**Pharmacy Store(Cure Cabin)**

**SIDHANT KR AGRAWAL(2021495) || PARAS DHIMAN(2021482)**

**PROJECT REPORT**

*Greetings,*

*We recently designed the backend process for an application using SQL and MySQL workbench. Our focus as dedicated developers was to streamline and optimize the backend processes for the best results.*

*Starting with the creation of tables, we utilized SQL queries and the MySQL workbench to effectively create, alter, and define the necessary tables for data storage. This resulted in a well-structured and organized database, ready for data management.*

*We also used our Python skills to insert data into the tables through a script that generated random data. This reflected real-world scenarios and provided a robust testing environment for the application.*

*To ensure consistency and proper documentation, we generated a .sql file containing all the necessary queries for creating, altering, and inserting data into the tables. This serves as a reference for future developers.*

*In conclusion, this project was both challenging and rewarding. The combination of SQL, MySQL workbench, and Python allowed us to create a backend process that is efficient, flexible, and scalable. We are confident that the application will run smoothly and provide a great user experience.*

**Introduction:**

A database management system for a pharmacy has been developed to keep track of the different aspects of the pharmacy business, including patient information, doctor information, prescription details, medicine information, pharmacist information, supplier information, appointment details, order details, payment details, branch details, stock details, policy provider details, and medical history details. The database has been created in SQL, and 100 rows have been inserted into each table.

All of the tables' primary keys have been indexed, which means that all of the indexes have been generated.

In addition to that, the alter table command has been executed, and required constraints have been added to the table.

**Patient Information:**

The patient information table holds essential details about the patients visiting the pharmacy, including their names, addresses, dates of birth, contact numbers, gender, email addresses, and ages. This information is crucial in keeping track of the patients' details, and it helps to ensure that the right information is provided to the right patient. The table has a primary key of "PatientID," which helps to distinguish each patient.

**Doctor Information:**

The doctor information table holds important details about the doctors prescribing medicines to patients, including their names, contact numbers, and email addresses. This information is critical in keeping track of the doctors' details, and it helps to ensure that the right information is provided to the right doctor. The table has a primary key of "DoctorID," which helps to distinguish each doctor.

**Prescription Information:**

The prescription information table holds details about the prescriptions given to patients, including the doctor who prescribed the medicine, the patient who received the prescription, the dosage, the number of days for which the prescription is valid, the start and end dates, and the date of the prescription. This information is critical in ensuring that the right medicine is given to the right patient, and it helps to keep track of the patients' medical records. The table has a primary key of "PrescriptionID," which helps to distinguish each prescription.

**Medicine Information:**

The medicine information table holds important details about the medicines available in the pharmacy, including the medicine's name and price. This information is crucial in keeping track of the medicines available in the pharmacy and ensuring that the right price is charged for each medicine. The table has a primary key of "MedicineID," which helps to distinguish each medicine.

**Pharmacist Information:**

The pharmacist information table holds details about the pharmacists working in the pharmacy, including their names, contact numbers, email addresses, years of graduation, fields of study, and branch IDs. This information is critical in keeping track of the pharmacists' details and ensuring that the right information is provided to the right pharmacist. The table has a primary key of "PharmacistID," which helps to distinguish each pharmacist.

**Supplier Information:**

The supplier information table holds details about the suppliers supplying medicines to the pharmacy, including their names, contact numbers, email addresses, and addresses. This information is crucial in keeping track of the suppliers' details and ensuring that the right information is provided to the right supplier. The table has a primary key of "SupplierID," which helps to distinguish each supplier.

**Appointment Information:**

The appointment information table holds details about the appointments made by patients with doctors, including the patient's ID, the doctor's ID, the date and time of the appointment, and the reason for the appointment. This information is critical in ensuring that the right doctor is available for the right patient at the right time. The table has a primary key of "AppointmentID," which helps to distinguish each appointment.

**Order Information:**

The order information table holds details about the orders placed by patients for medicines, including the patient's ID, the medicine's ID, the pharmacist's ID, the quantity of the medicine ordered, the date of the order, and the delivery status of the order. This information is crucial in ensuring that the right medicine is delivered to the right patient and that the order details are properly tracked. The table has a primary key of "OrderID," which helps to distinguish each order.

**Payment Information:**

The payment information table holds details about the payments made by patients for the medicines they ordered, including the order ID, the amount paid, the payment method used, and the date of the payment. This information is critical in keeping track of the payments made by patients and ensuring that the right amount is charged for each order. The table has a primary key of "PaymentID," which helps to distinguish each payment.

**Branch Information:**

The branch information table holds details about the branches of the pharmacy, including the location, contact number, and email address of each branch. This information is critical in keeping track of the branches and ensuring that the right information is provided to the customers. The table has a primary key of "BranchID," which helps to distinguish each branch.

**Stock Information:**

The stock information table holds details about the stock of medicines available in each branch of the pharmacy, including the medicine's ID, the branch's ID, the quantity of the medicine available, the threshold for reordering the medicine, and the pharmacist's ID responsible for the stock. This information is crucial in ensuring that the right stock is available in each branch and that the stock details are properly tracked. The table has a primary key of "StockID," which helps to distinguish each stock.

