

SOFTWARE REQUIREMENTS SPECIFICATION

For

Issue Tracking System

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1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project Issue Tracking System. The document gives the detailed description of the both functional and non-functional requirements proposed by the client. The purpose of this project is for tracking and managing issues or bugs in software development projects. The main purpose of this project is that the developers can report issues, track their status, and collaborate on solutions. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

1.2 Document Conventions

- Entire document should be justified.
- Convention for Main title
 - Font face: Times New Roman
 - Font style: Bold
 - Font Size: 14
- Convention for Sub title
 - Font face: Times New Roman
 - Font style: Bold
 - Font Size: 12
- Convention for body
 - Font face: Times New Roman
 - Font Size: 12

1.3 Scope of Development Project

An issue tracking system (ITS) application plays a crucial role in managing and tracking various tasks, problems, or requests within an organization. The scope of an issue tracking system can be quite extensive, covering a wide range of functionalities and benefits.

It enables support agents, engineers, and managers to monitor those issues until they've been resolved successfully. Popular issue tracking tools typically support agile methodologies and project management capabilities, so agile teams can stay aligned and collaborate faster.

This project allows you to identify, record, manage and track bugs in your software. As issues are identified, they are assigned to engineers who validate the request and work on fixes for them. The software handles how the bug fix moves from person to person while keeping the initiator in the loop.

1.4 Definitions, Acronyms and Abbreviations

JAVA -> platform independence

SQL-> Structured query Language

ER-> Entity Relationship

UML -> Unified Modeling Language

IDE-> Integrated Development Environment

SRS-> Software Requirement Specification

ITS-> Issue Tracking System

1.5 References

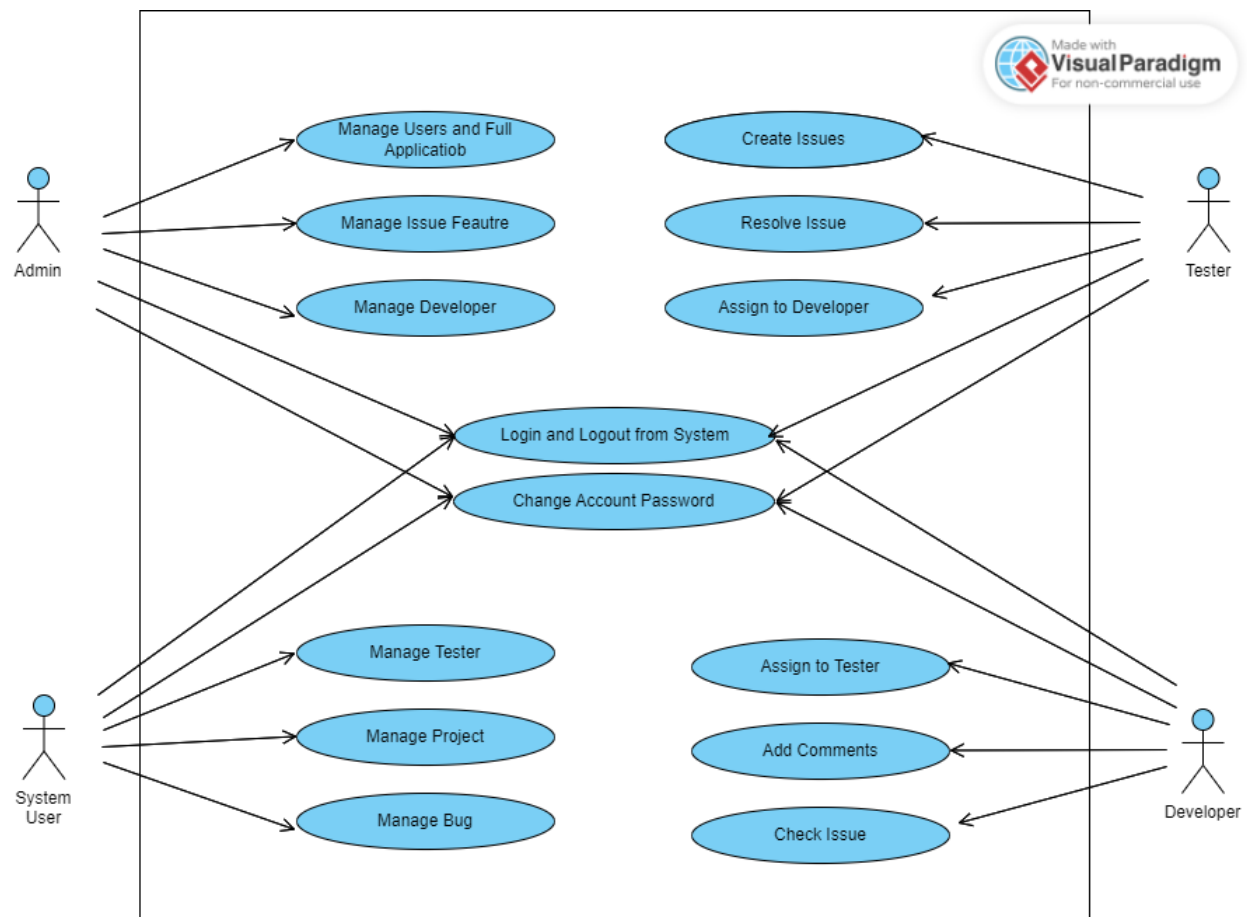
Websites

- <https://github.com/>
- https://docs.oracle.com/cd/B25329_01/doc/appdev.102/b25310/issue_track.htm

