

Optimization of Software Development within the Company

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ABSTRACT

Enterprise software, also known as enterprise application software, is computer software used to meet the needs of organizations rather than individual users. Such organizations include businesses, schools, interest-based user groups, clubs, charities and governments. Enterprise software is an integral part of (computer-based) information systems; a collection of such software is called an enterprise system. These systems handle a number of operations within an organization to improve business and management reporting tasks. The system must process information at a relatively high speed and be usable across multiple networks.

Keyword : Enterprise software, Computer-based information systems



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1. INTRODUCTION

The development of software companies is an increasingly persistent part of our daily lives. In the United States alone, software products and services exceeded \$140 billion in 1998 with more than 2 million software programmers employed. This is not just "Microsoft or Oracle but in all IT departments in the United States" [1].

In Timor-Leste and Indonesia, various enterprise software has been introduced. The governments of Timor-Leste and Indonesia have invested significant amounts of money in this sector. Among them are: Free Balance as the core financial business application for Timor-Leste, Portal, webapps, smart Indonesia card, healthy Indonesia card, E-KTP, etc. for Indonesia. Many of them have different platforms whereas there is no scalability, no cross-platform, no workflow, standardized capabilities, and that includes social platforms. In getting any software application for the organization, the management or CEO must decide to develop it themselves, develop from outside sources, or buy from the software industry.

Decisions are based on the needs and requirements of the organization that have been documented or gathered by business and systems analysts. software may result in fewer trade-offs and better fit the needs of the company. New purchase software enterprise applications may lack scalability, cross-platform, and open standards capabilities; therefore, the organization will incur additional costs for training and users spend additional time re-entering the same amount of data that has been in the system.

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

In the largest organizations, software enterprise applications are likely to be "custom developed and acquired from outside sources. Small business software applications are most likely purchased. Other businesses may use various sources of software applications to meet their own needs" (Hall and Fernandez-Ramil, 2007)[2]. According to Martin et al (2005)[3] that investment in "enterprise system packages with integrated modules became a major trend in the late 1990s". There are several advantages of buying software enterprise applications as follows:

There are several advantages of buying software company applications as follows:

1. Cost savings,

2. Faster implementation and
3. Possibility of better support for generic business functions

The disadvantage of purchasing software enterprise applications is the lack of an exact match to the needs of the organization because "building custom software can result in fewer trade-offs and a better fit to the needs of the enterprise" (Martin et al, 2005)[3] . New purchased software enterprise applications may lack scalability, cross-platform, and open standard capabilities; therefore, the organization will incur additional costs for training and users spend additional time re-entering the same amount of data that was already in the system.

3. RESULTS AND DISCUSSION

There are many methodologies and approaches below for organizations to use. However, more important than any methodology is how to use people and resources to create and maintain software applications. Details of software development methodologies are described below:

A. Traditional Models (Code and model)

This model is simple and commonly used. The advantage is that you can start developing software applications with general or specialized ideas. Using this method you don't need to hire an expert in planning, testing, or documentation. Anyone with knowledge of coding can start writing code. Unfortunately, since it lacks documentation, we cannot assess progress until completion. In addition, this method does not suit complex projects.



Figure 1. Code and Model

B. Waterfall Model

This model features a highly structured and sequential process. We cannot develop tasks randomly; it must follow the steps of the process. We must complete all tasks in one stage (e.g. stage 1) before proceeding to the next stage (in this case stage 2)[5] . For example, in this model, we must complete all requirements specification and verification before proceeding to the software design stage.

Explanation sub section 2.

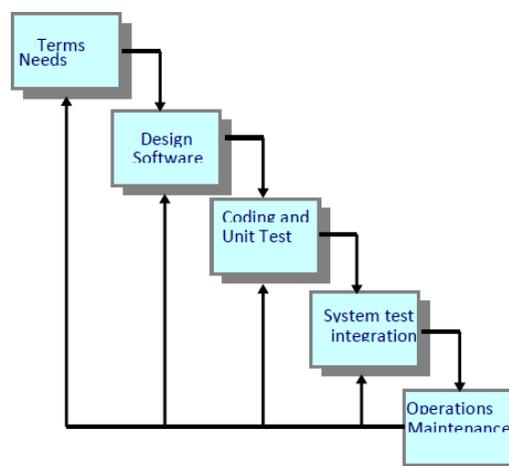


Figure 2. Waterfall Model

C. Sashmi Model

This model was taken from Japan and named after the Japanese style of serving sliced raw fish. This model has overcome some of the disadvantages of the waterfall model. For example, we can start software design before considering requirements, which gives flexibility to the development of software applications. However, this model can cause confusion in other phases, is not very efficient, and can make developers guess the overall progress, or even the progress of individual stages.

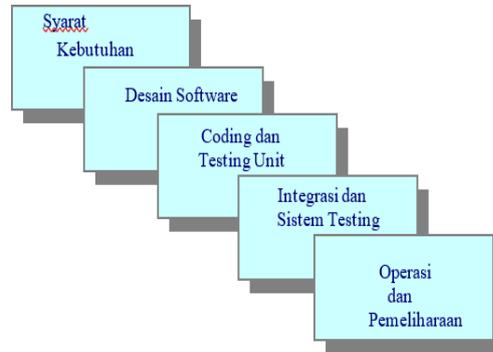


Figure 3. Sashmi Model

D. Waterfall With Subproject Model

This model is better at designing subsystem development. It allows parallel planning in the waterfall model. But the disadvantage of this model is the possibility of unforeseen interdependencies between subprojects.

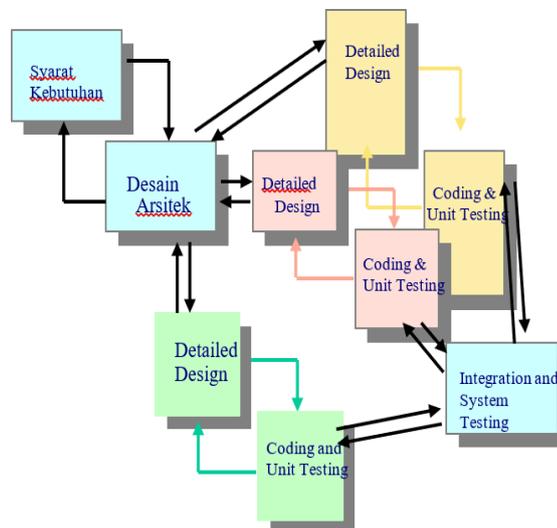


Figure 4. Waterfall with Subproject Model

4. CONCLUSION

It is difficult to define software quality, especially for those who are not involved in the process, because high software quality is relative. "High quality" simply means fit for purpose and meeting stakeholder expectations. There are many alternatives to a given methodology for processing and developing software applications. However, each method chosen must be within the software development life cycle (SDLC). Every software development or purchase starts at the request of a customer. The customer can be an end user, an institutional representative or an inventor. The project team consists of business unit

representatives, IS analysts, IS specialists and business analysts. The team must develop a high-level cost estimate for the project.

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