There’s No Free Lunch for Web Users

To the Editor:
As an information junkie, I agree that we need a more open and accessible Web (L. Introna and H. Nissenbaum, “Defining the Web: The Politics of Search Engines,” Jan. 2000, pp. 54-62)—even though I don’t agree with the authors’ apparent political persuasion as evidenced by their favorable use of the phrase “liberal democratic society.”

Although the cost of Internet access is going down faster than Moore’s law, it’s still not free. The bottom line is still the bottom line: Whoever pays the piper calls the tune. These more inclusive search engines will be paid for and reflect the narrow interests of those with power and money, whether commercial or the government. I have little respect for the abuses foisted on us by market economics, but I’m even less impressed with the abuses of a bloated federal bureaucracy.

Despite the authors’ best hopes and wishes, they really didn’t address one important point: “There ain’t no such thing as a free lunch.”

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SEARCH ENGINE POLITICS
To the Editor:
“Defining the Web: The Politics of Search Engines” presents a typically unrealistic socialist vision of a “fairer” society and the usual misunderstanding of what a free competitive market might involve.

The authors advance the idea that Web users—either as searchers for or suppliers of goods, services, or information—have an intrinsic right either to find what they need or to be found. Further, they should be able to do this without having to acquire any special skills or knowledge. However, everything in life requires learning—I can’t play the piano, but I don’t blame Steinway.

The authors contend that search engine developers have an obligation to meet the individual needs of millions of Web users throughout the world. This is an impossible task; worse, it implies that search engine developers have no rights of their own and must subordinate their needs to those of countless strangers.

The authors are concerned that Web searches present the results in some order, and most searchers will only look at the items at the top of the list. However, a list must inevitably be ordered in some fashion, and those who are not near the top will always potentially see this ordering as “unfair.” Furthermore, a search engine can’t choose an order that will ensure that searchers find what they seek.

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THE FUTURE OF COMPUTING
To the Editor:
I don’t think I have ever read a more comprehensive and socially responsible article on the future of computing, AI, and other scientific endeavors than “Writing the Future: Computers in Science Fiction” (J. Vos Post and K. L. Kroeker, Jan. 2000, pp. 29-37). After digesting the text portion of this article, and then revisiting the examples, I was left with this: Just as we now seek out the computer’s ease of use, portability, advances, and economic feasibility, so must we also earnestly explore and commingle our use of the computer with nature.

Because the text ends by pointing out the high-tech pitfalls of Arthur C. Clarke’s classic 1950 novel, The City and the Stars, and the pictorial aspect of the article concludes with the Space Shuttle Challenger disaster, I felt that the authors sense the same thing.

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NOT SO SWIFT
To the Editor:
I was distressed to find that the authors of “Writing the Future: Computers in Science Fiction” had overlooked the earliest literary reference to computers. In Gulliver’s Travels, published in 1726, Jonathan Swift provided a clear and complete description of a machine that would automatically write books. This early attempt at artificial intelligence was characteristically marked by its inventor’s call for public funding and the employment of student operators. It is interesting to note that Gulliver’s diagram of the machine contained errors, these being either an attempt to protect his invention with confusion or the first computer hardware glitch.

Authors writing about the history of computers and those who review their work for publication should consult the IEEE Annals of the History of Computing, an authoritative publication on the subject.

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We welcome your letters. Send them to Letters, Computer, 10662 Los Vaqueros Cir., PO Box 3014, Los Alamitos, CA 90720-1314; fax +1 714 821 4010; computer@computer.org. Letters are subject to editing for style, clarity, and length.

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The authors respond:

Our analysis of the relationship between speculative fiction and real-world technology focused primarily on 20th-century fiction but, given space, we could have gone back much further than Swift—to Augustine’s City of God, for example, or even to Plato’s Republic.

We disagree with the suggestion that Swift’s machine ought to be credited as an “early attempt at artificial intelligence.” For those unfamiliar with Swift’s work, this machine was actually a room filled with students who randomly pulled wires to mix up a large set of words stuck to wooden plates. The students then wrote down any phrases that emerged from this random churning. The students’ professor intended to piece these phrases together “to give the World a compleat Body of all Arts and Sciences.”

From our perspective, this machine is satiric—as is much of Swift’s work—and such can hardly be credited as either a progenitor of artificial intelligence or as being influential in the history of computing.

BIOMETRIC IDENTITY THEFT

To the Editor:

In the otherwise excellent special section on biometric identification in the February 2000 issue of Computer, several authors emphasize how biometric measures cannot be lost, forgotten, or misplaced. But this convenience comes at a cost: If they are in fact lost, biometric identifiers cannot be revoked and new measures reissued. Passwords can be changed or digital signatures can be placed on a certificate revocation list and new certificates issued, but facial and hand morphology cannot be changed without the pain and social disruption of plastic surgery, and fingerprints and iris patterns cannot be changed at all.

Directly forging biometric identity is indeed difficult, but the authors fail to consider the possibility of indirect attacks on biometric authentication systems. Each system uses raw biometric data to create a compact “signature” that it compares to a database of stored signatures. But if a thief captures this signature, it can be replayed undetectably into the system’s authentication modules using Trojan horse or virus software or the signature

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