

Software Requirements Specification (SRS)

Home Appliance Repair Management System

1. Introduction

1.1 Purpose

This document describes the requirements for a simple internal system used by a home appliance repair company to manage customers, technicians, repair orders, invoices, and basic reports.

1.2 System Overview

The system includes:

- A **C# console application** for daily operations
 - A **SQL Server LocalDB database** using **EF Core Code-First**
 - A **static HTML/CSS/Bootstrap UI prototype** (no backend)
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2. System Features

2.1 Customer Management

- Add customer
- Edit customer
- Delete customer (only if no orders exist)
- View all customers

2.2 Technician Management

- Add technician
- Edit technician
- Delete technician (if no orders assigned)
- View all technicians

2.3 Repair Order Management

- Create new repair order
- Assign technician
- Change status (Pending, Assigned, In Progress, Completed, Cancelled)
- Mark order as completed
- Enter service + parts cost
- Cancel order
- View all orders

2.4 Invoice Management

- Auto-generate invoice when an order is completed
- Calculate total amount (service + parts)
- View all invoices

2.5 Reports

- Order count by status
- Orders per technician

- Orders filtered by date
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3. User Interface Requirements

3.1 Console Application (Functional)

- Main menu
- Sub-menus for Customers, Technicians, Orders, Reports
- Input validation
- Clear navigation

3.2 Web UI Prototype (Static Only)

- Dashboard
 - Customers pages (list/add/edit)
 - Technicians pages
 - Repair orders pages
 - Invoice pages
 - Reports pages
Designed using HTML5 + Bootstrap 5.
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4. Non-Functional Requirements

- **Database:** EF Core Code-First with migrations
- **Performance:** Console actions respond instantly

- **Usability:** Simple menu-driven interface
 - **Maintainability:** Clean code structure
 - **Security:** No login required (internal use only)
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5. Database Requirements

Entities:

- Customer
- Technician
- RepairOrder
- Invoice

Relationships:

- Customer → Orders (1-many)
 - Technician → Orders (1-many)
 - Order → Invoice (1-1)
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