Art Gallery Management System

Project Overview:

Create an innovative Art Gallery Management System using Java Swing for a visually appealing user interface and MySQL for robust data management. This system aims to streamline the organization and presentation of artworks within an art gallery, providing both administrators and visitors with a seamless and immersive experience.

Functional Requirements:

1. **Artwork Catalog:**

   Implement a dynamic catalog showcasing artworks with details like artist name, title, medium, dimensions, and creation date.

   Allow administrators to add, edit, or remove artworks with ease.

2. **Exhibition Management:**

   Enable the creation and management of art exhibitions, associating artworks with specific exhibitions.

   Implement a calendar view for scheduling and visualizing upcoming and past exhibitions.

3. **User Roles:**

   Define user roles (e.g., Administrator, Visitor) with varying levels of access to features.

   Provide a secure login system to authenticate users based on their roles.

4. **Interactive Viewing Experience:**

   Implement an interactive viewing feature for visitors, allowing them to virtually navigate through the gallery, and access detailed information.

5. **Sales and Transactions:**

   Facilitate the sale of artworks with a sales page.

   Maintain a transaction history, recording details of each sale.

6. **Artists' Corner:**

   Create a dedicated space for artists to showcase their profiles, including biographies, portfolios, and upcoming events.

   Allow artists to submit new artworks for consideration.

Technical Requirements:

Java Swing GUI:

Design an aesthetically pleasing and intuitive graphical user interface using Java Swing components.

Implement dynamic and responsive views for the artwork catalog and virtual gallery.

MySQL Database Integration:

Establish a MySQL database to store information on artworks, exhibitions, users, transactions, and artists.

Define relationships between tables to ensure data integrity.

Data Visualization:

Utilize Java Swing components to create visually engaging representations of artworks and exhibitions.

Implement image galleries, interactive maps, and other visual aids to enhance the user experience.

Reporting and Analytics:

Integrate a reporting module for administrators to track the popularity of artworks, sales trends, and visitor engagement.

Provide visual analytics tools for data-driven decision-making.

Data Model:

Design the MySQL database with tables such as Artworks, Exhibitions, Users, Transactions, and Artists, ensuring appropriate relationships and normalization.

Technology Stack:

Frontend: Java Swing

Backend: Java

Database: MySQL

Communication: JDBC for Java-MySQL connectivity

Project Deliverables:

Complete Art Gallery Management System with a visually appealing and responsive interface.

MySQL database schema and setup script.

User manuals and documentation on system functionality.

Source code repository with version control.

This project statement aims to create an immersive and visually engaging Art Gallery Management System, combining the creativity of the art world with the functionality of Java Swing and MySQL technologies. Adjustments can be made based on specific project needs and requirements.

Database Design:

For the Art Gallery Management System project, design a MySQL database with tables to store relevant information. Follow below database schema:

Artworks Table:

Fields: ArtworkID (PK), Title, ArtistID (FK), Medium, Dimensions, CreationDate, Price, ImagePath

Exhibitions Table:

Fields: ExhibitionID (PK), Title, StartDate, EndDate

Artists Table:

Fields: ArtistID (PK), Name, Biography, Portfolio, ContactInfo

Users Table:

Fields: UserID (PK), Username, Password, Role

Transactions Table:

Fields: TransactionID (PK), UserID (FK), ArtworkID (FK), TransactionDate, TransactionAmount

The relationships between these tables:

The Artworks Table has a foreign key (ArtistID) that references the primary key (ArtistID) in the Artists Table, establishing a relationship between artworks and artists.

The Artworks Table can also have a foreign key (ExhibitionID) that references the primary key (ExhibitionID) in the Exhibitions Table, linking artworks to specific exhibitions.

The Transactions Table has foreign keys (UserID and ArtworkID) that reference the primary keys (UserID and ArtworkID) in the Users Table and Artworks Table, respectively, creating relationships between transactions, users, and artworks.

This basic database schema provides a foundation for storing information related to artworks, exhibitions, artists, users, and transactions. You can extend or modify this schema based on additional features and requirements specific to your project. Don't forget to include appropriate indexing, constraints, and data types for each field based on your specific needs and database management system requirements.

Implement the **artwork catalog** and **User role** module to be displayed on 23rd January, 2024.