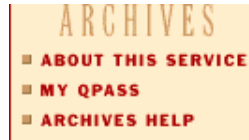


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Editorial Desk



Needed: Techies Who Know Shakespeare

By Ellen Ullman

High-technology companies are so desperate for programmers, according to recent reports, that they are luring students out of the classroom with well-paying jobs. It's the schools' fault, say people in the industry and some computer-science professors. Students aren't being taught the skills they need and therefore don't see the point of getting a degree.

But critics are forgetting that the very idea of the computer science degree is a relatively recent point on the short time line of the computer industry. Historically, most programmers had plenty of education, but little of it came from computer science departments. The problem is not the technical curriculum, but the undergraduate computer science degree itself.

Computer programming has always been a self-taught, maverick occupation. Except for a brief moment in the late 1980's and early 90's -- what I think of as the Dilbert era -- no one thought that programming was something you should learn in college.

Prospective programmers spent a great deal of time in school, but they typically studied something other than computers. Aside from a few famous dropouts -- like Bill Gates, Steven Jobs and Stephen Wozniak -- the profession has always attracted the very well-schooled.

Physicists and mathematicians created the industry just after World War II and became the first programmers. As the need for such skills grew in the 1970's, business and government had to look beyond people with doctorates.

Fortunately, that demand coincided with the end of the 1960's, when all sorts of overeducated people were on the loose, looking for a way to earn a living.

That's where I came in: I'm a member of the generation that came to computing as a second, third or fourth vocation. My first boss had two master's degrees in social science and had spent years as a Sufi dancing disciple. My next boss, a former bartender, had a master's degree in library science. The head of technical

services at the same company had a Ph.D. in anthropology, and she hired people who had completed all but their dissertations in linguistics, archeology and classics. In this crowd, I felt like the dunce with my undergraduate degree in English.

We had all taught ourselves computing. For us, it was just one more difficult subject to learn. No one was intimidated by learning another computer language -- or anything else for that matter. What we knew was how to learn, which is all that one can hang on to in a profession in which change is relentless.

The generation of programmers who followed us were, well, disappointing. They had engineering and computer science degrees, and none of them seemed to have read anything but technical textbooks. They stood mute among us when we said the occasional phrase in French. They looked confused when we alluded to Shakespeare or Proust. If today's would-be programmers are fleeing the sort of education that these people received, well, that's wonderful.

A good friend of mine finished engineering school in the late 1980's. He managed to get his degree without having studied much of what some still call Western civilization.

Poignantly, he knows he's missed something. He is now a principal of a startup company developing E-mail services for the World Wide Web. My friend is building connections around the planet, and he is ashamed that he has never even studied a foreign language.

I don't mean for these stories to persuade aspiring programmers to drop out of school. Quite the contrary, I hope it might make students and professors realize that programming instruction can take place in a few classes, and students can spend the rest of their time studying foreign languages, literature, linguistics, philosophy and history of science.

Schools might as well give up on teaching the latest skills, since those skills will soon become obsolete anyway. Instead, they might stress subjects that foster a flexible and open mind. Programmers seem to be changing the world. It would be a relief, for them and for all of us, if they knew something about it.

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