more than once before you get everything just right.

Once you've got it all configured, however, the rewards of entry are great. En-

Turn to AVATAR, Page 10B

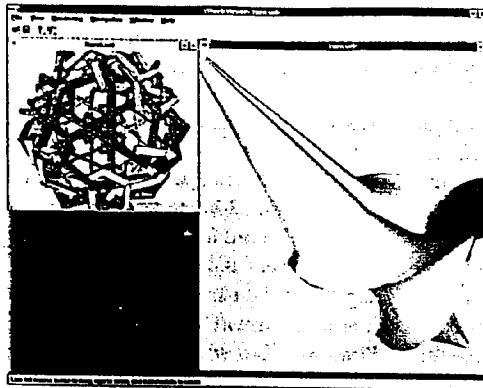
ter the Worlds portal to choose an avatar — an unlikely collection of men in business suits, Nicole Simpson look-alikes, children, stone idols, animals, otherworldly icons, and more. If none are to your liking, access special Worlds' software to generate an avatar of your own.

You'll give your avatar a name and start to roam. As you browse the space you'll meet with other avatars, each with a name (Spud, Rock and Mr. Green were among the visitors this past week), and a point of view. Click on the little

ear to the right of the World's browser screen to "whisper" to just one avatar/visitor. Or use the chat room to announce your comments to the group.

Companies in the market for an interactive storefront or office, meanwhile, can visit the site to see if World meets their needs. Worlds' Duncan Fraser says it will take about three months to custom-design a complex avatar-based environment for just about anyone. Fee for a typical site might reach the \$250,000-\$300,000 dollar range, depending upon the particulars. But then again, this is the Internet at its height.

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New York, NY
Bi-weekly 1,004,23
OCT 10, 1995



VRWeb presents a sharp picture without jagged edges.

move around (or even fly) in 3-D—rendered virtual places. We found that scenes created with VRWeb were a lot less jaggy and appeared more realistic than those created in WebSpace, but both VRML engines are still very much under construction.

A company called InterVista Software had a 3-D browser in prerelease testing at the time of this writing called WorldView. It renders 3-D environments using Rendermorphic's Reality Lab. Learn more about it at <http://www.webmaster.com:80/vrml/>

VREAM, known for its virtual-reality product VRCreator, is also developing a VRML browser called WebView. For a preview of its work, see <http://www.Vream.com>.

Also on the virtual horizon is 3-D World Builder from Caligari Corp. (800-351-7620). The makers of the 3-D modeling/rendering/animation product TrueSpace say this new tool will use VRML to build virtual environments on the Web. No ship date was announced at press time.

E-CASH AND SECURE TRANSACTIONS

Wouldn't it be nice if you could pay for goods and services on the Web with virtual dollars? Well, that's not quite possible, but you can pay via credit card without worrying about someone intercepting your credit-card number in transit.

CyberCash (<http://www.cybercash.com/>) and First Virtual ([\[fv.com/html/fv_main.html\]\(http://www.fv.com/html/fv_main.html\)\) have both developed technology for secure credit-card transactions over the Internet. Using their software, the transaction information is encrypted and sent to CyberCash for transmission to your bank. The merchant doesn't see the credit-card number, and CyberCash says it can return authorization back to the merchant within 10 seconds.](http://www</p>
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CyberCash has reached agreements with both Wells Fargo & Co. and Checkfree Corp. for secure Internet transactions.

CyberCash allows secure payment by credit card over the World-Wide Web.

This should make consumers much more comfortable conducting financial transactions—from purchases to bill payments—over the Web.

If that's not virtual enough for you, you can use NetCash (<http://www.teleport.com/~netcash/>). NetCash funds can be deposited by faxing NetCash a signed check. In return you receive NetCash coupons via e-mail in varying denominations. Each coupon has a serial number. To make a purchase, you send a message to the merchant that looks like this:

Dear Merchant,
Enclosed is payment for
your product.
NetCash US\$5.00
C545678D001234E
Thank you.

Transaction fees are only charged when NetCash is converted into actual money.

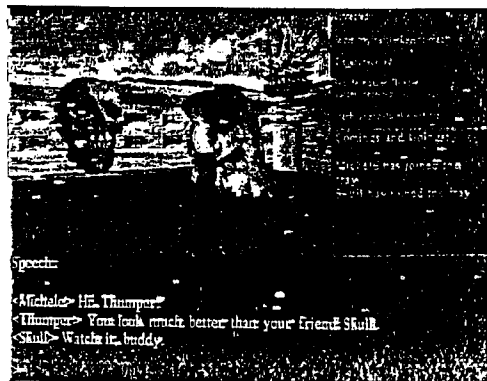
MULTIPLAYER WEB SPACES

Worlds Chat, a 3-D on-line chat environment from Worlds Inc. (<http://www.worlds.net/>), lets you take the form of an avatar and talk to other users. You can actually see the other users walking around, walk up to them, and ask them if they want to talk. You have to download special browsing software from the Worlds Inc. World-Wide Web site, but it's free.

You can pick from predesigned avatars or create your own, which you can then distribute. This would be a more interesting product if it incorporated RealSound; that is, if you could actually talk and have others hear you, but you're limited to typing, much as in current versions of chat software.

A company called Ubique (<http://www.ubique.com/products/>) has introduced a similar product called Virtual Places that does support audio. It also supports custom images to represent the participants.

Much to the disappointment of some, the Web of the near future will become much more commercial than it is now, but it'll also offer new experiences and new ways of communicating information. This will undoubtedly create new corporations and industries, as well as some very wealthy individuals.



Worlds Chat lets you have conversations using "avatars."

OCT 21, 1995

M17960

LUCE PRESS CLIPPINGS

Internet to Spark Revolution In the Entertainment Business

The Internet is poised to revolutionize the communications and entertainment businesses, not to mention video retailing as we know it.

But while dropping prices for PC hardware and wider, cheaper availability of Internet access are driving penetration rates, it is the evolution of Internet-compatible software applications that will most likely shape the character of the Internet and ul-

Tom Adams

timately how the Internet will affect retailers' businesses.

The most fundamental software application for the Internet in its commercial capacity is the browser.

The browser is the software tool that enables an end user to retrieve multimedia documents off of the World Wide Web, the Internet's richest area for multimedia and graphics.

The first incarnation of a web browser was developed in 1993 at the National Center for Supercomputing Applications (NCSA). The browser, the NCSA Mosaic, was pivotal in that it was the first Internet application to offer a user-friendly graphical interface that transformed the Internet from a nerd-only, text-based medium to a graphically rich medium with intriguing commercial potential.

Spyglass Communications and Netscape Communications are the leading developers of browser applications today, al-

though there are a plethora of other lower-quality browsers available.

Spyglass is the exclusive licensor of the original NCSA Mosaic and its upgrade Enhanced Mosaic, while Netscape employs a number of the members from the original team that developed Mosaic for its own branded browser, the Netscape Navigator.

Spyglass has licensed Mosaic to a host of well-known names in electronics, including the Microsoft Corp. Spry/CompuServe and AT&T.

Netscape, meanwhile, has made its mark by offering free downloads of the browser (now in use by 75 percent of Web traffic), while making money on sales of corresponding Web server software.

Both companies are vying to become the standard for browser software, jockeying for position in what is one of the most promising, yet risky, markets in existence today.

Beyond the basic browser, though, a number of companies are developing applications that take that initial ability of establishing a visual, graphic connection on the Internet and expanding that into diverse and innovative areas.

Here's a quick rundown of some of the most exciting companies out there:

- VocalTec, based in Northvale, N.J., has developed software that enables real-time audio connection over the Internet with multimedia PCs—in other words, an Internet phone that allows long-distance calls with only the charge of a local call to your Internet service provider.

The software debuted in February as "half-duplex," meaning that only one person could speak at a time.

Just four months later, though, in June, the software had been upgraded to "full-duplex," offering a fairly low transmission quality (something like a speaker phone), but still usable product.

- Netcom, one of the largest providers of commercial Internet access, plans to incorporate the technology into its Web browser, while Motorola and Cirrus Logic have signed to build VocalTec software into their products.

The bottom line is that PCs will, in the near future, come fully equipped to handle Internet phone calls.

- Progressive Networks, based in Seattle, came up with an application earlier this year for Internet radio.

The application, called Real Audio, is a combination of end-user, audio developer and server software, which enables once slow and bandwidth-starved audio files to be transported in real time to PCs on existing hardware platforms and infrastructures.

After announcing partnerships with Netscape, Microsoft, CapCities/ABC and National Public Radio, among others, in March, the company had more than 50,000 user downloads of the Real Audio Player (the end user component of the application) in the first six weeks.

- Worlds Inc., based in New York, recently developed an Internet "chat" application, called "World's Chat," that allows Internet surfers to adopt 3-D personae called avatars and interact with others in 3-D environments on servers running the software.

Worlds' technology was developed in conjunction with Steven Spielberg's Starbright foundation and is noted for its realistic human forms and movement.

- White Pine Software, also in New York, licenses CUSeeMe, an Internet video conferencing application. Any computer equipped with a microphone and a camera can use CUSeeMe to have a real-time video chat over the Internet.

Tom Adams is president of Adams Media Research in Carmel Valley, Calif.

The company publishes two newsletters of financial and market analysis: Hollywood Aftermarket on the post-theatrical markets for film, and the AIM Report on interactive multimedia. Adams also provides strategic consulting and appraisal services to media and technology firms. He can be reached at 408/659-3070.

BEYOND HER

Living in the Virtual World: Phase One



BY GINA SMITH

JOAN LOOKS less like a woman than a huge, blonde head. Fishboy is a cartoonlike blowfish, and an obnoxious one at that. But

when they offer to take me on a tour of the spaceship, I accept. Once in the Observatory, the three of us stand side by side as Joan describes the galaxies before us and points out the planet "Alpha World," which her people plan to colonize soon.

Science fiction? Not exactly. The virtual world I've been exploring, called Worlds Chat, is very real. A world unto itself that combines 3D graphics with online chat, it's one of the more bizarre and compelling World Wide Web sites on the Internet. Created by San Francisco-based Worlds Inc., Worlds Chat endows you with an animated "body" and a first-person view of your surroundings as you interact and exchange typed messages with thousands of other Internet users around the world.

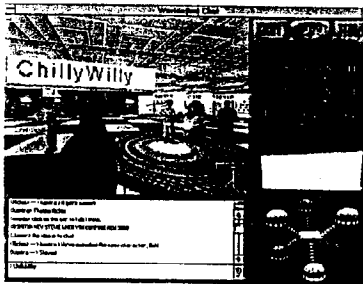
It may also be giving us a first-person view of the future—a strange fu-

ture in which people have faces but remain anonymous, and travel the world without leaving their chairs.

Of course, there's nothing new about online chatting. Online services have been letting people talk to each other via computer modems for years. But services like Worlds Chat (CompuServe hosts something similar called Worlds-Away) add a dramatic twist to the experience. And it's not just the graphics. Already, Worlds Chat has developed into a sort of pseudo-society, with its own social mores.

The implications for all this are enormous, and not just for social psychologists, either. Futurists have been watching these developments with fascination and a certain dread, knowing it won't be long before the chat lines will be capable of displaying photorealistic worlds and videoconferenced characters. Intel and AT&T have already demonstrated such technology.

The fear, typically, is that we're evolving into a solitary, computer-centric society where no one ever goes outside. We're a nation, maybe



Welcome to Worlds Chat: An online dinner party or a bunch of mouse potatoes?

a world, of mouse potatoes. Don't believe it? Wait until you see the forthcoming Alpha World, a virtual planet where people can actually get real estate, decorate houses, and grow virtual tomatoes. Will the real tomatoes in our real-life gardens wither on the vine? Will our real-world relationships?

Then there's the anonymity fac-

tor, that double-edged sword all online chat services wield. Sure, a service like Worlds Chat lends a more personal touch to online chatting, but you're still anonymous. And when you're anonymous, you're empowered to say and do a lot of things you wouldn't or couldn't if people knew who you are. You think the Ku Klux Klan could have prospered without the sheets? Or that so many men would so readily don women's clothing online if their real names were pinned on their blouses? Anonymity has always been a friend of the bigoted and the bizarre.

Alarmist? Maybe. Clearly, there are positives to such links. The ability to communicate with people from disparate backgrounds and cultures—without knowing or caring what they really look like, or what kind of car they drive—is ultimately liberating. Online, there's a good chance you'll meet people you might never have talked to otherwise. And the visual appeal of 3D chat may draw in people who would never participate in ordinary online forums.

There's another bright side, too, which film director Steven Spielberg was among the first to recognize. His charitable Starbright foundation recently joined up with Worlds to build a 3D world for seriously ill children, enabling them to log in and play together from their hospital rooms. Even the Department of Defense sees the upside. It has a deal with Worlds to build a virtual site in which medics on remote battlefields can interact with medical experts and actually do a visual "walk-through" on treating injuries.

Worlds Inc. is also using its tech-

nology to stage an Interactive Worlds Fair later this year with theme park developer Landmark Entertainment. It will come complete with advertising-sponsored pavilions and activities. Indeed, if 3D worlds turn out to be anything but a passing

fad—and they could be just that—commercialism seems inevitable.

Let's see: commercialism, philanthropy, love, hate, tomatoes, battlefields, and lots of idle chatter. Virtual life, it turns out, only imitates the real thing.

A more literal incarnation of online communities may be just around the corner. CompuServe's *Worlds Away* CD-ROM and *Worlds Chat* from *Worlds, Inc.* create environments where people can gather and communicate via animated representatives called "avatars."

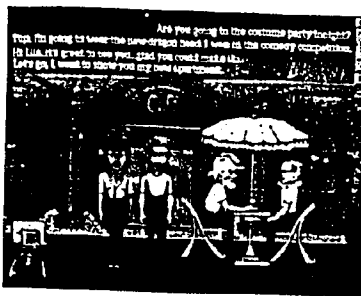
The two-dimensional *Worlds Away* characters look more like dolls than humans. CompuServe users will be able to move from one "room" to another, pick up objects, and communicate with each other by typing in text. Product Manager Larry Shelley envisions the interface being used for virtual shopping or even virtual theater.

Worlds Chat is a more elaborate 3D environment that looks like a space station. Characters move around the station and even leave the hub to walk in space and look down on earth. The goal, says Rob Schmults, *Worlds Inc.*'s manager of sales and marketing, is to incorporate its interface into the on-line component of entertainment and education titles.

