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**PROJECT PROPOSAL : Project Management App for Computer Science Department**

**Introduction:**

I have recognize the need for an efficient and streamlined system to manage project works within the Computer Science Department. With this in mind, I propose the development of a web application that will serve as a project management tool and a check against project duplication. This web app will help the department keep track of various project works done by students, prevent the same project from being undertaken by multiple students, and provide resources for improving existing projects.

**Objectives:**

1. Develop a web application that enables the department to keep track of project works undertaken by students.

2. Implement a duplication check mechanism to prevent students from working on the same project idea.

3. Provide resources and suggestions for students to improve existing projects if duplicates are found.

4. Create a user-friendly interface that allows students to submit project proposals and access project details.

5. Ensure data security, reliability, and scalability of the web application.

6. Conduct rigorous testing to ensure optimal performance and functionality.

7. Deploy the web application within the department's infrastructure and provide ongoing support and maintenance.

**Target Users:**

The web application primarily targets students and lecturers within the Computer Science Department. Students will benefit from a centralized platform to submit project proposals, access project details, and receive suggestions for improvement. Faculty members will have a comprehensive overview of ongoing projects and be able to guide students effectively.

**Value Proposition:**

By implementing this web application, the department will benefit from a streamlined project management process. Students will have access to a comprehensive project repository, reducing the chances of duplication and promoting originality. Additionally, the availability of resources and suggestions for improving existing projects will encourage collaboration and innovation within the department.

**Application Features and Description:**

The proposed web application will encompass the following key features:

1. User Registration and Authentication: Students and faculty members will register and log in securely to access the application using their student and staff log-ins.

2. Project Submission: Students will submit project proposals, including project descriptions and keywords, through a user-friendly interface.

3. Duplication Check: The system will perform a comprehensive search against existing projects to identify duplicates based on project descriptions and keywords.

4. Duplicate Project Handling: If a duplicate project is found, the student will be presented with the option to improve upon the existing project or choose a different project.

5. Project Repository: The web application will maintain a centralized repository of all projects, including project details, resources, and relevant documentation.

6. Resource Access: If a student chooses to improve an existing project, the web application will provide access to resources used in developing the original project.

7. Notifications and Reminders: The application will send notifications and reminders to students and faculty members regarding project deadlines, updates, and important announcements.

8. Dashboard and Reporting: Faculty members will have access to a dashboard displaying project statistics, progress reports, and overview of ongoing projects.

**Tools and Resources:**

The development of this web application can utilize the following technologies and resources:

- Front-End Development: HTML, CSS, JavaScript, and a front-end framework like React.

- Back-End Development: A server-side programming language such as Node.js.

- Web Framework: A web framework like (Node.js) to handle server logic and API development.

- Database Management: A database system like MySQL or firebase to store and manage project data efficiently.

- Authentication and Security: Integration of authentication protocols (e.g., OAuth, JWT) and implementation of secure coding practices to protect user data.

- Cloud Hosting: Deployment of the web application on cloud platforms like AWS, Azure, or GCP for scalability and accessibility.

- Version Control: Git or other version control systems to track changes and collaborate on development.

- Testing Frameworks: Tools like Jest, Mocha, or Selenium for automated testing to ensure functionality and reliability.

- Documentation: Tools like Swagger for API documentation and JSDoc for code documentation.

**SOFTWARE DEVELOPMENT LIFE CYCLE(SDLC) METHOD IMPLEMENTED**

**PROJECT TIMELINE**

The proposed project timeline is as follows:

* Project Initiation and Planning: 5TH JUNE 2023 - 18TH JUNE 2023

1. Conduct initial research and requirements gathering
2. Formulate project scope, objectives, and deliverables
3. Create a detailed project plan, including resource allocation and milestones

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* Software Design and Development: 19TH JUNE 2023 - 2RD JULY 2023

1. Design the software architecture, data models, and algorithms
2. Develop the software solution using industry-standard programming languages and frameworks
3. Implement core features and functionalities

* User Interface Design and Integration: 3RD JULY 2023 - 16TH JULY 2023

1. Design an intuitive and visually appealing user interface
2. Implement user interface components and integrate them with the backend system
3. Conduct user testing and gather feedback for iterative improvements

* Integration of Advanced Technologies: 17TH JULY 2023 - 31ST JULY 2023

1. Identify and integrate relevant advanced technologies, such as AI, ML, or blockchain
2. Ensure seamless integration and interoperability with existing systems
3. Optimize and fine-tune the software system for enhanced performance

* Testing, Deployment, and Support: 1ST JULY 2023 - 15TH JULY,2023

1. Conduct comprehensive testing, including unit testing, integration testing, and user acceptance testing
2. Deploy the software system in a production environment
3. Provide ongoing support, maintenance, and bug fixes
4. Monitor performance, collect user feedback, and implement enhancements as needed

**Conclusion:**

The proposed project management and duplication check web application will provide the Computer Science Department with an effective system to manage project works and prevent duplication. By leveraging the suggested tools and resources, the web application will offer features such as project submission, duplication check, resource access, and a comprehensive project repository. The successful implementation of this application will enhance innovation,collaboration, promote originality, and streamline project management within the department.