

Software Requirements Specification (SRS)

City Road Maintenance and Service Management System

Version: 1.0

Revision History

Date	Version	Description	Author
[Insert Date]	1.0	Initial Draft of SRS	[Author Name]

Table of Contents

- 1. [Introduction](#)
 - 1.1 [Purpose](#)
 - 1.2 [Scope](#)
 - 1.3 [Definitions, Acronyms, and Abbreviations](#)
 - 1.4 [References](#)
 - 1.5 [Overview](#)
- 2. [Overall Description](#)
- 3. [Specific Requirements](#)
 - 3.1 [Functionality](#)
 - 3.1.1 [Provide Information on City Facilities](#)
 - 3.1.2 [Raise Repair Requests](#)
 - 3.1.3 [Supervisor Login and Road Inspection](#)
 - 3.1.4 [Priority Determination and Resource Estimation](#)
 - 3.1.5 [Repair Scheduling](#)
 - 3.1.6 [Progress Tracking](#)
 - 3.1.7 [Administrator Management](#)
 - 3.1.8 [Mayor Statistics and Reports](#)
 - 3.2 [Usability](#)
 - 3.2.1 [Graphical User Interface](#)
 - 3.2.2 [Accessibility](#)
 - 3.3 [Reliability & Availability](#)
 - 3.3.1 [System Uptime](#)
 - 3.3.2 [Data Redundancy](#)
 - 3.4 [Performance](#)
 - 3.5 [Security](#)
 - 3.5.1 [Data Transfer](#)
 - 3.5.2 [Data Storage](#)
 - 3.6 [Supportability](#)
 - 3.7 [Design Constraints](#)

[3.8 On-line User Documentation and Help System Requirements](#)

[3.9 Purchased Components](#)

[3.10 Interfaces](#)

[3.10.1 User Interfaces](#)

[3.10.2 Hardware Interfaces](#)

[3.10.3 Software Interfaces](#)

[3.10.4 Communications Interfaces](#)

[3.11 Licensing Requirements](#)

[3.12 Legal, Copyright, and Other Notices](#)

[3.13 Applicable Standards](#)

[4. Supporting Information](#)

1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for the **City Road Maintenance and Service Management System**. This system will enable residents to access information about city facilities, raise repair requests for roads, and track the progress of repair work. Additionally, it will assist supervisors in managing repair requests, prioritizing work, and scheduling repairs based on resource availability. The system will also provide statistical reports for the mayor and city administrators.

1.2 Scope

The scope of this project is to develop a web-based system that serves the residents of a city with a population exceeding 5 lakh. The system will handle up to 10 concurrent clicks per second and will be used for road maintenance activities. It will allow residents to raise repair requests, supervisors to manage and prioritize repairs, and administrators to manage resources. The system will also generate reports for the mayor and city administrators.

1.3 Definitions, Acronyms, and Abbreviations

- **Resident:** A citizen of the city who uses the system to raise repair requests and view progress.
- **Supervisor:** A city corporation employee responsible for inspecting roads, prioritizing repairs, and managing resources.
- **Administrator:** A city corporation employee responsible for managing available manpower and machines.
- **Mayor:** The city mayor who requests statistical reports on road repairs.
- **Repair Request:** A request raised by a resident for road repair.
- **Priority:** The level of urgency assigned to a repair request based on severity and locality.

1.4 References

- City Corporation Road Maintenance Guidelines
- Web Development Standards (W3C)
- HTTP/HTTPS Protocol Documentation

1.5 Overview

This document provides a detailed description of the City Road Maintenance and Service Management System. Section 2 provides an overall description of the system, including user characteristics and major features. Section 3 outlines the specific requirements, including functionality, usability, reliability, performance, security, and design constraints. Section 4 contains supporting information.

