

Analysis of Progress Control Problems and Countermeasures in Software Project Management

Jinkui He

Yunnan Technology and Business University, Kunming, Yunnan, 651701, China

82123418@qq.com

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Abstract: the Software Project is Different from the General Traditional Project, Which Has Strong Operability and Control. If the Operation King Refers to the Integration and Distribution of Human Resources in the Software Development Process, Control Refers to the Strict Supervision and Control of the Entire Operation Link. in the Process of Software Development and Application, the Role of Operation Should Be Reflected, and the Distribution of Human Resources and Integration Advantages Should Be Actively Integrated into It to Promote the Rationality and Efficiency of Each Link. At Present, Software Project Delays Are More Serious, and the Software Industry is Increasingly Fierce. Doing Project Schedule Management Has Become a Top Priority for Many Software Companies, and an Important Way to Ensure That Software Delivers on Time, Guarantees Quality and Saves Costs. This Paper First Outlines the Software Project Management and Schedule Control, and Then Discusses the Methods and Tools for Software Project Management Progress Control. Explain the Schedule Planning Process in Software Project Management, and Finally Study the Implementation and Control of Schedule in Software Project Management.

1. Introduction

The Project Management of Software Generally Refers to the Effective Control of the Task Process under the Constraints of Time, Human Resources and Financial Resources, and Can Have a Clear Target Specification [1]. the Software Project Belongs to the Category of High-Tech, and It is a Process That Needs to Be Continuously Updated. the Management of Its Implementation Should Also Establish a Brand-New Global Management Concept, and the Whole Process of the Whole Project as the Basic Implementation Principle [2]. from Another Perspective, Project Management Can Also Be Regarded as a Special Management Method. Different from Other Project Management, Software Project Management Can More Effectively Integrate Various Issues to Ensure Its Smooth Operation [3]. the Key to Project Management is That the Products of the Project Are Delivered on Time and Whether They Can Be Delivered to Users on Time, Which is an Important Indicator to Assess the Value of the Project. Software Management Projects Are Also Different from General Management Projects. Software Project Management is to Ensure the Smooth Completion of the Project under the Constraints of Various Factors Such as Capital and Manpower [4].

Software Project Schedule Control Means That the Developer Determines the Schedule Target, Prepares the Schedule Plan and the Resource Supply Plan, Realizes the Time Target of the Project, and Delivers High-Quality Software Products to the User on Time as Agreed in the Contract [5]. Progress Control is One of the Core Contents of Software Project Management, Which Directly Determines the Quality of Life of the Development Team [6]. It is Worth Mentioning That a Perfect Software Management Method Should Have an Overall Perspective, and It is Also Necessary to Effectively Control and Supervise the Project from the Overall Perspective of the Project [7]. At Present, Many Researches on Progress Management Are Carried out in the Process of Project Management Research. However, Progress Management is One of the Core of Project Management [8]. Effective Schedule Control Management is the Key to the Success of the Project. from the Perspective of Long-Term Development Strategy, External Business Integrity and Internal Team

Cohesion Are the Basis for Long-Term Development, and Ensuring the Progress of the Project is the Key to the Long-Term Development of the Company [9].

2. Overview of Software Project Management Progress Control

2.1 Necessity of Software Project Schedule Control

Theoretically, in the early stage of the implementation of anything, it is necessary to formulate and control the corresponding plan for the whole development process and the results produced, that is to say, the plan and control are two separate individuals, but there are certain interactions [10]. Schedule control is to make a comprehensive comparison between some project plans and actual operations, analyze their differences, and make appropriate adjustments according to the project requirements, so that the project will finally run on the established track. Project management refers to the completion of various projects within the specified time, budget and quality objectives. In real life, we must find the law in the change, or we must be well prepared in advance, and actively analyze and explore the situation that will happen afterwards, reflecting the role of planning and control. Therefore, planning and control are inseparable. Only a correct and scientific plan can ensure the comprehensive and effective implementation of control work. Effective integration of planning and control is required to give the most valuable management of software projects.