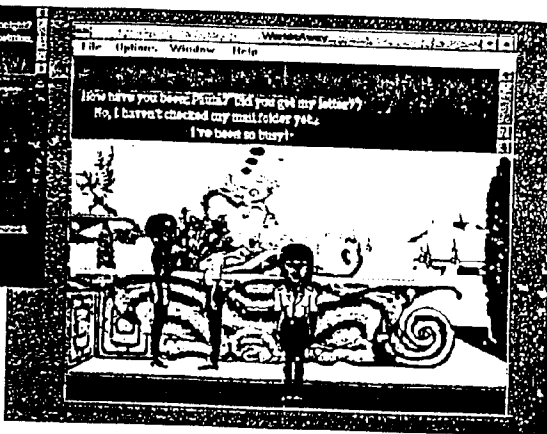
The Death of CD-ROMs?

As some companies rush to mate CD-ROMs with online services, others look to a day when users will dispense with discs entirely and get multimedia content piped directly into their homes.

The shift has already begun. Microsoft will make its *Bookshelf* and *Encarta* titles available for browsing on The Microsoft Network. San Mateo, California-based Domark has launched *Confirmed Kill*, a multimedia combat game open to anybody with a modem, a Telnet (remote login) util-



They may look like kewpie dolls, but the *World's Away* "avatars" give you a unique way to interact with other CompuServe users.



ity, and a working credit card. Simply log in, download the 6MB game from Domark's server to your hard disk, and begin playing. Instead of paying a fixed price to own a title, people will "rent" information or access games for an hourly charge.

The opinion of those in the electronic trenches is divided.

"If I were betting, I would say CD-ROM is a transient medium. I see interactivity moving on-line," says Phil Polishook, who recently moved from *Sports Illustrated*, where he oversaw the magazine's annual almanac on CD-ROM, to Prodigy, where he's in charge of creating partnerships between magazines and the on-line service.

Eliot Dahan, vice president of strategic alliances at Compton's NewMedia, foresees room for both. "There are virtues to the

ownership of something," he says. Furthermore, Dahan notes, it's far cheaper to deliver multimedia on disc than through wires, a situation that won't change for a long time. Communications companies will

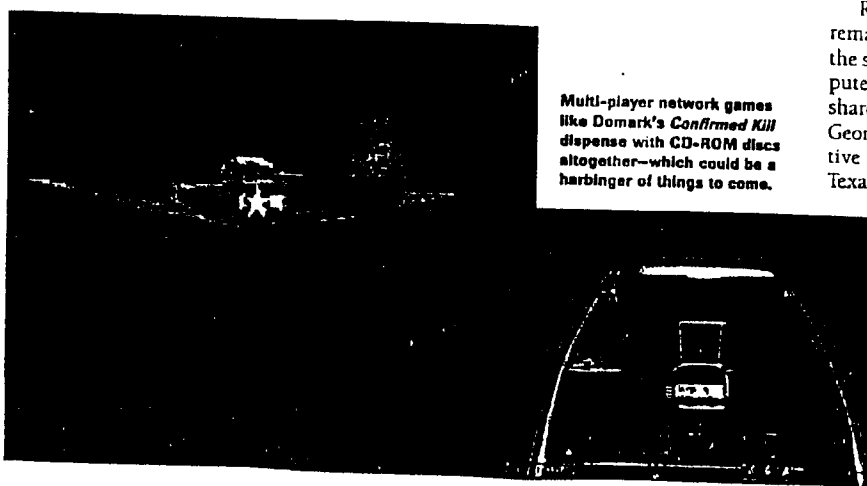
have to spend billions of dollars laying fiber-optic cable before a network capable of handling massive multimedia content is in place—a process that could take 10 years or more.

As a result, the marriage of CD-ROMs and on-line connections will likely last a long time. "You'll continue to have the basics of the virtual

world on the disc, but more information will be captured through an online link," says Michael Nash, president of Inscape, the Los Angeles-based publisher of *The Residents' Freak Show* and other CD-ROM titles.

Regardless of how it's delivered, the key remains the quality of the content. "I think the single most compelling use of the computer will be communications, how we share information, games and sports," says George Grayson, president and chief executive officer of 7th Level, in Richardson, Texas. But Grayson makes no bones about where he thinks the medium is headed. "I want this to be the color television for my kids."

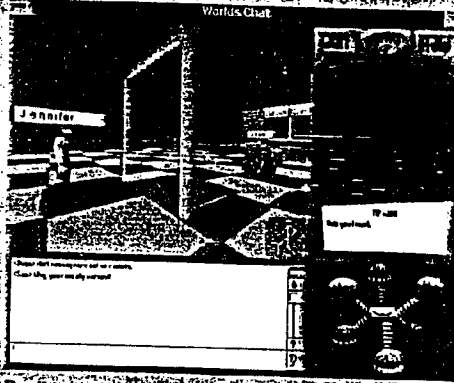
Anne Gregor is a contributing editor based in Los Angeles.



Multi-player network games like Domark's *Confirmed Kill* dispense with CD-ROM discs altogether—which could be a harbinger of things to come.

WEB WATCH

I HAVE SEEN THE FUTURE. I CAN DESCRIBE IT TO YOU: IT'S COLORFUL, IT GLOWS IN THE dark, and it looks like it was built by Salvador Dalí. Though it seems to be floating in space, you often hear crickets and other pleasant sounds. You can say hello to a guy in Norway... and then go around to look at the back of his head. You can listen in on other people's conversations; you can hover above the ground, and you can be anyone you want to be. No one is really there, but it's getting more and more crowded every day. It's called Worlds Chat. It isn't a product, and it isn't a thing. It's a cy-berplace.



Worlds Chat (<http://www.worlds.net>) is the wunderkind of Back to the future, a sample Worlds Chat screen. Worlds Incorporated, one of your superior videogame companies. It's a three-dimensional world on the World Wide Web, and it is amazing.

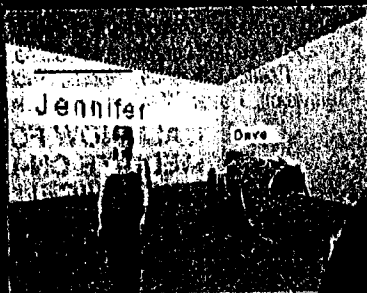
When you enter the World, you'll see a space station with rooms and corridors, staircases, and escalators connecting them. You can teleport from one room to another. You'll find many other cyberpeople there—people just like you and people completely unlike you. They're from all over the world. You can communicate with them by typing in text and reading (and reacting to) their responses. Worlds Incorporated says that real-time audio conversation—via microphones and speakers—is on the way. Maybe real-time video isn't far behind.

Everything is 3-D. You can move up to the "avatar" that represents another cyberperson and then move around it, seeing it from every angle as you go. You can look in all directions and move freely about the World. You can move alone or in a group. You can hang out with your buddies. You can make new buddies.

Getting there isn't simple, though. In addition to at least a 486 processor, Windows 3.1, 8 MB of RAM, 256 colors, and a 16-bit sound card, you need an Internet connection. No, a modem—no matter how "fast"—just won't cut it. But the gyrations it takes to get there are absolutely justified by the experience. Like I said, this is the future. I'll see you there.

—KCP

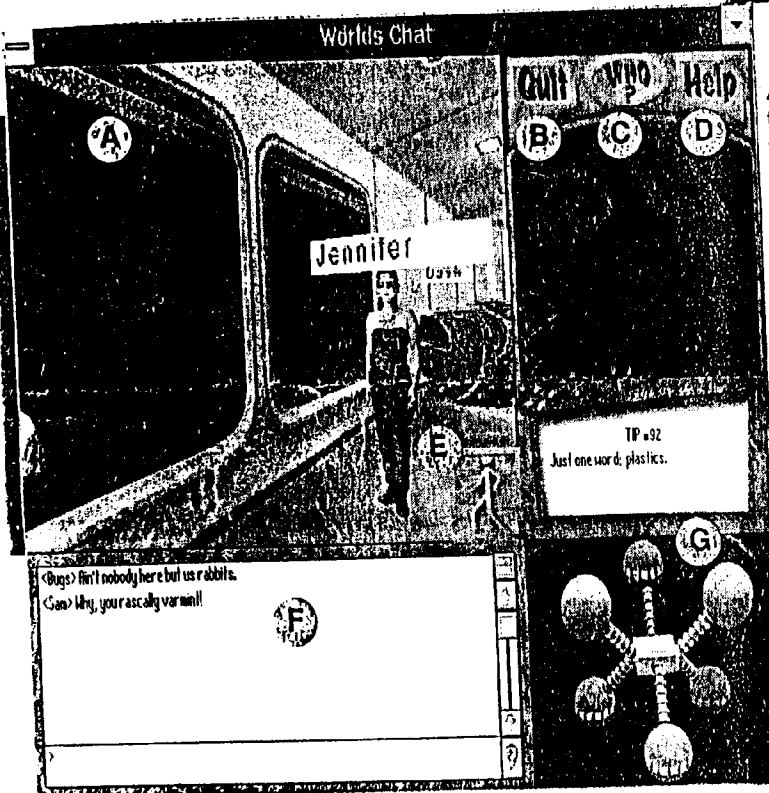
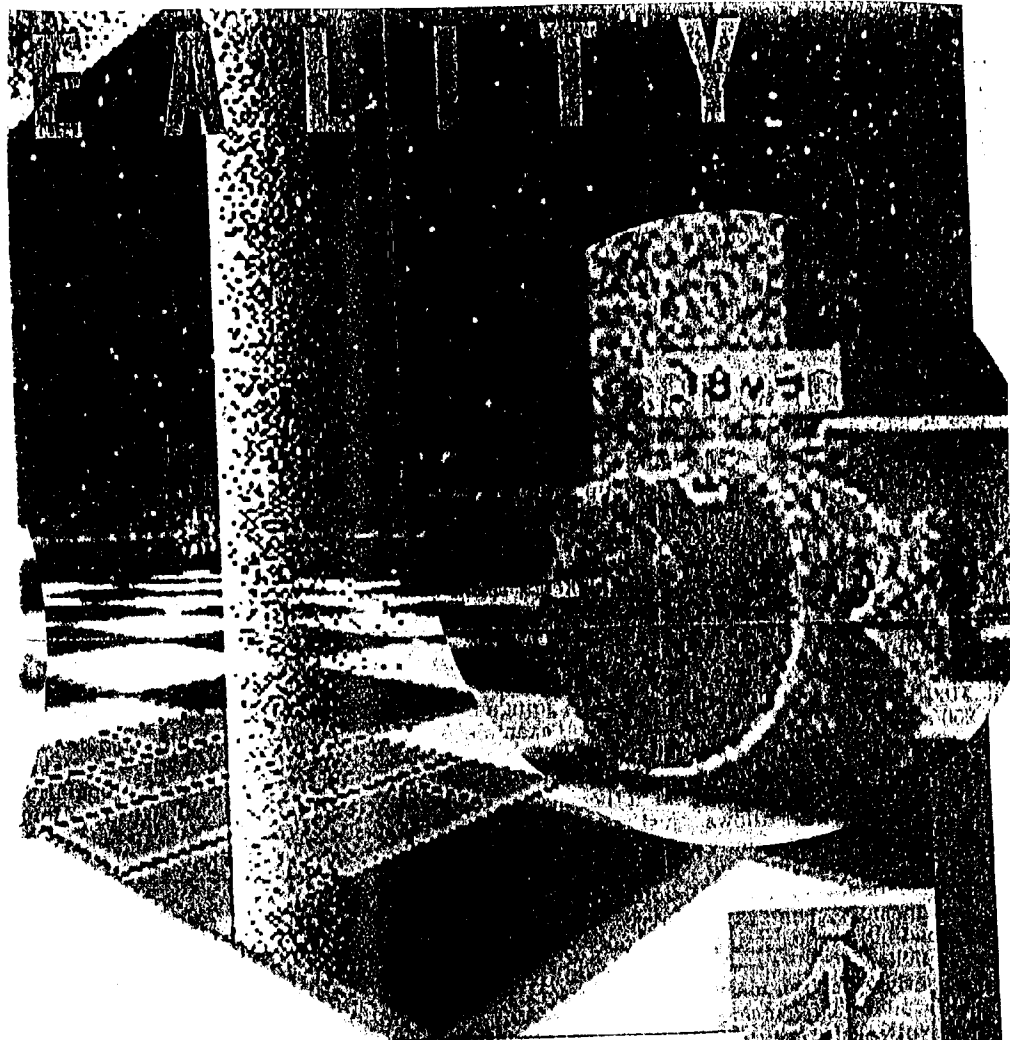
VIRTUAL SURF



Brave New World.

Inhabit a character
and talk to others
on the Internet in
Worlds Chat, 3-D
“space station.”

STORY BY ELLIE RODGERS



ON THE SCREEN

- A. "Jennifer" and "Dave" meet to talk in one of the rooms of the three-dimensional space station.
- B. The "Quit" button takes you back to the real world.
- C. The "Who" button tells who can hear you.
- D. "Help" gives answers to the most frequently asked questions.
- E. Clicking on the green "Walk" icon with your mouse activates your character. Then you move by using the arrow keys on your keyboard.
- F. Here's where you'll see the text of the conversation between characters.
- G. This is the "space station". Each area has several rooms you can visit. You can teleport there by clicking on one of the "pods" or "walk" there by navigating through the rooms.

Photo by
Worlds
Incorporated

Hot Wire

SAN FRANCISCO – Commerce is coming to *Alpha World – Worlds, Inc.*'s 3-D multi-user virtual world, where Web users can create their own buildings and structures and walk around and talk to each other (See *IPR*, Sept. 25). **Internet Shopping Network** will soon be opening a storefront, and look for **Visa** to get involved in a big way.//

WASHINGTON – The **National Smokers Alliance**, a membership organization of more than three million dedicated to helping defeat legislation that discriminates against smokers, just ventured out on the Web with a home page called *Speak Out*. Then pulled it off. When it's back up, look for it at <<http://www.speakup.org>>.//

MOUNTAIN VIEW, Calif. – In yet another move to expand its presence in Internet services, agency **Poppe Tyson** just created a new independent division called **DoubleClick**, dedicated to selling space on client websites. The ad/PR agency is one of the first to develop websites and the very first to begin selling ad space on the Net.//

SAN JOSE, Calif. – **Diamond Multimedia Systems** just announced a product that gives Web users all the hardware and software to easily hook up and configure their computers for **ISDN** service – all for \$299. The only catch, it appears, is that it only works with **Windows 95**. Called **NetCommander**, the product will hit the market some time in December (see story, p. 5).//

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Public Affairs On The Web

PoliticsUSA Launches In Effort To Create The Online Mecca For Politics, Policy, Advocacy

WASHINGTON – **American Political Network** and **National Journal** have just launched a joint-venture online service, **PoliticsUSA**, billed as "the Web home for people who care about politics, government and democracy" <<http://PoliticsUSA.com>>.

