

# Software project management

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## Abstract

The object of project management software is a software engineering project. It covers the entire process of software engineering. For the success of the software project development, the key problem is to work on software project scope, may risk, need resources, to achieve the task, experienced a milestone, spending effort, schedule accomplish know fairly well. This management should begin before the technology work began, continue in the software process from concept to implementation, when the software engineering process at the end to end.

**Keywords:** Software  
Software project management

## 1 Introduction

At present, the rapid development of information technology, software products are increasingly large scale, the software companies are actively introduced to the software project management development activities, the implementation of the development of effective management. Software development is different from other products manufacturing, software, the entire process are the design process (not the manufacturing process); in addition, software development don't need to use a lot of material resources, but human resources; and development of software products just code and files, and no other materials. Based on the characteristics of software project

management and project management compared with other, very unique.

## 2 Software project management

In order to realize the goal of the project, software project success, the scope of software project, risk, need of resources, implementation of task, cost and schedule arrangements need to accomplish know fairly well. The software project management can provide this information, it has always been throughout the project. From the perspective of software engineering, software development is mainly divided into six stages: requirements analysis, outline design, detailed design stage, phase encoding stage, testing stage, installation and maintenance. Whether it is development workshops, or team development, these six stages are indispensable. The software project is completed in a certain time zone, start, end, the life cycle of software project has.

### 2.1 Software project management

The core problem of software project management is to software project quality, schedule and cost trade off control is to within a limited time, space and budget, a lot of manpower and organization together, methodically achieve the goal of software projects. Any software project in the implementation process, time, manpower, etc. any resources can not be unlimited, and the software quality requirements will not be endless. So in the implementation process of software project, how to grasp the relationship between the quality, schedule

and cost.

The software project management has to consider the issue. For a given resource limits, achieve the best quality, the lowest cost, the fastest progress. Among them, the schedule and cost control is the main target of software project control, quality control is the basis to achieve best cost / schedule control. How to coordinate the relationship of the three, is the ultimate goal of every software project and software project management.

## **2.2 The process of SPM**

Software project management includes the following five main processes:

(1) to start the process: This is the first stage of software project management, if management is not so good, will eventually lead to the failure of the project. The goal of the project is to determine the start of the project, including the development and development on both sides of the contract (or agreement). The software to quantify the scope, the main function and the function of the stage of project development cycle Period.

(2) the planning process: formulate and adjust a project for the implementation of the plan, to achieve business objectives, is a guide to action project reference.

(3)the implementation process: the coordination of human and other resources to complete the plan.

(4)the control process progresses through supervision and verification of the project, and take correct measures when necessary, to ensure the implementation of the project.

(5)the end of the process: the project or phase results received official, and the receiving order from the end. The whole process of a software project is determined by the goal of opening

First, followed by the definition of software project scope. The two step is to accomplish

this, the specific project activities began to implement the. Referred to here is not the whole enterprise, but collectively the software project stakeholders set. In the whole software project implementation process, the organization will remain around the three elements of time, cost and quality in weighing and distribution.

## **3 SPM organization model**

The software project can be a separate project, and the project product can also form a complete software project. If the order is developed, the establishment of the software project team can; if it is to set up a software product development, project team and project (responsible for market research and sales), composed of software project group.

## **4 Software project management**

According to the actual situation of the enterprise, enterprise in software project management, the focus will be the stage of software configuration management, software quality management, software risk management and the development of personnel management four aspects contents into the software development.

The seven basic principles need to follow the famous software engineering expert B. W. Boehm summed up the software development again, we in the software project management, should also follow the seven principles. They are:

(1)with the phases of the life cycle plan strict management;

(2)to review stage;

(3)the implementation of strict control of product;

(4)the use of modern design technology;

(5)the results should be able to clearly review;

(6)the development team personnel should be less;

(7)recognize continuous improvement of

software engineering practice necessity.

### **5 Quality management software**

With the scale of software development is more and more big, the quality of software becomes more and more prominent. Software quality control is not only a problem of software testing, in all stages of software development should be the introduction of quality management.

Software quality includes two aspects, namely, the quality of software process and software product quality, in the early stages of the project, software quality assurance teams and project personnel jointly established for value-added items, satisfy each requirement and follow the program of institutional policy, standards and procedures. Through participation in the establishment of project plans, standards and procedures, the software quality assurance team to assist the project to ensure that these plans, standards and procedures suitable to the needs of the project, and verify that they can in the software project life cycle is used to carry out a review and audit. Software quality assurance team in the whole software project life cycle project review and check the project products, and for the management of the project is to follow the established plan, standards and procedures to provide visibility.

### **6 Software risk management**

The first is the effective means of risk management risk identification, risk identification is to determine the project plan of the system (estimate, schedule and resource allocation) threat. Through the identification of known and predictable risk, project managers have possible to avoid these risks and to control these risks when necessary; secondly is the risk assessment, risk assessment is trying to from two aspects evaluate every risk - risk occurrence

possibility or probability, as well as the risk occurs the, arising as a consequence of; the last three steps is further analysis all risks, including risk planning, risk tracking, and risk response. Further analysis of all risk events have only one purpose - aided project group to establish a risk management strategy.

### **7 Conclusion**

When a project goal has been achieved, or has been impossible to see clearly the goal of the project implementation, the project should be terminated, the project entered the end stage. The end of a project phase is the last phase of the project, this stage still need effective management and make timely correct decision, summarize and analyze the experience and lessons of the project, for the future project management provide useful experience.

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