Software Requirements Specification (SRS)

(As per ISO/IEC/IEEE 29148 Guidelines)

Project Title

NRDMS - NGO Resource and Donation Management System

Project Team Members

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1. Introduction

Purpose: This Software Requirements Specification (SRS) document describes the functional and non-functional requirements of NGO Resource & Donation Management System (NRDMS) that we are proposing to build. This is a reference document for developers, testers, instructors, and stakeholders to understand the system's intended functionality and constraints.

Scope: The system allows NGOs to post requirements based on their needs, which are visible to all donors. Donors can search for and fulfil those requirements, and delivery services and prices can be selected through a third party. The platform itself does not perform logistics operations; it

serves as an orchestration and aggregation layer that displays delivery costs, enables booking confirmation, and provides tracking interface.

2. Stakeholders and Users

Stakeholders

- Non-Governmental Organisations (NGOs)
- Donors (Individuals, Academic Institutions, Hospitals, Hotels)
- Third-Party Delivery Service Providers
- System Administrator

User Classes / Categories

- **NGO User** - Can post requirements and track deliveries
- **Donor User** - Can search NGOs, select delivery providers, and confirm donations
- **System Administrator** - Manages system configurations and monitors platform usage
- **Third-Party Service Providers:** Provide delivery services from the donors to the respective NGOs

3. System Overview

Product Perspective

The system is a **standalone web-application** connected to centralized database and integrated with **external third-party delivery service APIs**. It acts as a coordination platform rather than a delivery service itself.

Major Functions

- NGO registration and requirement posting
- Donor search and donation confirmation
- Delivery cost estimation via third-party services
- Selection of delivery provider
- Delivery status tracking

- Notification to NGOs and donors

Operating Environment

- **Server:** Windows / Linux
- **Frontend:** Web Browser (Chrome, Firefox, Edge)
- **Backend:** Java / Node.js / Python
- **Database:** Oracle
- **External Services:** Third-party delivery service APIs (mocked for prototype)

4. Functional Requirements

NGO Functional Requirements

- **FR-1:** The system shall allow NGOs to register and log in securely.
- **FR-2:** The system shall allow NGOs to flexibly add customized requirements.
- **FR-3:** The system shall give NGOs notification about the fulfilled requirements.
- **FR-4:** The system shall allow NGOs to select the convenient pickup time.
- **FR-5:** The system shall allow NGOs to access live tracking of donations.
- **FR-6:** The system shall allow NGOs to have a responsive user interface.

Donor Functional Requirements

- **FR-7:** The system shall allow donors to register and log in securely.
- **FR-8:** The system shall allow donors to search according to their requirements.
- **FR-9:** The system shall give donors the access to calculate cost for delivery services.
- **FR-10:** The system shall provide donors with a responsive user interface.
- **FR-11:** The system shall provide an acknowledgement proof to the donors.

Service Provider Functional Requirements

- **FR-12:** The system shall provide the service provider a notification with request for transport service.
- **FR-13:** The system shall provide service providers with contact details of NGO and donor.
- **FR-14:** The system provides service providers with access to select the pickup and drop off time.

- **FR-15:** The system provides service providers with live updates.

5. Non-Functional Requirements

- **Usability:** Simple and friendly UI for users.
- **Performance:** Prompt search and cost estimation responses.
- **Reliability:** Accurate tracking and delivery notifications without data loss.
- **Scalability:** Ability to support a growing number of NGOs, donors, and deliveries.
- **Security:** Secure authentication for NGOs and donors through logins and registrations.
- **Responsiveness:** Optimised performance on desktops, tablets, and mobile devices.

6. External Interface Requirements

User Interface

- Donor interface :
    - Registration and login
    - Search for NGOs based on categories of items to donate
    - Cost and live tracking for transport services
    - Transport service provider interface
    - Responsive user interface
    - Notification system
- NGO interface :
    - Registration and login
    - Being able to add/alter the donations NGOs are currently accepting
    - Notification system for needs fulfilled
    - Live tracking of donations
    - Responsive User interface

- 3rd party service provider interface:
    - Notification for the request for transport service

    - Donor and NGO contact details
    - Selecting drop-off and pick-up time.
    - Delivery tracking with live updates

Software Interfaces

- Relational Database Management System (SQL+)
- Third-party delivery service APIs (Uber, Rapido, Porter etc.)

Communication Interfaces

- HTTP / HTTPS protocols
- RESTful API communication
- Email .js

7. Data Requirements

- User details (Name, Email, Location, Donating item etc)
- NGO information (Organization name, location, requirements etc)
- Delivery details (Provider, cost, status, tracking link)

8. Assumptions and Dependencies

- Users have access to the internet.
- Third-party delivery services provide APIs or redirect mechanisms.
- API integrations are mocked during academic prototype development.

9. Verification and Validation

- **Login Module:** Tested using valid and invalid credentials using Postman API.
- **NGO Requirement Module:** Tested by posting and retrieving sample requirements.
- **Donor Search Module:** Tested using multiple search keywords.

- **Delivery Cost Module:** Validated using mock API responses.
- **Tracking Module:** Google map-like interface.