



The Web's future? Ask the man who invented it

He has been described as the person who has most profoundly influenced the development of mankind since Johannes Gutenberg invented movable type, but hardly anyone knows who he is. However, Tim Berners-Lee's anonymity disappears quickly whenever he speaks about his amazing creation, the World Wide Web. In November he kept the audience fascinated as he told the 1998 annual meeting of the American Medical Informatics Association (AMIA) how the Web came about and where he would like it to go.

His connection with the Web started when he was working as a software engineer at CERN, the European particle physics laboratory in Switzerland. He wanted to improve communication and information sharing among the various scientists at the site and proposed a global project that would allow people to work together by combining their knowledge through hypertext documents. (Hypertext means a Web page is linked with other similar ones, thus creating a "web".) The result is the Web's now familiar framework, which includes specifications for hypertext transfer protocols (HTTP), universal resource locators (URLs) and hypertext mark-up language (HTML). The Web was launched at CERN in 1990 and a year later was part of the Internet. (The Internet has existed since the 1960s. The Web simply made it accessible by standardizing the exchange of information.)

Berners-Lee also created the world's first Web browser, but has not amassed the financial fortunes of those who have thrived because of the electronic doors he opened. He currently works at the Massachusetts

Institute of Technology, where he is director of the World Wide Web Consortium, an umbrella organization with 270 members dedicated to the development and promotion of Web resources and technology. Its goal is to expand the Web's potential and stabilize it during the current period of rapid evolution. More infor-

sites selling a desired product, along with the relative prices.

He also has a wish list for short-term improvements in the Web. Berners-Lee would like it to link any and all types of information, including video on demand, and he favours ready availability of real-time audio and video — a concept that does not

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mation can be found at the consortium's Web site, www.w3.org.

Berners-Lee says the way a person uses the Web reflects his creativity, and to look into an Internet soul, check bookmarks. "My list of links is me: who I am, what I am, where I would like to go."

He would like to see more collaborative work, including conferences, take place over the Web, which he thinks is an ideal tool for self-managing groups because it provides an excellent way to exchange organization-wide bodies of knowledge, vision and values.

Despite the growing number of uses, Berners-Lee perceives several weaknesses in today's Internet. Electronic commerce has not developed as well as expected, but he thinks growth will occur once secure payment protocols are finalized. He also sees a requirement for the Internet to match needs to solutions. Today's search engines can provide thousands of hits for a query on a particular topic, but much of the information is useless. A "global-reasoning" engine that would replace current search engines would be more accurate and useful. For example, this engine could provide a comparative shopping list: it could return a list of all

win him friends among long-distance telephone companies.

He also worries about the Internet's impact on culture. Will the Net be the great equalizer or the great divider? Will it discriminate against those who do not have access? He wondered aloud whether the Web will spawn jealousy and hatred, or peace and understanding. The Web's future, he concluded, is in the hands of its users.

The theme of the AMIA conference was "clinical infrastructures for the 21st century." Topics included telemedicine on the Internet and the Internet as a resource for consumer health informatics. Education was also a priority, with sessions concentrating on the teaching of informatics at medical school, medical education resources on the World Wide Web, and other topics.

Gutenberg gave us the printing press and took books away from the ruling élite and gave them to the common man. Tim Berners-Lee is having a similar impact. Thanks to him, anyone, anywhere can exchange ideas. Gutenberg removed a cultural border, but Berners-Lee has eliminated the geographic ones. — *Dr. Robert Patterson, robpatterson@email.msn.com*