

Software Crisis-- the Future of Programmer

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In the article *Software*, Mahoney(2002) emphasizes that software development, currently, is still a labor-intensive activity, “an art rather than science.” (p. 91) However, he believes that software will no longer be a craft product but an automatic work through the development of automatic programming. The needs for programmers will be eliminated in the foreseeable future. I partly agree with his argument since automation is the trend for all kinds of industries and programming is highly possible to become an ordinary skill for everyone. Nevertheless, I do not think programmers will extinct, in contrast, their jobs will change from simple labor work to the collaboration between people and machines, and the programmer will become one of the multiple roles of the manager.

According to Mahoney(2002), programming is proved difficult, time-consuming and error-prone. This can attribute to the first high-level programming languages which are far different from human language. The difficulty of understanding the languages of machine creates the professional barrier which makes programmers be in the high demand in recent decades. However, the dream that “computer programmers will become a powerful elite of automated corporation”(Simon, as cited in Mahoney, 1961, p. 93) has been crushed by the advent of easy-learning languages like Python. The barrier has been weakened and the status of programmers has been challenged. Additionally, the development of automatic compiler will simplify the process of programming which may lead to a more significant impact on the value of programmers.

The weakening of protection barrier does not mean destruction but a call of change. Programmers can no longer rely on their monopoly of technique to benefit from the cumbersome process of software programming. They must turn their concentration from labor-intensive activities to collaborative activities. Actually, no matter how weak the barrier is or how simple the programming language will be, most people still can not understand the IT related things. Therefore, it is essential to have a specialist to collaborate between human and automatic machines. For the managers, as a decision-maker, it is critical to have a basic understanding of programming and automation since deviation is unavoidable during the process of message passing. In addition, as the programming simplified and easy-learning programming languages come out, programming may become of standard and required skill for management level.

In conclusion, with the flourishing of the IT industry, the programmer is one of the most popular occupations in the employment market. However, the challenge is coming with the automation age, and it is urgent to become a compound talent with multiple skill. Even though, “the production of programming remains in the hands of programmers.”(Mahoney, 2002, p. 100), the future is unpredictable and full of challenge.

### Reference

Mahoney, Michael. 2002. "Software" in Atoshi Akera and F. Nebeker, editors, *From 0 to 1* Oxford University Press: 91-100.