2. Overall Description

The City Road Maintenance and Service Management System is designed to streamline the process of road repair and maintenance in a large city. The system will allow residents to raise repair requests, supervisors to prioritize and schedule repairs, and administrators to manage resources. The system will also provide real-time progress tracking and generate statistical reports for the mayor.

3. Specific Requirements

3.1 Functionality

3.1.1 Provide Information on City Facilities

- The system shall display information about various facilities provided by the city corporation.
- The system shall allow residents to browse and search for specific facilities.

3.1.2 Raise Repair Requests

- The system shall allow residents to raise repair requests for roads.
- The system shall require residents to provide details such as road name, location, and issue description.

3.1.3 Supervisor Login and Road Inspection

- The system shall provide a special login for supervisors to view new repair requests.
- The system shall allow supervisors to inspect roads and assess the severity of the condition.

3.1.4 Priority Determination and Resource Estimation

- The system shall allow supervisors to determine the priority of repair work based on severity and locality.
- The system shall allow supervisors to estimate raw material, machines, and personnel required for the repair.

3.1.5 Repair Scheduling

- The system shall schedule repairs based on priority and resource availability.
- The system shall generate a repair schedule report for supervisors.

3.1.6 Progress Tracking

- The system shall allow supervisors to update the progress of repair work.
- The system shall display the progress of repair work to residents.

3.1.7 Administrator Management

- The system shall allow administrators to manage available manpower and machines.
- The system shall reschedule repairs if there are changes in resource availability.

3.1.8 Mayor Statistics and Reports

- The system shall generate statistical reports for the mayor, including the number and type of repairs carried out, outstanding repairs, and resource utilization.

3.2 Usability

3.2.1 Graphical User Interface

- The system shall provide a user-friendly interface with consistent navigation across all pages.
- The system shall display relevant icons and toolbars for ease of use.

3.2.2 Accessibility

- The system shall provide multi-language support.
- The system shall be accessible to users with disabilities.

3.3 Reliability & Availability

3.3.1 System Uptime

- The system shall have an uptime of 99.9%.
- The system shall handle up to 10 concurrent clicks per second.

3.3.2 Data Redundancy

- The system shall store all data on redundant servers with automatic failover.
- The system shall replicate data to off-site storage locations.

3.4 Performance

- The system shall load within 5 seconds under normal conditions.
- The system shall handle up to 10 concurrent clicks per second.

3.5 Security

3.5.1 Data Transfer

- The system shall use HTTPS for all data transfers involving sensitive information.
- The system shall automatically log out users after 15 minutes of inactivity.

3.5.2 Data Storage

- The system shall encrypt all sensitive data stored in the database.
- The system shall never display passwords or credit card information in plain text.

3.6 Supportability

- The system shall provide online documentation and help for users.
- The system shall include a searchable FAQ section.

3.7 Design Constraints

- The system shall be developed using standard web development tools.
- The system shall be compatible with major web browsers (e.g., Chrome, Firefox, Edge).

3.8 On-line User Documentation and Help System Requirements

- The system shall provide an online help system with step-by-step guides.
- The system shall include a search function for help documentation.

3.9 Purchased Components

- Not Applicable

3.10 Interfaces

3.10.1 User Interfaces

- The system shall be accessible via web browsers on desktops, tablets, and mobile devices.

3.10.2 Hardware Interfaces

- The system shall support standard internet hardware (e.g., modems, routers).

3.10.3 Software Interfaces

- The system shall communicate with external databases for resource management.
- The system shall integrate with third-party mapping services for location tracking.

3.10.4 Communications Interfaces

- The system shall use HTTP/HTTPS for communication over the internet.

3.11 Licensing Requirements

- Not Applicable

3.12 Legal, Copyright, and Other Notices

- The system shall display copyright and disclaimer notices on all pages.

3.13 Applicable Standards

- The system shall comply with W3C web standards.
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4. Supporting Information

- City Corporation Road Maintenance Guidelines
 - Web Development Standards (W3C)
 - HTTP/HTTPS Protocol Documentation
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