SCHOOL OF ENGINEERING

# 22CS2403
# Database Management System
# Mini Project

# Pharmacy Management System



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# Introduction

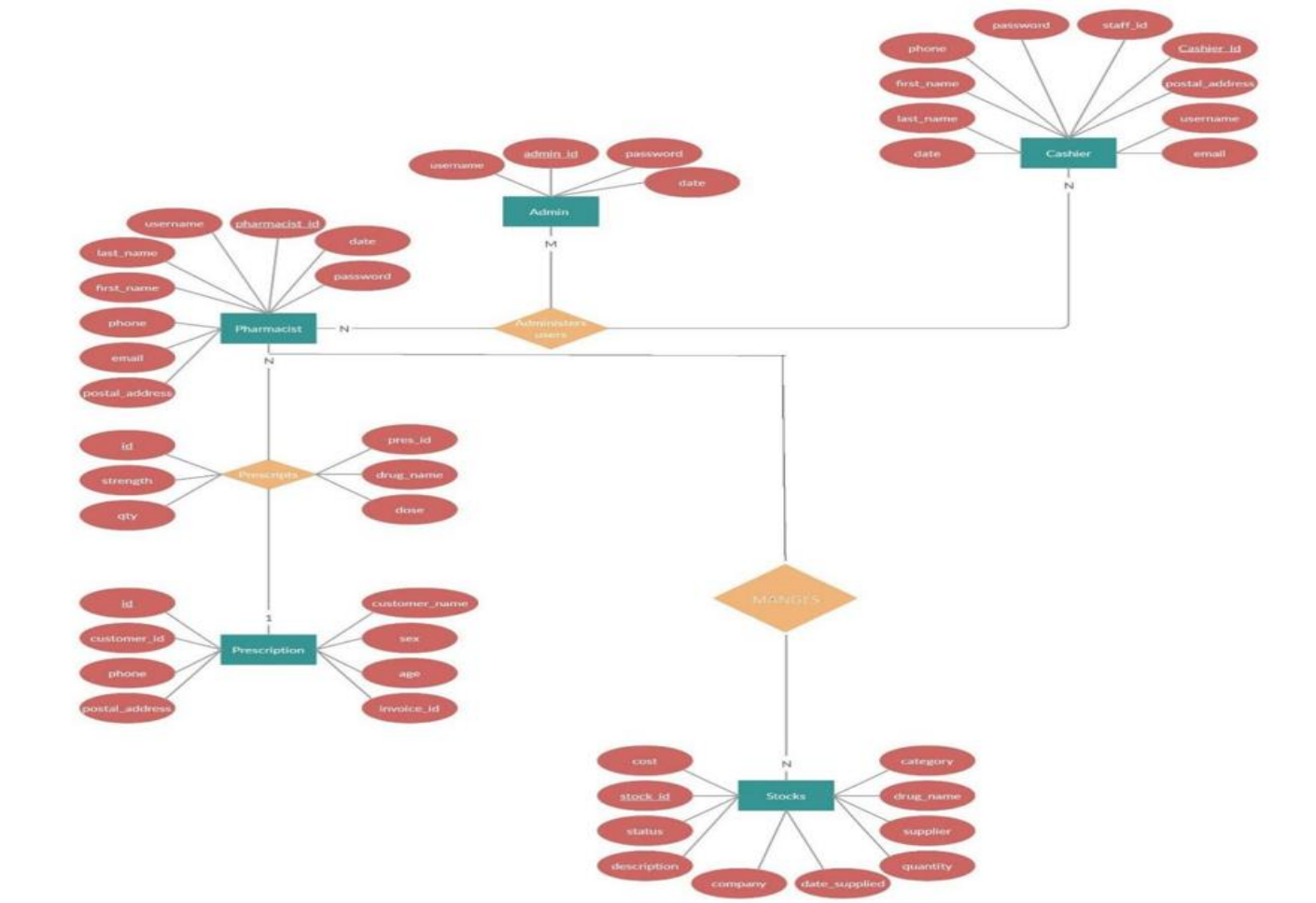
- A Pharmacy Management System (PMS) is a software application designed to streamline the operations of a pharmacy.
- It assists in managing drug inventories, processing prescriptions, handling billing, and maintaining patient records.
- This system ensures efficiency, accuracy, and compliance with healthcare standards, enhancing the overall service quality of a pharmacy.
- It plays a crucial role in modernizing and optimizing the functions of a pharmacy, ensuring better service delivery and patient care.

