It210 software engineering : software process models

Technology, Information Technology

IT210 Software Engineering: – Software Process Models IT210 Software Engineering: – Software Process Models Software engineering is a discipline where different techniques or methods are used to improve the quality of software development and the targeted company for the software development is a large oil company. The growth of the software engineering field has led to the use of the complex methodical approach; however, all the methodologies are necessary for consistency towards achieving fewer defects, better values, and shorter delivery times in the software products (Fujita, at el., 2003). Numerous software development methodologies are available; however, software engineers often find it difficult to select a proper methodology or a combination of methodologies to achieve desirable goals. Nonetheless, the combination of certain given methods is usually effective compared to selecting a single methodology (Hibbs, Jewett, and Sullivan, 2009). Regardless of the challenges that might be faced by the software engineering methodologies, the organization shall deploy the use of the Waterfall Development Methodology towards its software development. Winston W. Royce first defined the Waterfall Development Methodology in 1970. The waterfall model has been used widely for software projects since its advent. The process allows a steady flow of processes downwards as the experience in the waterfall as shown in the diagram below. Therefore, this model allows conception of phases, analysis, initialization, testing, construction, design, implementation or production, and maintenance (Doom, 2009). Moreover, it provides a well-structured physical environment in that after the intended changes, it prohibits costly operations whenever and wherever possible.

The waterfall methodology has numerous advantages when installed and initiated without errors in the design. The methodology often captures the design errors before development and implementation of any software design is thereby preventing any software design errors. Additionally, it provides easy testing mechanisms for any identified functional specifications since it offers a well-structured and simple measure for program progress (Doom, 2009). A well-done waterfall methodology is a perfect software development process for large projects; therefore, large oil companies that require large projects can adopt and implement it for easy and effective management of their software projects or programs (Hibbs, Jewett, and Sullivan, 2009).

a. The figure illustrating the waterfall model

Despite the underlying advantages of the waterfall methodology, the large oil company that intends to adopt and implement it must beware of some of the methodology's shortfalls. In most cases, the clients will ever find it difficult to place their requirements at the abstract level especially at the methodology implementation levels. Therefore, it would be advisable for these companies to implement the methodology only when it is fully fledged since until then the customers may not understand its importance and advantages to the system (Doom, 2009). In addition, the large oil company must be ready to bear with the duration taken by the methodology to deliver. The management, customers, and all other stakeholders must accept the time required for the adoption and implementation; therefore, they should be advised to be patient with the model since it will take time for them to appreciate it. It should be the obligation of the model initiating and

implementing company to orientate the oil company's staff, customers, and other stakeholders on the use and application of the methodology (Fujita, at el., 2003).

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Doom, C. (2009). An introduction to business information management. Brussels: ASP.

Fujita, H., Johannesson, P., International Workshop on Lyee Methodology, International Workshop on New Trends in Software Methodology and Technology (SoMeT_W03), Lyee International Workshop, & Lyee_W03. (2003). New trends in software methodologies, tools and techniques: Proceedings of the Lyee_W03 - the Second International Workshop on Lyee Methodology ; [contains papers accepted at the Second International Workshop on New Trends in Software Methodology and Technology, (SoMeT_03) and also named as the Second Lyee International Workshop (Lyee_W03), held in Kista, Sweden, from 24th to 26th September 2003]. Amsterdam [u. a.: IOS Press.

Hibbs, C., Jewett, S., & Sullivan, M. (2009). The art of lean software development. Sebastopol, Calif: OReilly Media, Inc.