**Medical  
 Shop**

**Automation**

Team **5Star ⭐⭐⭐⭐⭐**

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1. **Introduction**

1.1 Purpose

* + The purpose of this document is to define the comprehensive requirements for a Medical Shop Automation system. This system aims to streamline operations, improve inventory management, and enhance customer service in medical shops or pharmacies.

1.2 Scope

* + The Medical Shop Automation system will cover inventory management, sales processing, prescription management, and basic reporting. It will be used by customers, pharmacists, and managers.

1.3 Definitions, Acronyms, and Abbreviations

* + POS: Point of Sale
  + EMR: Electronic Medical Record
  + API: Application Programming Interface
  + SKU: Stock Keeping Unit

1.4 References

* + Relevant pharmacy regulations and guidelines
  + Data protection and privacy laws

1.5 Overview

* + This document outlines the functional and non-functional requirements, system interfaces, and constraints of the Medical Shop Automation system.

1. **Overall Description**  
    2.1 Product Perspective
   * The system will be a standalone application with potential future integrations with suppliers' systems and electronic medical record (EMR) systems.

2.2 Product Functions

* + Inventory management
  + Sales and billing
  + Prescription management
  + Reporting and analytics
  + User management

2.3 User Characteristics

* + Pharmacists: Advanced medical knowledge, responsible for prescription management.
  + Managers: Business acumen, responsible for overall shop management and reporting.
  + Doctor: Medical Practitioners,responsible for prescribing medicines ,drugs.

2.4 Constraints

* + Must comply with local pharmacy regulations and data protection laws
  + Should operate on standard PC hardware
  + Must integrate with common POS hardware (barcode scanners, receipt printers)

2.5 Assumptions and Dependencies

* + Reliable internet connection for cloud-based features
  + Users have basic computer literacy
  + Regular system updates to maintain compliance with changing regulations

1. **Specific Requirements**

3.1 External Interface Requirements

* + User Interfaces:
    - Intuitive GUI for desktop application
    - Touch-friendly interface for potential tablet use
  + Hardware Interfaces:
    - Support for barcode scanners, receipt printers, and cash drawers
  + Software Interfaces:
    - Potential future API for EMR integration
  + Communications Interfaces:
    - Secure HTTPS for any internet communications
    - Support for email notifications

3.2 Functional Requirements

* + User Authentication and Authorization
  + Inventory Management
  + Sales and Billing
  + Prescription Management
  + Reporting and Analytics
  + Supplier Management
  + Customer Management

3.3 Non-functional Requirements

* + Performance: Response time <2 seconds for most operations
  + Security: Data encryption, secure user authentication, audit trails
  + Reliability: 99.9% uptime during business hours
  + Usability: Intuitive interface requiring minimal training

1. **System Features**

4.1 Inventory Management

* + Add, update, and delete product information
  + Track stock levels and expiry dates
  + Automatic reorder alerts

4.2 Sales and Billing

* + Process sales transactions
  + Generate and print receipts
  + Support multiple payment methods

4.3 Prescription Management

* + Record and validate prescriptions
  + Maintain patient medication history
  + Support for e-prescriptions

4.4 Reporting and Analytics

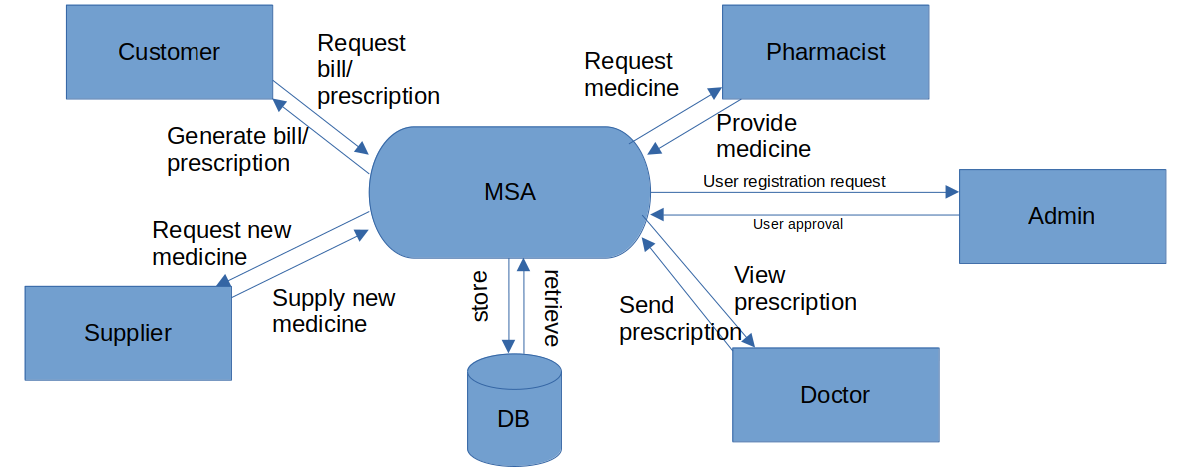
* + Generate sales reports (daily, weekly, monthly)
  + Inventory valuation reports
  + Profit margin analysis