# Problem Statement

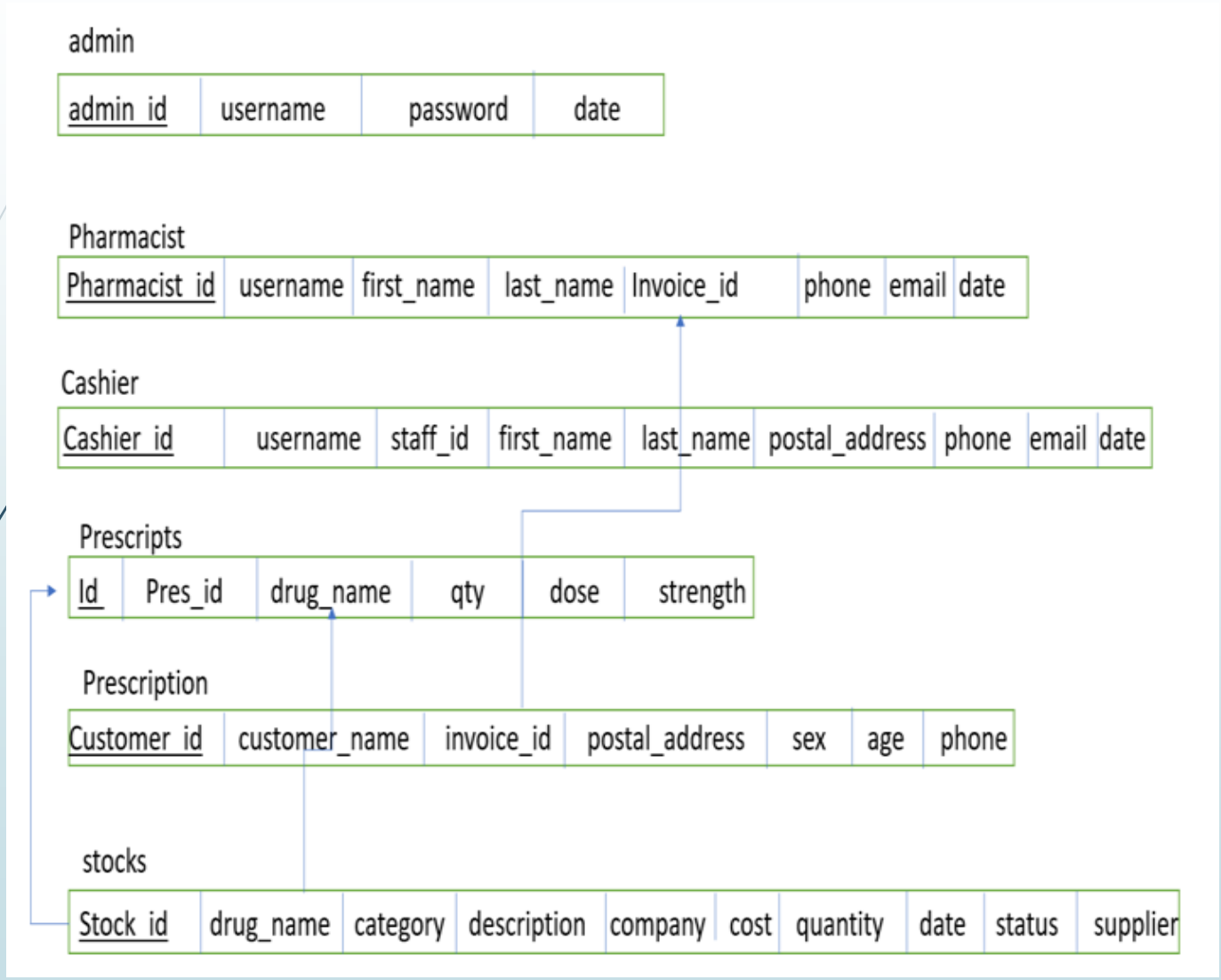
- The existing pharmacy operations rely heavily on fragmented and manual processes for managing drug inventories, patient records, prescription processing, and regulatory compliance.
- This results in data redundancy, inconsistency, and inefficiencies that compromise the accuracy and reliability of critical pharmacy operations.
- There is a need for an integrated Pharmacy Management System (PMS) utilizing a robust Database Management System (DBMS) to address these challenges.

# Database Design

- ER(Entity-Relationship) Diagram



- Database Schema



# Implementation

- Operating system:  Any XAMPP supported OS  (windows, Linux, macOS).
- Development stack (XAMPP):  includes Apache, MySQL, PHP for local server setup.
- Web browser : Modern browser for testing and access.
- Test editor / IDE: Use an IDE like Visual Studio code for PHP coding.
- Database Tool: Utilize PhpMyAdmin for MySQL interaction.

# Normalization

Normalization is the process of reorganizing data in a database so that it meets two basic requirements :

- There is no redundancy of data (all data is stored in only one place) and
- data dependencies are logical (all related data items are stored together).

First Normal Form(1NF):

The table is said to be in 1NF it follows following rules:

- It should only have single(atomic) valued attributes/columns.
- Values stored in a column should be the same domain.
- All the columns in the table should have unique names .
- And the order in which data is stored does not matter

The below mentioned dependencies we can observe that the relation is in 1NF as all the attributes are atomic in nature.

| ID | Firstname | Lastname | Username | Update | Delete |
|---|---|---|---|---|---|
| 1 | Gerald1 | Wangai | gerald | UPDATE | |
| 6 | Gerald | Wanga | geral | UPDATE | |
| 7 | paulo | wamocha | 123 | UPDATE | |
| 8 | ram | ji | ram | UPDATE | |
| 9 | ram | ji | ram | UPDATE | |
| 10 | paulo | wamocha | 456 | UPDATE | |

# User Interface

Login page:

# Admin Home Page:


# Challenges Faced

1.Scalability and Performance:

**Challenge:**

- The PMS database needs to handle increasing amounts of data and transaction volumes as the pharmacy grows. Ensuring the system remains performant under load is crucial.

**Solution:**

- Regularly monitor and analyze performance metrics, planning capacity upgrades and scaling ahead of time to prevent performance degradation as the business expands.

2.Data Integrity and Accuracy:

**Challenge:**

- Ensuring the accuracy and integrity of the data within the pharmacy management system database can be challenging. This involves making sure that prescriptions, patient information, inventory levels, and transaction records are accurate and up-to-date.

**Solution:**

- Implement robust validation rules and constraints at the database level.

By addressing these challenges systematically, the project successfully developed a robust, secure and efficient Pharmacy management system that meets the need of pharmacist , user etc.


THANK
YOU!