Innovation.pdf

Student Name: Fawas Ajani

Student ID: G00413222

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Innovative Features

Innovative Features:

1. **Modular & Scalable Architecture**: Ensures scalability and easy maintenance.

2. **Input Validation**: Uses Express Validator for client and server-side validation.(you can also change it to validator.js)

3. **Error Handling**: Provides detailed error messages for user clarity.

4. **Grade Grouping & Sorting**: Groups and sorts grades by student for easy performance analysis.

5. **Lecturer Management**: Managed efficiently using MongoDB.

6. **Responsive UI**: Adapts to different screen sizes for a smooth user experience.

7. **Database Integration**: MySQL for student/grades, MongoDB for lecturers.

8. **Advanced SQL Querying**: Utilizes JOINs for efficient data fetching.

9. **Data Sorting**: Organizes data logically (alphabetically, by ID).

10. **Security**: Implements input sanitization and secure data handling.

11. **Search Feature**: Dynamic search for students and lecturers with live table updates.