

A New Unified Software Development Model For Free/Open Source Software

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Abstract

In Software Engineering effective development can only take place if the requirements from user side are clear and approachable. Furthermore development model should be able to effectively process those requirements and provides fast and efficient software. Now Unified Software Development Process is complex but famous iterative and incremental software development process framework. The best-known and extensively documented refinement of the Unified Process is the Rational Unified Process (RUP). Most of the process models so far have been introduced in the domain of software engineering are meant for proprietary software. Very less work had been done on open source software development models but due to increasing popularity and demand of open source softwares, demands for improving processes to generate open source softwares also increased. Our research will focus on to propose a process model for developing a software project for the open source paradigm. We will introduce better USDM with proposing some good open source process with the help of this proposed model in the domain of open source development.

Keywords: Unified Software Development Process, Open source development.

1. INTRODUCTION

In the open source paradigm any community led project's success depends on the community interests and size of the community. Most of the open source project developers are working remotely, mostly in their free time and mainly on their personal interest [1]. But in the proprietary software development the project manager sets a target and the developers are bound to work according to the plan. It creates a huge difference between the development of an open source and proprietary software. Vinay Tiwari [2] investigate the software development process models of Open source software on the software engineering perspectives and also differentiates the software engineering (or software development process model in particular) for open source paradigm from the conventional proprietary software development significantly. Some of development models of OSS and their comparison

with the traditional development models is made by Tiwari and the software engineering practices followed in open source development environment is also been discussed. So, the popular process models, so far developed for the proprietary software development, cannot be directly applied to the OSS paradigm, due to its salient features as stated above. The objective of this research is to formulate a new software development model for open source software. To fulfill this objective we will introduce a software development model for open source software to make any project successful with any number of decentralized developers. Development model will be on the similar line with unified model proposed in [3] by Md. Anawarul Kabir. We will emphasize on developing any open source project regardless of the community size.

Our proposed model will enable the development of open source software with regardless of the community size and ensure maximum utilization of developers' time. We will validate this new methodology by initiating a project on developing a tool based on proposed model with the help of Matlab and java/DotNet programming.

2. PROBLEM FORMULATION

Our focus will be on developing a better fast open source development model which will focus more on information gathering observes the exact requirements then will design the core part of the software accordingly. Further we will proceed with line of unified software development model for free/open source software suggested by Md. Anawarul Kabir, Md. Salahuddin Pasha and Mohammad Abdur Razzak. We will focus to enhance this suggested model by enhancing the processing and functionalities under different stages.

3. OBJECTIVES

- ✦ To analyze and developing a better fast unified open source development model.
- ✦ Test a development through this model by developing an open source tool.

4. RESEARCH METHODOLOGY

To achieve the set objectives, our proposal will focus on developing a better fast open source development model which will focus more on

information gathering observes the exact requirements then will design the core part of the software accordingly. Further we will proceed with process designing and will divide the processes into different parts with loosely coupled mechanism. After this phase we will focus on external help required for our development which also include the reusability of internal/external codes and programs. Creation of beta versions and documenting the issues and progress will be done. Initial testing and construction is done after this and integration of different modules will be done by this time. Finally we will proceed with the final testing and debugging process. We will test our proposed model by developing some tool with help of this Model for validation purposes.

5. SCOPE OF STUDY

There is an ample scope of research in the stated area. Present study will reflect the importance of open source development model in success of the perfect open source software. This model can be accepted as the fast and efficient open source software development.

6. CONCLUSION

A brief review of existing studies show emergence of different development models but most of the present studies suggested that there is very less work has been done on open source software development models.

We will focus on developing a better fast open source development model which will focus more on information gathering. Process designing will be the focus area and will divide the processes into different parts with loosely coupled mechanism. After integration, we will proceed with the final testing and debugging process. We will test our proposed model by developing some tool with help of this Model for validation purposes. It enables the development of any software project regardless of the community size, using less developers time and minimizing wastage.

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