DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECTPROPOSAL

1. Project Title: -

Digital Library Management System Using Database Technology.

2. Project Scope: - (Max 500 words)

The proposed digital library management system will be developed using HTML, CSS, JavaScript, and MongoDB for robust database management. The system will encompass user authentication and authorization, offering registration, login, and role-based access control for admin, librarian, and user roles. Distinct dashboards will be provided for each role, enabling efficient management. The catalog management feature will allow the addition, editing, and deletion of various resources like books, journals, and articles. Users can search for items using keywords, authors, and categories, with advanced filters to refine results.

Borrowing and returning functionality will facilitate smooth transactions, complete with due date tracking, automated notifications, and the option for extensions. User profiles will showcase borrowing history, due dates, fines, and personal information editing. The system will generate notifications for due dates, overdues, and reservations. Detailed reports will be available for admin and librarians, aiding in decision-making.

Administrators will manage users, monitor activities, and address issues. Librarians can accept reservations, update item availability, and manage borrowing queues. Responsive UI design will ensure compatibility across devices, while data visualization tools will offer insights into usage patterns. Security measures, including encryption, secure authentication, and input validation, will be implemented to protect data. Regular database backups will be conducted for seamless recovery.

Comprehensive documentation will guide users through functionalities and outline the database schema and application architecture. Future enhancements might involve a recommendation system and social sharing features. Testing will cover unit and usability aspects, aiming to identify and rectify bugs. This project, encapsulating these elements within a well-structured timeline, seeks to create an efficient and user-friendly digital library management system.

3. Requirements: -

❖ Hardware Requirements

Server Hardware:

Recommended Azure Virtual Machine Specifications

- **Virtual Machine Series:** General Purpose or Compute Optimized.
- **Virtual CPU (vCPU):** At least 2 vCPUs.
- **RAM**: Minimum 4GB (8GB or more is recommended).
- **Storage:** SSD storage for better performance.
- **Operating System**: Choose a suitable OS, such as Windows or Linux, depending on your application's requirements.
- **Network:** Adequate network bandwidth for seamless communication.

❖ Software Requirements

- **IDE (Integrated Development Environment)**: Tools like Visual Studio Code, Sublime Text, or JetBrains WebStorm for coding HTML, CSS, and JavaScript. These IDEs offer code highlighting, debugging, and extensions for web development.
- **Git:** Version control system for collaborative development and tracking changes in your codebase.
- **Web Browser:** Use browsers like Google Chrome, Mozilla Firefox, or Microsoft Edge for testing and debugging your web application.
- **Text Editors:** Have standard text editors for writing documentation, notes, and configurations.

STUDENTS DETAILS

Name	UID	Signature
Aditya Mishra	21CBT1006	
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APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)