To Analyze Conflicts between Software Developer and Software Tester

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Abstract- In Software Development life cycle (SDLC) all the members in the team are very much essential. But in actual consideration, major companies underestimate one member and that is the Tester. Mainly there is a contradiction between the software Developer and software Tester. So this paper mainly focuses on the analysis to specify the conflicts between software developer and Software Tester and Software Tester and the Management in the development life cycle. This analysis is based on the some basic questions and tries to clarify the major portion considering the company view.

Keywords- SDLC (Software development life cycle), Software analysts, Software Developer, software Tester Testing Team Leader (TTL)

Introduction

“A Software team is a set of people with complementary Skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.” In the software team there are many people involved mainly analyst, developer, tester, support staff, team manager, team leader, and the higher authority. But actually Developers mostly concentrate on the Design, and Testers concentrate on the requirements which are coming from the user. For the betterment of the software product the relationship is important among the team members. Relationships can evolve in the same way that a good design evolves. Each interaction gives us another opportunity to change the tone and improve a situation. We will inevitably make mistakes, but we also have the ability to learn from those mistakes and gradually improve our effectiveness as well as create more nourishing and productive working relationships. (Katzenbach and Smith) Conflicts are an ongoing process in any systems development process. If managed it can improved the quality of the system and thus reduced the time-to-value. In the beginning, there was the software developer and he was mighty. He could write specifications, could code programs, could test programs, and could deliver perfect systems. Testers were nontechnical employees who volunteered to come into the office. (Ref. Software Testing Testing Across the Entire Software Development Life Cycle By Gerald D. Everett Certified Senior Testing Education Specialist IBM Raymond McLeod, Jr.). But in fact the best software testers must have advanced skills drawn from all of these software professions. The tester is expected to tell the development team which requirements and specifications are met and which requirements and specifications are not met. If the test results are descriptive enough to provide clues to the sources of defects, the tester then adds value to the developer’s effort to diagnose these defects; however, the full diagnosis and correction of defects remain solely the developer’s responsibility. This paper in organized as follows our work in the context of prior work (Literature review) All included in the findings and conclusion depends on the basis of different company’s policy finally completed with the most important references.

Literature Review

This paper is to find out actually how many people are acting to build the software product, as well as to find the relationship between those. And depends upon the relationship its impact on the final outcome. Some research papers help to do that.

Xihui Zhang, Jasbir S. Dhaliwal, Mark L. Gillenson explores the theoretical and pragmatic nature of such developer-tester conflict in terms of both task and relationship elements as well as its impact on software development outcomes. Another key reason why it is important to understand interpersonal conflict between developers and testers is because this conflict can have negative consequences not only in relation to the end product but also in relation to the job satisfaction of both developers and testers. When people interact, however, interpersonal conflict arises. Interpersonal conflict is the result when interdependent parties have different goals, mindsets, values, preferences, backgrounds, and experiences. A developer is usually seeking to maximize “efficiency,” that is, to get the work done with the least effort[1]. C.C.H. Rosen For all the automation of software production that is available, systems development remains a highly labor intensive activity. Consequently, the human factors are not only an important consideration in the process, they are critical to its success. Describe reports case study findings examining the social-dynamic factors that affect the software development process. It proposes that a systems development environment must be understood as a dynamic system which intricately interconnects personal, interpersonal and intra-group factors[2]. Next consideration comes from the B. Pettichord, explores the key players in the software development and understand and implement the new trends[3]. Javier ramous, Ana Esteban, Javier Guzman describes a competence model for
testing team in that report to show the general and technical competence that have been developed for each role that take part in testing team[4]. Teamwork explores the pros and cons, benefit and risk, about conflicts and number of different models related to control [5]. In The Conflict Resolution Diagram The Logical Thinking Process Describes the Logical Thinking Process is a set of Systems Thinking tools that helps us to understand goals and problems and come up with breakthrough solutions is based mainly on “The Logical Thinking Process” by H. William Dettmer [6]. John Karn describes an ethnographic study of conflict in software engineering teams. The aim of the study was to uncover whether certain forms of conflict can be either constructive or destructive [7]. Rodney Parkin describes the division of testing responsibility between developer and individual tester is not well understood, this can lead to conflicts between two groups [8].

Findings

In the findings we consider some question and based on the company reply we try to solve the problems. Firstly we consider which qualities should pauses by the Software Tester and also for the Software Developer.

