Bug Tracking System Analysis

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ABSTRACT: On time defect reporter and scheduler system project provides bug tracking, help desk, issue raising, search facility, helps info, and issue resolution. Issues related to software projects can be raised, tracked and resolved by employees of different departments. The different groups and representatives can interact each other through this system. The issue tracking system does all the jobs that are done in conventional system. In this project it is done in more formal and efficient manner. All the users like programmer and tester and project manager of organization can interact with each other through the defect reporting tool. This system acts as an interface between the employees thereby enabling them to forward their issues to the centralized report tracking system. Hence, making the work easy for both the issue raiser and the resolver. It totally avoids the involvement of middlemen in getting resolution for a particular issue.The defect tracking system is an internet as well as intranet application, which provides information about issues in software projects, in detail. This system can be used by all the departments of a software organization. In Issue Tracking, it fulfills different requirements of administrator and employees of a software development organization efficiently. The specific purpose of the system is to gather and resolve issues that arise in different projects handled by the organization. Defect Tracking Systems are mainly required to incorporate with quite other information systems like contact information, customer databases, project planning systems, requirement management packages. This method is greatly handled to implement with security measures like granting admittance only to particular groups and permitting only authorized persons to modify the process.

I . INTRODUCTION

Defect tracking is a fundamental and critical part of application lifecycle management. However, it is not uncommon for a defect tracking tool to be under utilized by software development and quality assurance teams, with much of the tool's potential functionality remaining untapped. This can be remedied by implementing best practices throughout the defect tracking process. Guidelines should be established that determine the minimum amount of information necessary to report a defect. To verify that a defect has been fixed, a user must first be able to reproduce it. While it is possible to fix a non-reproducible defect, it is a very difficult and time consuming task. After a defect is found, it must be prioritized and scheduled to be fixed. Often this is subjectively determined by the severity of the problem as seen by the project manager. Some defects only exist in specific environments. To provide thorough testing, the QA team must identify and test all possible hardware/software combinations.
Having a bug tracking system is extremely valuable in software development, and they are used extensively by companies developing software products. Consistent use of a bug or issue tracking system is considered one of the "hallmarks of a good software team".Bug and issue tracking systems are often implemented as a part of integrated project management systems. The project allows including bug tracking and fixing in a general product development process, fixing bugs in several product versions.

II. NEED FOR THE STUDY

Issue tracking systems, trouble tracking systems, bug tracking systems, requirements tracking systems, etc.are same [1]. Their purpose remains the same collecting requirements, their management, and tracking their progress. Due to the drawbacks of the existing system the project is under taken to develop a new system providing solutions for the

existing problems. The problem in the older system can be defined as the whole project maintenance, user maintenance and their assignment has to be maintained manually. The software development companies have to face a lot of problems while maintaining manually all the maintenance of the projects, their bugs and their status.This type of problem makes the whole system an inefficient and thus making a poor and unorganized working. In order to remove this type of problem, a paper is planned to develop [2-3].

A. Objectives of defect tracking system: In a corporate environment, a bug-tracking system may be used to generate report on the productivity of programmers at fixing bugs. This may sometimes yield inaccurate results because different bugs may have different levels of severity and complexity. The severity of a bug may not be directly related to the complexity of fixing the bug [4]. There may be different opinions among the managers and architects. The main objectives of the Defect Tracking System are: Identifying the bugs in the developed application, No bug will be unfixed in the developed application, Not merely identifying the bugs but also providing the bug information, The bugs are reported to the project manager and developer, To ensure that who needs to know about the bug can learn soon after it is reported [5].

III. PROPOSED SYSTEM

The purpose of the defect tracking system is to test the application for the bugs and report it to the project manager and developer. The main intention behind the bug tracking system is that to track bugs and report them. Store the bug information with a unique id in the database for future reference. So, this makes the job of handling the bugs easy [6]. The system is designed to be user friendly. It can be used both for bug tracking and for project management. In this system the project manager can have full details of the work assigned to each team member. Moreover when a new work comes he can assign the work to different persons by having a view at the programmer with minimum work. Defect Tracking Software assists to track the work flow of the work given to each team member by a project leader [7]. This software assists the project managers, the team members and equally the top officials of a software company to know how the work is progressing. Project usually comes to the company in the form of bugs. Usually, when certain enhancements of a product are being done i.e. when, certain version updates a product is being done, work is assigned to different programmers in the form of Bugs.The software is mainly focused on the work coming in the form of Bugs [8]. The project manager can fully understand what the status of each bug is, whether it is fixed, assigned, or won't fix.

