

programmers—completely public. This *open source* policy meant that anyone promoting a new technology could create their own version of Navigator for it. It meant that any student doing research or simply a class project could create his or her own versions of specific parts of the browser, and regenerate Navigator with his or her own ideas built in. It meant that anyone who was infuriated by a Navigator bug that Netscape didn't fix could fix it themselves, and send the fix to Netscape if they wanted, for future versions. The open release would allow thousands of people to improve Netscape's products. Microsoft was bigger than Netscape, but Netscape was hoping the Web community was bigger than Microsoft.

The Netscape and Microsoft stories made for dramatic reading, so they were the constant focus of the press. But they were only a small part of the Web story. By its nature, the work at the consortium took a much lower profile, but it stuck to the evolving technology. The Web is built on technical specifications and smooth software coordination among computers, and no marketing battle is going to advance either cause.

By the end of 1998 the consortium had produced a dozen Recommendations. W3C's technical strength was broader. There were more than three hundred commercial and academic members worldwide, including hardware and software vendors, telecommunications companies, content providers, corporate users, and government and academic entities. Advisory Committee meetings had moved from meeting rooms to a large auditorium, with questions coming from attendees standing at microphones posted in the aisles.

The consortium has learned how to let the outside world put pressure on a member that may not be acting in an open manner. We produce Recommendations—not Standards or regulations—and we have no way to require anybody to abide by them. But journalists can look at a company's statements about openness

and compliance, then check its newest product to see if the company is delivering on those promises. Vendors are driven by buyers, and buyers are largely driven by the press, which can lay into anybody it feels is playing a game. The consortium, the press, and the user community all work as part of a cycle that helps the public make reasonable judgments about how honest a company is being with them.

One of the major technical advances to come from the consortium is a simpler language to supersede SGML, called XML—the Extensible Markup Language. Like SGML, XML is a base for defining languages like HTML. Dan Connolly, a Web architect from early days, had an understanding of the SGML tradition. Jon Bosak came from a tradition of SGML in ISO committees but saw that the Web needed something cleaner. They formed the nucleus of what had seemed such a remote hope when Dale Dougherty had muttered, "We can change it," in that Edinburgh pub.

The XML revolution that followed has been greeted with great enthusiasm, even by the SGML community, since it keeps the principles of SGML in place. When Tim Bray, editor of the XML specification, waved it at the attendees at the WWW6 conference in April 1997, he was greeted with applause—because the spec was thin enough to wave. XML has gone on to become one of the most widely known of W3C's activities, and has spawned books, conferences, and a nascent XML software industry.

The consortium has also developed its own set of advanced Web tools, which we use to test proposed technology as it is brought to the group. It tries to use its limited resources to develop at the leading edge where others have not yet ventured. We can't do this all the time, but we have some pretty good minds at work, and good links with all the major companies and universities.

In 1996 we negotiated the right to the Grif code from INRIA and renamed it "Amaya." It is designed completely around the idea of interactively editing and browsing hypertext, rather than