<table>
<thead>
<tr>
<th>Good Testers</th>
<th>Good Developers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain knowledge</td>
<td>Knowledge of product internals</td>
</tr>
<tr>
<td>Get up to speed quickly</td>
<td>Thorough understanding</td>
</tr>
<tr>
<td>Ignorance is important</td>
<td>Expertise is important</td>
</tr>
<tr>
<td>Model user behavior</td>
<td>Model system design</td>
</tr>
<tr>
<td>Focus on what can go wrong</td>
<td>Focus on how it can work</td>
</tr>
<tr>
<td>Focus on severity of problem</td>
<td>Focus on interest in problem</td>
</tr>
<tr>
<td>Empirical</td>
<td>Theoretical</td>
</tr>
<tr>
<td>What’s observed</td>
<td>How it's designed</td>
</tr>
<tr>
<td>Skeptics</td>
<td>Believers</td>
</tr>
<tr>
<td>Tolerate tedium</td>
<td>Automate tedium</td>
</tr>
<tr>
<td>Comfortable with conflict</td>
<td>Avoid conflict</td>
</tr>
<tr>
<td>Report problems</td>
<td>Understand problems</td>
</tr>
</tbody>
</table>

Table 1. Good testers versus good developers (Adapted from B. Pettichord [3])

Following are some questions that we consider to complete the paper.

1) **Team Organization:** The team organized in the following ways.

<table>
<thead>
<tr>
<th>Team</th>
<th>Pseudonym</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) With respect to Application Domain</td>
<td>A1</td>
<td>Developers, Testers, TTL</td>
</tr>
<tr>
<td>2) With respect to Game Developer Domain</td>
<td>A2</td>
<td>Game Developer</td>
</tr>
<tr>
<td>3) With respect to SAP Domain</td>
<td>A3</td>
<td>SAP Developer</td>
</tr>
</tbody>
</table>

Now during our findings, the considered companies are not only just work for the application domain but the game development, as well as SAP domain also, we reach to more wider space and collect more data in the findings. In the above table the term TTL indicates the testing team leader.

Q.1). **How the company maintained the ratio of Developer and Tester? In terms of the Ratio?**

This is the first most important issue that we consider what is the ratio between the developer and tester, in that we have very different reply from the company it’s rather depends upon the management and higher authority in the team which works for the software development. Considering 19 different companies and also different environments we try to analyze the above same portion. In the table first portion is related to application domain where 14 companies have their different opinion on how to maintain the ratio between developer and tester and some interesting observations also comes from some companies which also included in the table. The reply from other companies includes the game domain and the SAP domain and remaining 4 companies not exposed the data
Q. 2) What is the relationship between Tester and Developer in the company?

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Number of Company</th>
<th>Company Reply</th>
<th>Different opinion stated by the company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Two companies</td>
<td>Friendly, professional</td>
<td>No suggestion</td>
</tr>
<tr>
<td>2)</td>
<td>One company</td>
<td>友</td>
<td>No suggestion</td>
</tr>
<tr>
<td>3)</td>
<td>Five companies</td>
<td>No reply</td>
<td>No reply</td>
</tr>
</tbody>
</table>

In the above table major companies are stated that the relation between tester and developer are friendly but professional as well but it seems to be like “Cat and Mouse”. In the SAP company no tester is appointed up till now, and no reply from remaining two companies.

Q. 3) Is there any conflicts between the Tester and Developer in the company?

In this portion we are more interested in some deeper knowledge, and it’s about the conflicts between the developer and tester. Some companies are directly indicating that yes there are some conflicts but sometime. But the fact is that conflicts are sometime not avoidable. Following are the some reasons why there are the conflicts according to the company prospective.

- Behavior (Defect not mentioned properly)
- Since They both look the same thing in different way.
- Every Developer consider tester as a troublemaker
- It also arises by misunderstanding, and also miscommunication.
- Sometimes the defect is fixed and tester reproduced the same defect.
- The developer misinterprets the defect coming from tester.
- Motivation and commitment of team members.
- Experience level and presence of experienced members.
- Reward structure within the team incentives, enjoyment, empowerment ownership, Autonomy.
- In USD (user centered designer), We care more for “User” than for the “Developers”.

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More conflicts take place between those who are watching the bottom line and those who are concerned with quality products. Because of the some above mentioned scenario the conflicts may occur.

Q. 4) Is there any conflicts between the Tester and Management in the company?

The Reply from the many companies, say yes following are some reasons for that to happen,
1) If happens then it only because of build get freeze with issues/ Sometimes it happens due to the application remain have bugs after delivered to the customers.
2) Because tester may not always aware of long term plans, why stringent deadlines, why release going with open issues etc.
3) There is an extreme level of pressure put over the testers by Management to complete the work in given timelines even if there was a delay in offering release/resolution to testing team.
4) There are many other factors like De-motivation, Attitude, High work pressure etc which are hurdles for producing intended goals.

