Bug Tracking System
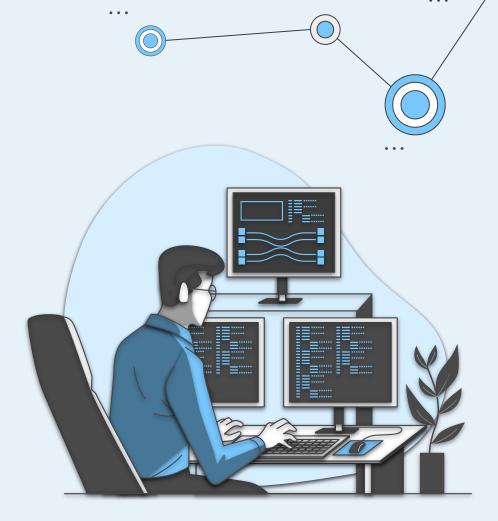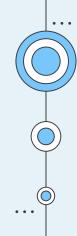
Group ID: WFS3_PUN_Team 1

Arpit Sagar   (Team Leader) (45393742)
Gautam Khaire   (45393748)
Pankaj Kumar   (45393344)
Niharika Harmalkar   (45393428)
Aayush Ranjan   (45393340)
Abhijeet Bahuguna   (45393528)
Abhisek Singh   (45393491)
Naveen Datti   (45394141)
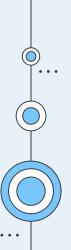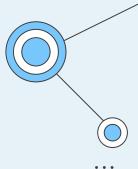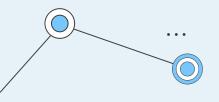Anushka Agarwal   (45393574)

Problem Statement

The project is an online bug tracking system for projects. The application allows software testers to report bugs for a project, project managers to view all bugs, assign bugs to developers and developers to update the bug status.

Application Features

- **Project Management**:

  Create New Projects: Project Managers can create and manage projects with automatic unique ID generation.

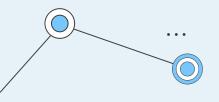 Team Assignment: Project Managers can assign team members to projects, with constraints on how many projects a user can be assigned.

  Project Overview: Detailed view of project information, including project name, start date, status, and assigned team members.
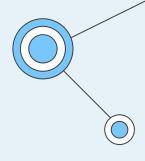
  Project Status Tracking: Projects can have statuses like "In Progress", "Closed" and "Open" helps to monitor project progress.

Application Features

- **Bug Reporting & Management**:

  Bug Reporting: Testers can report bugs against projects they are assigned to, capturing critical details like severity, title, and description.

  Bug Assignment: Project Managers can assign reported bugs to developers for resolution.
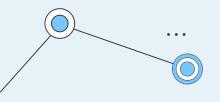
  Bug Status Tracking: Track the lifecycle of a bug from "Open" to "Closed," with updates as developers work on resolving issues.
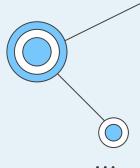
  Severity Levels: Bugs can be categorized by severity (Low, Medium, High, Critical), impacting their priority and resolution timelines.

Application Features

- **Dashboard & User Interface**:

  Personalized Dashboards: Separate dashboards for Project Managers, Developers, and Testers with relevant project and bug information.

  Project Manager Dashboard: Overview of all managed projects, team members, and bug status with options to create new projects.

  Tester Dashboard: Display of assigned projects and bugs reported by the tester, with the ability to report new bugs.

