software development processes

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Abstract

General definition of problem to be solved, including understanding of the user's requirement and the realistic environment, from the technical, economic and social factors, such as three aspects of research and demonstrate the feasibility of the software project, the compiling of the feasibility study report, discussed the proposal to solve the problem, and the available resources (such as computer hardware, system software, human cost, can obtain the benefits and progress of the development is estimated, developed the implementation plan of the development task.
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1 Introduction

In software engineering, a software development methodology is a splitting of software development work into distinct phases (or stages) containing activities with the intent of better planning and management. It is often considered a subset of the systems development life cycle. The methodology may include the pre-definition of specific deliverables and artifacts that are created and completed by a project team to develop or maintain an application.
Common methodologies include waterfall, prototyping, iterative and incremental development, spiral development, rapid application development, extreme programming and various types of agile methodology. Some people consider a life-cycle "model" a more general term for a category of methodologies and a software development "process" a more specific term to refer to a specific process chosen by a specific organization. For example, there are many specific software development processes that fit the spiral life-cycle model.
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2 Related Work

Use waterfall model as an example.The waterfall model is a sequential development approach, in which development is seen as flowing steadily downwards (like a waterfall) through several phases.
The first formal description of the method is often cited as an article published by Winston W. Royce[1] in 1970 although Royce did not use the term "waterfall" in this article.

The iteration step has largely been omitted in practice due to how the methodology was taught and the perception at the time that it would be too costly for winning US DoD contracts. The waterfall model with no iteration or prototype is known as the 'traditional' engineering approach applied to software engineering, however it is a direct result of requirements for bidding for US military

Figure 1: Waterfall model - the classic waterfall approach to program-ming. The waterfall model uses a series of phases to move the project along. Each phase creates a deliverable, usually a document that cap-tures what the phase has accomplished.

3 Overview

Several software development approaches have been used since the origin of information technology, in two main categories. Typically an approach or a combination of approaches is chosen by management or a development team.
"Traditional" methodologies such as waterfall that have distinct phases are sometimes known as software development life cycle (SDLC) methodologies[2], though this term could also be used more generally to refer to any methodology. A "life cycle" approach with distinct phases is in contrast to Agile approaches which define a process of iteration, but where design, construction, and deployment of different pieces can occur simultaneously.
contracts. As a consequence, unless part of the project plan, a strict waterfall approach discourages revisiting and revising any prior phase once it is complete.

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4 Methods/Techniques

4.1 Common Mistakes

A software project from the beginning to the end, due to the resources, personnel, management, methodology and so on various aspects of factors, often inevitably will exist some problems, such as the demand is not clear, the project failure, communication and so on.

1. Always divide each stage completely fixed, resulting in a large number of documents between stages, greatly increased the workload.

2. Due to the development of the model is linear, the user can only wait until the end of the whole process to meet development results, thus increasing the risk of development.

3. Early errors may have to wait until the late stage of development to be found, which can lead to serious consequences.

5 Conclusion

[3]The general process of software development process that software design ideas and methods, including the function of software design and implementation of algorithms and methods, software, the overall structure design and module design, programming and debugging, program debugging and testing and prepared and submitted to the procedures.

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