The Reply from the many companies, say No, following are some reasons for that to happened. The once projects get finalized, everyone get informed about it. Project documents, timeline and milestones are circulated and weekly project status calls scheduled to monitor the work progress. If testing team is not able to complete their task on time, it is expected from them to put extra efforts by working extra office hours to complete their task. And some companies are not exploring their data.

Q. 5) How did they get the conflict resolved or any new strategy by which we can somewhat minimize that gap between tester and developer?

We consider different way to resolve the conflicts on the basis of company reply.
1) If we choose the proper way then we should minimize the conflicts. The way is that, If design and documentation is completed well in advance and circulated to development team and testing team in advance, both will get time to understand the requirements and their part. We scheduled weekly project status calls to monitor the status and smooth line the process further.
2) And still we are having some doubt in both’s mind then both talk with supervisors and with help of them it gets resolved.
3) Conflicts can get resolved by communication and Team Lead/Supervisor plays an important role over here. Sometimes telling testers that “Think of yourself at developers position and tell what will you do” type of questions help to give different perspective. At regular intervals taking some sessions on Conflict Management also helps.
4) Conflicts do get resolved after the discussion with the higher authorities from both the Teams and choosing the appropriate and beneficial solution for the Organization.
5) Most of the time it is resolved by discussion and understanding each other concerns. Sometimes Project manager interfere with the matter by listening both team point of view and given proper direction to do job smoothly.
6) The weekly project status call give opportunity to each tester and developers to clarify his stand and then final decision is taken by project manager. The decision of project manager is binding on tester as well as developers. By doing this, we avoid unnecessary conflicts.
7) As a tester, you find the defects but it’s always good to share some tactics with developers on how to test the application. Maybe, this will help the developers to test better before delivering the product. But this can work only if everyone is co-operative enough to look the final target i.e. “to deliver with quality”.
8) a) Everybody has to work within the boundary of their profiles. Don’t expect favor from one another.
   b) For Bug reporting live tool should be there like BugZilla, Mantis, Redmine etc.
   c) Testers reported bugs should be descriptive by steps to reproduce and screenshots if required. He shouldn't have the problem to reproduce in front of the developer if developer can't. Because that what his job. He have to, and he shouldn't take personally or irritating.
9) Yes, Team Building is one effective solution for that. Every 2 month we arrange team build activity in our company.
10) Establish a standard defect reporting process and get Test and Development to fully understand and adopt it. Understand that everyone is under pressure to meet deadlines and we are all on the same team to reach a common goal.
11) If you have High level of mutual respect amongst team members
12) Clear role and responsibility.
13) Monitor individual performance
14) Effective communication system (Available, credible, tracking of issues, decisions)
15) Fact based decisions
– Focus on the facts, not the politics personalities Because of that above points we should minimized the conflicts produced during the development stage.
Q. 6) Is because of the conflicts we are not able to produce the intended goal?

Following table shows, a very crucial aspect regarding the user satisfaction. The table shows the different opinion from different companies, with some specific reason mentioned.

<table>
<thead>
<tr>
<th>No of company</th>
<th>Reply</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Yes</td>
<td>Because of conflicts We are not able to concentrate on our development, and so not getting enough time for unit testing, because of that defects are increased.</td>
</tr>
<tr>
<td>10</td>
<td>Not 100% correct</td>
<td>There are many other factors like De-motivation, Attitude, High work pressure etc which are hurdles for producing intended goals. The anchoring position of project manager smoothen much hurdles. If project manager is not efficient, then off course there is lot of problems while delivering the project on time.</td>
</tr>
<tr>
<td>3</td>
<td>Of course Not</td>
<td>In any company Role and responsibility is defined for each person and you have to do your job with stated responsibility.</td>
</tr>
<tr>
<td>2</td>
<td>No Reply</td>
<td>No Reply</td>
</tr>
</tbody>
</table>

Conclusion:

In any development process, the members of a team are so much important, since not a single person do the entire job. And if we consider the team then there is always something which took a birth say “conflicts”. In this paper we consider the different companies who do different work on different domain with different location so that we reach to a wider space and collect a data. In this paper we consider some questions and on the basis of company reply, try to analyze the conflicts that might be either between the software tester and software developer and also between software tester and the management, and some consideration to resolved the conflicts, and mostly try to analyze, because of the conflicts we reach to the intended goal or not.

ACKNOWLEDGMENT:

I would like to thank all anonymous reviewers for their valuable comments that were used to improve this paper. I am grateful to Dr. Suryakant B. Thorat and Dr. Pradeep K. Butey for giving proper guideline and provide necessary help to me. Finally last but not the least my family, my all mentors starting from my childhood and my friends for their kind support.

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