2. Overall Descriptions

2.1 Product Perspective

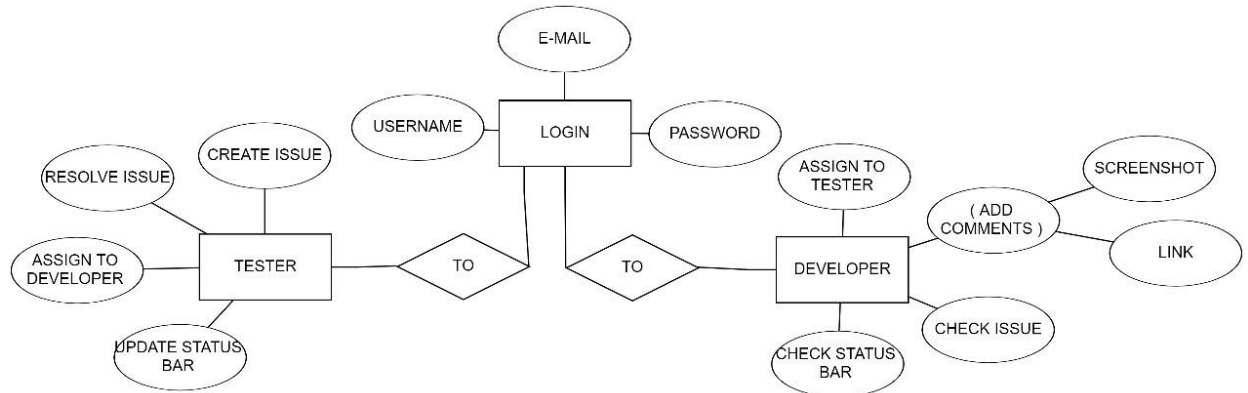
Use Case Diagram of Issue Tracking System



This Use Case Diagram is a graphic depiction of the interactions among the elements of Issue Tracking System. It represents the methodology used in system analysis to identify, clarify, and organize system requirements of Issue Tracking System. The main actors of Issue Tracking System in this Use Case Diagram are: Admin, System User, Tester, Developer, who perform the different type of use cases such as Manage Issue, Manage Issue Feature, Manage Tracking, Manage Developer, Manage Tester, Manage Project, Manage Bug, Manage Users and Full Issue Tracking System Operations.

2.2 Product Function

Entity Relationship Diagram of Library Management System



2.3 User Classes and Characteristics

The primary purpose of an ITS is to facilitate communication among team members, provide a centralized repository for issue information, and ensure that all reported problems are addressed in a systematic and organized manner. Here are some key features and aspects of an Issue Tracking System:

The features that are available to the Developers are:-

- Users can create new issues
- Users may be able to attach files, screenshots, or other media to provide additional context to the issue.
- View detailed information about each issue
- Users can update the status of an issue as it progresses through various stages of the workflow
- Assign issues to specific team members or groups responsible for addressing them.
- Users can add comments to issues
- Robust search capabilities allow users to find specific issues quickly
- Filtering options enable users to sort and view issues based on various criteria

The features that are available to the Tester are:-

- Developers can be assigned specific issues to work on
- Indicating their responsibilities within the project
- Integration with version control systems
- Allows developers to link issues to specific code changes, branches, or commits.

- Developers can reference code files, classes, or methods directly within issue comments to provide context or relate discussions to specific code locations
- Developers can update the status of issues as they progress through development stages
- Triggering automatic workflows for tasks like moving issues to testing or closing them

2.4 Operating Environment

The underlying operating system on which the ITS software runs. Common operating systems include Linux, Windows, and macOS.

Users access the ITS through web browsers. Ensuring compatibility with widely used browsers (e.g., Chrome, Firefox, Safari, Edge) is crucial for a positive user experience.

The physical servers and infrastructure where the ITS is hosted. This includes considerations for server specifications, storage capacity, and network infrastructure.

2.5 Assumptions and Dependencies

The assumptions are:-

- Team members will actively use the issue tracking system to report, update, and resolve issues.
- Users will input accurate and relevant information when creating or updating issues.
- Team members will follow the defined workflow for issue resolution.
- Integration with version control, build tools, and other development tools will work seamlessly.
- Team members will provide timely updates on the status of assigned issues.

The dependencies are:-

- Training and communication efforts to promote the benefits of the system and encourage adoption.
- Clear guidelines and training on how to fill out issue details, including fields like description, severity, and priority.
- Clearly documented and communicated workflow processes, and periodic reviews to ensure adherence.
- Compatibility checks and ongoing monitoring to address any issues arising from toolchain updates or changes.
- Setting expectations for regular updates and implementing automated reminders.

2.6 Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database.
Operating System: Windows NT, windows 98, Windows XP
Language: Java Runtime Environment, Net beans 7.0.1 (front end)
Database: MS SQL Server (back end)

Hardware Configuration:-
Processor: Pentium(R)Dual-core CPU
Hard Disk: 40GB
RAM: 256 MB or more

3. External Interface Requirement

3.1 GUI

The software provides a good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, and view the details of the issued problems.

- Customizable dashboard

Users can arrange and organize various widgets on their dashboard according to their preferences. Widgets may include charts, graphs, lists of assigned issues, and recent activity feeds.

- File attachment

Users can upload files directly from their local devices or from cloud storage services. Common file types include images, documents, spreadsheets, and code files.

Attachments are often linked to specific changes or comments within an issue. For example, a screenshot attached to a comment describing a bug can provide visual context to the issue.

- Issue reporting

It allows users to inform the development team about problems, bugs, or other tasks that need attention. The ITS should provide a user-friendly interface that

makes it easy for users to report issues. This typically involves a simple form with fields for essential information.

➤ Save Report settings

Users should have the ability to customize various parameters when generating a report. This may include selecting specific fields, applying filters, defining sorting options, and choosing the report format.

➤ Email Notification

Email notifications are a crucial feature in an Issue Tracking System (ITS) as they keep users informed about updates, changes, and important events related to the issues they are involved in.