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# **10 years later, the Web is still a work in progress**

## **EFFORTS ARE UNDER WAY TO IMPROVE, ENHANCE AND EXPAND**

By Anick Jesdanun

CAMBRIDGE, Mass. — Ten years after he created the Web, Tim Berners-Lee is nurturing it into a gigantic brain, where databases get smarter and work together to solve problems.

Berners-Lee terms it the Semantic Web.” To him, it’s the second half of the information revolution.

The Web is, of course, far from a finished product.

It’s still got lots and lots of room for evolution, expansion and enhancement, said Vinton Cerf, an Internet pioneer. “It’s still very much in its infancy.”

The Semantic Web is all about making more kinds of data easier for computers to process – and to locate. For instance, many databases have a column called zip, which could refer to a ZIP code or a file stored in dot-zip format.

By adding meaning to those columns, computers can do a better job of searching for information.

“Imagine then, if you extend it to all the tables publicly available in the world, you can see it is very powerful,” Berners-Lee said.

Such an approach could help computers understand that an automobile in Massachusetts includes a car in Boston. Now, searching for autos in Massachusetts might not produce the Boston car.

“The problems with search engines now is they don’t understand any of the data or information,” he said.

But a smarter search engine is only a beginning. “It will automate all kinds of things, and really the reason that you can’t imagine it now is it will create things you don’t have now.”

Perplexed? Imagine the reaction Berners-Lee might have received a decade ago when he talked about this idea he thought he’d call the World Wide Web.

The Web consortium that Berners-Lee heads is currently building the blocks for the Semantic Web.

At the base is the emerging extensible markup language, or XML, a way of tagging information with hidden codes to enrich data on the Web and allow software to automatically process instructions where human intervention was previously required.

XML is only the first of several building blocks that make the Semantic Web work, however. Other components include vocabulary, logic and validation.

Separately, Berners-Lee is developing better ways for people to collaborate by integrating a browser with an editor. Hit the save button, and any changes will automatically go to the Web, not the local computer's hard drive.

By making a simple Web editor available, families and work groups could share documents and ideas. During meetings, for instance, participants can comment on resolutions or meeting minutes as they are written.

“You’ll see (the Web) being more powerful,” he said. “We’d be better at solving problems in groups. We’d be able to learn from each other’s experience. We’ be able to fix misunderstandings by collaborating on joint work.”