  Developer Dashboard: Display of assigned projects and bugs, with the ability to mark bugs as resolved or closed.
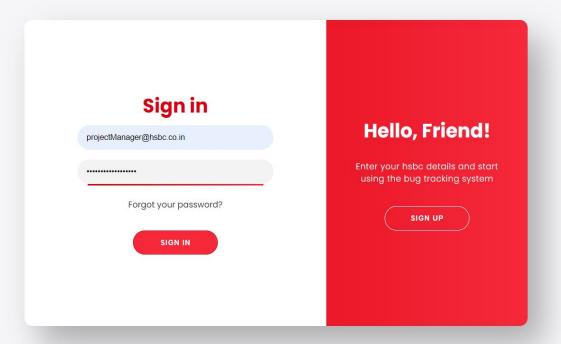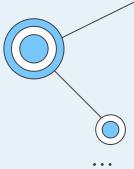
Frontend Website Components
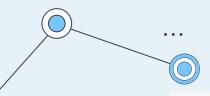
1. **Login/ Signup Page –** Registration for new users, or log into existing account for existing users
2. **Bug Tracking Page –** Create a new project, display a list of all projects and their details, Raise a new bug, Role-based (Project Manager, Developer, Tester) page layouts
3. **New Project Form –** Create a new project having a Project name, Start Date at least 2 days later than the current date, Project status as "In Progress", Developers assignment, etc.
4. **Report New Bug Form –** Report a new bug with a project name, description, severity level, title, etc.

UI Snapshots

Sign in

projectManager@hsbc.co.in

••••••••••••••••••

Forgot your password?

SIGN IN

Hello, Friend!

Enter your hsbc details and start using the bug tracking system

SIGN UP

Sign in Page

UI Snapshots

Sign up Page

Welcome Back!

To keep connected with us please login with your hsbc details

SIGN IN

Create Account

Job Role

Email

Password

SIGN UP

UI Snapshots

Bug Tracker

Gautam Khaire
Project Manager

- Dashboard
- Projects
- Team Members
- Charts

gautam.khaire@hsbc.co.in

Date: 26-08-2024
Time: 9:45 AM

Message ⌄   Notification ⌄

Projects **2**	Open Bugs **10**	Closed Bugs **5**	In Progress Bugs **6**

+ Add Project

Bug Tracking Page

10 ⌄ entries per page   Search: _____

BugId	Title	Description	Severity	Status	CreatedBy	AssignedTo	CreatedOn	Project
B001	User login page fails to load after recent update	After the recent update to the application, the user login page fails to load, causing users to be unable to access their accounts. This issue needs immediate attention.	Critical	Open	Rohan Gupta	Priya Reddy	17/08/2024 10:00:00 am	Login Page Update
B002	Error message displayed for invalid email format is unclear	The error message shown when an invalid email format is entered is not user-friendly and lacks clarity. It needs to be	Medium	In Progress	Carol Gray	Isha Kapoor	17/08/2024 11:00:00 am	User Registration

UI Snapshots

New Project Form

Bug Tracker

Gautam Khaire
Project Manager

- Dashboard
- Projects
- Team Members
- Charts

gautam.khaire@hsbc.co.in

Date: 26-08-2024
Time: 9:45 AM

Notification

In Progress Bugs
6

Add Project

Search:

CreatedOn | Project

17/08/2024
10:00:00 am | Login Page
Update

17/08/2024
11:00:00 am | User
Registration

Project

Project Name: User Registration

Start Date: 28-08-2024

Team Members: Choose Team Members

Developer 3 ✕

Developer 2 ✕

Tester 2 ✕

Project Status: in-progress

☑ Confirm Information

Close   Submit

UI Snapshots

Bug Tracker

Gautam Khaire
Project Manager

- Dashboard
- Projects
- Team Members
- Charts

Message ⌄   Notification ⌄

Projects Statistics

Critical High Medium Low

Project-1
Critical: 10

Project-1   Project-2   Project-3

Bugs Statistics

Open Bugs   Closed Bugs
In Progress Bugs

Bugs Statistics

Open Bugs   Closed Bugs
In Progress Bugs

Charts
(for better visualization of bugs)

UI Snapshots

Individual Project Details Page

Message ⌄   Notification ⌄

Project Name	**Start Date**	**Project Manager**	**Team Members**
Login System	18-08-2024	Gautam Khaire	7

10 entries per page   Search: [   ]

