International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 05 | May - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

Bug Tracking System

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Abstract – For many years, bug-tracking mechanisms have been employed only in some of the large software development houses. Most of the others never bothered with bug tracking at all, and instead simply relied on shared lists and email to monitor the status of defects. This procedure is error-prone and tends to cause those bugs judged least significant by developers to be dropped or ignored. Bug Tracking System is an ideal solution to track the bugs of a product, solution or an application. Bug Tracking System allows individuals or groups of developers to keep track of outstanding bugs in their product effectively. This can also be called the Defect Tracking System. The Bug Tracking System can dramatically increase the productivity and accountability of individual employees by providing a documented workflow and positive feedback for good performance. Moreover, the project explores the use of machine learning for automated root cause analysis, assisting developers in identifying underlying issues contributing to bug occurrences. Recommendation systems are also developed to suggest potential fixes or solutions for reported bugs based on past incidents and code repositories, aiding developers in efficient bug resolution. Through these ML-driven functionalities, the proposed bug tracking software aims to revolutionize the bug management process, enabling faster bug detection, prioritization, and resolution, thereby enhancing software quality, user satisfaction, and overall development productivity.

***Key Words*:** Bug Tacking system, apps, users.

1.INTRODUCTION

The "Bug Tracking System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover, his system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

This application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Bug Tracking System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Every software organization, whether big or small, has challenges to overcome and managing the information of Project, Bug, Tester, Bug Category and Bug Type.

Similarly, AI has had an impact on bug tracking software. AI and Machine Learning (ML) go hand in hand and are now included in Software as a Service(SaaS). To tackle fundamental flaws and issues in an application, test managers typically encourage the use of a variety of issue tracking technologies. AI has had a significant impact on software testing tools in addition to improving the issue tracking process. As a result, there are two types of AI that contribute to software testing:

- Software testing methods based on artificial intelligence
- Putting AI-based products to the test

AI has unquestionably altered the way things are done these days, in one way or another. Thanks to Artificial Intelligence, software testing is now a reliable procedure that requires little human intervention (AI). Most software testing businesses, on the other hand, are increasingly incorporating AI capabilities into their software testing solutions.

2. PROBLEM STATEMENT

To provide a centralized system for tracking and resolving bugs, enabling teams to collaborate more effectively and deliver high-quality products.

3. OBJECTIVES

The main objective of the Project on Bug Tracking System is to manage the details of Bug, Project, User, Tester and Bug Type. It manages all the information about Bug, Project, User, Tester and Bug Type. The purpose of the project is to build an application program to reduce the manual work and it also tracks all the details about Bug, Project, User, Tester and Bug Type.

4. PURPOSE:

This project is aimed at developing a web based Bug Tracking System, which is the perfect or unique solution to track the bugs of a solution, product or an application. Bug tracking system admits single or set of developers to continue track of not finished bugs in their product successfully. Bug tracking system can increase a lot, the accountability and productivity of single employees by giving a positive feedback and back up the workflow. The bug tracking software allows or group of testers

or individual testers to keep path of unfixed bugs in their software successfully. The bug tracking software can track bugs, can handle code changes, can share information with teammates, submit and review connects and control standard assurance.

5. MODULES

Admin: This module has the entire access to all other modules. Admin creates the project and assigned the project to the created manager, adding member to the managers, assigning bugs based on the priority.

Developer: When he/she will login, then he/she will be able to see all bugs details that are assigned to him/her. Details of the project of that bug belong, He/she will be able to see members of its team. He/she will be able to change or see the status of the bug. He/she can report the process of the bug to the tester. He she will be able to see the status of the projects assigned to him her team.

Manager: Manager has the full access to the particular project assigned project and resolving the assigned bug. Developer can view the bugs list assigned by the manager.

Tester: Tester can access to the project or bugs assigned by the manager, can view the assigned project and can add a new bug to the list and send the bug back to the manager. Tester can login to the system and access the assigned project list.

Reports: Both Admin and Manager can access this module and generate the reports based on the requirement.

