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Walchand College of Engineering

(Government Aided Autonomous Institution)

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Department of Computer Science & Engineering

Presentation on

"DocNest"

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Agenda

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Abstract

The proposed project focuses on building a web-based accreditation support system for academic institutions. Using a ReactJS frontend, NodeJS/ExpressJS backend, and MongoDB database, the system will allow faculty and administrators to upload, organize, and archive documents in a structured manner. The solution will include features like year-wise categorization, metadata-based search, dashboards, audit logs, and accreditation-ready reports. By integrating real-time collaboration, automated archival with expiry tracking, and role-based authentication, the platform ensures transparency, document integrity, and efficiency. Designed to be scalable and cost-effective, it can serve both small institutions and large universities, making accreditation processes seamless, faster, and paperless.

KEYWORDS: Accreditation support system, Academic institutions, Document management, Audit logs, Real-time collaboration, Role-based authentication, Automated archival, Scalable system, Paperless accreditation.

Problem statement

To develop a smart digital platform that streamlines and visualizes institutional documents year-wise, enabling effortless and efficient review by accreditation bodies like NBA.

Objectives

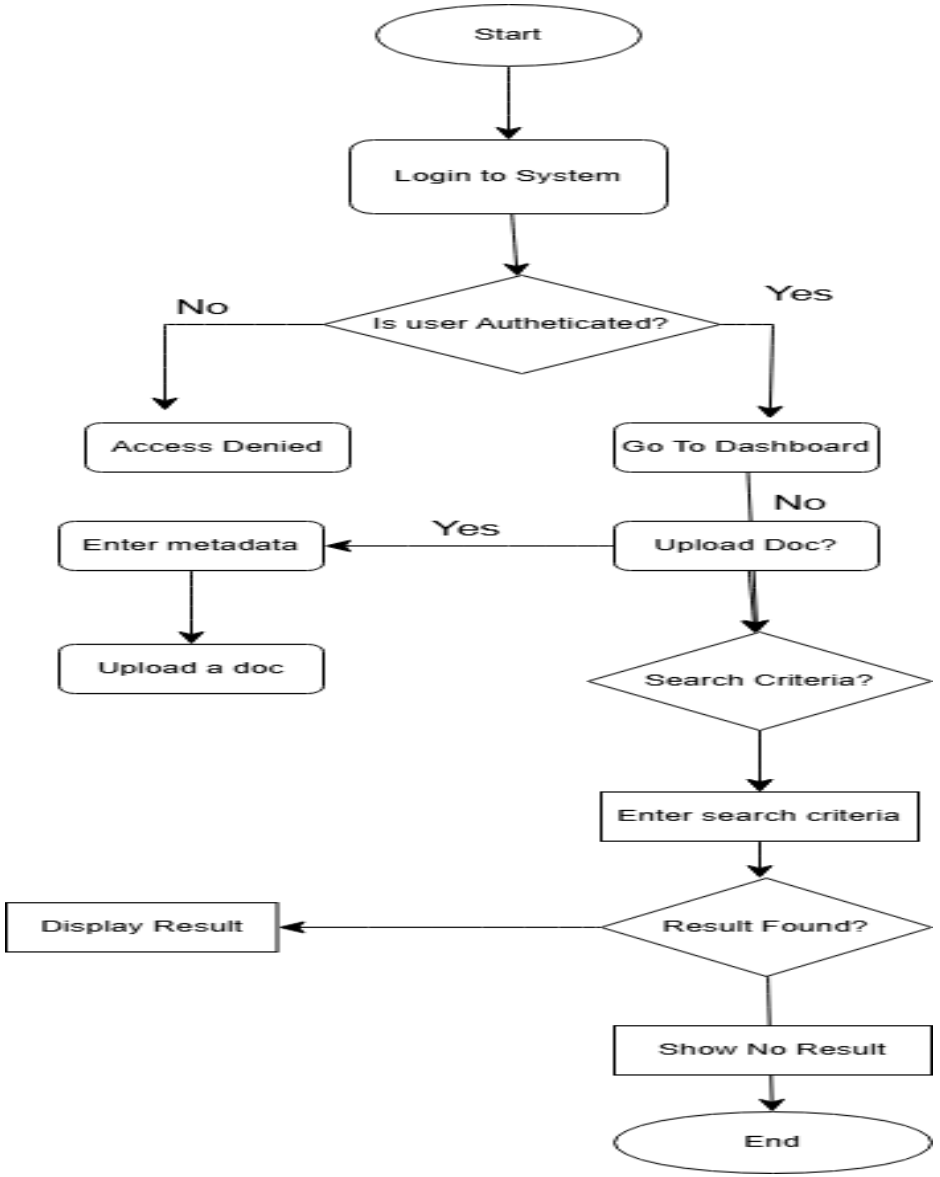
- To identify problems in manual record-keeping.
- To build a centralized platform for structured categorization.
- To provide dashboards, search, and audit-ready reports.
- To ensure security & accountability with role-based access and logs.
- To enable NBA readiness scoring & gap analysis.
- To support versioning and archival for long-term sustainability.