Using the medium of the World Wide Web to link people with information and each other, PoliticsUSA seeks to become the ultimate source of non-partisan information and discourse concerning U.S. politics and public policy.

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If It's Tuesday, This Must Be Barbados

Interactive TV Sails The High Seas, Offering New Market, Test Lab, For Interactive Ads

LISBON, Ohio – Sailing around the giants, a small interactive TV start-up, **SeaVision, Inc.**, has developed and implemented a fully operational digital interactive TV system for cruise ships that may prove a bigger hit with marketers and their agencies than those of its land-based counterparts.

SeaVision recently installed its first system on **The Dreamward**, a ship owned by

continued on page 4

From The Floor: The 6th Interactive Marketing Conference

Under Sunny Skies, Marketers Reflect On Interactive Upheaval In A Web Crazy World

SCOTTSDALE, Ariz. – This year's annual fall **Conference On Interactive Marketing**, organized by **Interactive Marketing Communications**, proved to be the right tonic for catching up, comparing notes and reflecting on what clearly has been the most frenetic year in the increasingly "webcentric" world of interactive marketing.

Kicking off the Camelback Inn-based event was the award ceremony for the "Interactive Marketer of the Year" bestowed upon **Peggy Kelly**, vice president of

continued on page 8

Online Interview: Rosalind Resnick

"Build Virtual Community To Reach Women Online"

Rosalind Resnick is one of the leading authorities on the online world. A lifelong journalist formerly with the *Miami Herald*, she currently publishes the *Interactive Publishing Alert (IPA)*, writes books, develops websites through her firm **NetCreations**, and created and runs the popular **America Online** forum, *NetGirl*. She also just published *IPA's 1995 Survey of Women Online*.

IPR: What's the most significant finding of your women online survey?

RESNICK: The message that came across loud and clear was that what women really want to do online is communicate, chat, and interact with each other. Even though women account for something like 75% of consumer purchases in the real world, women don't want to shop online. In fact, it ranked dead last. That's probably the most significant finding of the survey.

continued on page 3

Online Interview: Rosalind Resnick

continued from page 1

IPR: Why are women turned off by online shopping?

RESNICK: What women are looking for online is something that will save them time, and save them money. Not so much the online services, but the way the Internet is set up right now, it's relatively difficult to compare shop. The other thing is that, except for basic things like grocery shopping, shopping is really a social experience for women. The way stores on the Web tend to be set up now, you click on the text menu to find your list of 28.8 modems, you buy one, you check out and leave. For most women that's not the kind of shopping experience they're looking for. Shopping online is not a social experience. It's not a fun experience.

IPR: Men and women differ in this regard?

RESNICK: There are two kinds of interactivity in cyberspace: interactivity with your computer, and interactivity with other people. What turns women on is interactivity with other people: the ability to reach out and touch someone, so to speak, to communicate, to share news about births or deaths, a shoulder to cry on, things like that. Just like real life, they want to form a community. Men, on the other hand, while they like to discuss things with each other online, I think they're the ones who are the big Web surfers. A man is more likely than a woman to surf over to the Stolt site and make himself a virtual drink. Women see technology as a tool. Men see technology as a toy.

IPR: How can marketers appeal to women?

RESNICK: The women we've surveyed told us overwhelmingly that they would be very inclined to join an online service or spend time on a website, but offer it as free chat and free e-mail. If an online service provider, website operator, merchant, whatever, would give women free online time, so that women could hang out and schmooze, then they might be inclined to buy something. One thing I've suggested is what I call the virtual Tupperware party, where women hang around in a social setting with their friends, and maybe one of their friends is the online Tupperware sales woman, pitching their products in a relatively low-key way. I think that's something that would appeal to women online.

continued on page 5

Online Interview: Rosalind Resnick

continued from page 3

because it basically piggybacks on something women want to do already in cyberspace, which is communicate and interact with other people. I really think the key to success is creating virtual communities, the kind of communities where women want to spend time.

IPR: Do you see technologies like 3D, multi-user virtual worlds as a way to build these virtual communities effectively?

RESNICK: Exactly. The new technologies that I think have great promise for attracting women online are VRML [a programming language for creating 3-D objects], and *Worlds Chat*. I love *Worlds Chat*. [see <<http://www.worlds.net/>>] You go into this 3-D environment and you pick an avatar [the user's graphical representation] and you surf around. And I know they're working on commercial

applications so that you can surf to a virtual help desk for information. I think that's the kind of thing that would appeal to women. For example, a woman sees the blouse she likes, so she scoots on over to the blouse and as she gets closer the image gets larger and she can look at it from different angles. She can't try it on, but at least she can interact with it much more than simply seeing a static picture.

IPR: Any other survey findings that should interest marketers?

RESNICK: One of the interesting things I found in my survey was that women are a lot more turned on by e-mail than they are by the Web. The Web ranks kind of in the middle as far as women's favorite activities online. And e-mail ranks number one. Marketers, advertisers, publishers, who want to reach women

online, should not ignore the new technologies - *Worlds Chat*, all that. At the same time, marketers should understand that they need to woo them with words. Words appeal to women in a very visceral way. Women are turned on by text as opposed to picture.

IPR: How many women are online?

RESNICK: Nobody knows the exact number, of course. I like the O'Reilly survey because they actually did random digit dialing instead of being self-selecting. I think it's safe to say that between 30 and 40 percent of the online population is female. About half of our respondents were from the Internet.

IPR: Was there anything that surprised you in the survey?

RESNICK: What impressed me was

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Online Interview: Rosalind Resnick

continued from page 5

that a high percentage of women surveyed had been online for quite some time - 29 percent said one to three years, and 27 percent said three or more years. From research I've seen from the Interactive Services Association, 1995 will be the first year where the majority of online services users have been online less than a year. So this survey leads me to believe that women may in fact be more experienced online than users as a whole.

IPR: Any other interesting demographic information?

RESNICK: The other thing too is we found that women online, at least the ones who responded to our survey, tend to be very well educated. We found a lot of post-graduate degrees. In our survey 18 percent of women

have done some post-graduate work, 30 percent had a post graduate degree, and 14 percent had multiple post-graduate degrees. That's another thing I think marketers ought to keep in mind. When they try to create women-oriented sites, I guess the first thing that pops into their minds is something like the old women's pages from the Fifties. Women online are a whole lot more sophisticated than that and need to be marketed to in a sophisticated, intelligent way. And a lot of them use the Internet for business, so entrepreneurial information, legal sites, accounting sites, small business pages, are going to appeal to women in a big way.

IPR: How have people responded to your AOL NetGirl forum?

RESNICK: It opened to the biggest

launch of any forum in AOL history. Here I've been writing for the last year and half, preaching to my subscribers about interactivity, and now that I have my own forum I'm basically taking my own advice. There's very little editorial content that I generate. I host conferences twice a week. I have guests on my show, I answer readers' e-mail, I write the occasional article. But the vast majority of the forum is people posting messages to the personal board, people having discussions on the message board on various topics. Hopefully, I'm going to have a chat room soon. Basically, with *NetGirl*, I've taken the old publishing paradigm and turned it on its head. My readers are my writers. I've been telling people all along that interactivity sells, and if the *NetGirl* forum doesn't convince them that this is the case, I don't know what will.//



THURSDAY, NOVEMBER 30, 1995

Chats with dimension

Innovations on-line add personality

By Leslie Miller
USA TODAY

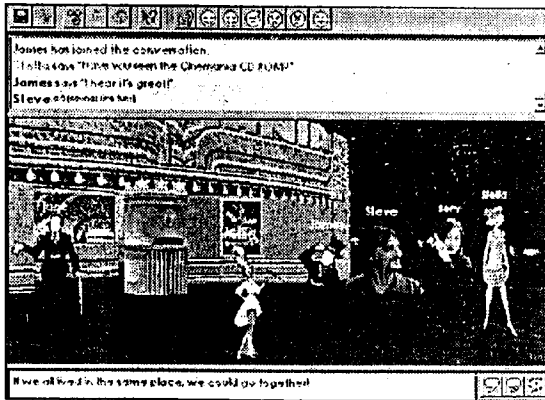
Visiting an on-line chat room is like going to a cocktail party — with your eyes closed. But eye-opening innovations from a number of companies are adding pictures, music and personality to the experience.

Microsoft today will announce V-Chat, which will allow users of the Microsoft Network to navigate and chat in both two- and three-dimensional settings.

The areas will launch in January, but users already can visit test areas. Among the first to be available: the Cinemania Connection, a 3-D art-deco movie theater; Planet Out, a gay and lesbian cafe; a kids' area; and a virtual comedy club.

"We wanted to add more personality and flavor ... these visually rich spaces add mood and context for conversation," says Microsoft's Linda Stone.

Users choose from a



V-Chat: Move toward the 3-D theater and movie posters get larger; clicking on one takes you to a movie Web site.

range of cartoon-like characters called "avatars" or use their own photos to represent them as they navigate virtual spaces; names appear above avatars' heads and conversation appears in a separate window.

Microsoft isn't the only company to offer 3-D chat spaces. First was Worlds Chat, a virtual "space station" launched on the Internet in April by San Francisco-based Worlds Inc.

On Wednesday, the company announced a second environment called AlphaWorld (<http://www.alpha-world.com>).

worlds.net), where individuals and businesses can "build" virtual houses and shops and link them to other Internet sites.

Free software to use CompuServe's 2-D chat area WorldsAway (go: Away) has been downloaded by "well over 10,000" members since Sept. 30, spokeswoman Daphne Kent says.

America Online also is "looking into enhanced chat," says AOL's Margaret Ryan; in September, AOL acquired Ubique Ltd., creator of Virtual Places, another 3-D Web chat space.

Newsweek

December 11, 1995 \$2.95

YUGOSLAVIA: Does Clinton Have an Exit Strategy?

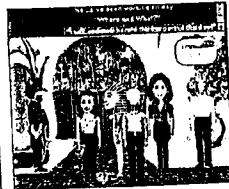
CHAT

When Words Alone Aren't Enough

THOSE OF US WHO still don't understand what's so appealing about online chat will find the latest trend especially baffling: real-time 3-D avatars, or computer-graphic "pup-

(From left) CompuServe, Microsoft and Worlds Inc. chat

pets" who embody your digital presence. The Microsoft Network last week announced its new



"V-Chat" feature, in which members pick avatars like bugs and cartoon people, and chat



text scrolls above the scene. In the future V-Chat will let users create custom avatars, such as a digitalized image of your face. CompuServe already offers a similar service called Worlds-

Away. Internet users with a SLIP or PPP connection can try out a free service called Worlds Chat (at <http://www.worlds.net/>).

JENNIFER TANAKA and N'GAI CROAL



Edited by Kristin Spence

Walking the Walk and Talking the Talk in Worlds Chat

I hit space dock. Teleporting onto the space station, I find myself surrounded by a few waddling penguins as well as some blue bears wearing T-shirts and sunglasses. Such is my first experience in the surreal realm of *Worlds Chat*.

There are plenty of GUI-chat interfaces on the Net, but most of them are nothing more than static images set adjacent to a chat window (Imagine something as interactive as a mug shot and you're getting close.)

Worlds Chat breathes new and much-needed life into graphics-based net chat by taking it to a vivid, three-dimensional level. While the rendering isn't quite as sophisticated as VRML, the 3-D effects are as good as any found in *Doom*.

Initializing the software (IBM-compatible only) will take you down a corridor to rooms where avatars of people, animals, and other characters adorn the walls. Choose who—or what—you want to be, type in an online moniker, and prepare to be immediately beamed aboard a virtual space station. Once there, you'll see your fellow net folk as the characters they've selected, just as they will see you as your chosen alter. The bizarre assortment of personae is finite, though far from limiting: fish, moths, men in business suits, chess pieces, and statues commonly populate this place.

Moving the mouse or pressing the cursor keys allows you to navigate the area and change your perspective. *Worlds Chat* revolves around a central hub—where you'll first appear—as well as six "spheres" that are accessible either through corridors or by direct teleportation. Move through a sliding door and you'll be led to additional rooms and exotic landscapes.

Chatting is, not surprisingly, simple enough to master. You can eavesdrop on conversations in progress via a text window, join in at any time, or engage in private conversations by clicking on an individual's avatar.

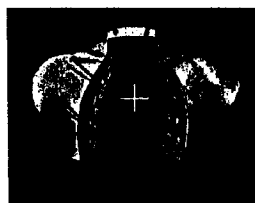
Easy as it is, however, the chatter tends to be sparse and incoherent, the movements of other avatars erratic. And the majority of users tend to be newbies. Thus, it's a lot like being trapped in a virtual nursery, surrounded by awkward tots just learning how to walk, talk, and navigate.

Of course, character clumsiness could be a function of technological deficiencies. To participate in *Worlds Chat*, the "official" minimum system requirement is a 486 DX-50 with 8 megs of RAM running Windows, connected to TCP/IP (SLIP or PPP) with a 9600-baud modem. I found that things were even choppy on my 486 DX-66 with a 28.8-Kbps connection.

Beyond the gimmick, avatar-based chatting isn't terribly exciting. The space station doesn't offer much in the way of sophisticated interactive adventures are limited to doorways, corridors, and ASCII text. But there's one major plus about the setup: it's free! Fill out a survey form at <http://www.worlds.net>, and the program is yours to download. Even better, connection fees are limited to the cost of your TCP/IP provider.

Worlds Chat serves primarily as a demonstration of things soon to come. The company behind the program, *Worlds Inc.*, plans to have a new model up and running by the time you read this. Called *AlphaWorld*, it will offer the ability to set up your own room or even a virtual business.

The most successful application for the *Worlds Chat* engine probably lies in its potential for multiplayer gaming. I admit my first instinct upon seeing all those bears and penguins was to blast 'em. —Howard Wern (102766.1042@compuserve.com)



Believe!



Check yourself into the Will Power Clinic at The Spleen (<http://www.mcad.edu/home/faculty/szyhalski/Piotr>).

Hey, nice avatar

Companies like Worlds Inc. and Time Warner add a new dimension to chat

One problem with cyberspace is that it doesn't actually feel like a space—it feels more like an impossibly long roll of microfilm with really fast scrolling potential. As well designed as some home pages may be, the experience of surfing still centers on reading from a screen. Cyberspace, in a more accurate description, should probably be cyberspace: a lot of content, but it's pretty flat.

