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SDLC and Development Methodologies

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Abstract

Introduction-The overall purpose of any design review is to make sure that the stakeholders understand the design, and that they can confirm that the project team understands their needs and that the project is on the right track. In specific terms that are relevant to SDLC, since SDLC, or Systems Development Life Cycle, is a cyclical methodology, phases repeat, so changes can be made to the design in the next cycle. This makes the process a little less rigid compared to the design process in a linear methodology like waterfall. That is one reason why it is important to know the methodology upfront, because the approach for each phase changes based on the methodology. The design phase is very important in any project and regardless of the methodology, so a lot of time should be dedicated to the design phase.

Index terms— stakeholders, the design process in a linear methodology like waterfall.

1 Introduction

he overall purpose of any design review is to make sure that the stakeholders understand the design, and that they can confirm that the project team understands their needs and that the project is on the right track. In specific terms that are relevant to SDLC, since SDLC, or Systems Development Life Cycle, is a cyclical methodology, phases repeat, so changes can be made to the design in the next cycle. This makes the process a little less rigid compared to the design process in a linear methodology like waterfall. That is one reason why it is important to know the methodology upfront, because the approach for each phase changes based on the methodology. The design phase is very important in any project and regardless of the methodology, so a lot of time should be dedicated to the design phase. Once requirements have been gathered from the stakeholders, and the design process has started, you need to have a way to communicate back to the stakeholders that you understood their needs and that they have been incorporated into the project. They design review is an effective way to do this. By making sure that all team members and stakeholders meet and discuss the design and any needed changes, you are able to ensure that needs will be met, and that the project will be a success. The design phase is one of the five phases of the SDLC model; Analysis, Design, Implementation, Testing, and Evaluation. Once the requirements gathering is done, design is done to present to the stakeholders that their needs have been fully understood. Again, since the SDLC methodology is cyclical, changes can be made to the design in the next cycle if the feedback from stakeholders warrants it.

The Systems Development Life Cycle is more than just a theoretical concept; it is used every day in IT departments around the world. Sinason and Normand (2006) studied the Systems Development Life Cycle and the real world application for Omni Furniture Company as well as the benefits to student who study real world cases, " Organizations constantly adapt their information systems to reflect changes in the type of information needed because of changes in technology, the organization's business processes, the organization's structure, or the external environment. A process called the systems development life cycle (SDLC) has been developed to ensure that these changes are orderly and

Author: e-mail: mr_scroggins@yahoo.com all accounting information systems (AIS) textbooks present the SDLC as either a four-or five-stage cycle of activities. Thus, most students are introduced to the SDLC in the accounting systems course but few students have the chance to actually experience the process. The Omni

Furniture Company Case helps students enrolled in an AIS course further their understanding of the SDLC by thinking through all stages of the process and designing a system that meets the users' information and internal control needs." (p. 01).

2 II.

3 Agile Methodology

What are the significant features of this approach?

The Agile approach is cyclical in nature and is based on iterative and incremental development, where requirements and solutions evolve through collaboration. Due to the cyclical nature, it allows for problems to be resolved as phases repeat. It allows for issues to be found and then addressed in the next cycle.

In what type of environment or situation will this approach be most appropriate?

Software development using standard methods and parameters.

What are the weaknesses of this approach, relative to other approaches?

With shorter phase time compared to Waterfall, some things can be missed early in the project.

4 III.

5 Test Driven Development

What are the significant features of this approach?

Test Driven Development is another cyclical design methodology that is based on short cycles. Due to the cyclical nature, it allows for problems to be resolved as phases repeat. Studies have found this approach to be more productive, principally due to the hands on approach.

In what type of environment or situation will this approach be most appropriate?

This method is good when the direction is not clear and trial and error is required.

What are the weaknesses of this approach, relative to other approaches?

This method relies heavily of testing and short cycles. It could be described as brutish.

[Sinason and Normand ()] 'Omni furniture company: A systems development life cycle case'. D H Sinason , C J Normand . http://search.proquest.com.library.capella.edu/docview/235939890?accountid=27965 *Journal of Information Systems* 2006. 20 (2) p. .

[Gelowitz et al. ()] 'Real-time extreme programming'. C Gelowitz , I Sloman , L Benedicenti , R Paranjape . *XP'03: Proceedings of the 4th international conference on Extreme programming and agile processes in software engineering. Retrieved from The ACM Digital Library*, 2003.