

Review Paper on Software Quality Assurance

Nitin garg

Student (B.Tech 6th sem) Department of Electronics and Computers Engineering
Dronacharya College of Engineering, Gurgaon-123506, India
Email: ngarg1910@gmail.com

Nitigya Grover

Student (B.Tech 6th sem) Department of Electronics and Computers Engineering
Dronacharya College of Engineering, Gurgaon-123506, India
Email: nitigyagrover01@gmail.com

Abstract

Software Quality is an important factor in software industry which depends on many factor involving process and product development. Quality is an important factor in software industry. Software quality depends upon the customer satisfaction which can be achieved through applying standards. In this era achieving quality software is very important because of the high customer demands. Developed countries are excelling in software industry and improving day by day. This paper identifies reviews and addresses the factors affecting the quality of software in long run and indirectly suggests improvement for achieving it.

Keywords: Software Quality Assurance Process; Software Quality control; Software as End Product; Customer satisfaction; Reputation & Customer demands

Introduction

Software Quality Assurance as per IEEE is a “planned and systematic pattern of all actions necessary to provide adequate confidence that an item or product conforms to established technical requirements” [1]. A set of activities designed to evaluate the

process by which the products are developed or manufactured.

Software Quality control is defined as “a set of activities designed to evaluate the quality of a developed or manufactured product” (IEEE, 1991).

A correction after shipping is very costly and it affects the Company credibility and organizations cannot afford losing Customers due to these kinds of problems. To avoid these problems, organizations should follow a proper quality management plan to remove errors from the products [2]. Maintaining Quality for product is very important for Business Organizations as every Business Company is running towards automation [2]. Failure in real time software systems can have serious consequences.

The main role of SQA (software quality assurance) is to maintain the quality of the software products [3]. For that it is to make sure that the standards and procedures are properly followed.

The quality assurance principle under open source software development is an approach to improve software product quality against traditional methods and techniques. Someone must be responsible for assuring testing of basic requirements, rapidly updating and recording regression test and ensuring progress reviews.



FACTORS AFFECTING QUALITY ASSURANCE PROCESS

The factors have to be identified which will optimize the software development activities and bring profit to the industry. It is human centric process and involves time. Process maturity level predicts the quality of software and other aspects. Identifying of requirements and finalizing them is time consuming process. Moreover the relationship between various factors should be identified. The process adopted for developing software needs to take into account these factors. To find the quality factors and problem [4] areas for open source projects, in this research many interviews are conducted to find the answers. This research covers projects of very complex nature, questionnaires are distributed among all seven developers and then their answers were collected and findings were explained in the different categories. First category of the results is development and quality practices, here it is discussed that how infrastructure, processes and documentation problems can cause lack of software quality.

RESULT, CONCLUSION AND FUTURE WORK

Software Quality is dependent on many listed factor. It is very important to list all factors to optimize the process of software development. Identification of all these factors depends on availability of number of research paper. Improving quality leads to decreasing rework, cost, and schedules. This leads to improved capability which in turn lowers prices and larger market shares.

One of the major problems with software development organization of low and medium process maturity is that the priority

is always to maintain the stability of the organization. Such organization cannot afford to invest more money in process improvement as their future is unpredictable. Our future work is to develop a model on software quality assurance. The relationship can be established among these factors.

References

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