This is about to change fast. 3-D is popping up right and left, with VRML tours and downloadable 3-D video clips available at an increasing number of sites. But where 3-D is really about to shift the current paradigm is in the Internet's equivalent of a social life: the chat room.

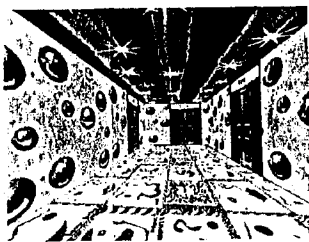
The Web has never really managed to get chat right—the commercial online services reign supreme in this realm, realizing long ago that two of the major things people like to do while online are pontificate and hit on each other. But chat has been mostly two-dimensional (in more ways than one), and users' identities were split along two lines: the face they presented on their Web page and the identity they carved in chat space.

A number of new programs attempt to merge the two identities by allowing users to create a 3-D home in chat space. Worlds Inc., a San Francisco-based virtual reality firm, led the charge last spring with the creation of WorldsChat, a realm in which users are given a 3-D representation, called an avatar, and zoom around in a pseudo-space station conversing with other avatars. The disadvantage of WorldsChat is that users exist in a kind of purgatory—there's no way to really define yourself except with your avatar, and unless you pay for increased functionality (the base program is free), you'll look pretty much like five or six other people floating around the room.

Worlds Inc.'s new product, Alphaworld, aims to change that. Where Worlds Chat focuses on discourse as the major appeal of the program, Alphaworld makes chat only the means for interaction in a 3-D environment decorated with homes

and avatars populated and built by users. Rather than have a home page, users can now have an actual home. Individuals can put up bushes, cages, sheds or anything else they think might represent themselves (for example, a Greenpeace site might be represented by a tree), and not only can buildings be explored from Alphaworld, they can also link to the Web, making the transition from Alphaworld to the Web seamless in the same surfing session. Because Worlds Inc. realizes that Alphaworld is unlikely to replace the Web, they've made the interaction between the two smooth and kept the costs of Alphaworld as low as possible. "By their very presence, our customers are in a very large and real way our content providers as well," explains Worlds Inc.'s Rob Schmults, "It definitely behooves us to have a lot of people coming in and using it, and we want to have as few barriers as possible."

Alphaworld's functionality goes a step beyond WorldsChat, with a lot of toys thrown in to entice users further. For example, all sound in Alphaworld is proximity sound—if a music clip plays from a stereo on the balcony of someone's home, the tune gets louder as you approach the house. This kind of attention to detail, combined with Alphaworld's cross-functionality with the Web, is what Schmults hopes will draw users. "What I really like about Alphaworld is the expandability," says Schmults. "We hope that users will take it over and make it their own. I like to think that Worlds Inc. could go out of business, and as long as someone kept the service up, Alphaworld would continue to grow."



Of course, the key point with this is that someone has to keep the service up—Alphaworld may be defined by the users, but it still exists in a space run by Worlds Inc. Time Warner Interactive's Palace program, however, makes the user into the server. A shared-space architecture might be maintained by Palace, but each individual's site is kept on his or her own computer. Once you download the program and create your avatar, you simply fire up your modem and Palace's directory is notified that you're online. If you log off, you exit the directory. Like Worlds Inc., TWi is keeping the entrance fee low—you can either browse for free or pay one \$20 fee to get the server software and permanent connection to the Palace system. Of course, all of these programs require you to keep your local Internet account, but

beyond that, the cost is borne mainly by advertisers.

The Palace architecture, however, concentrates more on chat than on content. Where Alphaworld hopes to create a way to browse the Internet in 3-D, Palace hopes to create a decent home for interaction. TWi's director of online ventures, Mark Jeffrey, sees Palace sites complementing, rather than replacing, the Web. "The Web is great for a lot of things, like text, but it's not inherently multi-user," explains Jeffrey. "For things that are inherently multiuser, chat in particular, this is a much better environment."

Judging a book by its cover?

One of the advantages of text-based chat is the ability to render appearances obsolete—until, of course, the big day that F2F occurs. For the most part, however, you're judged solely on the basis of your typing skills, your ability to fabricate, and if someone's really perceptive, your domain name. 3-D, however, creates an entirely different atmosphere, bringing a physical manifestation back into play in the form of your avatar. This might seem silly, since this is obviously not what these people

look like (WorldsChat, after all, lets you become a technicolor fish) but judgments based on avatars are definitely prevalent. Not only did I try several different avatars with several different names to gauge reactions, I also asked a number of people on WorldsChat whether or not Impressions made a difference in cyberspace. Each one insisted that they did: one surfer going under the alias "Honeybunch" insisted that "avatars portray the inner self," whereas another named Alissa felt that "maneuvering is easier, but I'm turned off by some avatars." Some even felt that 3-D interaction brings back the fears that chat used to erase: One student going under the alias "Trouble" admitted "I don't like the 3-D part. It reminds me of a party where I'm afraid to talk to anyone." -JW

APR 25, 1996

LUCE N4798
PRESS CLIPPINGS

A personal assistant, inside your computer

An "intelligent agent" program can be your mail clerk or librarian, sorting through rivers of data to fish out what you need.

By Robert S. Boyd
INQUIRER WASHINGTON BUREAU

WASHINGTON — At 12:47 p.m. last Sept. 11, debris blocked a cooling pipe at Philadelphia Electric Co.'s Limerick nuclear power plant near Philadelphia. Alarms sounded and workers hastily shut down the No. 1 reactor until they could find the cause of the problem and fix it. Sometime in the future, that search could be speeded by Knowbot, a nuclear safety system that Sharif Heger has been working on since the near-disaster at Three Mile Island, near Harrisburg, 17 years ago.

Still unfinished, Heger's Knowbot is an "intelligent agent," a computer device that could rummage swiftly through the world's enormous accumulation of data on nuclear accidents and pick out pertinent items to guide reactor technicians in an emergency.

"Knowbot could also alert you to a developing problem before it happened," said Heger, a professor of nuclear engineering at the University of New Mexico. "It sees symptoms in the data that have led to trouble in other plants."

Currently the rage of cyberspace, an "intelligent agent" is a computer software program endowed with enough flexibility and smarts to act as a personal assistant to a human.

In theory, if not yet in practice, an agent can act as your secretary, mail clerk, reference librarian, news-clipping service, financial adviser, real estate agent or stockbroker.

It's supposed to be able to roam the electronic labyrinth of the Internet like a Pac-Man, gobbling up just the information you need from

the mountains of words, sounds and pictures cramming the world's data warehouses.

"We are inundated with information," said Heger. "An intelligent agent can help us survive infoglut."

Unfortunately, this technology is still in its infancy. Like clumsy, poorly trained clerks, artificial agents make many mistakes and are still often more trouble than help.

"Agents will disappoint many people," said Larry Reeker, a robotics expert at the National Science Foundation, which is financing nine agent experiments. "Much more research is needed, but the research is moving rapidly and is promising."

More than 60,000 people are already using an entertainment agent called Firefly, which sorts through catalogs of music and movies and recommends items it expects to appeal to you.

Firefly works by asking you to give your opinion of various titles, with rankings from "The Best" to "Hate It!" The system then compares

your ratings to those of other users. When it finds soulmates whose likes and dislikes resemble yours, it suggests tapes — from Toad the Wet Sprocket to George Frideric Handel — including some that you might never have heard of.

"It's like word of mouth, where you rely on a friend who shares your taste in music, movies, books," said Firefly's inventor, Patti Maes, a leading researcher at the Massachusetts Institute of Technology. "Eventually, it could recommend a plumber or doctor, too."

Firefly is produced by Agents Inc., a Cambridge, Mass. spinoff from MIT's Media Lab. The company launched its music service in January, added movies in March, and will soon be offering advice on books, news and places of interest on the World Wide Web. The service is supported by advertisers and is free to users. (Firefly can be reached at World Wide Web address

<http://www.ffly.com>)

Other agents previously developed by Maes and her colleagues at MIT include:

An "eager assistant." This sorts electronic mail and helps to schedule meetings by observing what its human masters do and imitating them, just as a new employee would.

"The agent learns by continuously 'looking over the shoulder' of the user as the user is performing actions," Maes said. "It can keep track of all his or her actions, find patterns and offer to automate

these, gradually become more helpful and competent."

For example, the agent would "learn" that you always read electronic mail from your boss first and put messages from your brother-in-law at the bottom of the pile. It would notice that you read every news story about the nuclear industry but are totally uninterested in Whitewater, and tailor your daily news summary accordingly.

A "remembrance agent." It automatically indexes the activities of a human computer user and recalls old messages, memos or files when appropriate.

For example, if you get electronic mail referring to a certain company, the agent would pop up a note on your computer screen reminding you of previous correspondence about that company, in case you wanted to see it.

"People have trouble not only finding things in a huge pile, but remembering things they once knew, like the name of a person you met, or where you put a file or your keys," said Maes. "This is a problem in the real world and in cyberspace."

More sophisticated agents can communicate with each other, such

as negotiating the sale of a second-hand bicycle or guitar. Yoav Shoham, a computer scientist at Stanford University, has written a set of "Social Laws for Artificial Agent Societies," covering such matters as trustworthiness and confidential-

ity, under a National Science Foundation project.

Future agents will use "avatars," computer facsimiles of people on the screen, to make them seem more friendly and realistic.

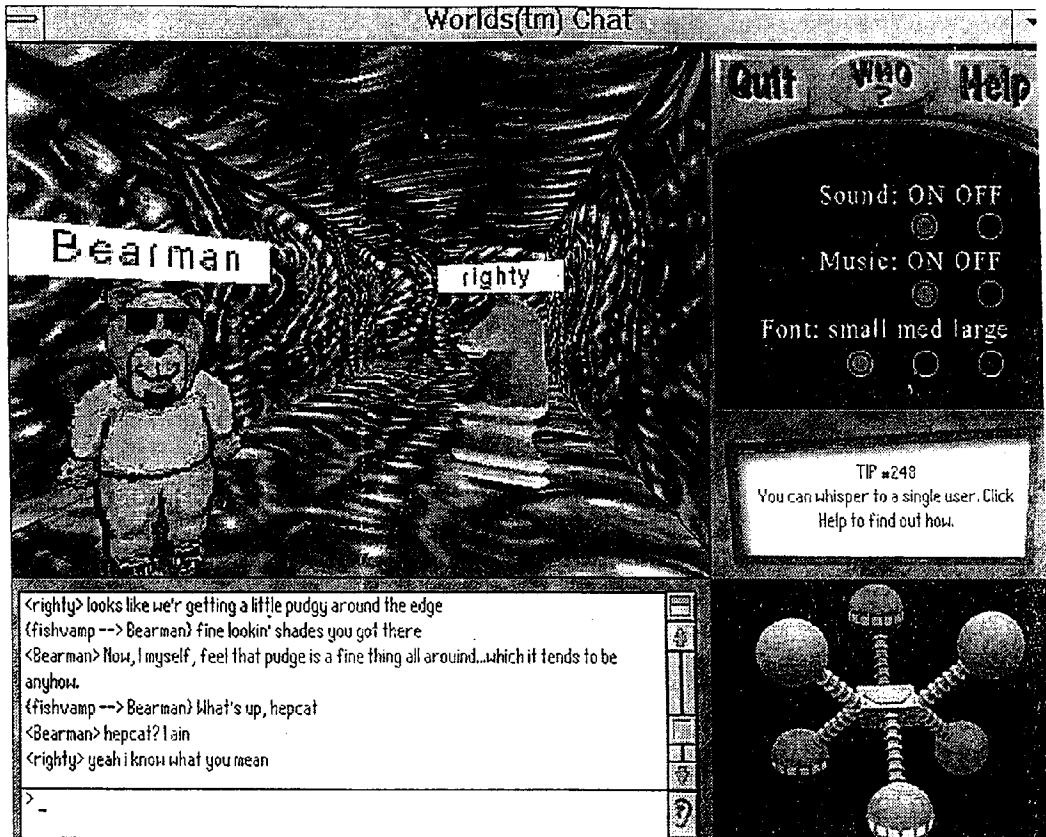
A company called Worlds Inc. in San Francisco offers an Avatar Gallery, where you can pick a figure to represent you. You can use your own face, if you aren't shy, or an imaginary one. Obviously, you need to beware of possible misrepresentation by someone disguised as an avatar. (Worlds Inc. is reachable at <http://www.worlds.net>)

MIT's Media Lab devised a set of icons, or small cartoons of faces, to show the "state of mind" of its agents, such as "pleased," "confused," "thinking" and "working." The images are deliberately simplified to make it clear that the agents are really quite dumb.

Despite their limitations, Reeker predicted that agents would "ultimately be necessary because of the problem of information overload and time constraints."

In her office at MIT, Maes summed up the case for agents: "Many valuable hours are wasted dealing with junk mail, scheduling and rescheduling meetings, searching for relevant information among heaps of irrelevant information."

"We need technology to help us wade through all the information to find the items we really want and need, and to rid us of the things we don't want to be bothered with."



Knight-Ridder Tribune

Agents may use "avatars," on-screen facsimiles of people, to make them more realistic. This is a chat room from the Web site of Worlds Inc., a company that offers an Avatar Gallery of choices.

Hot Off the Wire

COMPUTER SHOPPER
New York, NY

MONTHLY 509,587

FEB 1996

M11950

EDGE PRESS CLIPPINGS

Lack of standards proves no barrier to fledgling online 3-D developers.

BY JIM O'BRIEN
ZD NET/CIS 72241,1014

As absurd as it sounds, the moment that defined Web-based multimedia for me was the first time I logged onto Worlds Chat, a free 3-D multiuser chat service on the Web. Worlds Chat's realistic three-dimensional graphics hooked me the way the virtual landscapes and battlefields of Doom ensnare gamers. More than that, though, my recent visits to this virtual world made it clear to me that even though 3-D-standard battles are still brewing over Virtual Reality Modeling Language (VRML), developers are forging ahead with new multimedia concepts, giving Netters something to sink their teeth into now.

Launched last spring, Worlds Chat greets you with a view of a 3-D room. Inanimate 3-D figurines of people and bizarre creatures are displayed on the walls like art in a gallery. You choose one of these to be your avatar, and then join a group of other avatars in a chat room. Each avatar in the chat room represents a person who is logging onto the server from somewhere around the world. To them, you look like the 3-D image you've selected. While in the room, your screen name hovers above your head. It's a unique way to meet people.

You can teleport between Worlds' several chat rooms, and then wander into groups of clustered participants to talk publicly or privately. While using this service, I experienced the occasional stuttering image and screen freeze. But on the whole, it worked smoothly over my LAN connection. Some fellow players pointed out that they were

using 28.8Kbps access quite happily.

