PROJECT REPORT: FUOYE E-LIBRARY MANAGEMENT SYSTEM

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1.0 Introduction

The advancement of technology has transformed the way educational materials are accessed, managed, and shared. This project presents an E-Library Management System developed for the Federal University Oye-Ekiti (FUOYE) to provide an efficient platform for lecturers to upload materials and for students to seamlessly access course-related documents. The system facilitates academic collaboration and ensures timely access to up-to-date resources.

1.1 Statement of the Problem

The traditional method of sharing academic materials through physical handouts or fragmented digital means such as WhatsApp groups or email lacks structure, traceability, and proper archiving. Students often struggle to find or retain essential documents, and lecturers lack a centralized system for material dissemination. There is a pressing need for a secure, organized, and user-friendly platform.

1.2 Research Aim

To design and implement a responsive and secure E-Library Management System that simplifies the distribution and retrieval of academic materials within the university environment.

1.3 Research Objectives

- To allow lecturers to upload and manage course materials.
- To enable students to search and access materials easily.
- To provide an admin dashboard for managing users, courses, and materials.
- To implement a role-based login system.
- To ensure responsiveness and usability across all devices.

2.0 Overview of Existing System

Currently, most lecturers share materials through email or instant messaging platforms, which makes tracking and archiving difficult. These platforms also lack access control and proper organization of materials by course or academic level.

2.1 Overview of Proposed System

The proposed E-Library Management System solves these issues by offering:

- A centralized platform for managing all course materials.
- Role-based dashboards for students, lecturers, and admins.
- Responsive UI for accessibility on mobile and desktop.
- Secure access control using sessions.
- Organized storage and retrieval of materials.

2.2 Functional and Non-Functional Requirements

Functional Requirements:

- User authentication (login for admin, lecturer, student).
- Lecturer course assignment and material upload.
- Student material search and access.
- Admin control panel to manage users, courses, and uploads.

Non-Functional Requirements:

- System should be responsive.
- Secure file handling.
- Fast and optimized search.
- Accessible UI/UX design.

2.3 Methodology

Agile development was adopted for iterative progress and testing. Flask was used as the backend framework with HTML, Bootstrap, and CSS for frontend design.

2.3.1 Use Cases:

- Admin adds courses and lecturers.
- Lecturer uploads course materials.
- Student accesses and downloads materials.

2.3.2 Flow Chart:

(To be attached later – showing user login flow and role-based dashboard access.)

3.0 Implementation Tools

Languages and Frameworks: Python, Flask, HTML5, CSS3, Bootstrap 5

3.1 Hardware and Software Requirements

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- Laptop/Desktop (minimum 4GB RAM)
- Python 3.x, Flask
- Code Editor (e.g., VS Code)
- Web Browser

3.2 Description of the New System / Result / Discussion

3.2.1 Development

- Role-based dashboards: Each user type sees only relevant data and actions.
- Admin Dashboard: Manage lecturers, courses, and view all uploaded materials.
- Lecturer Dashboard: View assigned courses, upload materials.
- Student Dashboard: Search and view/download materials.

3.2.2 Deployment

The system was tested locally using Flask's development server. Static files (CSS, images) were organized under a `static/` folder and templates under `templates/`.

3.2.3 Result

The system performed well during testing:

- Materials uploaded were correctly linked to their courses.
- Students could access materials based on their level.
- Admin was able to manage users and monitor materials.

4.0 Conclusion and Recommendation

The FUOYE E-Library Management System provides a structured, centralized, and user-friendly interface for academic content sharing. It promotes efficiency, accountability, and accessibility. Further improvements are recommended to enhance automation, personalization, and security.

Future Improvements

1. Role-based access control with fine-grained permissions.
2. Email notifications to users.
3. Student registration verification via admin approval.
4. Material categorization and advanced filtering.
5. Analytics dashboard for admin.

6. Ratings and feedback for materials.

7. Secure file handling and virus scanning.

8. Full-text search engine (e.g., Elasticsearch).

9. Mobile app development.

10. Audit logs and activity trail.

11. Offline download options.

12. AI-powered material recommendations.

References

- Flask Documentation – https://flask.palletsprojects.com/

- Bootstrap 5 Documentation – https://getbootstrap.com/

- W3Schools – https://www.w3schools.com/

- Python.org – https://www.python.org/

- GitHub Resources on LMS systems