Software Requirement Specification (SRS)

Document Title: L1 Customer Support Ticketing System (L1-CSTS)
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1. Introduction

The L1 Customer Support Ticketing & Chat System (L1-CSTS) is a web-based helpdesk application that enables customers to raise support tickets with screenshots and communicate with Level 1 support agents through real-time chat.This document defines the functional and non-functional requirements for the system.

2. Purpose of the Document

This SRS document provides a detailed description of system behavior, features, constraints, and interfaces. It serves as a reference for development, testing, and project evaluation.

3. Overall Description

L1-CSTS is designed as a minimal viable product (MVP) to demonstrate full-stack development with real-time communication within a 30-day implementation period.

3.1 User Classes

- Customer: Registers, logs in, creates tickets, uploads screenshots, and chats with agents.
- L1 Support Agent: Logs in, views and claims tickets, responds via chat, and updates ticket status.
- Project Evaluator: Reviews system completeness and real-time functionality.

4. Functional Requirements

- F1: Customer can register and log in to the system.
- F2: Customer can create a ticket with subject, description, category, and 1–3 screenshots.
- F3: System automatically generates a unique ticket ID and dedicated chat room.
- F4: Real-time chat communication per ticket using WebSockets.
- F5: Agent dashboard displays open and new tickets sorted by date or priority.
- F6: Agent can claim tickets, view details and screenshots, and reply in chat.
- F7: Both customer and agent can view message history and online indicators.
- F8: Agent can update ticket status; customer can view updated status.
- F9: System performs input validation, image type checks, and error handling.

5. Non-Functional Requirements

- Technology Stack: Backend - Python with FastAPI; Frontend - HTML, CSS, JavaScript; Real-time - WebSockets.
- Authentication: JWT or secure cookie-based authentication with role separation.
- File Upload: Image files only (PNG/JPG), maximum size 4 MB per file.
- Performance: Ticket list loading time < 3 seconds; chat latency < 2 seconds.
- Responsiveness: Mobile-friendly user interface.
- Security: Basic protection against XSS, unauthorized access, and invalid file uploads.
- Database: MySQL
- Deployment: Local environment with optional free hosting platform.

6. Assumptions and Constraints

- Project duration limited to 30 days.
- Single organization usage; no multi-brand support.
- No requirement for high concurrent user handling.
- Screenshots stored without advanced processing.
- Minimal UI styling; functionality prioritized over appearance.

7. High-Level Success Criteria

- Customers can successfully create tickets with screenshots.
- Agents can view, claim, and respond to tickets via real-time chat.
- Ticket status updates are visible to customers.
- Stable WebSocket connection during active chat sessions