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June 13, 2001

Making Programs Like Water: Free and Transparent

By **KATIE HAFNER**

TIM O'REILLY, the chief executive of O'Reilly & Associates in Sebastopol, Calif., is known as the publisher of technical books whose whimsical covers, sporting animal woodcuts, belie the denseness of the subjects inside. One of O'Reilly's all-time best sellers, for instance, is a manual for the Perl programming language.



Kent Porter for The New York Times
Tim O'Reilly, a technology expert and a book publisher, is an advocate of open source software.

The 47-year-old Mr. O'Reilly, who studied classics as an undergraduate at Harvard, is also an outspoken advocate of open-source software, which is distributed free and whose underlying instructions, or source code, are published openly rather than guarded as a company's property.

Open-source software was once viewed as an ideological fringe movement. Now, with widespread acceptance of the Linux operating system and Apache software for server computers that run Web sites, it is making inroads in the computing mainstream. For the last several years, Mr. O'Reilly has spread the word about open-source software, holding conferences and publishing books on the topic. He is also quick to jump into any debate on the subject.

KATIE HAFNER

Q. How long have you been involved in the open-source movement and what motivated you to get involved?

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A. The concept of free software really got on my radar in 1988, with software developed by Bob Schiefler at M.I.T. He had an inspiring vision of how freely redistributable and modifiable software could raise the bar for the entire industry. In the best tradition of academic research and information sharing dating to the Renaissance, he saw his work as a contribution to the public good. Unfortunately, this academic tradition is under attack in more areas than software, as everyone now wants to capitalize on research by treating the results as private property.

But in one sense I've been involved in open source since close to the beginning of my computing career in the early 80's. I just didn't know it at the time.

Q. How were you involved in free software in the 1980's?

A. Most of my early publishing successes were manuals for Unix programs that had originally been developed in a research and academic setting; as a result, they didn't have commercially acceptable documentation. Over time, I realized that almost all of our best-selling books had something in common. We were effectively documenting an underground software revolution. But what got my dander up was that no one outside the developer community seemed to be paying any attention. I decided I wanted to do something about that. So in early 1998, I invited a group of prominent free-software developers to come together and trade war stories and see if we could make common cause. There were communities of people working on Linux, Perl and Apache, but they didn't overlap very much. I knew all of them but they didn't know each other.

Q. What happened at the get-together of free-software developers?

A. We started out talking about development philosophy. But we also talked about the marketing problem, and the fact that the wider world just didn't seem to realize how important some of these free-software programs were. Eric Raymond suggested we adopt the recently coined term "open source" to get around the ambiguity and negative business connotations of the term "free software." After some debate, we all agreed to adopt and use the term, and held a press conference to trumpet the fact. I still remember saying to the assembled press: "Look at these guys. Each of them has built a program with dominant market share, based only on the power of their ideas. If we start adding more visibility and financing, there's no limit to what we can do." A lot of what I was trying to accomplish in that initial flurry of activism was to simply recognize and honor the achievements of a group of people who were unsung heroes.

Q. Why do you think Linux took off the way it did?

A. In a funny way, I'm not sure Linux did take off the way people thought it did! One of the things I've been disappointed by over the last few years is that so much of the focus around open source has been on Linux. It's a great operating system, but it blinds people to other programs that may be even more important. I've firmly believed for years that the key thing to watch is the role of open-source software in building an emergent next-generation Internet operating system. There's this great passage in the book of Jeremiah, where he says, "Oh, earth, earth, earth, hear the word of the Lord." He starts preaching to the ground because no one else will listen. I've been saying to open source people for years: "It's the Internet! It's the Internet!"

As a result, I've always considered Apache to be probably the single, most important open

source project, but I've also been fascinated by the role of Perl, the computer language they call "the duct tape of the Internet."

Q. What was your reaction to the recent speech by Craig Mundie, the senior vice president for advanced strategies at Microsoft, in which he argued that free software potentially undermines the intellectual property of countries and companies?

A. There's no question that open source undermines some aspects of the Microsoft business model, which demands tight control of intellectual property to ensure customer lock-in, but Mr. Mundie generalizes from that to imply that there are no other possible business models for software.

People think they know how you make money from operating systems. You put the systems in a box and sell them, or you make bundling deals with hardware vendors. In fact, there are many other business models. For example, Internet service providers are a multibillion-dollar industry that charge consumers \$19.95 a month for access to services based on free software.

People forget that it's free software routing their e-mail and serving their Web pages. Software as a service is the business model that Microsoft wants to move toward, and nobody seems to recognize that this is a business model that free software already has a big head start on.

Q. I was talking to a system administrator from the Cameroon government a couple of years ago. He had moved everything over to Linux; otherwise, he said, the country wouldn't be able to afford the Microsoft Windows NT upgrades. What does that say to you?

A. It really does illustrate that open source is focused on benefit to the users, not to the vendor. This is part of what worries Craig Mundie. You can take advantage of your customers for a certain amount of time to extract what economists called monopoly rents, but eventually it catches up with you.

But I don't want this to come across as slamming Microsoft because they're doing some really good work in thinking about the next generation of computing. And they're certainly ahead of the Linux community, and possibly ahead of anyone else, in terms of thinking about taking the Internet to the next level and building what we might call an Internet operating system. Their .Net initiative is really opening up people's minds to thinking there really is a new paradigm.

At the same time, the version of that paradigm that Microsoft is trying to establish is contrary to the original spirit of the Internet. They're trying to recreate the vendor lock-in they achieved with the Windows platform at the Internet level, and the open source community, which doesn't work with the kind of central strategic coordination that Microsoft does, is struggling to respond.

But the fundamental idea behind the Internet, of open communications protocols that nobody controls and that any program can talk to, is so powerful, so rooted in the same principles that drive open source, that I'm confident openness will win in the end.

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