4.5 User Management

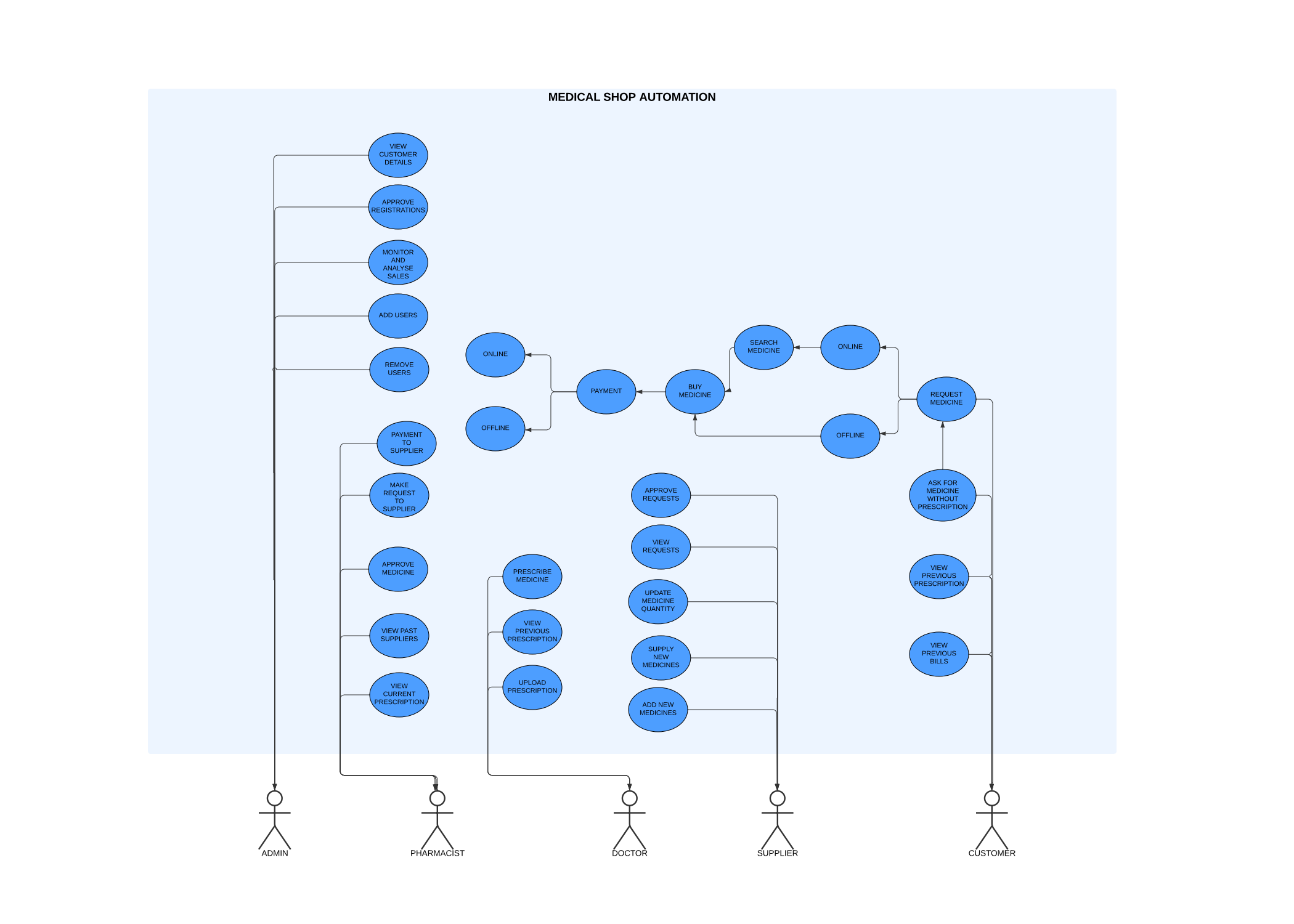
* + Create and manage user accounts
  + Define user roles and permissions
  + Password policies and multi-factor authentication

1. **Other Non-functional Requirements**
   * Scalability: Support for multiple terminals and growing inventory
   * Maintainability: Modular design for easy updates and bug fixes
2. **Technologies Used**
   * **Frontend:**
     + Html
     + CSS
     + JavaScript
     + Bootstrap
   * **Backend:**
     + Java
     + SpringBoot
   * **DataBase:**
     + MySQL
   * **Other:**
     + GIT
     + GITHUB
     + GITHUB Co-Pilot

1. **Appendices**7.1 Context Diagram:



7.2 Use Case Diagram:



7.3 Work Breakdown Structure