IV. MODULE DESCRIPTION

The defect tracking system project consists of the following major modules. It includes,
- ✓ Login Module
- ✓ Admin Module
- ✓ Manager Module
- ✓ Programmer Module
- ✓ Tester Module

A. Login module: Login module is the gateway to this tool. It allows authorized users to use the tool. It was achieved by creating a form named login form that contains the Username, Password and User type. The User type must be Administrator, Manager, Programmer, and Tester. The details regarding this form are stored in the Login Table. The master page are created separately for Administrator. Similarly Manager, Programmer and Tester have a separate Master Page. The user should enter the Username, Password and also choose the user type that directs their entry into the tool.

If the User type is Admin and the given Username and the Password matches then the admin master page opens which have a separate set of activities. Similarly if the User type is Manager or Programmer or Tester and the given Username and the Password matches then the related Master page opens which have a separate set of activities.

B. Administrator module

Administrator under this project is chiefly concerned with the overall performance of the Programmers and Testers. The various module information's forwarded by the Administrator to the Programmers, which in turn are sent to the Testers for correctness, are done through a pivotal program known as DEFECT MANAGER. The admin Master page has menus like,

Manager details: The administrator has the rights to register the details of the new manager. The manager registration form includes automatic generation of Code. The password is given temporarily by the administrator by the time of registration itself. The admin can update or delete the details of the Employee which is provided in the sub menu. The Administrator can also view the required details of the employee by specifying the Code, Username, Skills, Experience and Contact.

Programmer details: The newly hired programmer details are registered by the admin on to the system. The temporary password will be given by the admin to the programmer. The manager will be allocated by the admin to the programmer.

Tester details: The newly hired tester details are registered by the admin on to the system. The temporary password will be given by the admin to the tester. The manager will be allocated by the admin to the tester.

Task details: The Administrator maintains the task details in the task master form.

Project details: The Administrator maintains the project details in the project master form. The administrator alone can view, delete or update the details of the project. The project code is generated automatically. The administrator can view the project details by specifying the project code, project in date, deadline date, assigned manager, programmer and tester code.

C. Manager module: The module information received by the manager from the Administrator through Defect Manager is developed in details. The module information on being developed in details is forwarded to the Defect Manager through message communication. The manager enters into the tool with their own user name and password and also chooses the user type as manager. This leads to the manager master page has the following activities performed through menus.

View profile and change password: The manager can view his profile. He can also change or edit his profile. It enables the manager to edit his name, date of birth, skillset. It is also possible for the manager to change the temporary password assigned by the administrator.

View programmer: The manager can view the programmer details who are under his/her team by specifying their programmer code. He can view the programmer name, code, skillset, contact, leave details and his assigned project code and task code.

View tester: The manager can view the tester details who are under his/her team by specifying their tester code. He can view the tester name, code, skillet, contact, leave details and his assigned project code and task code.

D. Programmer module : The module information received by the Programmers from the Administrator through defect manager is developed in details. The module information on being developed in details is forwarded to the Defect Manager through message communication. The programmer enters into the tool with their own user name and password and also chooses the user type as programmer. This leads to the programmer Master page that has the following activities performed through menus.

View manager,project,and client: It has options to view the details of manager incharge for him. The client and their project details can also be viewed by clicking on the respective options.

View task: The programmer can view the task allocated by the manager and accomplish the given task within the deadline period mentioned. If the specified task has been completed then the programmer update the status of the task as completed which can be viewed by the manager when required.

View feedback: The programmer views the feedback in the view feedback form. The feedback may be from manager. The programmer can take the respective actions on the mentioned feedback.

VI. CONCLUSION AND FUTURE ENHANCEMENTS

A. Conclusion: Implementation is the stage of the project when the theoretical design is turned into a working system. Implementation is the process of having the system into use, training the user and installing the new application. The system implementation involves careful planning, investigation of the current system and its constraints on implementation, design method to achieve the change over and evaluation. During implementation, the maintenance issues were considered and the benefits of using the computerized system over the manual system were discussed. Verifications and validations were done in a stimulated environment.

B. Future enhancements: The defect tracking system project can be enhanced by adding more and more activities performed in a IT companies that involves not only development but also several other services provided by the

concern. Thus the enhancement becomes the global integration tool. Hence the system will increase the following benefits: Interaction is efficient, Manual work reduced, Errors are reduced, Fast Retrieval of data, User friendly.

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