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STD NO: GS210510BSIT

Project Name: Online Library Management System

Concept: The Online Library Management System is a software application designed to streamline the management of a digital library. It will be developed using Object-Oriented Programming principles to ensure modularity, reusability, and maintainability of the codebase.

Key Features:

1. User Management:

- Users can create accounts, log in, and manage their profiles.

- Different user roles (e.g., librarian, student, teacher) with varying permissions.

2. Catalog Management:

- Librarians can add, edit, or remove books from the library's digital catalog.

- Each book will have attributes such as title, author, genre, ISBN, and availability status.

3. Check-out and Check-in:

- Users can check out books, and the system will track due dates.

- Automatic reminders for overdue books.

- Users can return books, updating their availability status.

4. Search and Filters:

- Users can search for books using various criteria like title, author, genre, etc.

- Advanced filtering options to refine search results.

5. Reservation System:

- Users can reserve books that are currently checked out.

- Notifications when reserved books become available.

6. Admin Dashboard:

- Administrators have access to a dashboard for monitoring system activity.

- View statistics, manage users, and resolve issues.

7. Reporting and Analytics:

- Generate reports on book circulation, popular genres, and user activity.

- Insights for library optimization.

8. Technology Stack:

- Programming Language: Java or Python for OOP.

- Database: MySQL or SQLite for data storage.

- GUI Framework: JavaFX or Tkinter for the user interface.

- Version Control: Git for collaborative development.

- Design Patterns: Utilize OOP design patterns like Singleton, Observer, and Factory.

9. Development Methodology:

- Agile development methodology with iterative cycles for continuous improvement.

- Regular testing and code reviews to maintain code quality.

10. Expected Outcomes:

- An efficient, user-friendly online library management system that enhances the library's digital operations.

- Improved user experience for both library staff and patrons.

- Streamlined book circulation and better utilization of library resources.

This project concept outlines a robust online library management system developed using OOP principles, which will facilitate efficient library operations and provide an excellent user experience for library patrons.