Software Project Management

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1.Software Project Management

The object of the software project management is a software engineering project，which involves the scope covers the whole process of software engineering.

The aim of Software Project management is to make the software Project ,which can according to the predetermined cost, schedule and quality completed and the staff, products,Process and the activities of the Project analysis and management.This management should start before the start of the technical work, in the process of software from concept to implement,during in the end of the software engineering process terminated.

The fundamental goal of software project management is to make software project,especially large projects throughout the software life cycle, from the whole process of analysis, design, coding, testing, maintenance which can be under the control of managers.At the scheduled cost,on schedule and qualified to complete the software delivery users.Software project manage and other project management compared with considerable particularity.

First of all, it is pure knowledge to software product.It is difficult to estimate and measure quality, production efficiency is also difficult to predict and guarantee.

Secondly, the complex of software systems has led to various risks in the process of development and it is difficult to predict and control.Large systems without good management, the software quality is hard to imagine.

The content of the software project management mainly includes the following several aspects:

The organization and management of personnel, software metrics and software project planning, risk management, software quality assurance, software process capability assessment, etc.These a few respects are throughout, interweave in the whole process of software development, organization and management of staff to focus on the project team personnel composition,optimization;Software metrics to pay attention to use the method of quantitative evaluation of software development cost, productivity elements such as yield and quality, schedule, and it is in line with the expectations, including two aspects, process and product measure;Software project plan including effort, cost, development time estimates

According to the estimate shall be formulated and adjusted the team work;Risk management to predict the future possible dangers to the quality of software product and thus take measures to prevent potential factors;Quality assurance is to guarantee the quality of products and services fully meet consumer demand for the planned, organized activities;Software process capability evaluation is to measure level of the ability of software development.

2.Software project management development

①project initiating stage

The principal goal of "initial stage" is: in the concerned about the risk of system development project goals for consensus between the people.In this stage, the software project development process system description is bound to be vague and sweeping, so economic evaluation is extremely inaccurate.Solution is here, the proposed system is committed enough potential benefits, make people to invest in required additional resources to complete the "refined" stage.

"Initial stage" the most important artifacts generated are: a vision document;A use case model.A system structure;A copy of the original business case;A risk assessment;And a project plan.In addition, the "initial stage may generate a" proof of concept prototype, in order to users or clients to show the system can support their business goals.Prototype is a part of the form completion system implementation or simulation.In some cases, the use of prototype helps to risk or feasibility evaluation.

"Demand" and "environment" both steps in the initial stage later use ratio is large;"Project management" and "environment" both steps in the "initial stage" utilization rate are high.

②elaboration phases

"Refinement" stage goal is "can define a set of subsequent development as a system of system architecture, and generate a more reliable project plan and cost estimation. In practice, to develop a reliable cost estimates, need according to the experience of the system details make assumptions, or involves part of the system to some extent. There may exist the big, can lead to change the schedule and cost risk. This estimate should contain a list of risk, in order to quantify the impact of these risks when necessary.

"Refine" level and the use case is constructed with the analysis of the task, in order to describe the system architecture to support the user requirements.This phase also includes the most important part of the system design and the initial implementation.

"Refine" stage production of the main artifacts are aimed at reliability, to expand the use case model.The proposed system architecture will be developed into a set of executable prototypes.For programming the key use cases.Looking documents, business case, risk assessment and the project plan will be learned according to "refine" stage to revise.Will prepare a detailed plan for "construction" stage.Needed, will generate an initial user manual.

It is result that the basis and scope of completion of the development agreement.Since then, any revision to the scope of the system need to be formal approval.

"Demand", "design", "implementation", "test", "project management" and "environment" these measures at this stage utilization rate is quite high.

③Construction phase

After "refined" stage, then we construct system high "tectonic" stage will generate a set of operational system, so that the user environment or customer environment for testing.During the period of construction, the progress of the development is an iterative and

incremental, this phase is in effect the software manufacturing process.All the required features will be developed, and be integrated into the software product.The focus is on the management and control of the process, so as to optimize cost, schedule and quality.

Computer information system involves each program unit coding, testing and commissioning.These units will be one by one, coding, testing and debugging.Then the incremental merge them.Where each only forward a merger set to add a program unit, then the rest will test the unit and system interface.If there is a problem, can locate on this new program unit or on the interface.And so it went on, until the test the whole system.

④deliver

"Delivery" phase of the software goal is to make the user's hands.When will release the product for testing.Developers submitted have been documented, tested software, after accepting the software users, must also integrate it to the user in the organization.The need to train users, to submit and install all the extra software, transform or create a file or database, required by the system may be run in parallel in new period, old two sets of system.At the end of the "delivery" level will have a review after implementation, the review may make modification and refinement on the system.

"Test", "deployment", "configuration and change management" and "project management" in At this stage of the utilization rate is quite high.

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