

# Medical Shop Automation

Team 5Star

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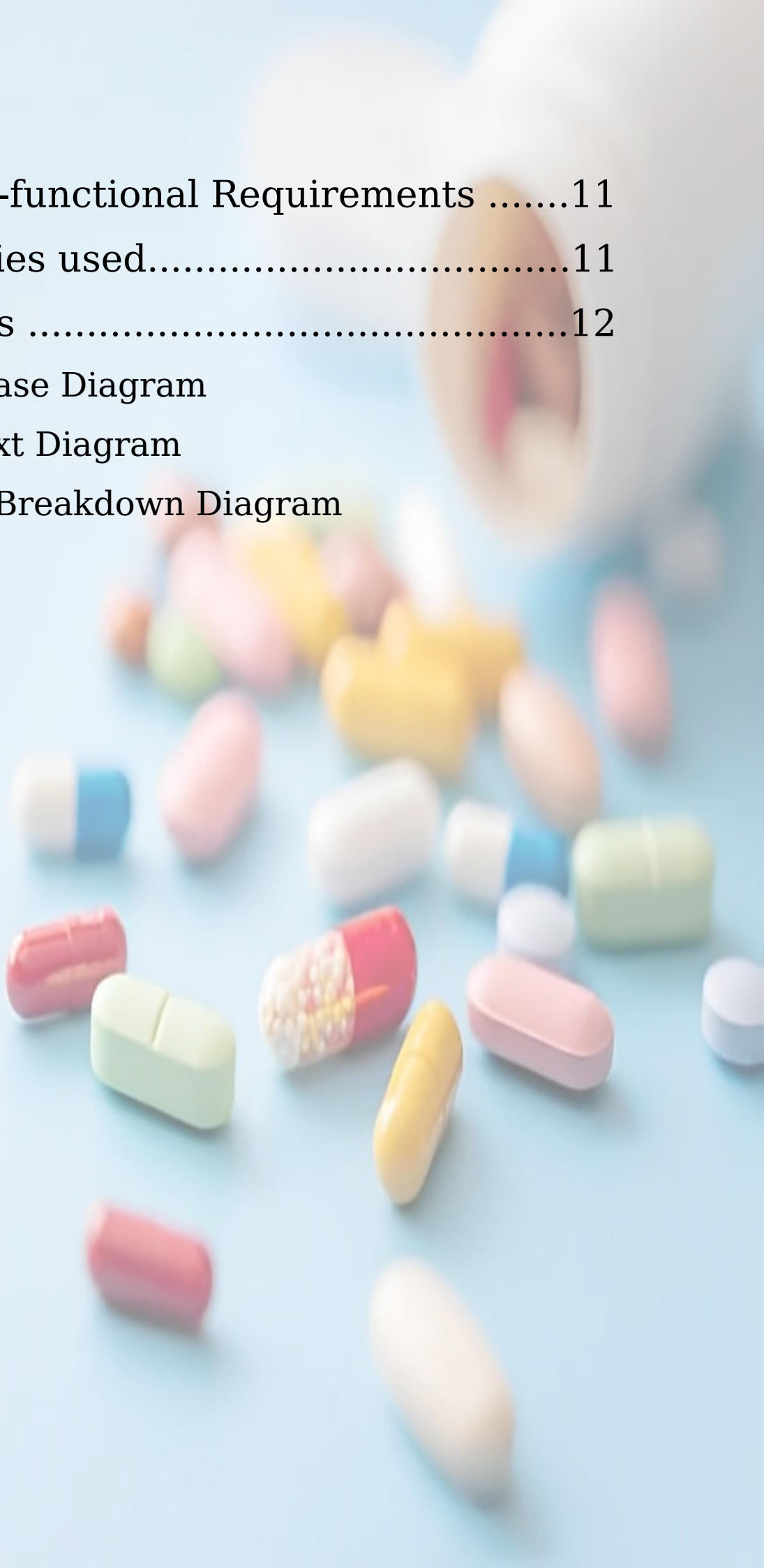
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# 1.Introduction

## 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.



## **2.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





### **3. 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



## 4. 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

## 5. Other Non-functional Requirements

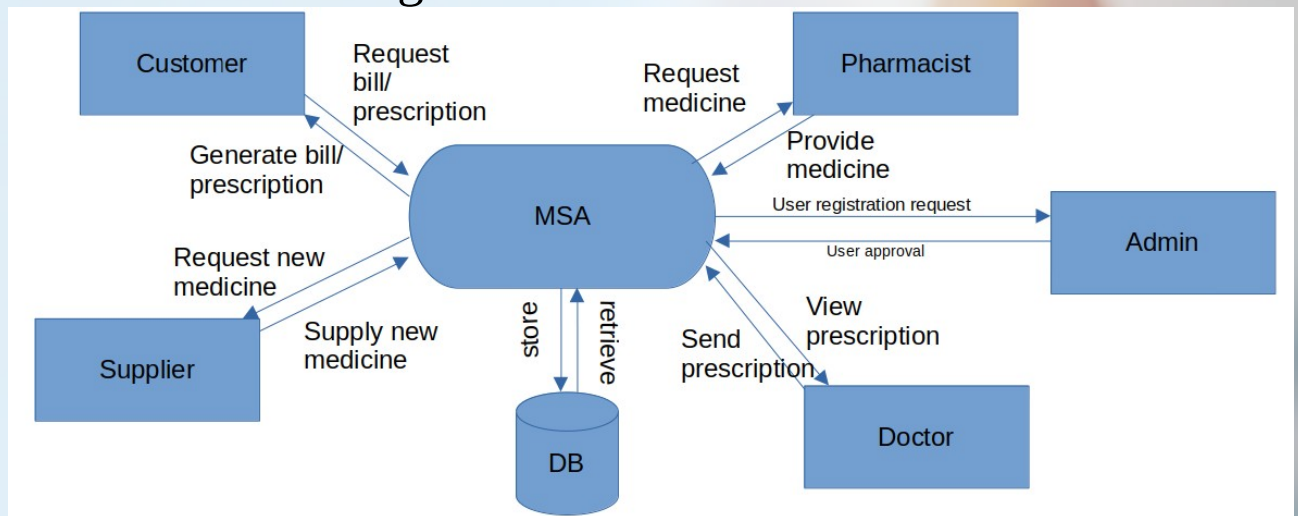
- Scalability: Support for multiple terminals and growing inventory
- Maintainability: Modular design for easy updates and bug fixes