**Policy Provider Information:**

The policy provider information table holds details about the policy providers for the patients, including the provider's name, contact number, email address, address, and the patient's ID. This information is critical in keeping track of the policy providers and ensuring that the right information is provided to the right patient. The table has a primary key of "ProviderID," which helps to distinguish each policy provider.

**Medical History Information:**

The medical history information table holds details about the medical history of each patient, including the patient's ID, and a description of the patient's medical history. This information is critical in keeping track of the patients' medical history and ensuring that the right information is provided to the right patient. The table has a primary key of "MedicalHistID," which helps to distinguish each medical history record.

**Conclusion:**

The pharmacy database management system developed in SQL holds important details about the patients, doctors, prescriptions, medicines, pharmacists, suppliers, appointments, orders, payments, branches, stocks, policy providers, and medical histories. This system helps to ensure that the right information is provided to the right person and that the details are properly tracked. With the insertion of 100 rows into each table, the database is ready for use, and further details can be added as needed.

**Extra Info:**

**Scope of Work:**

The system has several entities including Patients, Doctors, Prescriptions, Medicines, Pharmacists, Suppliers, Appointments, Orders, Payments, Branches, Policy Providers, and Medical Histories. Each of these entities has several attributes associated with it.

The Patients entity has attributes such as PatientID, Name (subattributes include First name, Middle name, Last name), Address (subattributes include Street, City, Zip Code, State, and Country), Date of Birth, Contact information (subattributes include Type of Contact Number, Contact Number, Gender, Email), and Age (which is a derived attribute from the Date of Birth attribute).

The Doctors entity has attributes such as DoctorId, Name (subattributes include First name, Middle name, Last name), Contact information (subattributes include Type of Contact Number and Contact Number), and Email. This entity is connected to the Specialization entity, which includes DoctorId and Description.

The Prescriptions entity includes PrescriptionID, DoctorID, PatientID, Dosage, Number of Days, Start Date, End Date, and Date. The Medicines entity has attributes such as MedicineID, Name, and Price. This entity is connected to the Composition entity, which includes MedicineId and Ingredient type.

The Pharmacists entity has attributes such as PharmacistID, Name, Contact information (subattributes include Type of Contact Number, Contact Number, and Email), Year of Graduation, Field of Study, and Branch ID. The Suppliers entity includes SupplierID, Name, Contact information (subattributes include Type of Contact Number, Contact Number, and Email), and Address.

The Appointments entity includes AppointmentID, PatientID, DoctorID, Date, Time, and Reason. The Orders entity includes OrderID, PatientID, MedicineID, PharmacistID, Quantity, Date, and Delivery Status. The Payments entity includes PaymentID, OrderID, Amount, Payment Method, and Date.

The Branches entity includes BranchID, Location, Contact Number, and Email. The Stock entity includes StockID, MedicineID, BranchID, Quantity, Threshold, and PharmacistID. The Policy Provider entity includes ProviderID, Name, Contact information (subattributes include Contact Number and Email), Address, and PatientID. The Medical History entity includes MedicalHistID, PatientID, and Description.

The relationship between Prescriptions and Medicines is many-to-many, and it is stored in another table called Pres\_Medicine, which maps the two entities. The relationship between Medicines and Suppliers is also many-to-many, and it is stored in another table called Med\_Supp, which maps the two entities.

In summary, this is a comprehensive database design that captures various entities and their attributes, as well as the relationships between them.

**Stakeholders:**

1. End-users: These are individuals who will be using the database, such as patients, doctors, pharmacists, suppliers, and policy providers. They will be interested in having access to relevant information stored in the database in an efficient and user-friendly manner.

1. Business owners: These are individuals or organizations who will be using the database for their business operations. They may have specific requirements for the data stored in the database and how it is used to support their operations.

1. Project Manager: This person is responsible for overseeing the entire project and ensuring that it is completed on time and within budget. They will be interested in ensuring that the database design meets the requirements of the stakeholders.

1. IT Department: This department will be responsible for the technical aspects of the project, such as database design, implementation, and maintenance. They will be interested in ensuring that the database is scalable, secure, and efficient.

1. Data Owners: These are individuals who own the data stored in the database. They will be interested in ensuring that the data is stored and used in an appropriate manner, and that their privacy is protected.

1. Regulators: These are government agencies or organizations that regulate the use of personal and sensitive information. They will be interested in ensuring that the database complies with relevant laws and regulations regarding data privacy and protection.

**Functional Requirements**

The application will provide a dynamic and interactive front-end driven

by React.

It would enable users to create and log in to an account, browse products,

add items to their cart, and view order history.

There will be a solid and efficient backend constructed using Django and

Python, with MySQL handling data storage and administration. The

backend will interact with the database, which should :

● Securely store customer information and authenticate customer

login attempts.

● able to retrieve and display product information

● create and manage cart

● process and validate payments

● Handle customer account updates