The implementation plan of the project needs to be unanimously recognized by technicians and users. When the project is approved and published, the relevant personnel can be implemented according to the original plan. In the initial stage of software project development, the cost and the characteristics of the software itself will be affected to a large extent by the comprehensive strength of the project participants, and its impact will continue to decrease during the development of the project. The implementation plan of the project can implement the schedule according to the needs of users and technicians. Only after meeting the needs of the two can the next step be operated. Progress control management refers to scientifically determining progress targets, making progress and resource supply plans, controlling progress according to the plans, and comprehensively considering quality, cost and efficiency to achieve the project targets. Good progress managers can ensure the normal development of research and development activities from various aspects, ensure the team to complete the development of the project according to the development plan, and bring practical benefits to the enterprise. Excellent schedule management mechanism can effectively control the deviation degree between actual work and plan, find the deviation in time and analyze the causes of deviation in detail, and take appropriate adjustments to ensure the progress of the project.

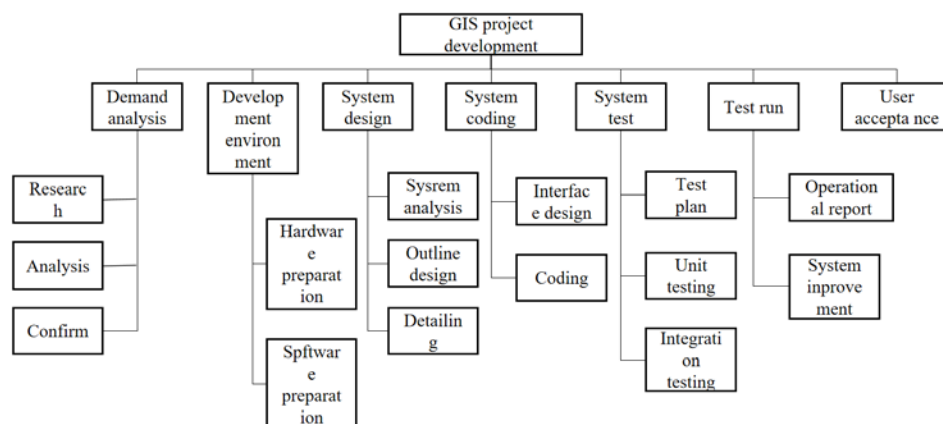


Fig.1 Wbs Diagram of Software Project

2.2 Principle of Schedule Management and Control

The project progress principle is mainly divided into dynamic control principle, closed loop principle, system principle, information principle and elastic principle. The principle of dynamic

control refers to the dynamic control according to the progress of the project. The manager of the project needs to arrange the schedule for different levels at each stage, and modify and adjust the plan according to the actual and planned deviations. It is also necessary to establish an information system in a timely manner to collect, analyze and feedback all kinds of information of all parties involved in the project as soon as possible. These information data are an important basis for project progress control. According to the control experience of the completed software project, analysis can be made on its impact, impact degree and impact possibility. At the same time, the goal of software project progress can be clearly defined, so as to analyze the realization of the goal. Comprehensive analysis and inspection shall be carried out at all stages from plan formulation to implementation and at the later stage of implementation to ensure that the whole process of project development is under control.

The progress control of software project is carried out in a cycle, which runs through the whole process of the project, thus the continuous process forms a closed complete cycle. Progress control management is the process of continuous operation in this closed loop system. The ultimate goal of software project schedule control is software requirements. Under the condition of unclear requirements, software work cannot be carried out, so the first requirement for software project management is to have reliable requirements. The development plan of the software project needs to be recognized by the technicians and users. After the project is approved and released, the involved personnel must implement the software project according to the scheduled plan. In fact, the control of the progress of the software project should be a closed loop process, during which the measures and plans are continuously adjusted. We must find the law in the change, and fully control the law, and use the role of change to achieve our goals.

