Research of Process Management for Modern Software Development

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Abstract: Software development is an important part in the development of computer technology, but the current domestic software development process management still exist .This article analyzes the current development of the software development process and management problems that exist in the development process;detailed Fine introduced two methods of software process management, software capability maturity model (CMM) and unified development process management. The main points of the structure describes the 3 big features of unified development process management - use case driven, to compose .As the center and iterative and incremental.

Key words: software development; process management; classic; new type.

1.The introduction

The software industry already has nearly 50 years of history,Has become one of indispensable industry information society. But throughout the year .After 1990, due to the software industry in the explosive growth, software .Function is strengthening unceasingly, the number of software rendering index increase Long, in order to deal with the huge market demand, we must expand Staff, increase development investment, and so often prone to repeat Labor, software development cycle is long, investment cost is larger, soft A demand prone to change according to demand changes, the software version Also often need to adjust, etc., as a result of the existence of these problems,We manage the development process of difficulty will increase, can't Ensure the development of high quality software, thus formed the software crisis .

2.Software capability maturity model (CMM)

In the early days, and in order to better improve the software development process Assessment software development capabilities, U.S. researchers proposed CMM this Model. The CMM is, in fact, a kind of frame structure, in order to have Describes the process elements to form a framework of software. The CMM mainly Is divided into five maturity levels: from level 1 to level 2.

①The basic level

Software development team at this stage, they should be set up some primary project process, to manage the project cost Schedule and demand degree of implementation process, in this level,Although they may establish certain basic requirements, but the whole existence Cycle of the software configuration management is still not established;they may also develop the policy of management software and implement these guidelines Discipline, but due to various factors, these procedures may be not soon be implemented.

(1) the basic software engineering;
(2) software requirements management;
(3) appropriate software plan;
(4) to establish the right software version;
(5) the software outsourcing management.

②The repeatable level

For new development projects, in order to be able to Better planning and management, software development by the previous success Check the planning steps and management strategy of the reference standard. The base This software management control already exists in the level 2 items of the organization The mesh, synthetic consideration of past observations and combined with the current project Software development needs, we can develop a realistic Commitment. At level 2, the software project manager plays a very heavy to the role of, in order to ensure the flow of the software development process, should be to budget and use the software development cost in a reasonable manner, to be To follow the software development process.

(1) demand management;

(2) the reasonable planning a software project;

(3) software project monitoring and follow up;

(4) the software subcontractor of reasonable arrangement and management of the subcontractor;

(5) the development of software quality assurance;

(6) the software configuration management.

3.The unified development process

Due to the diversity of the development process, and the development technology and tools With the characteristics of the complex and varied, we put the two make unified form A unified development process. In RUP, for software development team The system analysis and system design, better them Using the unified modeling language (UML) the language mode. Unity Process is not simple as a process, it is essentially a Through process framework, so the unified process in many respects Can be applied.

①The unified development process and the main points of the structure

In the process of unification, a lot of the advantages of the software development process And software development of technical factors are incorporated into the process, so it is a good development mode. Unified process Useful case driven, architecture-centric, iterative and incremental Characteristics. 2 d structure is the structure of the unified development process form.

②The unified development process phases

Inception phase (Inception) :

This stage mainly describe the project The preliminary framework, find out problems in the field of all kinds of business process And relationships, analyze the system requirements, determine the scope of the system and to determine Establishment system, general structure of the future, to the item Analyses the necessity and feasibility analysis.

Elaboration (Elaboration) :

On the basis of a stage, the system needs detailed software development team, then the points A high level of system analysis and design, to the characteristics of the system and their base The agency to determine, formulate the plan of system components, points Analysis to arrange the activities of the development process, and establish the development process The consumption of resources.

Construction phase (Construction) :

At this stage, in order to construct The right software system, the development team mainly through the loop After work this way. After continuous cycle Complex, constructs the system will work with the system of the model or in the future The prototype has high in osculation.The Transition (Transition) : at this stage, the software development Team is the main task of the Beta test, adjustment system to system System performance and training service personnel, etc., and then system can vote In the run。

③The unified development process is one of the characteristics of architecture-centric

Software construction of for software development plays a supporting role Use, this structure can reflect the characteristics of the system of static and dynamic.Through the analysis of the system requirements of enterprises, software developers design Appropriate framework, so architecture is on the basis of users and other projects Relevant personnel demand and change, these changes generally in use cases Reflected.In order to build a suitable system comprehensively, the software architect needs To be on the basis of some form. As a result of the existence of architecture, software developers can be Well arrange the development process, and the complexity and the process of development Integrity can get very good management. In architecture, in order to offer For the support of component-based development and large-scale software reuse,Clear definition and function of components is very important, these groups Also the basis of in project management plan and personnel arrangement.

4.Conclusion

This paper first discusses the current development of the software development process Situation and the existing problems, and we found that exist in the development process Problems have appeared frequently repeated labor and development cycle of software Long, the investment cost is larger, the software requirements, software changes in easily Version according to the demand change also often need to adjust, etc. Then this article Introduces two methods of software process management, software skills The maturity model and the unified development process management, this article to them Management procedure and principle in detail description and introduction.

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