## 6. Technologies Used

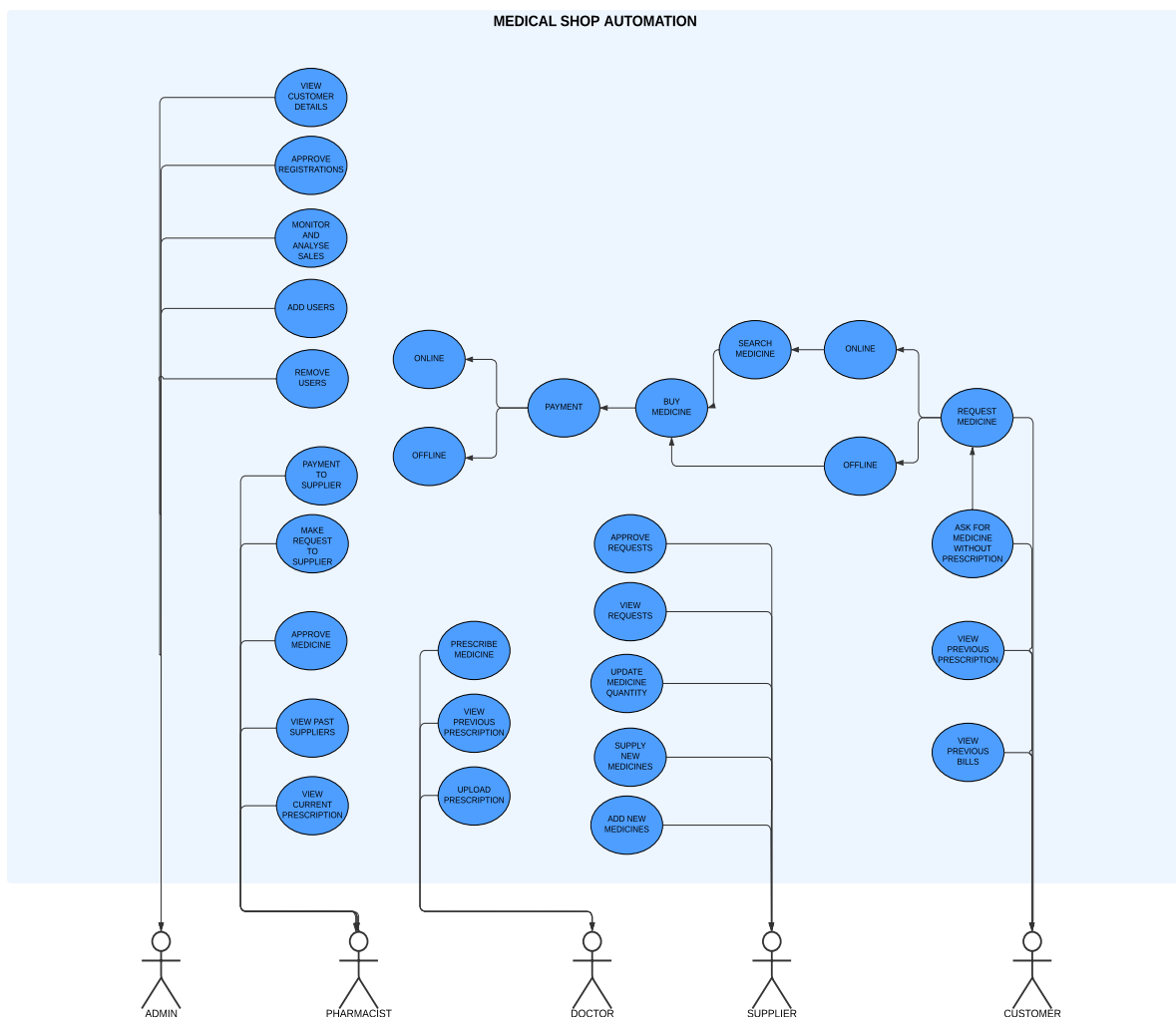
- **Frontend:**
  - Html
  - CSS
  - JavaScript
  - Bootstrap
- **Backend:**
  - Java
  - SpringBoot
- **DataBase:**
  - MySQL
- **Other:**
  - GIT
  - GITHUB
  - GITHUB Co-Pilot

## 7. Appendices

### 7.1 Context Diagram:



### 7.2 Use Case Diagram:





## 7.3 Work Breakdown Structure