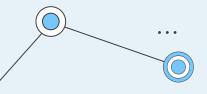| BugId	Title	Description	Severity	Status	CreatedBy	AssignedTo	CreatedOn	Project
B001	User login page fails to load after recent update	After the recent update to the application, the user login page fails to load, causing users to be unable to access their accounts. This issue needs immediate attention.	Critical	Open	Rohan Gupta	Priya Reddy	17/08/2024 10:00:00 am	Login Page Update
B002	Error message displayed for invalid email format is unclear	The error message shown when an invalid email format is entered is not user-friendly and lacks clarity. It needs to be revised to provide more specific guidance to the users.	Medium	In Progress	Carol Gray	Isha Kapoor	17/08/2024 11:00:00 am	User Registration
B003	Application crashes when submitting the feedback form	Submitting the feedback form on the application causes it to crash unexpectedly. This issue prevents users from	High	Open	Sneha Nair	Frank Eve	17/08/2024 12:00:00 pm	Feedback System

UI Snapshots

Developer Bug Tracking Page

🐞 **Bug Tracker**

Gautam Khaire
Developer

- 🏎 Dashboard
- ⟨⟩ Projects ⌄
- 👥 Team Members
- ◔ Charts

gautam.khaire@hsbc.co.in

Date: 28-08-2024
Time: 12:02 PM

✉ Message ⌄   🔔 Notification ⌄

	Project Name		Start Date		Project Manager		Team Members
⟨⟩	Login System	📅	18-08-2024	👤	Gautam Khaire	👥	7

10 ⌄ entries per page   Search: [_____]

BugId ⬆	Title	Description	Severity	Status	CreatedOn	Project
B001	User login page fails to load after recent update	After the recent update to the application, the user login page fails to load, causing users to be unable to access their accounts. This issue needs immediate attention.	Critical	Open ⌄ / Open / In-Progress / Closed	17/08/2024 10:00:00 am	Login Page Update
B002	Error message displayed for invalid email format is unclear	The error message shown when an invalid email format is entered is not user-friendly and lacks clarity. It needs to be revised to provide more specific guidance to the users.	Medium	In-Progress ⌄	17/08/2024 11:00:00 am	User Registration
B003	Application crashes when submitting the feedback form	Submitting the feedback form on the application causes it to crash unexpectedly. This issue prevents users from providing feedback and needs to be resolved urgently.	High	Open ⌄	17/08/2024 12:00:00 pm	Feedback System
B004	Navigation menu disappears on mobile view in Safari	In the mobile view of Safari, the navigation menu disappears, preventing users from accessing different sections of the site. This bug needs fixing to ensure usability.	High	In-Progress ⌄	17/08/2024 01:00:00 pm	Mobile Optimization

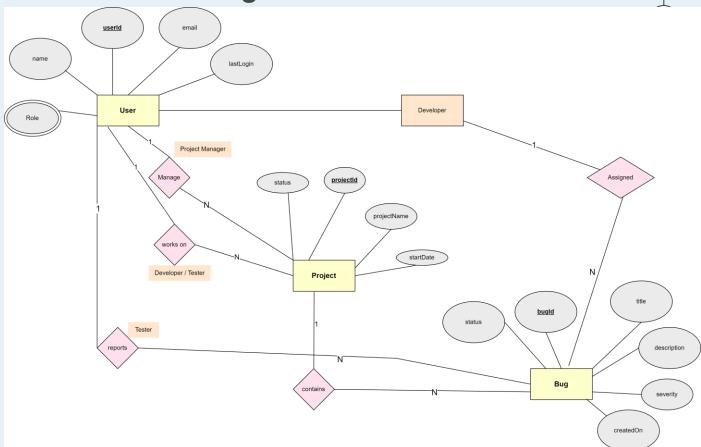# UML Diagrams

Data Flow Diagram (DFD)