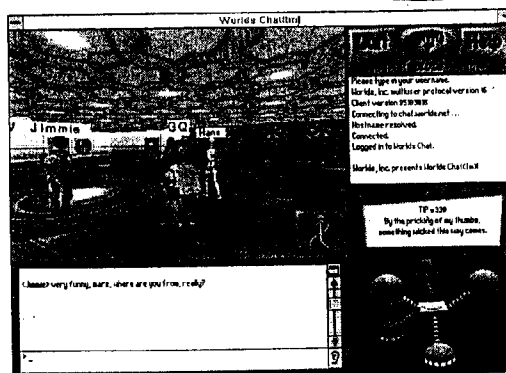
While Worlds Chat currently uses a proprietary 3-D technology, it also has its own variation of VRML that it uses to support its multiuser services, and that it plans to use to expand its 3-D services. Meanwhile, a host of new VRML viewers has arrived, each promising to usher everything from the interface to online computing into 3-D. The companies involved say that over the next few months VRML worlds will come alive through links to other online multimedia enhancements, such as real-time video and Java scripts. This should spawn new forms of entertainment (and one must presume, advertising), and new ways to manage large

amounts of data. Mike McCue, president and CEO of Paper Software, readily says, "Our goal is nothing less than replacing the entire concept of overlapping windows and scroll bars."

McCue envisions a time when you'll be able to display vast quantities of data at once, and thus be able to move physically through virtual space to bring differ-

ent types of information into focus. He says he has an unfinished demo with CNN that lets you use a model of the earth to zoom from international headlines down to national and local stories—you get more granular information as you get closer.

Of course, one pass through the crude 3-D cones, blocks, and rudimentary buildings using Paper's beta WebFX plug-in for Netscape's beta



Online 3-D is nothing new in Worlds Chat, an Internet-based service that depicts players as avatars—the better to socialize in virtual space.

Navigator 2.0 shows you just how far we are from McCue's lofty vision. Sim-

ilarly, it doesn't take long to realize that browsers from one vendor don't always read 3-D spaces created for another. That's because everyone's doing their own cherry picking of features outside the VRML 1.0 spec. For instance, Template Graphics Software supports Silicon Graphics' Open Inventor file format directly in its Web Space Navigator browser. Though content developers get the benefit of additional features, callers can't view Open Inventor files with the average VRML viewer. Similarly, the VRealm viewer from Integrated Data Systems and Portable Graphics is designed to support non-VRML 1.0 features such as "gravity" and "collision detection," that let you better control your movement through 3-D without flying off into space.

Since interoperability is a ways off, some vendors are developing their own software APIs to ease the

process of creating content for their proprietary platforms. Paper Software says that, by the time you read this, it will have its own API and software developers kit for VRML, code-named Xpresso. When more expansive industry standards for writing to VRML arrive, the company says it will adopt these and continue pushing its own platform. In the meantime, Paper is in discussions with one of the major consumer online services about using its software to create a 3-D interface to that service's chat feature. Paper wouldn't name the service at press time.

"Worlds is trying to compete with the chat people, the online-service people, VR servers, and content providers," argues Paper's McCue. "We're taking the opposite approach by creating a platform that valuable companies can use to create content." Worlds director of marketing Rob Schmults counters that, "If there's a single version of VRML at some point that does what

we need it to do, then we're likely to take advantage of it. Until that happens, we'll continue to create [our own] environments."

In addition to Worlds' forthcoming VRML Plus browser, which will work in conjunction with its current client software to view VRML content in its multiuser services, the company says it will soon release an API for the non-VRML scheme of Worlds Chat and AlphaWorlds. This will allow third parties to create their own services and Worlds-like content.

Despite disagreements over specifics, everyone agrees that more interactivity is better. By the time you read this, Paper claims, Xpresso will let developers use Java and Microsoft's OCX to animate VRML scenes, and that you'll most likely get the Xpresso toolkit when you buy the final version of the WebFX browser. (The WebFX browser is due by the time you read this for about \$49).

By spring, Worlds says that its AlphaWorld service, a much-expanded takeoff on Worlds Chat that lets multiple users collaborate on building a 3-D city while socializing with each other, will enable content developers to create hotlinks to Java scripts and RealAudio files. At press time, the company revealed that it had agreements in place to set up online stores in AlphaWorld with the Internet Shopping Network, a new area developed by the popular Web site The Spot, and a 3-D advertising campaign from Sony for the Robin Williams flick *Jumanji*. In addition, it said that Visa International would soon be opening online banks—replete with automated and live tellers—in AlphaWorld. Unfortunately, I was unable to get AlphaWorld's beta software to run with my LAN connection because the software does not readily support access through fire walls. Schmults added that Worlds is collaborating with MGM on a 3-D multiuser game.

Other interactive technologies that eventually may link into online 3-D worlds of all types include Xing Technologies' StreamWorks, a real-time MPEG audio and video player. Like AlphaWorld, StreamWorks may

require adjustments to your fire-wall configuration to get it running. For what it's worth, I was able to access video and audio through my LAN connection, but it wasn't nearly as impressive as the lower-speed ISDN demos I saw last fall at the Comdex show in Las Vegas. Note that MacroMedia promises a real-time delivery mechanism for Director files, which can now be compressed with its ShockWave software and delivered over the Web, and Apple Computer's QuickTime VR is also reportedly getting its streaming wings sometime this year.

Because 3-D rendering requires so much horsepower on the client side, it's no surprise that a top graphics vendor like Diamond Multimedia Systems is joining the standard's fray. Together with TGS and Xing, Diamond is part of a new consortium called NetFX. At Comdex, Diamond demonstrated a custom version of TGS's WebSpace designed to access the 3-D acceleration features of its Edge board. The company also plans to bundle Worlds Chat with one of its boards.

Diamond believes that an increasing number of online 3-D software developers will take advantage of the Direct3D API under Windows 95. Worlds agrees. Even so, many of the Edge's key features aren't expected to be supported under Direct3D, and Diamond did note that TGS would probably make use of some of those without using the standard API.

While online 3-D desperately needs standards, the battle may well be won through the kind of proprietary pushing and shoving and isolated moments of brilliance that are occurring right now. Bad implementations of 3-D are more of a hindrance than a help, but I've learned that 3-D can also enhance the computing experience. "What we're seeing [now] is the [Microsoft] Bob effect," says Paul Nahi, Diamond's director of product marketing. "Somewhere between Bob and ASCII lies the answer." If today's unaccelerated online 3-D can turn a no-fuss online user like me into a chat addict, then that may well turn out to be the understatement of the year. ▼



Information Service
(<http://www.worldsaway.ossi.com>;

On the Internet, the old joke goes, nobody knows you're a dog. But your online character could at least have more bite if you want it to. Avatars, the hottest new characters to hit the Net, let you play any role—or species—you'd like.

Born in the twisty passages of MUDs (multiuser domains) and other text-based fantasy worlds, avatars are your personal representatives in cyberspace. The newest generation of avatars uses the multimedia capabilities of the World Wide Web—including 3-D virtual reality, sound, and full-motion video—to embody the personality and appearance you create for them, and hence for yourself.

CompuServe users can click and choose from among the hundreds of heads, body types, clothes, and accessories available in WorldsAway, then set their avatars loose to explore this digital world. The virtual world is cosponsored by Fujitsu Ltd. and CompuServe



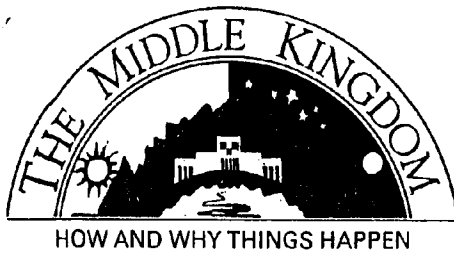
within CompuServe, type GO AWAY). Or you can

You Are Your Avatar

download software from Worlds Inc. (<http://www.worlds.net/products/wchat/avatars.html>) that lets you import your own images; define options like height, color, and 3-D views; and set your creation free to hang out with other avatars in shared environments ranging from jungles and castles to multimedia art galleries and pool parties. You can share your avatar via disk or e-mail or store its components (a head or torso, for example) in a publicly readable file so other players can see and interact with it.



Combining chat rooms' appeal with the Web's glitz, avatars could be the first wave of a new force in social computing, giving us characters with which we can interact and learn about the world. —Reva Basch



How to surf with the penguins

SURE, you may have surfed the World Wide Web. But have you ever wandered around a virtual space station chatting with six-foot penguins? Or flown through a football stadium? Or watched icons jumping around on a Web page when you move the mouse near them?

Well, I have — thanks to a bunch of leading-edge Net gizmos that have been heating up the Web in the past few months.

First, the penguins. Using the Worlds Chat 3D browser software from Worlds Inc. (<http://www.worlds.net>), you connect to their site and immediately appear in the Avatar Gallery. Here you select a 3D figure — called an avatar — such as the penguin or a huge fish, or just a regular guy in jeans and a plaid shirt, to represent you, and choose a user name.

You are then transported to a virtual space station, complete with platforms that hang in space and stars and planets off in the distance.

There are hallways and odd little rooms, such as the Nihilism Room: When you open the door, you step off the edge into space like Wile E. Coyote in a Bugs Bunny cartoon (although you don't plunge to your doom like he does).

The motion is seamless, doors hiss when they open and you can either walk around or beam yourself elsewhere by clicking on a map. While you wander, you run into other penguins, butterflies and so on.

Each avatar's name is displayed above its head, as is yours.

Click on an avatar to start a private chat, or start typing and the six avatars nearest you will see your words on their screens. Another avatar could be a math student in Bonn or a housewife in Reno, or anyone just about anywhere.

Admittedly, the quality of conversation leaves something to be desired. As with a popular Internet feature known as Internet Relay Chat (real-time, text-based discussion groups), there is more noise than interesting banter.

Since many of the participants with the spare time and the massive bandwidth required are likely college students, it's not surprising that some avatars I met were named "Looking 4 babes" and "Not a pervert."

However, the appeal of the new technology is undeniable. For example, Worlds Inc. is developing a Virtual Worlds Fair, where your avatar could wander through various pavilions. And the company is also working on a site called Alphaworld that allows you to stake your claim in virtual space.



Cyberia
Mathew Ingram

Pick a plot of land and construct a house of almost any kind you desire. Move and copy other people's homes (or parts of them), add mailboxes and trees and TVs and fireplaces. You can even link sound files to objects so people hear them as they draw near.

Three-dimensional motion is also being brought to the Web through an extension of HTML — Hypertext Markup Language, the lingua franca of the Web — known as VRML (Virtual Reality Markup Language), which allows Web-page designers to build interactive 3D worlds much like those developed by Worlds Inc.

You can try VRML sites out with software such as Intervista's Worldview (<http://www.intervista.com>) or add-on software that works with Netscape's Web browser such as Paper Inc.'s WebFX (<http://www.paperinc.com>).

For example, you could help celebrate the 30th Superbowl by going to <http://azsuperbowl.com/nfl/stadium.wrl> and flying or walking through the stadium in Arizona that the game will be played in. Be warned, however: even walking with a 3D browser takes a little getting used to.

Macromedia's Shockwave for Director (<http://www.macromedia.com>), meanwhile, is part of a wave of software designed to bring interactivity — or at the very least sound and motion — to the World Wide Web. It has even taken an early lead over some other more familiar names.

One of the best known is Sun Microsystems' Java (<http://java.sun.com>), which took the Internet and much of the media by storm last year because it promises to allow designers to incorporate interactivity into Web pages.

Many feel the Java standard, which even Microsoft has licenced, may eventually allow users to use small programs on a Web page in real-time — to use a spreadsheet, calculate stock prices or do many other things that require either expensive software and/or long download times.

Macromedia, however, is already allowing similar kinds of motion, sound and interactivity with Shockwave, an application that works with Netscape to allow Web pages to incorporate interactive Director "movies."

Director is the graphics-development software used by almost every CD-ROM publishing company in North America, and allows designers to easily blend movie clips, computer graphics, sound and text into presentations.

As such, it has benefits that have allowed it an early lead over Java, a new and complicated programming language that takes time to learn — one of the reasons there are currently few Java-rich sites on the Web.

Macromedia's Shockwave Gallery is at <http://www.macromedia.com/Tools/Shockwave/Vanguard/index.html>.

When it comes to these kinds of new technologies, there will be doubting Thomases who ask: "Why? Why bother chatting with six-foot penguins? Why look at dancing icons? Why?" These people should climb back onto their porch swings and resume whittling.

The only answer to this question is the one every right-thinking Net surfer gives to wives, mothers, guidance counsellors, etc.: "Because you can."

Seriously, though — it may seem ridiculous to use up bandwidth to watch animated icons, or read frat-boy nonsense typed by a mutant penguin. But who knows what this technology could allow in future?

What if you could visit the Vatican or the Cistine Chapel or the Eiffel Tower and go on a virtual tour? What if you could interact with virtual dolphins, or learn a different language interactively? Come on — surf's up.

To browse or not to browse — on the Shakespeare page

It's not just a midwinter night's dream. It's really there on the Internet.

The genius of William Shakespeare, as you like it.

This page isn't much ado about nothing; it's every comedy, tragedy, historical play and sonnet penned by the Bard of Stratford — the complete texts, measure for measure. Just point your World Wide Web browser to <http://the-tech.mit.edu/Shakespeare/works.html>, and your love's labors won't be lost.

Do you remember a specific line from Shakespeare, but not the play or poem from which it came? Flipping through thousands of printed pages would be a comedy of errors. Instead, type what words you remember into the handy search engine, and you'll have your answer in seconds, along with the complete text of the work in question. All's well that ends well.

Unless, of course, you discover that the expression you attributed to Shakespeare actually originated elsewhere. In that case, turn to Bartlett's Familiar Quotations at <http://www.cc.columbia.edu/acsl/bartleby/bartlett/index.html>. Yet another efficient search engine helps trace various passages, phrases and proverbs to their sources.

A Web-surfer exploring these sites and the links they contain is likely to be pleasantly surprised by just how much literary culture is thriving in cyberspace. Most are projects undertaken by universities; MIT is responsible for the Shakespeare project and folks at Columbia put the Bartlett's page together.

For-profit companies are weighing in as well. Those not content with literary classics can try their hands at poetry and prose as part of a competition sponsored by Hugo, a new line of Giorgio men's fragrances. Top prize is \$1,500 in the contest featured at the Hugo WordSlam page, <http://www.wordslam.hugo.com/>.

The site also features a rotating gallery exhibit of famous writers and a text-and-audio preview of a five-part series on poetry to be televised in February on PBS.

