1. Introduction

1.1 Purpose

The purpose of the Drug Distribution Management System (DDMS) is to streamline communication and order management between pharmacists and distributors. The system allows pharmacists to search for medicines, add them to the cart, and place orders. Distributors can view incoming orders, approving or cancel them. Future enhancements include managing bounced orders, draft orders, and processing bill payments. This section addresses user authentication, credential validation, and the sign-up process.

1.2 Scope

The system includes user authentication for pharmacists and distributors, CRUD operations for pharmacists to add medicines to the cart, distributors to manage order requests, and future enhancements for managing bounced orders, draft orders, and processing bill payments. Credential validation is enforced for both sign-in and sign-up processes. The sign-up process includes parameters such as username, password, email address, pharmacist name, and license number.

1.3 Document Conventions

- **DDMS:** Drug Distribution Management System
- **User:** Refers to pharmacists.
- **Admin:** Refers to distributors.

2. System Overview

2.1 System Description

The DDMS is a platform facilitating order management for pharmacists and distributors, utilizing CRUD operations on the distributor's side and providing pharmacists the ability to search for medicines, add them to the cart, and place orders. Future enhancements include managing bounced orders, draft orders, and processing bill payments. This section addresses user authentication, credential validation, and the sign-up process.

2.2 System Features

1. **User Authentication:**
   - Secure login for pharmacists and distributors.

- Credential validation for sign-in and sign-up.
2. **Medicine Management:**
   - Pharmacists can search for medicines.
   - Pharmacists can add medicines to the cart.
3. **Order Management:**
   - Distributors can view incoming orders.
   - Distributors can approve or cancel orders.
   - Future scope: Managing bounced orders and draft orders.
4. **Financial Management:**
   - Future scope: Process bill payments.

3. Functional Requirements

3.1 User Authentication

- **1:** The system shall provide secure login for pharmacists and distributors.
- **2:** Credential validation for sign-in:
  - The username must be less than 16 characters.
  - The password must be less than 16 characters.
  - The password must contain at least one symbol from the set [!@#$%^&*(),.?":{}|<>0-9].
- **3:** Credential validation for sign-up:
  - The username must be less than 16 characters.
  - The password must be less than 16 characters.
  - The password must contain at least one symbol from the set [!@#$%^&*(),.?":{}|<>0-9].
  - Valid email address format.
  - Pharmacist name must not exceed 250 characters.
  - License number must be provided.

3.2 Medicine Management

- **4:** Pharmacists can search for medicines.
- **5:** Pharmacists can add medicines to the cart.

3.3 Order Management

- **6:** Distributors can view incoming orders.
- **7:** Distributors can approve or cancel orders.
- **8:** Future scope: Distributors can manage bounced orders and draft orders.

3.4 Financial Management

- **9:** Future scope: Process bill payments.

4. Registration Page

4.1 License ID

- **10:** During the registration process, pharmacists are required to provide a license ID.
- **11:** The license ID shall be displayed on the registration page.
- **12:** Email address, pharmacist name, license number, username, and password must be collected during the sign-up process.

4.2 Tables

4.2.1 user database
- **Columns:**
    - `user_id` (int, AI, PK)
    - `username` (varchar(16))
    - `password` (varchar(16))
    - `email` (varchar(150))
    - `pharmacist_name` (varchar(250))
    - `license_number` (varchar(255))

4.2.2 medicine database
- **Columns:**
    - `Medicine_id` (int, AI, PK)
    - `Medicine_name` (varchar(250))
    - `Order_date` (date)
    - `Medicine_Quantity` (int)

4.2.3 order database
- **Columns:**
    - `order_id` (int, AI, PK)
    - `meds_id` (int)
    - `pharms_id` (int)
    - `pharmacist_name` (varchar(250))
    - `Medicine_Name` (varchar(250))
    - `Price` (double)

4.2.4 pharmacist medicine database
- **Columns:**
    - `Medicine_id` (int)
    - `Pharmacist_id` (int)

4.2.5 pharmacist database
- **Columns:**
    - `p_id` (int, AI, PK)
    - `p_Name` (varchar(250))
    - `P_Email` (varchar(150))
    - `Address` (varchar(250))

4.2.6 pharmacist order

- **Columns:**
  - `Order_id` (int)
  - `p_id` (int)

4.2.7 bounced order database

- **Columns:**
  - `BouncedOrder_id` (int, AI, PK)
  - `order_id` (int)
  - `reason` (varchar(255))

4.2.8 draft order database

- **Columns:**
  - `DraftOrder_id` (int, AI, PK)
  - `order_id` (int)
  - `is_draft` (boolean)

5. Non-Functional Requirements

5.1 Performance

- **1:** The system must handle efficient concurrent users.

5.2 Security

- **2:** User data shall be encrypted during transmission.

5.3 Usability

- **S3:** The user interface shall be intuitive and user-friendly.

6. Constraints

- The system will be developed using [chosen programming language] and [chosen database system].
- Compatibility with modern web browsers.