Research and Practice of Training Teaching Based on MSF Software Process

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Abstract. Currently software training has become a compulsory course for pre-service students whose major is software or relevant to software. Aimed at the situation and main problems of software training in higher vocational schools, this paper proposes some ideas along with a mode on how to conduct software training in these schools. The main issue on this training mode is described in detail. Furthermore, an improvement strategy of software training based on software process is presented.

Keywords: Software Process Based, Case Training Teaching, Software Process Improvement, Microsoft Solutions Framework.

1 Introduction — Status and Problems of Software Vocational School’s Practical Training System

With the continuous expansion of higher education scale, the number of software major graduates has increased dramatically during the last decades. However, there is an awkward situation on the job market. On one hand, software industry urgently needs a large amount of software talents for the development. On the other hand, it is very difficult for many graduates to find a suitable job [1]. This phenomenon is mainly due to the gap between college educating system and company need. In other words, the major courses and traditional teaching mode hardly keep step with the highly developing IT industry[1].

The current structure of software talents shows like "olive-shaped", a situation in which high-end and low-end talents are missing. High-end talents are those senior technical and management personnel, the international software personnel and versatile talents, and low-end talents are those programming-skilled basic programmer. Software talents mainly come from universities and research institutions, most of whom are middle-end talents, and these people do not have enough experience and ability to do systems analysts, and it will be a waste of human resources for them to be programmers.
Meanwhile, companies themselves do not pay enough attention on the software people’s daily training, which leads to the front-line technicians cannot adapt to the industry’s fast development. At present the contradiction between software talents training mode and the actual needs of enterprises is gradually deepening, which has restrict the development of software industry.

Higher vocational education, as a very important part of higher education, therefore, has entered into a rapid developing period. The quickened pace of national information construction and the fast development of IT industry have created a bright future for software higher vocational schools.

Higher vocational education is essentially employment-oriented, which is to fulfill the need of social economic construction and to turn out social skill-applying type talents. Therefore, the close combination of theory and practice, production and lecturing, has become the basic way of personnel training in higher vocational education. Computer software technology, as a high-new one, has developed very quickly and its speed of updating knowledge in theory, technology and tools is much faster than traditional industry, and only through the close combination and interaction between production, lecturing and science researching, can it bring up applying type talents that really adapt to the society[2].

At present some colleges or universities have some meaningful exploration, but there are still a few problems remain, such as:

1.1 Nonstandardized Process and Documentation

Even students do not follow the necessary rules in practice, and blind development is far from the actual development process. File compiling is necessary in developing projects and the process documenting is the basic requirement of project management. If there is no standardized file, it cannot fully reflect the work done by project team; cannot guarantee the smooth communication among team members; cannot promise the consistency of project development. Students often do not pay attention to file compiling, and hurry to write code.

1.2 Nonstandardized Project Management

Student project owners have few and not systematic training in project management. Project owners are lack of project management knowledge system and the reconization of some common tools and methods, so they do not have a guideline on project management knowledge. They entirely rely on their own knowledge and skills, management work largely arbitrary and blind.

1.3 Inexplicit Plan

Project owners are lack of the knowledge on the function of overall and section plans. They are arbitrary when making overall plans, disarticulated on plan and controlling management, unable to have effective process control management.

1.4 Nonstrict Testing

Many students, even advisers cannot distinguish what is unit testing, what is integration testing, and what is system testing.