
Project Name: eGyan Library System

1. Project Overview Document (POD)

Title: Web-Based Digital Library for Educational Institutions

Objective:

To build a web-based content management system (CMS) for digital books and learning content, deployable on local endpoint servers in schools, with an integrated cloud-based analytics engine for tracking student engagement.

Scope:

- Offline-first digital content delivery via school servers
- Role-based access (Super Admin, Principal, Teacher, Student)
- Flipbook-style PDF eBooks, audiobooks, and video content support
- Cloud-integrated analytics for student performance

2. Business Requirements Document (BRD)

Stakeholders:




- School Management
- Teachers
- Students
- Content Administrators
- Government/NGO (if involved in implementation)

Requirements:




- Schools must operate independently even without internet
 - Students must only access assigned content
 - Centralized reporting and analytics needed for each server
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3. Functional Requirements Document (FRD)

CMS Features (Deployed Locally at School):

-  Role Management:
 - **Super Admin:** Full control
 - **Principal:** Manage teachers & students
 - **Teacher:** Manage students & assign content
 - **Student:** View assigned eBooks/audio/videos only
-  Content Management:
 - Upload & assign PDF eBooks (flipbook-style), audiobooks, and video lectures
 - Content can be categorized by subject/class
-  Access:
 - Intranet-based, no internet required
 - Responsive UI for desktops/tablets

Analytics Engine (Deployed in Cloud):

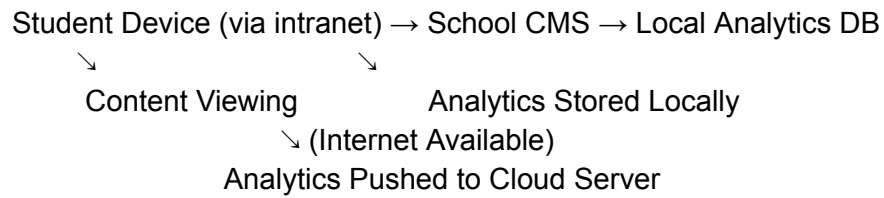
-  Analytics Collected:
 - Time spent per student
 - Books accessed and completed
 - Student reading progress
 -  Sync Mechanism:
 - Offline analytics stored locally
 - Synced to cloud when internet is available
 -  Unique ID:
 - Each endpoint server has a unique identifier
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4. Technical Architecture Document (TAD)

System Components:

- **Endpoint Server (On-Premises):**
 - Linux/Windows-based mini PC
 - Local web server with CMS
 - SQLite/PostgreSQL local database
- **Central Cloud Analytics Server:**
 - Hosted on AWS/Azure/GCP
 - REST API to receive analytics data
 - Analytics Dashboard (Admin only)

Network Flow:



5. Deployment Plan

Phase 1:

- Setup CMS with full role-based access
- Enable flipbook, audio & video content support
- Deploy endpoint server in pilot schools

Phase 2:

- Develop analytics tracking module
- Integrate cloud server for analytics
- Assign unique IDs to each server

Phase 3:

- Deploy in multiple institutions
 - Real-time analytics and reporting dashboards for admin
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6. User Roles and Permissions

Role	Permissions
Super Admin	Full access: create/manage schools, content, users
Principal	Manage teachers, assign content, view school-wide analytics
Teacher	Create classes, assign content to students, view assigned student analytics
Student	View assigned content only

7. Data Flow & Sync Strategy

Offline Mode:

- Content access and analytics collection happen offline

Online Sync Mode:

- When internet is available:
 - Endpoint server uploads analytics to cloud
 - Uses unique server ID for data segregation
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8. Security & Compliance

- SSL/TLS for data sync to cloud
 - Access control via secure login
 - All offline data is encrypted locally
 - Complies with FERPA (if required) / Indian EdTech data privacy norms
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9. Risks and Mitigation

Risk	Mitigation Strategy
Server damage/local failure	Local backups + periodic cloud sync
Internet unavailability	Offline-first architecture
Data misuse or breach	Strict role-based access + encryption
