UNIVERSITY OF CENTRAL MISSOURI

CS5200 - Database Theory and Application
Course Project: Database Application

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Database Project Description

- The project requires building a database application for **a real-world scenario of your choices**.
- You can find some ideas on: https://www.upgrad.com/blog/dbms-project-ideas-for-beginners/
- **Form your team** (4-6 students) → 1 tech leader, 1-2 database dev, 1-2 back-end dev, 1 front-end dev;
- You will need to submit a **Project Report** before 2025-06-21 (members of the same team can submit the same report).

Project Scope Requirements

- **Objective:** Clearly define the purpose of your database system.
- **Complexity:** The project should include advanced features suitable for a master-level course, like transaction management or data warehousing.

Database Design and Modeling Requirements

- **ER / UML Diagrams:** Present detailed Entity-Relation or UML diagrams
- **Schema Design:** Your database must have multiple tables with varying relationships.

Back-end Requirements

- **Will be graded after Final Presentation.**

- **Database Engine:** Choose an appropriate database engine, e.g., MySQL, PostgreSQL, Oracle, MongoDB
- **CRUD Operations**: Implement Create, Read, Update, Delete, operations.
- **Concurrency Control:** Handle concurrent operations.

Front-end Requirements

- **Will be graded after Final Presentation.**
- **User Interface:** Create either a CLI or web-based GUI
- **Interactivity**: Support for multiple users and roles.

Deployment Requirements

- **Will be graded after Final Presentation.**

- **Cloud Deployment:** Deployment the project on a cloud platform, e.g., AWS, Google Cloud, etc.
- **Security Measures**: Implement basic security features.
- **Accessibility:** Ensure the project is accessible for grading. → **Provide me the web-link in Final Report!**

Course Project Report

Content:

- Who are the members in your team?
- What is your role in the team?
- What is the purpose of the database? Why is it needed?
- Who are the users and what information and functions do they need?
- What input data is available to the database?
- What kind of information should be stored in the database?
- ER diagram
- Schema/Tables in your database
- Web-link to your project