Andrew Lloyd Webber and his production arm, the Really Useful Company, have started a Web site at <http://www.reallyuseful.com/> where fans can find information on Webber's musicals such as "Cats," "Aspects of Love" and "Phantom of the Opera." Cast biographies, theater and ticket information, sound clips and souvenirs are available.

Also on the Web

■ The Army is on the move. Fort Carson has plugged in — or should the verb be "deployed"? — its own on-site Web server and moved its home page to <http://www.carson.army.mil>. The ex-

panded site will feature lots of information about the activities and services at the Army's Mountain Post for visitors, newly arrived soldiers and families. The most recent edition of Fort Carson's weekly Mountaineer newspaper is included, along with a history of the post, photos and biographies of its commanders, and links to other Defense Department sites.

■ One link from the Fort Carson page goes to the Pentagon's BosniaLINK at <http://www.dtic.dia.mil/bosnia/index.html>, a great source of information on the role of U.S. troops in the Balkans. Computer users can send holiday greetings to the Yanks abroad and look at operation maps, fact sheets, biographies of the commanders, photos, press releases and transcripts of speeches, briefings and testimony.

On-line services

■ Several companies are introducing technology to add pictures and music to on-line chat rooms. Subscribers to The Microsoft Network can see test areas for V-Chat, which by next month should bring a three-dimensional feel to computer conversations. CompuServe has been offering a two-dimensional chat interface called World-sAway since September (go *Away* for information), and a similar project is under development at America Online, which acquired Ubique Ltd. last fall. Ubique created Virtual Places, a 3-D chat space on the World Wide Web, to compete with the pioneering Worlds Chat, which debuted in April.

■ Prodigy will scrap its core-and-plus pricing system Feb. 4 in favor of the across-the-board usage timing common to other on-line services. Under the old "value plan," users paid \$9.95 a month for unlimited use of "core" areas such as news, games and other features and five hours worth of time in "plus" areas such as bulletin boards, chat areas and the Internet. Additional "plus" hours cost \$2.95 each. Under the new plan, the "core" and "plus" designations will disappear. Users will pay \$15 a month for 15 hours of use across the board, then \$2.95 for each additional hour anywhere on the service.

Look who's talking

Medical expert Steven Leichter will answer questions about diabetes and metabolic issues at 5 p.m. today on America Online. Cary Lu, who writes about portable computing in Macworld magazine, will meet members at 7 p.m. Thursday. Use keyword **Center Stage** to find all AOL chat events.

"The Millennium Shows" author Philip Baruth will discuss the legendary rock band The Grateful Dead at 7 p.m. Wednesday on The Microsoft Network (select **MSN Today**). Prodigy members can meet actress Amy Yasbeck at 7 p.m. Thursday (jump **Chat**). She plays Casey Davenport on the NBC television comedy "Wings," and has appeared in the films "Pretty Woman" and "The Mask."



DALLAS HELTZELL

Taking chances at chat sessions

Part of the allure of computer networking is that it allows us to be something other than what we really are.

Surely this is what accounts for the immense popularity of chat areas on services like America Online.

When you adopt a persona, you can project whatever image you choose, and no one will be the wiser. Which is why the gag in The New Yorker cartoon — "On the Internet, nobody knows you're a dog" — is still so funny, and so true.

I don't find on-line chatting to be a terribly productive experience. For one thing, the process is tedious. You are connected to another person in that you can type that person a message and read his or her response. But there is a noticeable lag time built into the activity, especially if the person on the other end is a slow typist. And if he or she has major spelling problems, the chat session can be excruciating.

What's truly dismaying about chat sessions as provided by America Online is that they're so seamy. Not long ago, I was talking to Michelle Slatalla about the Internet. Michelle writes a wonderful column called The Digital Diva, which is available on the Discovery Channel's Web site (<http://www.discovery.com/>, an extremely well-produced site, by the way).

Slatalla recently wrote a column in which she assumed different on-line personae to see what would happen. The results were disappointingly predictable.

When Slatalla went on-line as Suzieq564, a 17-year-old student, she was besieged by the howls of digital wolves. It is a disturbing fact that many people seem to regard on-line chat as a way of exchanging sexual allusions, double and triple entendres and, frankly, pornographic talk.

You run into this immediately if you appear with a feminine user identification. Of course, the ID

itself means little, because you can change IDs at will, but people in chat sessions use their IDs to establish an identity that other people can interact with in this odd pseudo-world. And if you ponder the fact that only 15 percent of the

COMPUTERS



PAUL
GILSTER

Internet's population is female, you'll see that many of those with female-sounding IDs are most likely males. Log on with a male ID and different things happen. Slatalla appeared next as Bucky, a 38-year-old agricultural consultant from the Dakotas with a background in organic pesticides. The response? Not a single invitation to converse. No one, it seems, want to talk about fertilizer and crop rotation.

But the deservedly poor reputation of the chat medium may be salvaged by the arrival of so-called virtual worlds. Worlds Chat, the creation of Worlds Inc. in San Francisco, is a cyberspace world in which you use your mouse to move about a space populated by other users.

When you log on at the site, your first task is to download the virtual reality software that will allow you to create this space on your desktop. Then you can log on, entering a kind of showroom where you must pick out an avatar, a digital representation of yourself, from the gallery of types available.

You can be a teenager in a grungy shirt, for example, or a fellow who looks like the teenager's father. Or you can be a blue butterfly.

I chose an avatar with a goatee and a three-piece suit because I was here on business and entered the chat room. I emerged into what appeared to be an enormous metallic auditorium, part of a

structure whose overall shape was a series of connected hubs, like a molecule.

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Ingrid was from Finland, I discovered, as I began chatting with her. She told me that it was cold and snowing in Helsinki. She also walked around my avatar a couple of times, scrutinizing me, before being eclipsed by a fellow in blue jeans and a sweatshirt whose name was Harold.

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I have to admit, the experience of exploring this virtual space was compulsive. I kept wanting to discover more of the hidden secrets of this environment, and burned up three times the amount of on-line time that I had planned to use for researching this column. This, of course, is why the on-line providers love chat services, the more three-dimensional the better. They know that chat is a major driver in getting people to stay connected.

You can try out Worlds Chat at <http://www.worlds.net/wc/>.

Expect to see a lot of growth in the virtual reality arena. Some 30 companies, including IBM and Microsoft, are developing products for virtual recreation as well as business.

ELECTRONIC DESIGN
Cleveland, OH

BI-WEEKLY

185,000

FEB 5, 1996

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FUDGE PRESS CLIPPINGS



Worlds Inc. and Diamond Multimedia Systems Inc. have announced an agreement to allow Diamond to bundle Worlds Chat, a 3D multiuser Internet chat service, with its retail products. Under the agreement, Diamond will retain the right to bundle all current and future versions of Worlds Chat with its broad range of multimedia and communications products.

Worlds Chat is a graphically-oriented 3D chat and entertainment environment. It provides a first-person, 3D interface that uses a navigation metaphor based on the way people move through the physical world. By using this application, users will be able to interact with others through their computers. For more information, see Worlds Inc.'s World Wide Web site: <http://www.worlds.net/>, or visit Diamond Multimedia System's site at <http://www.diamondmm.com>.

Computers

Virtual reality, the easy way

By **ANTHONY DIPASQUALE**
NeXt Correspondent

You've heard the hype. Virtual reality — the future of computer electronics — is now coming home and accessible to almost everyone.

When you hear those words "virtual reality" many things probably pop into your mind — experiencing things you never have before; a huge heavy head-piece hanging on your head.

Well, the *new* virtual reality is like that, but lacking the head-gear and other equipment.

So, you ask, without this huge headset how do you experience it? The Internet.

For \$10 to \$15 a month (assuming you have a computer, preferably a Pentium with a reasonably fast modem — 14,000 or 28,800) you can have unlimited access to this great new technology!

Best of all, the software is free! All you need is a PPP connection to a local Internet service provider. Some local ones you may be interested in trying are Buff-Net, Bluemoon and Free-Net. On top of the "virtual reality" you get World Wide Web access, e-mail, chat, news groups and more!

What is this "virtual reality"? I've previewed a few types.

First, Worlds Chat (<http://www.worlds.net> for software and information). Imagine Doom, a virtual reality type shoot-'em

game, but instead of monsters inhabiting this 3-D world, other humans sitting at their computers do! And on top of that, instead of shooting them you talk to them.

A second type is Alpha World (<http://www.worlds.net> for software and information), where you go through a 3-D world, mark your territory and build your own house. Your neighbor is someone else at his computer working away at his own piece of cyberspace. You can walk up to the "new kid" on the block and talk to him.

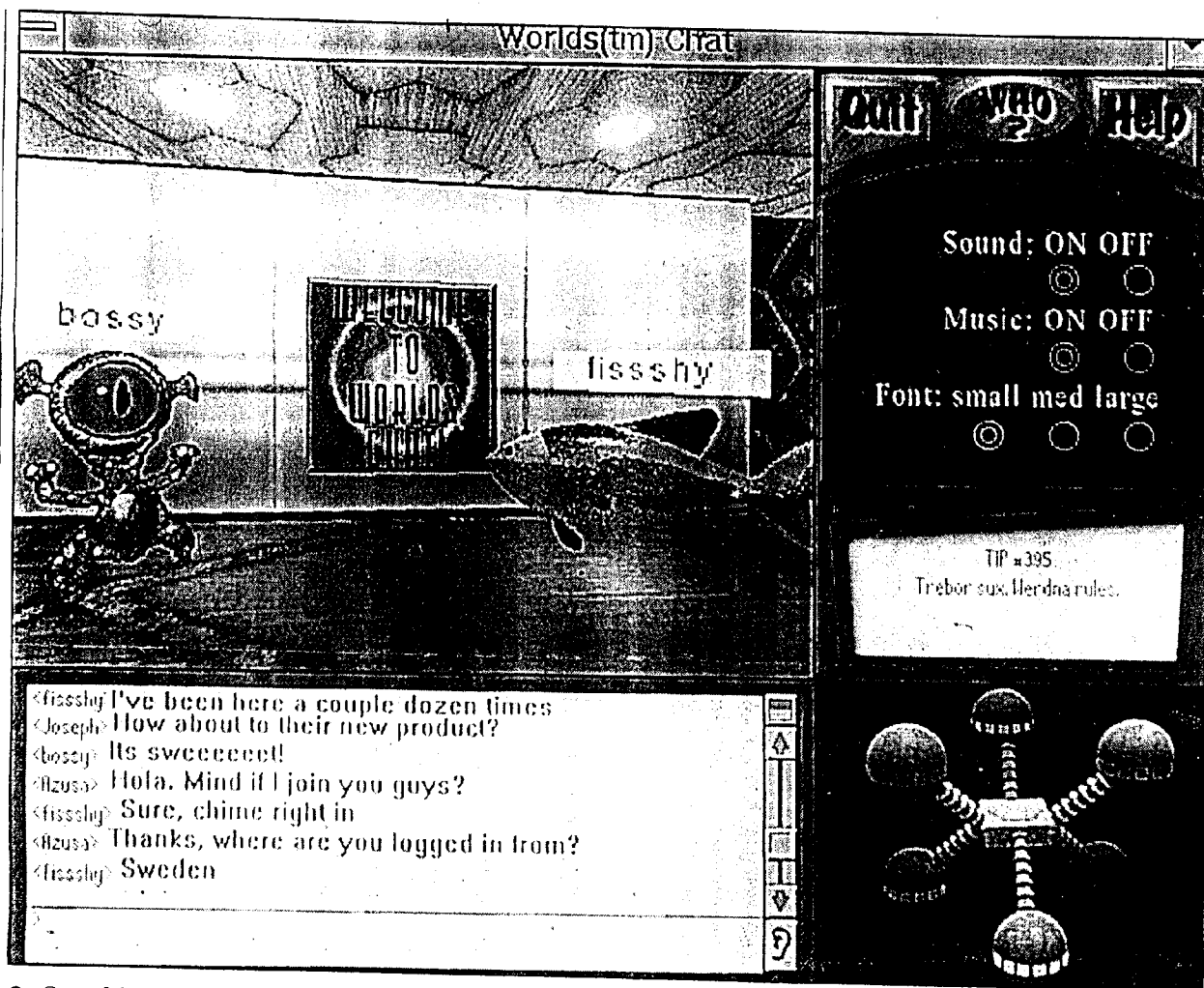
A third type of this new virtual reality is called VRML (pronounced "vermul," Virtual Reality Markup Language). VRML is the 3-D version of HTML (hypertext markup language, used to make WWW pages). Instead of being on the Web looking at artwork in a museum in France, which is amazing enough, you can walk through it by pressing the arrow keys. And unlike a real museum, you can take the artwork home with you — well, at least save it to disk. VRML will also be the new wave in shopping. (For a VRML browser, go to <http://paperinc.com>)

If you want to learn more, try the Web pages listed above, or find a copy of the January issue of Net magazine.

Anthony DiPasquale is a ninth-grader at Grand Island High School. His e-mail address is dipas@buffnet.net

Home COMPUTING

AND TECHNOLOGY



● One of the three-dimensional rooms of WorldChat, the first virtual environment for chatting on the Internet introduced in May by Worlds, Inc. The company expanded on the idea with AlphaWorld — a real “place,” rather than a destination — where people can go and interact with others through their computers rather than with them. Both applications are free.

Staking your cyberclaim

By JOE KILSHEIMER
ORLANDO SENTINEL

Everyone is invited to my new house, but you're going to have to bring your own refreshments. I haven't figured out yet how to serve cybercookies.

There are no bricks and mortar in this new house; only bits and bytes in the ether of cyberspace. It's an online realm called AlphaWorld, where you can "build" your own house. Or hotel, or tree-filled park or fountain with running water — whatever suits you.

When you log into AlphaWorld, you automatically become a "citizen." As a citizen, you have property rights. The cyberclaim you stake belongs to you and no one else. And for the time being, it's free. There is no charge beyond what you pay for Internet access.

As Russian comedian Yakov Smirnoff used to say: Whatta country!

The month-old AlphaWorld blends two relatively "old" Internet concepts. On one hand, it is a chat room, meaning you can talk to other Internet users by typing messages. What you say pops up on the screen.

But this is not your father's ordinary chat room. It is a 3-D chat environment in which you "talk" to other users using on-screen cartoon characters called "avatars." In AlphaWorld, you use your mouse to move your avatar about the screen and "walk" down streets or across bridges. What people "say" appears as text over their avatars' heads.

AlphaWorld also borrows from the concept of a multiuser dimension on the Internet. Known as MUDs, these are worlds where users interact and create their own surroundings — but with text only, no imagery.

