Project charter

Full stack ticketing system integrated with ticket tracker management system.

August 24, 2025

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# Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Revision Date | Updated By | Summary of Changes |
| 1.0 | August 25 | Fui Yi Qi | Initial Version |
| 1.1 | Auguest 29 | Fui Yi Qi |  |

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# 1. Project Overview

This section provides an overview of the Ticketing System with its objectives and the scope of the system. The aim is to establish a clear understanding of the system's purpose and the key features it will offer to improve issue tracking and resolution within the organization. Below are the detailed objectives and scope of the project: (add table of contents)

1.1 Objective

(include short paragraphs, break down sentences length + more detail)

The Ticketing System is designed to enhance and modernize the organization’s existing ticketing process. The goal is for greater efficiency, transparency, and user-friendliness. It aims to overcome the limitations currently faced with the TMS Redmine platform.

In addition to handling core ticketing functions, the new system will integrate a Test Scenario Tracking System. Furthermore some new features will be included into the new Ticketing System. This will allow teams to validate and monitor test cases more effectively. The solution will support both technical and business teams in collaborating more effectively.

(justify all paragraphs, and points forms)

## 1.2 Scope

The system will be accessible as web-based platform, available to authenticated users within the organization. It will support:

(give more detail on each in point form)

1.2.1 Ticket Management:

Enable submission, assignment, prioritization, tracking, and resolution of tickets in a centralized platform.

#### 1.2.1.1 Submission of tickets:

Users can submit tickets through a standardized form that captures key details. This includes: the issue description, category (e.g. Login, Performance, etc.), urgency (e.g. Low, Normal, Urgent, Immediate), and any supporting files (e.g. image files of the issue, video files of the issue, etc.). This ensures that every request is recorded in a structured format, reducing the chances of missing information.

#### 1.2.1.2 Assignment of tickets:

Once a ticket is submitted, it is assigned to the most suitable staff member or team. This can be assigned manually (assigned to person or team), or assigned automatically based on expertise, workload, or responsibility (e.g. module, product responsibility). Proper assignment prevents tickets from sitting idle or being passed between staff unnecessarily. This makes sure the right person addresses the problem immediately.

#### 1.2.1.3 Priotization of tickets:

Not all tickets carry the same urgency. Prioritization allows the system to classify tickets based on severity (e.g., critical, high, medium, low). For example, a system outage would be marked as critical, while a minor interface issue might be low priority. This approach allows serious issues to be addressed first, reducing business impact and improving service reliability.

#### 1.2.1.4 Tracking tickets:

Tracking allows both staff and users to monitor the status of a ticket throughout its lifecycle, from “Open” to “In Progress” and finally to “Resolved.” This visibility prevents tickets from being overlooked. Every ticket has a recorded status and timeline. Users also stay informed without repeatedly contacting for support, reducing unnecessary communication and saving time for both sides.

#### 1.2.1.5 Resolving tickets:

Resolution is the stage where the reported issue is fixed, and the outcome is documented in the system. Closing a ticket with a clear record of the solution helps users confirm that their problem has been addressed. It also creates a reference for similar future cases. This reduces time spent troubleshooting recurring issues. This also improves consistency in how problems are handled.

1.2.2 Integration with Test Scenario Tracking System:

The Ticketing System will integrate with the Test Scenario Tracking System to enhance quality assurance and defect management.

Failed test cases will automatically generate tickets in the system. Tickets will have details such as expected, actual behavior and reporter carried over for review. QA leads will be able to approve, merge, and manage these tickets to avoid duplication.

Once resolved, ticket outcomes will be synchronized back to the Test Scenario Tracking System to update the status of the associated test cases. This integration ensures full traceability between testing activities and issue resolution, strengthening both software quality and team collaboration.

1.2.3 New Features:

1.2.3.1 Inbox notifications

Users and staff will receive in-system inbox notifications whenever relevant updates occur, such as when a ticket is assigned, updated, or resolved. This ensures that important changes are not missed and reduces the need for constant manual checking or follow-ups. Notifications can also help prioritize attention by highlighting critical or overdue tickets.

