Project Management Application for Instructors (week 5)

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Reasons for Choosing MVC Architecture

The MVC architecture is the best choice for this application due to the following reasons:

- MVC architecture helps us to regulate the complexness of application by dividing it into 3 parts: model, view and controller.
- The entire application can be built or managed independently by business logic developers, flow of control developers and web page designers.
- MVC promotes scalability and maintainability for large numbers of users. Multiple Views of the same Model can be used simultaneously. Different UI for user levels is maintained by the same application. New/updated Views can be deployed at any time.
- It assists in code reuse and parallel development. The task is made simpler and less complicated because of this.
- The MVC design results in components that are self-contained units, developers can easily and quickly reuse components and scripts in a variety of different applications.

Type of Data Handled in the Application

The data this application will be inputting, storing, processing, and/or outputting:

- User information: student/instructor information
- Course information: course description, syllabus, project/assignment.
- Assignment/Project data: submission date, grades, feedback, group information.

A database is essential in every field for efficient storage and retrieval of data. The architecture uses SQL for structured data as users' information and cloud or local system for assignment data, files.

References

Kankunta, S. K. R. (2015). *Online Learning Management System*. Graduate Capstone Seminar Project, B.Tech, Jawaharlal Nehru Technological University (JNTU). https://opus.govst.edu/cgi/viewcontent.cgi?article=1553&context=capstones

Pressman, R. S., & Maxim, B. R. (2020). Software Engineering: A Practitioner's Approach (9th ed.). McGraw Hill.

Sridaran, R., Padmavathi, G., Iyakutti, K., & Mani, M. N. S. (n.d.). *SPIM Architecture for MVC-based Web Applications*. New Horizon College of Engineering, Avinashilingam University for Women, Madurai Kamaraj University, and Lakshmi Systems. https://arxiv.org/pdf/1006.2702

Singh, S. (n.d.). *MVC Framework: A Modern Web Application Development Approach and Working*. Keraleeya Samajam's Model College, Thakurli East, Thane, Maharashtra, India. https://MVC Framework A Modern Web Applica.pdf&Expires=1739433876&S-5a