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Software Bug Classification and Assignment

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Abstract: - As software development has become a crucial part of any organization, so as to minimize the risk of faults in software, user have to file these bug information repositories. User reports bugs to repositories. Users of these repositories are usually non-technical and cannot assign correct class to these bugs. Triaging of bugs, to developer, to fix them is a tedious and time consuming task. Developers are usually expert in particular areas. For example, few developers are expert in GUI and others are in java functionality. Assigning a particular bug to relevant developer could save time and would help to maintain the interest level of developers by assigning bugs according to their interest. However, assigning right bug to right developer is quite difficult for tri-ager without knowing the actual class, the bug belongs to.

Keywords: - classifications, software repositories, software projects, triaging

I. INTRODUCTION

Data mining is the process of extracting useful information through data analysis. It is also known as knowledge discovery. Useful knowledge obtained as a result of data mining can be used to cut costs, increase revenues or both.

To understand constantly evolving software systems is a very daunting task. Software systems have history of how they come to be and this history is maintained in software repositories. Software repositories are the artifacts that document the evolution of software systems

As there is a increased number of software development, so as increased number of bug reports are filed daily on the internet, and to resolve that a lot of effort is required. Till a few extent they can be fixed but if number of bug report is huge then it can create problems that how to organize and pass on to the developer and to fix it. This paper proposes a technique by which both user and the developer will be able to use with ease.

II. PROBLEM

Triaging of bugs to developer to fix them is a tedious and time consuming task. Developers are usually expert in some particular area. For example few developers are expert in GUI and others are in pure java functionality. Assigning a particular bug to relevant developer could save time as well as would help to maintain the interest level of developers by assigning those bugs according to their interest. However assigning right bug to right developer is quite difficult for tri-ager without knowing the actual class a bug belongs to.

Due to increased software development there is a high risk of problems to rectify the bugs and the user is unaware of what type of problem it can face, due to which lot of software gets crashed during their deployment. In order to know the exact bug fix information following proposed system can be used.

III. PROBLEM SOLUTION

This section describes the proposed system for bug classification.

When the bug is first reported to the repository, it is submitted to our proposed system as shown in Fig. 1.All the applications are deployed in Apache tomcat server and for database apache derby is used with java. When the bug is reported to the application, then either a user can find it using forum page and also in existing database where different kinds of algorithms are used as shown in Fig. 1 to process user information as to speed up searching time and to give exact result as shown in Fig. 1, if it is not available there, then it can be filed as a new bug report by registering as a new user.

Firstly, administrator can register for a user and a developer as shown in diagram. After that user can file a bug report or either he can search for the bug report in forum and also can query for a bug and can chat online if some developer is present. Otherwise it can file for a new bug report with its credentials and most importantly whenever a user files a new bug report, it automatically sends to the developer by e-mail and it can be replied back for more information or developer can login with its credentials for more information and can see which all bug reports are assigned and can reply to the forum for answers.

Both user and developer can register on the forum page and can reply to the queries, e-mails, etc.

After registering, the user can register in forum too. There user can chat online if some developer is present and ask for help and also can submit to the forum where people can help which are working on software, may or may not be a developer.
These all things together can help a user to find the bug fix faster and more reliable as they are classified in proper manner.

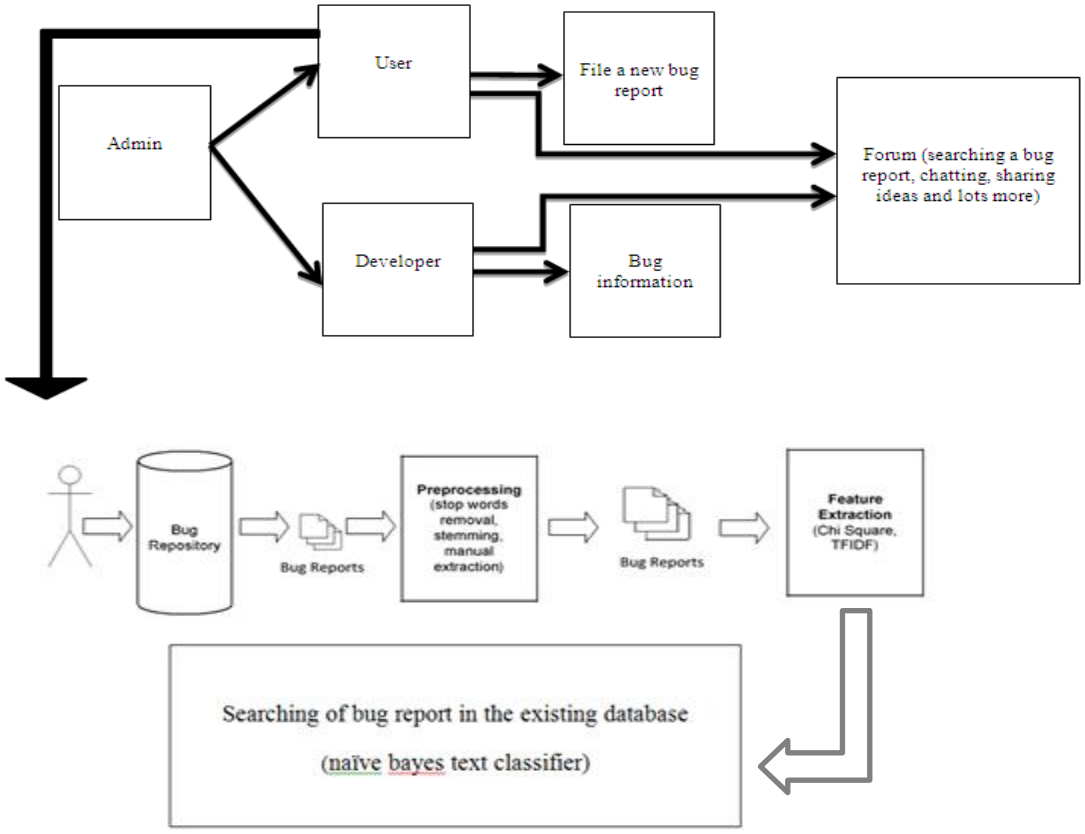

Fig. 1 Bug Classification System
Automatically assigns Bug report to the respective developer via e-mail

IV. ADVANTAGE AND ITS APPLICATION

It can be used by user very easily and can get lot of information regarding the bug report and also can get help from other sources like chatting or e-mails and also it automatically assigns the bug report to the developer.

As it is based on JAVA , so it can be used with cross-platform or multi-form, also it can be used with small organization or for a web developing sites .Also as bug reports are assigned automatically to the respective developers, so it increases the process assigning the bugs to the developer.

V. CONCLUSION

Bug report submitted by user can easily be found and can be fixed by the developer because it automatically assigned to them, so speeding up the whole process and also classification can be done according to the report submitted.

VI. FUTURE WORK

Payment amount should be introduced to the developer so that user can find its bug solution fast and keep the interest of the developer to fix it.

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