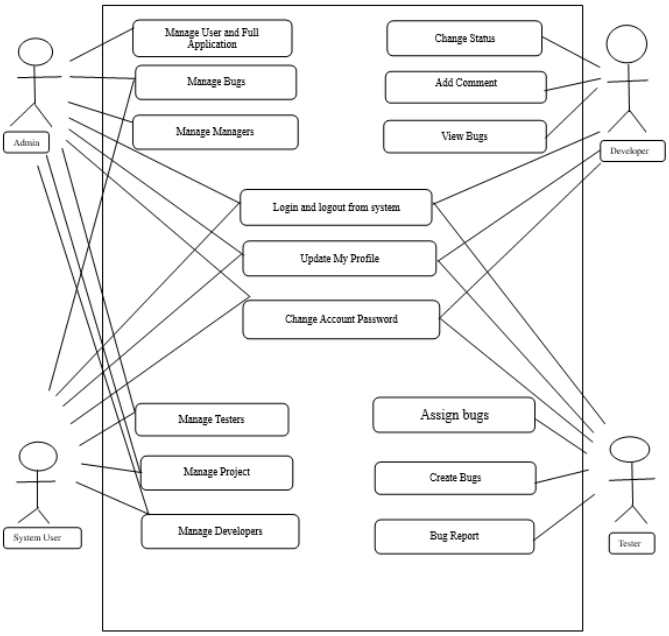

Fig -1: Use Case Diagram

6. DATA FLOW

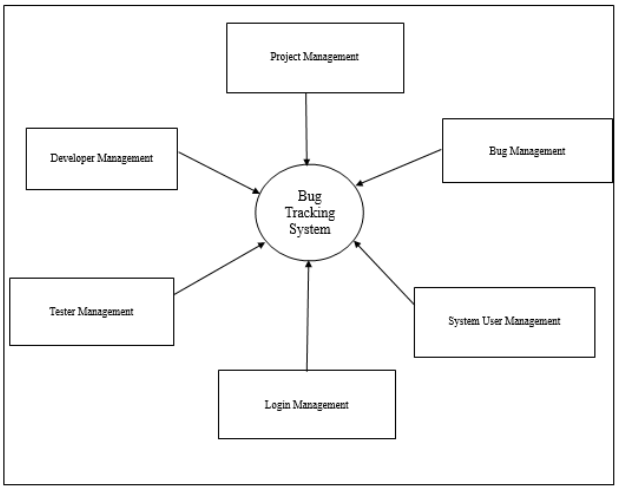

Fig -2: Data Flow Level 1 Diagram

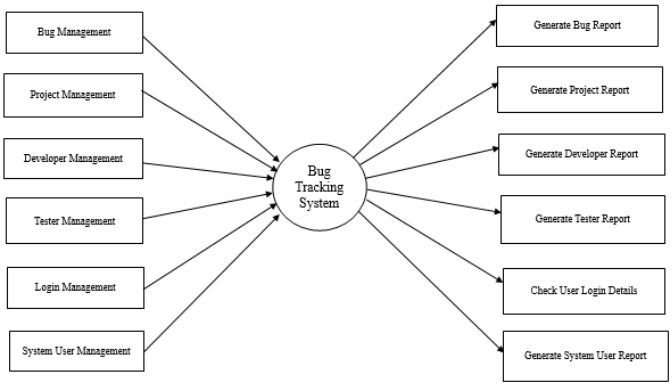

Fig -3: Data Flow Level 2 Diagram

7. ENTITY RELATIONSHIP

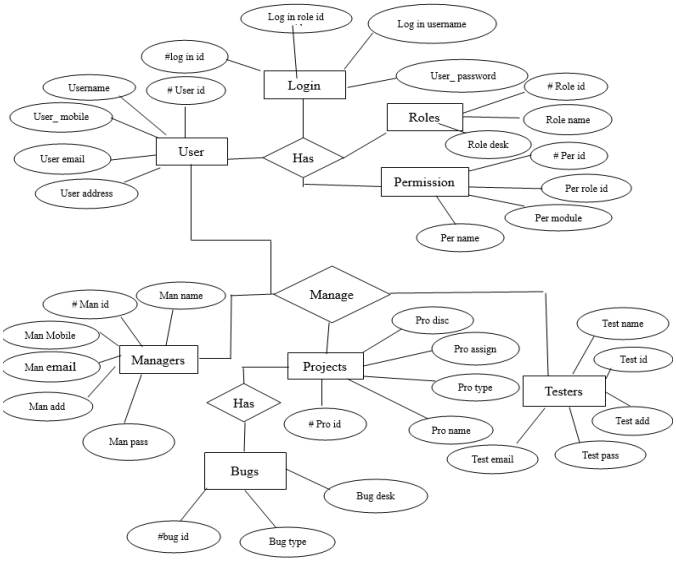

Fig -4: ER Diagram

8. RESULTS

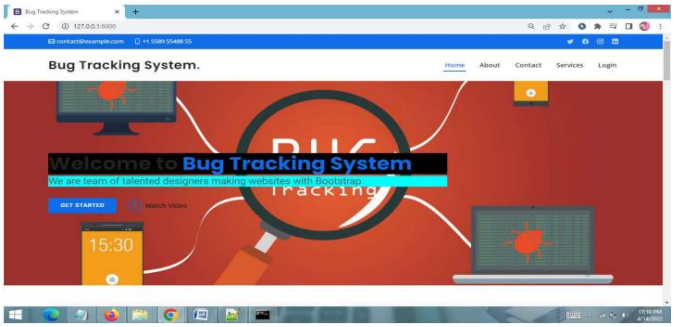

Fig 5 -: Home Page

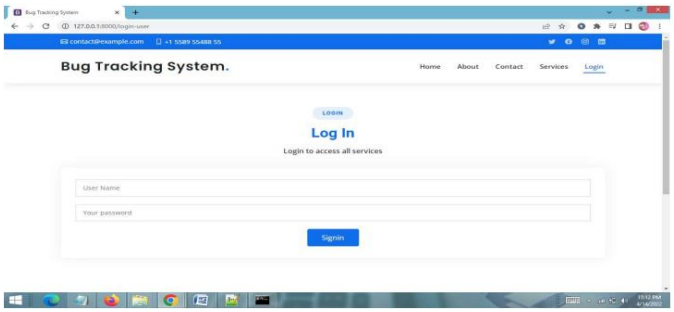

Fig 6 -: Login Page

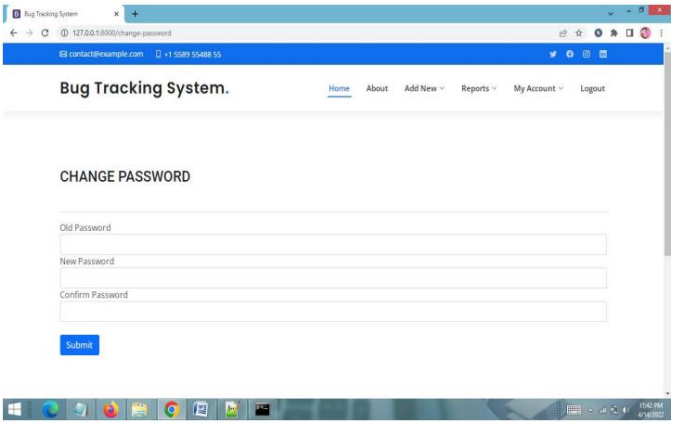

Fig 7 -: Change Password Page

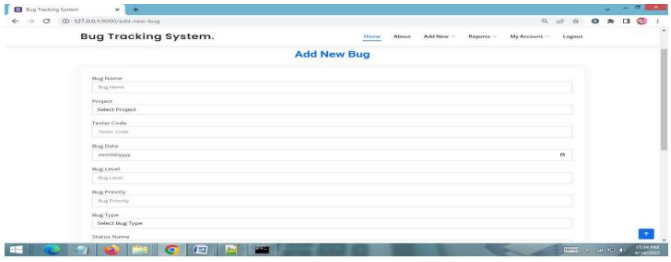

Fig 8 -: add new bug Page

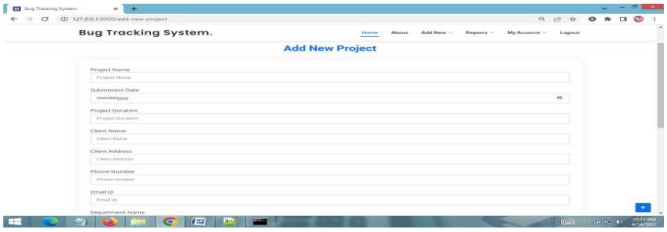

Fig 9-: add new project Page

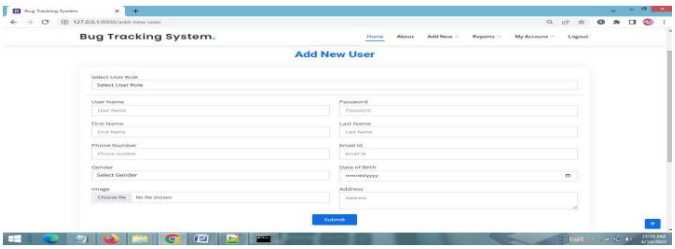

Fig 10-: add new user Page