1.2.3.2 Automated assigning rules

The system will include automation rules that automatically assign tickets to the right team or staff member based on predefined conditions. For example, depending on the issue being raised in which module, the ticket will be sent to the specific developer or team who is in charge of that module. This reduces manual effort, prevents tickets from sitting unassigned, and speeds up response times.

1.2.3.3 Knowledge base

A searchable knowledge base will be integrated into the system, containing solutions to common problems, FAQs, and step-by-step guides. This empowers users to resolve simple issues on their own without needing to raise a ticket. It also helps support staff by providing a reference for recurring problems, ensuring consistency and reducing resolution time.

1.2.3.4 User interface

The system will feature a modern user interface designed for usability. A clean layout with dashboards, clear navigation, and responsive design will help both users and staff interact with the platform. This reduces training time for new users and minimizes errors caused by confusing workflows.

1.2.4 Data Management:

The Ticketing System will incorporate a structured data management approach to ensure secure storage, retrieval, and tracking of all ticketing activities. All data related to tickets will be stored in a centralized relational database management system. This includes issue descriptions, attachments, user details, status changes, and resolution notes. This provides scalability, reliability, and the ability to handle large volumes of data efficiently.

The system will implement access controls to ensure that only authorized users can view or modify sensitive information. Audit trails will be maintained for every ticket, recording actions such as creation, updates, assignments, and resolution, along with timestamps and user identifiers. This guarantees accountability and makes it possible to trace the complete history of each ticket.

In addition, regular backups will be scheduled to prevent data loss, and encryption will be applied both in transit (using HTTPS/SSL) and at rest (through database-level encryption) to protect sensitive data. Data retrieval will be optimized using indexing and structured queries, so that tickets can be searched and reported on quickly.

1.2.5 Workflow Transparency:

The system should provide clear visibility of the entire ticket lifecycle to all relevant stakeholders. Below it is explained in more detail:

1.2.5.1 Real-time status updates:

Each ticket’s progress (e.g., New → Assigned → In Progress → Resolved → Closed) is updated automatically. This allows stakeholders to always know the current state without having to request updates.

1.2.5.2 Automated notifications & alerts:

Stakeholders (agents, supervisors, and clients) receive notifications when key events occur (e.g., ticket assignment, ticket resolution). This reduces the need for manual follow-ups.

1.2.5.3 Audit trail & activity logs:

Every action taken on a ticket (updates, comments, escalations, reassignments) is logged and accessible. This helps in accountability and compliance, while also making it easier to review past decisions.

1.2.5.4 Role-based visibility:

Different stakeholders (business users, agents, project managers, etc.) see relevant ticket information based on their access level, ensuring sensitive data remains secure while maintaining transparency.

1.2.5.5 Performance dashboards & reports:

Managers and decision-makers can view ticket resolution times, workload distribution, and bottlenecks through dashboards. enabling better oversight and reducing delays caused by hidden issues.

1.2.5.6 Collaboration support:

Multiple agents or teams can work on the same ticket with visibility into each other’s contributions, reducing miscommunication and duplicated effort.

# Project Details

This section provides an overview of the Ticketing System project details, outlining the project stakeholders, assumptions, constraints & risks to ensure successful implementation. The aim is to present the key details of project execution and confirm that all requirements for implementing the enhanced ticketing system are fulfilled. Below is the list of stakeholders and resources for this project:

1. Stakeholders:
   1. Full Stack Developers: Fui Yi Qi
      1. Client requirements gathering
      2. Frontend Development
      3. Backend development
      4. Database Management
      5. Project Integration with Test Scenario tracking management system
      6. Project Documentation
      7. Develop project Test Script
      8. Create Automated Tests
   2. Supervisor
      1. Project oversight and review
      2. Monitor performance
   3. End users: (Business Analyst, Developers, Business Users, Agents, Project manager, Admin)
      1. Provides detailed requirements for the Ticketing System and it’s integration with test scenario tracking management system.
      2. Tests the system in User Acceptance Test
      3. Participate in system demonstrations and walkthroughs to validate progress.
2. Assumptions:

