Project Proposal: College Space for GLA University

# Executive -Summary:

**This proposed project, "College Space for GLA University," aims to revolutionize the way students and teachers interact with study materials. The implementation of CRUD operations, secure authentication, and specialized access controls will contribute to a more efficient and secure academic environment. The chosen tech stack and approach ensure a robust and user-friendly platform, addressing the identified problems and delivering tangible benefits to the GLA University community.**

1. Problem:

In the dynamic environment of a university, students and teachers face challenges in managing and accessing relevant study material efficiently. With the constant shuffle of faculty and courses, the reliance on platforms like WhatsApp for document sharing becomes cumbersome. Loss of data due to cleared chats or lack of backups further aggravates the situation. The need for a centralized, secure, and user-friendly platform to manage study materials is evident.

2. Vision:

**Our vision is to create a comprehensive online space, named "College Space," tailored for GLA University. This platform will empower teachers to perform CRUD operations on study materials while providing students with a streamlined interface for accessing relevant documents. The implementation of a secure one-time password (OTP) login system will ensure confidentiality, and course-specific access controls will enhance the overall user experience**

3. Benefits:

* **Streamlined Document Management: A centralized repository simplifies study material organization for teachers and students.**
* **Enhanced Security: An OTP-based login system adds an extra layer of security, allowing only authorized access.**
* **Efficient Access Control: Course and year-based controls ensure users access only relevant academic information.**
* **Reduced Messaging App Reliance: Eliminate multiple WhatsApp groups, offering a more organized way to access materials.**
* **Data Persistence: The platform ensures study material persistence, minimizing the risk of data loss.**

4. Deliverables:

* **User-Friendly Website: Responsive site developed with React.js or Angular for frontend simplicity.**
* **Backend Infrastructure: Node.js with Express.js, enabling CRUD operations for efficient document management.**
* **Authentication System: Secure OTP login system implemented using libraries like Passport.js.**
* **Database Management: MongoDB or PostgreSQL used for storing user data, course information, and documents.**
* **Access Control Mechanism: Node.js middleware ensures course and year-based access controls during login.**
* **Document Storage: Efficient document storage through cloud services like AWS S3 or Google Cloud Storage.**
* **Testing Suite: Backend testing with Mocha, Chai, or Jest; frontend testing with React Testing Library or Enzyme.**
* **Security Measures: Implementation of Helmet.js for securing HTTP headers and Express Validator for input validation.**
* **Monitoring and Logging: Utilize tools like New Relic or Datadog for robust monitoring and logging.**

5. Success Criteria:

* **CRUD Operations: Successful implementation for efficient document management.**
* **Responsive Design: Seamless user experience across devices with a responsive design.**
* **OTP Login System: Secure login with two-factor authentication through OTP.**
* **Access Control: Efficient course and year-based access control during login.**
* **User Feedback: Positive user feedback on usability and functionality.**
* **Documentation: Well-documented codebase and comprehensive user/administrator guides.**
* 6. Deadlines:
* **Project Kick-off: February 15, 2024**
* **Backend Development Completion: April 30, 2024**
* **Frontend Development Completion: May 15, 2024**
* **Testing and Debugging: June 16, 2024 - July 15, 2024**
* **Deployment: August 20, 2024**
* **Feedback and Iterations: August 25, 2024 - September 10, 2024**

7. Approach:

* **Define Requirements: List features such as user roles, CRUD operations, OTP login, and access controls.**
* **User Roles: Identify roles (students, teachers) with corresponding permissions.**
* **Database Design: Design tables for users, courses, documents, and relevant entities.**
* **Authentication: Implement secure OTP login with two-factor authentication for students.**
* **Dashboard: Create intuitive dashboards for both students and teachers.**
* **Navigation: Implement clear navigation structures for user-friendly experience.**
* **Access Control: Apply course and year-based access controls during login.**
* **Document Management: User-friendly interface for document management, including CRUD.**
* **Responsive Design: Ensure seamless experience across devices with responsive design.**
* **Search and Filter: Implement options for easy document discovery.**
* **Feedback Mechanism: Include user comments and ratings for document usefulness.**
* **Version Control (Optional): Consider implementing version control for document tracking.**
* **Security Measures: Follow secure coding practices, regular updates, and vulnerability protection.**
* **Testing: Thorough testing for functionality, security, and usability.**
* **Documentation: Clear user/admin guides, FAQs, and tutorials.**
* **Continuous Improvement: Gather feedback for updates, adapting features based on user needs.**

# Team Members:-

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