

Tim Berners-Lee

XML

Although he labored in relative obscurity at the time, soft-spoken, fast-talking Tim Berners-Lee has become globally recognized for his work on HTML. But rather than rest on his laurels, the director of the World Wide Web Consortium (W3C) is pushing forward, leveraging what he learned in developing the Web to usher in XML and make the next leap to what he calls the Semantic Web.

Once the Web had gained a firm footing, the W3C took the complex and powerful SGML (Standard Generalized Markup Language) and simplified it in such a way that it would retain much of its potency and yet still work well on the Web.

“It’s not often in standardization that you can actually simplify something,” Berners-Lee says.

The resulting slimmed-down meta language, originally called “SGML on the Web” and ultimately named XML, shifted the focus away from formatting and onto content.

The rapid adoption of XML has created the potential for machine-readable code that enables programs to derive real meaning from Web pages. This newfound conceptual capacity is what will drive the Semantic Web.

From an economic standpoint, the Semantic Web could signal the next revolution in commerce. As Berners-Lee likes to explain it, before he developed the Web, business transactions often took place on the golf course. With the arrival of the Web, they’re done on a browser. With the Semantic Web, transactions will be handled by programs that buy and sell on your behalf, but leave the thinking to you.

Tim Berners-Lee

Age: 45

Current position: Director, World Wide Web Consortium

Technology prediction: Scalable Vector Graphics (SVG) is an XML-based standard that will increase the flexibility of online graphics and reduce the graphics’ size.

“My vision of the Semantic Web is definitely not artificial intelligence,” Berners-Lee says emphatically. “That’s awful!”

On the contrary, the Semantic Web will deal in data and save the decision-making for human beings. “It will only cover the rather boring side of our existence,” Berners-Lee explains.

Nonetheless, for those who fear a world where machines run amok, Berners-Lee says that many of the hot-button issues, particularly privacy-related ones, didn’t begin with the Web. They existed long before that.

Rather than dwell on the Semantic Web as a threat, perceived or otherwise, Berners-Lee prefers to focus on its potential to enhance more benevolent information gathering. “On the positive side, look what it does to scientific data,” he says.

What may have once taken days to acquire could conceivably materialize on screen in minutes. Students' academic lives could be enriched by the power of the Semantic Web, and businesses may ultimately find that it's essential to their success.

What about those companies that balk at the prospect of introducing proprietary information into a vast semantic network accessible to partners and competitors alike? Berners-Lee has a very simple answer. "If your response is to not be on the Web," he cautions, "then you lose."

– Ross Owens

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