UML Diagrams
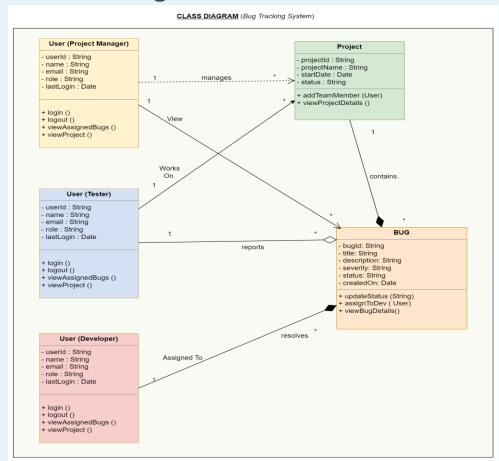
ER Diagram
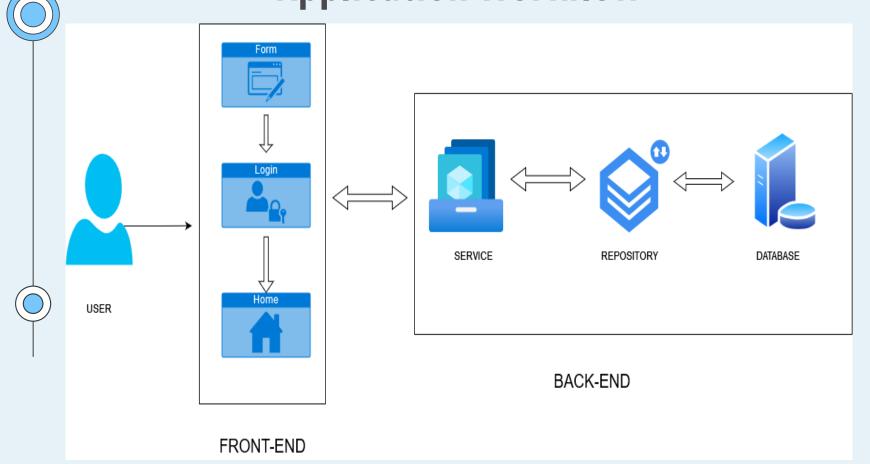
UML Diagrams
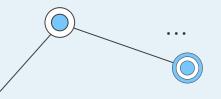
Use Case Diagram

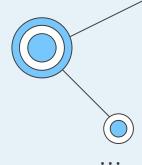# UML Diagrams

Class Diagram

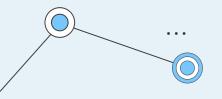# Application Workflow

Implementation Details

Project Management (addProject, updateProject, deleteProject):
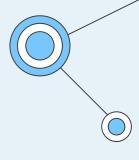
       These methods handle core business operations related to managing projects within the bug tracking system.

addProject and updateProject methods ensure that the system maintains accurate and up-to-date project data.

deleteProject is crucial for maintaining data integrity, ensuring that projects can be safely removed while handling cases where the project does not exist, which is managed by throwing a ProjectNotFoundException.
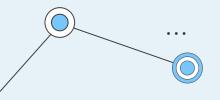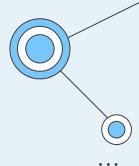
Implementation Details

Bug Management (addBug, updateBug, deleteBug, assignBug):

The methods for managing bugs, such as addBug and updateBug, represent essential business logic to maintain a current record of all issues within projects. assignBug involves business logic to ensure that the right users (like developers or testers) are assigned to resolve specific bugs, directly impacting workflow and resource management.

Handling the deletion of bugs with deleteBug involves validation to ensure the bug exists, throwing a BugNotFoundException if it does not.

Implementation Details

User Management (addUser, updateUser, deleteUser):

          User management methods are central to maintaining a secure and functional system where users (project managers, testers, developers) can perform their roles.

addUser ensures that new users are only added if they do not already exist, handling conflicts through a UserAlreadyExistsException.

deleteUser includes logic to ensure that users who are referenced in other parts of the system (like assigned bugs) are handled correctly, preventing potential data corruption or orphaned records by throwing UserNotFoundException when necessary.

Thank You!