3. Countermeasures for Progress Control in Project Management

3.1 Progress Control Problem

Progress control problems in software project management are mainly manifested in process control problems, user risks and technical and basis problems. Project planning is an important premise and foundation for project tracking and management. The reason why many projects fail is the lack of detailed and accurate project plans, which finally leads to the management of project progress out of control. The factors that may affect the progress in software projects include: project plan, demand change, customer and industry risks, technology and tools, skill risks, process control and management, etc. Changes in requirements will have a greater impact on the progress of the project, especially for software projects. Without effective requirements management, research and development work will continue to be modified and reworked, resulting in schedule delays. The quality of the software team's technical staff, team adaptability and other qualities will have an impact on the progress of the project development, of which the technical level is the key factor. Therefore, in order to ensure the progress of the project, we must pay attention to the technical level of the project members. The lack of effective supervision and inspection mechanism will result in the progress control of each stage of software development. The staged results are not effectively managed, which makes the project's research and development fall into disorder.

Due to the particularity of the software industry, the flow of talents is frequent, and specific projects will have serious problems. If the team construction of the project is not taken seriously, there may be a large change in personnel during the development process. If you have good team communication, you will get twice the result with half the effort. However, if the project team members lack communication, the completed tasks are likely to require a lot of rework, which seriously affects the progress of the project. The software project team should grasp the user requirements before the program code, rather than experience it during the development process. For newly developed integration projects, technical risk is a major problem in overall management. Whether the development platform meets the requirements of project design and users' requirements will form a software project development management problem. One of the first requirements for software project management is to have reliable requirements. The control of

software project progress requires not only the approval of the participants, but also a clear operability.

Table 1 Feedback of Problems in Project Management

	Overall management	Demand management	schedule control	Human resources	Risk management	Scope management
Securities	16	35	23	4	7	5
Insurance	12	16	11	3	3	2
Circulation	12	20	15	5	6	3
Industry	15	26	18	4	4	4
Total	55	97	67	16	20	14

3.2 Tation of Schedule Control Plan in Project Management

Technicians should find problems and solve problems in repeated practice. It is recommended to choose a walking management method. The project team needs to implement corresponding follow-up measures in combination with the technical types of different personnel. For the comprehensive ability, but the willingness to complete the task is not high, the optional management method can be selected. The main reason is that such personnel are mostly technical personnel with deep qualifications and strong technical ability. Those who have higher willingness to complete tasks with higher ability should adopt an authorized follow-up approach. The project management personnel should give appropriate decision-making and management rights and supervise on some important links. During the implementation of the project, it is necessary to focus on controlling the change of requirements and to ensure that the scope of work is changed as little as possible during the refinement of requirements. Relevant technical personnel shall make correct adjustments to various differences in progress control. In case of any deviation, they shall timely predict its consequences, timely adjust the plan and reduce the implementation risks as much as possible.

In order to deeply analyze and study the main factors that affect the progress of the project in each stage, we can effectively manage the progress according to the characteristics of each stage. The key point of schedule management is to control the project development schedule and the quality of the output. In the final stage, the project acceptance shall be well prepared. The key point of schedule management is to prepare various materials for the project acceptance and implement the acceptance work. In the start-up phase of the software project, the overall project plan should be prepared according to the contract terms of the project and the overall target requirements, that is, detailed and thoughtful arrangements should be made for the activities in the project implementation. The team should focus on the formation of a project team with a reasonable knowledge structure, but also a clear division of labor, so that each team member has a clear distinction between powers and responsibilities, each with his own duties, each with its own position, and mutual cooperation. Finally, it is necessary to strengthen team cohesion and strengthen team building. The humanities care for the members of the project team creates a harmonious and friendly working atmosphere.

4. Conclusion

In the actual software engineering management process, the relevant technical staff should control the differences and make targeted adjustments. Due to the limitation of age and experience, many software project managers are prone to lack of scientific design in this working environment. They have strong work enthusiasm and enthusiasm, and they are also limited by their own conditions. They cannot truly implement the key points of software project management into practice, which ultimately leads to a reduction in the management of software projects. This paper analyzes the problem performance of the entire control process, including user aspects, participants, process control, and technical choices. This paper puts forward a feasible path to implement schedule control in software project management, and should formulate a targeted management plan to ensure the effectiveness of its management. The control of the whole software project process should be realized on the basis of ensuring clear management objectives.

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