AlphaWorld is produced by Worlds Inc., a

San Francisco company that specializes in a field it calls "social computing." Even before AlphaWorld, the company began applying the technology of Internet Virtual Reality to a variety of applications, from working with Visa International to enable online banking to creating a virtual playspace for children in pediatric hospitals in conjunction with the Starbright Foundation. Six months ago, Worlds Inc. pioneered the concept of 3-D chat with WorldChat, an environment that looks like you're onboard an Earth-orbiting space ship.

Although Worlds Inc. makes WorldChat and AlphaWorld available at no cost, there's a method to this madness. The company is trying to build an audience for a new 3-D chat world — the Internet World's Fair — that it will roll out next year and charge to use.

By the way, 3-D chat is no longer unique to Worlds Inc. CompuServe and Microsoft Network have introduced similar services on their systems within the past few weeks. However, AlphaWorld is the most sophisticated application of its type yet. As you "stroll" through Alpha World, birds chirp and themed music plays from your computer's speakers.

As you build on your property, you can cause sounds to play every time an avatar strolls by. You can even create a "door," and attach to it a Web address. When users walk through your door, it will invoke their Web browser and send them to that site.

When you log into AlphaWorld it opens with an image of blue sky, a green meadow and rolling mountains. The program "parachutes" you down into the middle of AlphaWorld's town square.

There, you generally will find a bunch of other avatars milling about, most of them first-

time users trying to get their bearings. For the time being, all the avatars look alike, something akin to mannequins. In coming weeks you will be able to choose your avatar's appearance — and even create your own.

A set of directional coordinates (north, south, east and west) tells you where you are.

To build anything in AlphaWorld, you first must find a vacant property. That means you have to wander around for a while, looking for "land" that hasn't been claimed. The program will tell you if you are encroaching on someone else's claim.

Because the program is so complex, you need a very powerful Windows-based computer to handle AlphaWorld. There's no Macintosh software yet. The minimum system requirements are a 486-66 with 8 mb of RAM; 12 mb of RAM is recommended. The software also takes up at least 10 mb of hard drive space.

You also need a direct connection to the Internet. Such connections are offered by Internet service providers and by the Microsoft Network. You also can get a direct connection from America Online (keyword: Winsock) and CompuServe (Go: Internet). The recommended modem speed is 14.4, although Worlds Inc. says 9600 will do.

To "emigrate" to AlphaWorld, first register online with Worlds Inc. Start with this Web address: <http://www.worlds.net>. The company will e-mail an "immigration number," which you need to be able to download the AlphaWorld software via the Internet. It took me about 20 minutes with my 28.8 modem.

By the way, my "property" in AlphaWorld is located at these coordinates: 16939 North, 8224 East. Come by and see me sometime.

DEC 24, 1995

N4074

LUCE PRESS CLIPPING

Chat rooms offer more than talk

Gannett News Service

Visiting an on-line chat room is like going to a cocktail party — with your eyes closed. But eye-opening innovations from a number of companies are adding pictures, music and personality to the experience.

Microsoft recently announced V-Chat, which will allow users of the Microsoft Network to navigate and chat in both two- and three-dimensional settings.

The areas will launch in January, but users already can visit test areas. Among the first to be available: the Cinemania Connection, a 3-D art-deco movie theater; Planet Out, a gay and lesbian cafe; a kids' area; and a virtual comedy club.

"We wanted to add more personality and flavor . . . these visually rich spaces add mood and context for conversation," says Microsoft's Linda Stone.

Users choose from a range of cartoon-like characters called "avatars" or use their own photos to represent them as they navigate virtual spaces; names appear above avatars' heads and conversation appears in a separate window.

Microsoft isn't the only company to offer 3-D chat spaces.

First was Worlds Chat, a virtual "space station" launched on the Internet in April by San Francisco-based Worlds Inc.

The company also announced a second environment called AlphaWorld (<http://www.worlds.net>), where individuals and businesses can "build" virtual houses and shops and link them to other Internet sites.

DEC 27, 1995

N4006

FUSE PRESS CLIPPINGS

Companies add music, pictures to chat rooms

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DEC 8, 1995

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LUCE
PRESS CLIPPINGS

You can be anybody when chatting on Internet

Part of the allure of computer networking is that it allows us to be something other than what we really are. Surely, this is what accounts for the immense popularity of chat areas on services like America Online.

When you adopt a persona, you can project whatever image you choose, and no one will be the wiser. That is why the gag in *The New Yorker* cartoon — "On the Internet, nobody knows you're a dog" — is still so funny, and so true.

I don't find on-line chatting to be a terribly productive experience. For one thing, the process is tedious. You are connected to another person in that you can type that person a message and read their response. But there is a noticeable lag time built into the activity, especially if the person on the other end is a slow typist. If the person has major spelling problems, the chat session can be excruciating.

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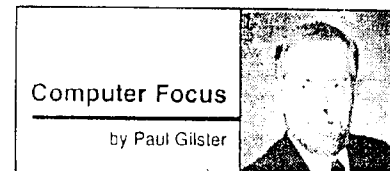
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know that chat is a major driver in getting people to stay connected.

The noteworthy thing about Worlds Chat, and what truly distinguished it from America Online, was that these people weren't chatting. Sure, they would give you the occasional "Hey there" as they walked past, but most of them were so absorbed in exploring the virtual world around them that they didn't have time to talk.

I tried to engage a penguin named Krank in conversation, but he took one look at me and waddled off toward the technology hub. Maybe it was the suit.

You can try out Worlds Chat at <http://www.worlds.net/wc/>. Expect to see a lot of growth in the virtual reality arena; some thirty companies, including IBM and Microsoft, are developing products for virtual recreation as well as business. If chat itself is trivial, consider the potential of setting up, say, a 3-D museum, which could model a major collection of art in a virtual building that replicates the real one. One way or another, the Internet is becoming multidimensional, with implications we're only beginning to discover.

BY DAVID WALLECHINSKY

NOV 19, 1995

ENTERTAINMENT

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Do terms like "cyberspace" and "World Wide Web" scare you? Does it seem as if everyone is riding the electronic superhighway but you? Don't panic.

BE AT HOME ON THE INTERNET

What is the Internet? The Internet is an enormous network of networks connecting you and your computer with computers around the world and, by extension, with the people sitting at those computers. Governments, schools, companies and individuals make information available on the Internet to everyone who wants it. There currently are more than 20 million people connected to the Internet—and it's rapidly expanding.

How do I start? First, you need a computer. Whether you have a Macintosh or a PC doesn't matter. You also will need a modem—a device that connects your computer to a telephone line. Modems can be internal or external. An internal modem goes inside your computer and has the advantage of not taking up desk space. An external modem is a separate unit outside your computer and has the advantage of being

It's a great way to meet hundreds of people who have similar concerns and interests—and to share information on everything from health problems to raising children to collecting comic books.

YOU PROBABLY HAVE seen the ads on TV: By joining an online computer service, you can make plane reservations, order flowers for your mother and help

your child with a homework assignment by finding information about dinosaurs. But are these claims true?

The answer is yes. In fact, plane reservations, flowers and dinosaurs are just the tip of the iceberg. With online services and the Internet, you can find out the latest methods for dealing with any health problem from acne to diabetes, view declassified CIA photos of old Soviet military bases, listen to English-language radio broadcasts from around the world or join discussions with fellow fans of your favorite music group.



By going online, parents can help their kids with their homework. Kids can help parents loosen up about computers.

easily detached and then reconnected to a different computer. The most important factor in shopping for a modem is speed. The standard today is 14,400 bytes per second (BPS). If you use a slower modem, you may end up tearing out your hair as you wait forever for information to be transferred. A 28,800 BPS modem is twice as fast as a 14,400, but it is also more expensive.

Getting connected. The easiest way for beginners to connect to the Internet is to subscribe for a fee to a commercial online service such as America Online, CompuServe, Prodigy or MSN The Microsoft Network (see box at end of story). They provide

news, travel information, discussions and forums on a wide range of topics, plus much more. They are in essence mini-Internets that also provide access to the real Internet. It also is possible to open accounts with companies such as Netcom and PSI, which connect you directly to the Internet without the frills of an online service. And there are local Internet providers in every area of the country.

Below are four of the most popular components of the Internet:

e-mail. Electronic mail, better known as e-mail, allows you to write a letter and send it instantly, even if the person you are writing to is in another country. Initially created for business, it now is widely used for communication among friends and relatives. Instead of writing a letter, addressing an envelope, buying and attaching a stamp and going out to mail the letter, you just type the recipient's e-mail address and your message on your computer,

then press a button. Your message will be received almost immediately.

Chat lines. Very popular with young people, chat lines are the computer equivalent of going to a party or club. You communicate live with people around the world by typing messages and receiving responses. There are hundreds of chat lines, divided by age groups and interests. They are a great opportunity to meet like-minded people, particularly if you have a specialized interest, such as Barbie doll-collecting or Polish culture. (Online services provide ways for parents to limit children's access to certain chat areas.)

If you want to see the future of online chat, check out **Worlds Inc.'s** Worlds Chat (<http://www.worlds.net>), where you pick out a figure—such as a penguin, a wizard or even a hu-

man—to represent yourself. You then can visit various “rooms” devoted to discussions of health, food, movies or politics and encounter other figures as you “walk” from room to room. CompuServe is preparing a similar virtual chat world called Worlds Away that will allow you to visit a virtual town.

Usenet groups. Also known as newsgroups or discussion forums, usenet groups are for people who prefer more thought-out discussions than those on chat lines. Among the thousands of groups are those devoted to meteorology, Bosnia, the Grateful Dead and the Dallas Cowboys.

When you join a usenet group (for free, by pressing a keyboard key), you will be able to read the “postings” or messages entered by other users. If you wish to reply to a posting or if you have something of your own to say, you type out your message and then send it to the usenet group as you would with e-mail. Your message will then be read by hundreds or even thousands of people who might want to answer you either privately by e-mail or publicly through the usenet group.

World Wide Web. The star of the Internet, affectionately known as the Web, is an interconnected collection of more than 50,000 sites or home pages (and growing at the rate of almost 1000 a day). Web sites can be set up by anyone. In fact, some of the online services allow you to create your own. The White House has a Web site, as do most of the

Republican Presidential candidates. There are Web sites devoted to every imaginable subject, from river rafting and basketball to the works of Shakespeare and Proust, making the World Wide Web a massive unedited, unindexed encyclopedia—the biggest in history.

Let's say you're reading an online article about breast cancer that mentions an excellent collection of health information, in English, at the University of Padua in Italy. You move your cursor to the phrase “University of Padua,” click your mouse twice and, within a minute or two, you will be connected with the online library at the University of Padua. After reading its articles about breast cancer, you can return to your original article or move on to any other highlighted site or subject. This freedom of movement is what led to the now-common expression “surfing the net.”

A good place to start exploring the Web is Yahoo (Web site address: <http://yahoo.com>), a well-organized gateway to tens of thousands of Web sites. You also may want to check out the Games Domain (<http://wv1-rs.bham.ac.uk/gamesdomain/>), an index to Web sites relating to video games, board games, arcade games and even billiards; the Virtual Tourist (<http://wings.buffalo.edu/world/vt2/>), a guide to travel information; and RealAudio (<http://www/realaudio.com/>), which provides music and radio reports from around the world (presuming your computer has speakers).

For more information, browse through the computer section in your neighborhood bookstore until you find a book or two with which you feel comfortable. A good magazine for beginners is *PC Novice*. Several magazines are devoted exclusively to the Internet. ■

ONLINE SERVICES

- **America Online (1-800-827-6384)** is the most user-friendly of the online services, combining an easy-to-use system and easy-to-look-at graphics with hundreds of reference, news and entertainment sources.
 - **CompuServe (1-800-848-8199)** is a bit clunkier than America Online, but it is packed with information sources and is the leading choice in the business world.
 - **Prodigy (1-800-PRODIGY)** doesn't provide the in-depth coverage of America Online and CompuServe, but it is more censored and aimed at families. It also runs onscreen ads.
 - **MSN (available through Windows 95)** is the newest entry in the field. Like Prodigy, it allows some advertising.
- These services—as well as others, such as Delphi, AT&T WorldNet Services and Dow Jones News/Retrieval—are constantly changing and adding new features. It's worthwhile to try out each of them every few months, canceling and subscribing according to which service meets your current needs.



THURSDAY, NOVEMBER 30, 1995

Chats with dimension

Innovations on-line add personality

By Leslie Miller
USA TODAY

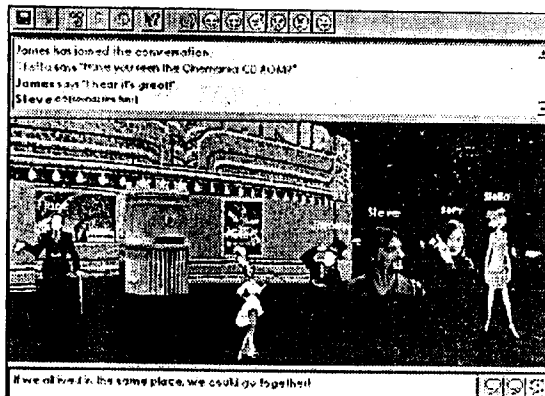
Visiting an on-line chat room is like going to a cocktail party — with your eyes closed. But eye-opening innovations from a number of companies are adding pictures, music and personality to the experience.

Microsoft today will announce V-Chat, which will allow users of the Microsoft Network to navigate and chat in both two- and three-dimensional settings.

The areas will launch in January, but users already can visit test areas. Among the first to be available: the Cinemania Connection, a 3-D art-deco movie theater; Planet Out, a gay and lesbian cafe; a kids' area; and a virtual comedy club.

"We wanted to add more personality and flavor ... these visually rich spaces add mood and context for conversation," says Microsoft's Linda Stone.

Users choose from a



V-Chat: Move toward the 3-D theater and movie posters get larger; clicking on one takes you to a movie Web site.

range of cartoon-like characters called "avatars" or use their own photos to represent them as they navigate virtual spaces; names appear above avatars' heads and conversation appears in a separate window.

Microsoft isn't the only company to offer 3-D chat spaces. First was Worlds Chat, a virtual "space station" launched on the Internet in April by San Francisco-based Worlds Inc.

On Wednesday, the company announced a second environment called AlphaWorld (<http://www.>

worlds.net), where individuals and businesses can "build" virtual houses and shops and link them to other Internet sites.

Free software to use CompuServe's 2-D chat area WorldsAway (go: Away) has been downloaded by "well over 10,000" members since Sept. 30, spokeswoman Daphne Kent says.