* The project will be developed and maintained by a single person with guidance from the supervisor and other feedback from end users
* The users of the system shall have a stable internet connection and modern web browser to access the system.
* The system will only be deployed in a controlled environment and not as a full-scale enterprise solution
* End users will be available for feedback (template for excel to get back feedback, remarks) and testing during the UAT phase.
* End-users are open to transition from the existing system using TMS Redmine and use the newly proposed ticketing system.
* The data in migration process from TMS Redmine are assumed to be accurate and complete.
* All requirements are assumed to remain unchanged during project lifecycle. The unchanged requirements are to ensure that the project team can design and develop the system without the need for significant adjustment

1. Constraints

* The developers, testers, and supervisors may be busy with other work, which potentially limits the availability for this ticketing system project.
* The system will be deployed as an in-house solution within the organization’s local infrastructure. It is designed to support a limited user base, with an estimated maximum of 50–100 concurrent users. The system will not be hosted on enterprise-grade or cloud environments due to scope and budget limitations, which may restrict scalability and external accessibility.
* The ticketing system must be integrated with another **Test Scenario Tracker and Management System** to allow synchronization of test cases, defect reports, and status updates. The integration approach will depend on the interfaces available (e.g., APIs, database access, or file exchange).

1. Risks:

* If the system usage grows beyond the expected 50–100 concurrent users, the system may experience performance issues due to infrastructure limitations.
* Since the system will be accessible outside the organization’s local network, inadequate security measures (authentication, encryption, firewalls) may lead to unauthorized access or data breaches.
* Employees may resist using the new system due to lack of familiarity, training, or preference for existing manual processes.
* Synchronization issues between the ticketing system and the test scenario tracker may cause mismatched or incomplete information across systems.
* Limited development time, skills, or support may lead to incomplete features or delays in delivery.
* Once deployed, the system may face challenges in long-term maintenance if there is no dedicated team to handle bug fixes and updates.

# Milestone Schedule

(change to fit fyp schedule), table form

1. **Project Charter & Timeline Approved**  
   – after completing initiation tasks

(31/07/2025, 5:30 pm)

1. **Requirements Specification (SRS) Completed & Approved**  
   – after requirements gathering, analysis, and diagrams

(30/09/2025, 5:30 pm)

1. **System Design Finalized (FSD) & Approved**  
   – after system architecture, database, UML, mockups, and reviews

(02/12/2025, 5:30 pm

1. **Backend Development Completed**  
   – after backend modules, database setup, external system integration, and testing

(06/03/2026, 5:30 pm)

1. **Frontend Development Completed**  
   – after UI development, backend integration, external integration, and testing

(06/03/2026, 5:30 pm)

1. **System Testing Completed (UAT sign-off)**  
   – after unit, integration, and user acceptance testing

(26/03/2026, 5:30 pm)

1. **System Deployed & Documentation Completed**  
   – after deployment environment, internal deployment, user manual, and technical docs

(22/04/2026, 5:30 pm)

1. **Project Closure**  
   – after final report, presentation, and evaluation

(23/06/2025, 5:30 pm)

# Project Charter Approval and Sign-off

The undersigned acknowledge that they have reviewed the Project Charter for the Ticketing System with Test Scenario Tracker Integration. Approval of this document indicates agreement with the project scope, objectives, deliverables, assumptions, constraints, risks, and milestone schedule as defined herein.

This document formally authorizes the project team to proceed with the planning and execution of the project in alignment with the details outlined.

**Approval Signatures:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Role / Title** | **Name** | **Signature** | **Date** |
| **Supervisor** |  |  |  |
| **Project Manager** |  |  |  |
| **Business Analyst** |  |  |  |
| **Technical Lead** |  |  |  |
| **QA** |  |  |  |