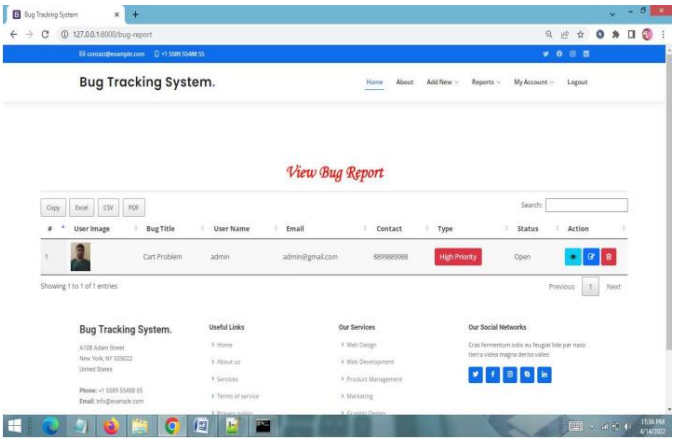

Fig 11 -: view bug report page

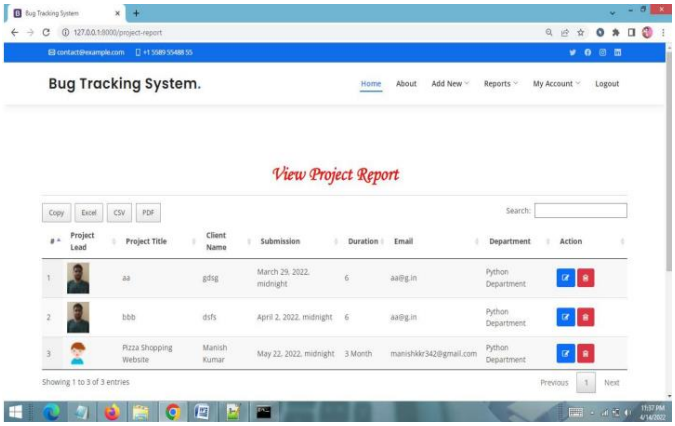

Fig 12 -: view project report page

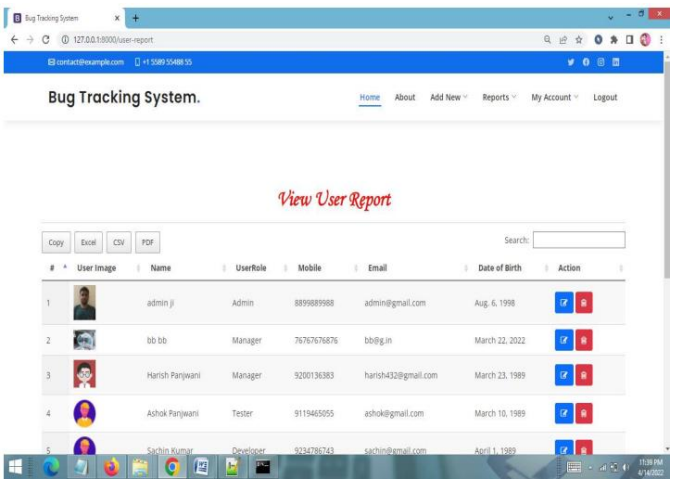

Fig 13 -: view user report page

9. CONCLUSION

The Bug tracking system helps to detect and manage the bugs in software products effectively. This project BTS can be used to track the bugs in project modules and assist in troubleshooting errors for testing and for development processes. This project highly avoids all source of delay in bugs reporting level within the project modules in the software industry as application is deployed in a company server, it is much more.

ACKNOWLEDGEMENT

We would like to express special thanks of gratitude to our guide Mrs. Indira Joshi as well as our Project Coordinator Dr.S.Brinthakumari who gave us the golden opportunity to do this wonderful project on the topic of Bug Tracking System, which also helped us in doing a lot of research and we came to know about so many new things. We are very grateful to our Head of the Department Dr.Sanjay Sharma for extending his help directly and indirectly through various channels in our project work. We would also like to thank Principal Dr Prashant D Deshmukh for providing us the opportunity to implement our project. We are really thankful to them. Finally, we would also like to thank our parents and friends who helped us a lot in finalizing this project within the limited time frame.

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