America Online also is "looking into enhanced chat," says AOL's Margaret Ryan; in September, AOL acquired Ubique Ltd., creator of Virtual Places, another 3-D Web chat space.

Newsweek

December 11, 1995 \$2.95

RUSSIA: Does Clinton Have an Exit Strategy?

CHAT

When Words Alone Aren't Enough

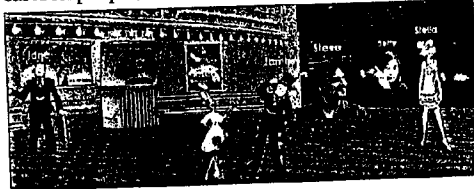
THOSE OF US WHO still don't understand what's so appealing about online chat will find the latest trend especially baffling: real-time 3-D avatars, or computer-graphic "pup-

(From left) CompuServe, Microsoft and Worlds Inc. chat

pets" who embody your digital presence. The Microsoft Network last week announced its new



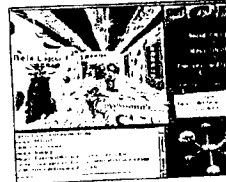
"V-Chat" feature, in which members pick avatars like bugs and cartoon people, and chat



text scrolls above the scene. In the future V-Chat will let users create custom avatars, such as a digitalized image of your face. CompuServe already offers a similar service called Worlds-

Away. Internet users with a SLIP or PPP connection can try out a free service called Worlds Chat (at <http://www.worlds.net/>).

JENNIFER TANAKA and N'GAI CROAL



Edited by Kristin Spence

Walking the Walk and Talking the Talk in Worlds Chat

In this space dock. Teleporting onto the space station, I find myself surrounded by a few waddling penguins as well as some blue bears wearing T-shirts and sunglasses. Such is my first experience in the surreal realm of *Worlds Chat*.

There are plenty of GUI chat interfaces on the Net, but most of them are nothing more than static images set adjacent to a chat window. (Imagine something as interactive as a mug shot and you're getting close.)

Worlds Chat breathes new and much-needed life into graphics-based net chat by taking it to a vivid, three-dimensional level. While the rendering isn't quite as sophisticated as VRML, the 3-D effects are as good as any found in *Doom*.

Initializing the software (IBM-compatible only) will take you down a corridor to rooms where avatars of people, animals, and other characters adorn the walls. Choose who—or what—you want to be, type in an online moniker, and prepare to be immediately beamed aboard a virtual space station. Once there, you'll see your fellow net folk as the characters they've selected, just as they will see you as your chosen alter. The bizarre assortment of personae is finite, though far from limiting: fish, maths, men in business suits, chess pieces, and statues commonly populate this place.

Moving the mouse or pressing the cursor keys allows you to navigate the area and change your perspective. *Worlds Chat* revolves around a central hub—where you'll first appear—as well as six "spheres" that are accessible either through corridors or by direct teleportation. Move through a sliding door and you'll be led to additional rooms and exotic landscapes.

Chatting is, not surprisingly, simple enough to master. You can eavesdrop on conversations in progress via a text window, join in at any time, or engage in private conversations by clicking on an individual's avatar.

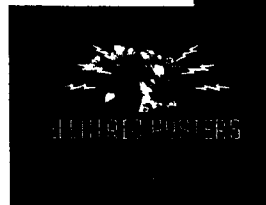
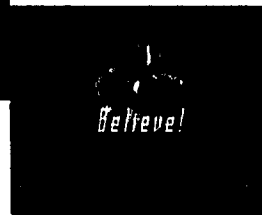
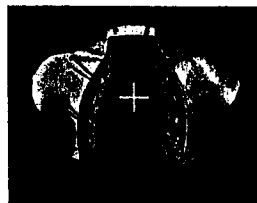
Easy as it is, however, the chatter tends to be sparse and incoherent, the movements of other avatars erratic. And the majority of users tend to be newbies. Thus, it's a lot like being trapped in a virtual nursery, surrounded by awkward tots just learning how to walk, talk, and navigate.

Of course, character clumsiness could be a function of technological deficiencies. To participate in *Worlds Chat*, the "official" minimum system requirement is a 486 DX-50 with 8 megs of RAM running Windows, connected to TCP/IP (SLIP or PPP) with a 9600-baud modem. I found that things were even choppy on my 486 DX-66 with a 28.8-Kbps connection.

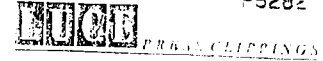
Beyond the gimmick, avatar-based chatting isn't terribly exciting. The space station doesn't offer much in the way of sophisticated interactive adventures are limited to doorways, corridors, and ASCII text. But there's one major plus about the setup: it's free! Fill out a survey form at <http://www.worlds.net>, and the program is yours to download. Even better, connection fees are limited to the cost of your TCP/IP provider.

Worlds Chat serves primarily as a demonstration of things soon to come. The company behind the program, *Worlds Inc.*, plans to have a new model up and running by the time you read this. Called *AlphaWorld*, it will offer the ability to setup your own room or even a virtual business.

The most successful application for the *Worlds Chat* engine probably lies in its potential for multiplayer gaming. I admit my first instinct upon seeing all those bears and penguins was to blast 'em. —Howard Wern (102766.1042@compuserve.com)



Check yourself into the Will Power Clinic at The Spleen (<http://www.mcad.edu/home/faculty/szyhalski/Piotr>).



Three-dimensional spaces effect on Atavar

POPULAR MECHANICS
A Hearst Magazine
For AP Special Features

Three-dimensional spaces are transforming the Internet and online services to places where your "avatar" can cruise richer environments.

Visitors to these graphically depicted worlds, George Mannes wrote in an article in the current issue of Popular Mechanics, are represented on-screen by figures known as "avatars," some of which can even change facial expression.

There's the dreamlike environment of AlphaWorld, developed by Worlds Inc., which also invented Worlds Chat, a floating space station where people can gather.

Visiting Worlds Chat or AlphaWorld requires SLIP or PPP access to the Internet — a type of connection you can get from certain Internet access providers. Online services are offering comparable communities. Last year CompuServe launched an area called WorldsAway.

In WorldsAway, you appear as a humanoid avatar, able to walk, follow someone around and chat via typewritten messages. Using the keyboard, you can push a button that makes your avatar gesture or change expression. Choices include happy, sad, wave hand, jump and bow.

WorldsAway has its own monetary system. You can spend tokens on a change of clothes, a trinket such as a voodoo doll and a replacement head.

You earn tokens by spending time online, winning prizes at games or by pawning possessions. Avatars even have pockets. You can be chatting with one when, in midconversation, she removes her head and tries on a chicken head instead.

The Microsoft Network, another online service, has 3-D chatroom service called V-Chat. Designed with different environments in mind, V-Chat launched with several variations, including Bug World, Cinemania and Fishbowl.

To personalize the experience, Microsoft has avatars capable of expression — able to wave, smile, flirt, shrug, be sad, get angry or act silly. Microsoft makes it easy to create your own avatars, suggesting that people upload their own pictures to create the ultimate customized model.

To join any of these online communities, one must travel to a central location in cyberspace. Intel, the giant maker of microprocessors, is developing an environment that would exist on many different computers simultaneously, according to Steven McGeedy, vice president of the company's technology lab.

Instead of having a Web page, people might have a "chathouse" on a computer, which would connect to other people's clubhouses in a vast, decentralized network.

McGeedy said the first half of this year will bring graphic online worlds that let people communicate with one another by speaking, not just pecking out words on a keyboard.

One of the biggest problems with audio on the Web has been the time it takes to download a sound clip. Early last year, Progressive Networks introduced a technology called RealAudio, which compresses and transmits streams of sound in real time, eliminating the download delay.

In early December, Sun Microsystems announced an agreement with Macromedia and Silicon Graphics to link their technologies in an open system for facilitating multimedia on the Web.

This agreement, the companies said, would speed up development of such features as spatialized audio, video-conferencing and real-time streaming of audio, video and 3-D graphics.

"All this stuff that you see now? Baby steps," John McCrea, a manager at Silicon Graphics said. "We want to be able to walk down the street together with people who are on the other side of the world, go up to the side of a building, see a video playing there, be able to talk to people in the world — in fact, to make the experience so real and so natural and so intuitive that you forget that there's a computer involved."

JUN 30, 1996

N2254

MUCI PRESS CLIPPINGS

Tech Briefs

NEW CAMERA: Polaroid Corp. and the Massachusetts Institute of Technology have developed a camera for use with high-definition television. The future of the broadcasting camera, known as the PTC-9000, hinges on which type of HDTV format the Federal Communications Commission chooses to endorse this summer.

PENSION UPDATES: The nation's biggest public pension fund is building a home on the Internet. In doing so, the \$100 billion California Public Employees' Retirement System, or Calpers, may pave the way for other public pension funds to use cyberspace to contact their beneficiaries.

LOW-COST COMPUTING: Wyse Technology unveiled a \$500 terminal that will allow consumers to rent software by the

hour as well as cruise the Internet. Its four new Winterm models will be available in July, the company said.

INTERNET UPGRADE: MCI Communications will invest \$60 million for equipment to quadruple its Internet backbone speed to 622 megabits per second by year's end from its current speed of 155 megabits. The company also will add about 13,000 switch ports by year's end to accommodate increasing demand for Internet services.

MODEM PRICES CUT: Motorola cut prices on several of its modems. The price cuts include the Montana 28.8 Modem/Fax and Mariner 28.8 Modem/Fax/LAN PC Cards, the OnlineSURFER 28.8 Data/Fax Internal Card and the Premier 33.6 modem. Montana, formerly at \$329, drops to \$289. The Mariner goes

to \$469, from \$515. Both have wireless capability for connecting to cellular phones.

3-D CHATTING: After 14 months of providing Internet users with a three-dimensional chatroom for free, Worlds, Inc. launched a commercial product for \$32.95 a month. Worlds Chat is sold as a CD-ROM that lets users visit the Internet site and present themselves as "avatars," or iconlike characters that chat and interact with other visitors.

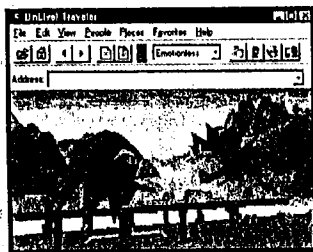
TRADING ONLINE: A California company that sells energy-saving solar panels has received Securities and Exchange Commission approval to trade its stock over the Internet. The SEC's first approval on such trading was given to Ukiah, Calif.-based Real Goods Trading Corp., through a "no action" letter.



INTERNET Communities

New technologies mean more family-friendly places

In the past, the only communities on the Internet were set up through Internet Relay Chat



(IRC) and Usenet newsgroups (a form of Internet bulletin boards). Both technologies spawned communities that, for the most part, were less than family-friendly. And while both are still available and accessible, Internet blocking software

has built-in controls so parents can make sure younger eyes don't wander to questionable

IRC channels or newsgroups (see the What's On section in our March issue for a review of blocking products).

However, every day new Web sites

and kids, with explanations of how to get software and join in chatting, and Parent Soup features Web-based bulletin boards.

As the Internet grows more family-friendly, the technology behind it also continues to mature: 3-D chatting products like

Worlds Chat (<http://www.worlds.net/>) use "avatars" (cartoon images) to represent you in a 3-D, computer-generated world. And the soon-to-be-released Traveler (<http://www.onlive.com>) allows people to chat over the Internet with their own voice — no typing required.

—Naomi Graychase

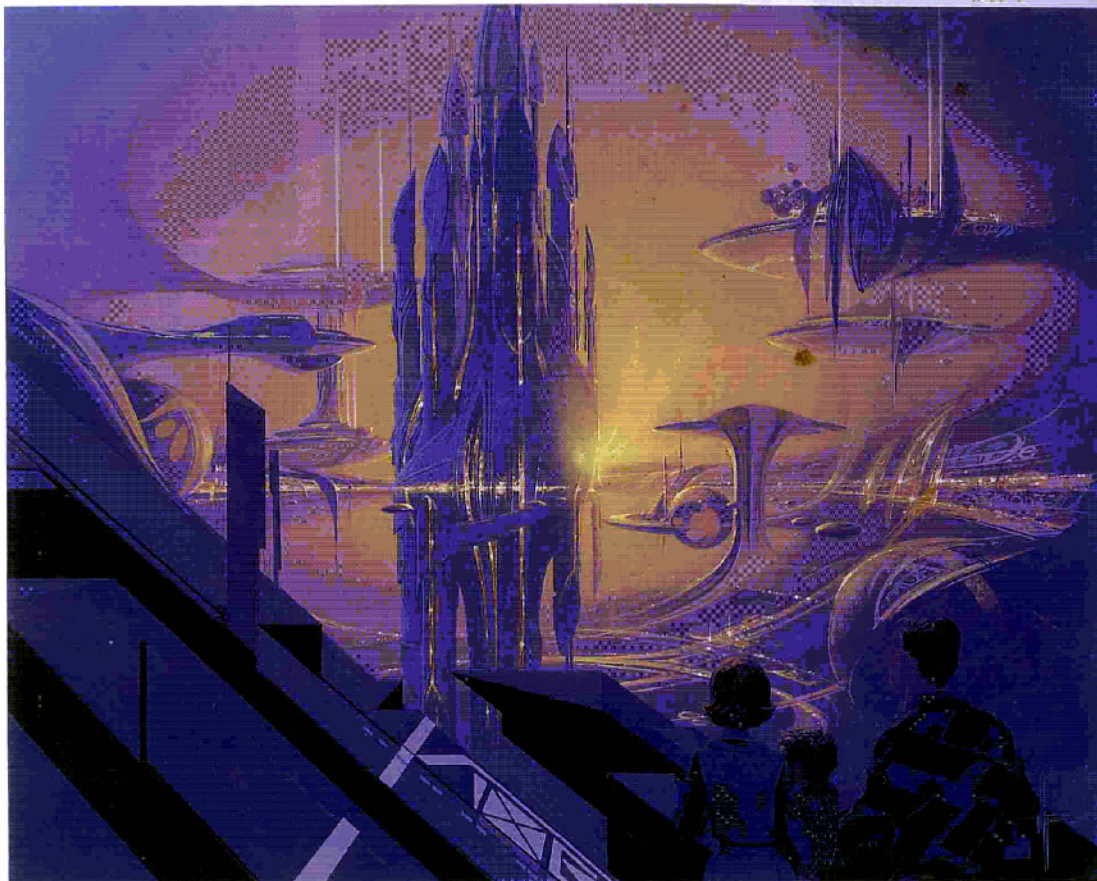
D E S T I N A T I O N



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