Methodolgy

- **Iterative Model**
- **Role-based access:** Student, Faculty, Admin, Evaluator
- **Document workflow:**

  Draft → Submitted → Approved (by Admin) → Published → Archived.
- **NBA criteria integration:** Admin defines criteria, assigns them to teachers; uploaded documents tagged accordingly.
- **Collaboration & tracking:** Immutable audit logs, versioning, and comments for accountability.
- **NBA Criteria Mapping:** Documents tagged for readiness scores & gap analysis.

Flow chart


Start
Login to System
Is user Autheticated?
No
Yes
Access Denied
Go To Dashboard
No
Upload Doc?
Yes
Enter metadata
Upload a doc
Search Criteria?
Enter search criteria
Result Found?
Display Result
Show No Result
End

Outcomes

- A centralized digital repository
- Advanced search and filtering features
- Role-based secure access with immutable audit logs
- Interactive dashboards and reports
- Automated archival and expiry system

Applications

- Accreditation support for NBA/NAAC by simplifying document management and verification during audits.
- Academic governance through structured storage of academic, research, and administrative documents.
- Audit readiness with always-available, systematically categorized records for internal and external reviews.
- Institutional scalability, making the platform adaptable for colleges, universities, or multi-campus setups.
- Sustainability initiative by promoting a paperless, transparent, and eco-friendly academic ecosystem

Technology Stack

- **SOFTWARE SPECIFICATION**

- **Programming Languages:** ReactJS
- **Backend**: NodeJS, ExpressJS, Multer (uploads), Socket.IO (real-time)
- **Frameworks**: ExpressJS, Docker
- **Libraries:** Multer, Socket.IO, JWT, bcrypt
- **Environment & Dependency Management:** Vite, npm/yarn (package manager)

Technology Stack

- **SOFTWARE SPECIFICATION**

- **Version Control: - Git:** For version control and managing code repositories. - GitHub: Repository hosting and collaboration.
- **Data Formats: - JSON:** Database:MongoDB (using Mongoose schemas),JSON for data storage and transfer ,API Communication:JSON for request/response payloads
- **Deployment: - Local Servers:** Docker, Docker Compose,GitHub Actions (CI/CD)

Conclusion

The proposed platform offers a specialized accreditation management solution tailored for NBA/NAAC workflows. It ensures compliance with structured repositories, role-based security, real-time collaboration, and audit trails. With scalable deployment and containerization, it adapts to institutions of all sizes while streamlining processes and fostering a sustainable, paperless ecosystem.conclusion

references

1. NBA Official Website: https://www.nbaind.org
2. ERPNext Education Module: https://docs.erpnext.com/docs/user/manual/en/education
3. TCS iON: https://www.tcsion.c

Thank You