Web Data Management - CSE 5335

Group 14

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REPORT

Project Overview

The project is about an Academic Program Management System. It involves managing various aspects of an academic program, including program objectives, courses, exams, assessments, user accounts, reporting and analytics, feedback and communication, and administrative functions. Multiple roles, such as students, instructors, administrators, program coordinators, and quality assurance officers, have specific responsibilities within the system.

The project aims to develop a comprehensive web-based platform to efficiently manage and monitor the Computer Science academic program's performance. This includes tracking program objectives, course offerings, exams, assessments, student performance, and facilitating communication among stakeholders.

Approach

- **Database Design**

  The project starts by planning how to organize data in a database. We use a diagram called an Entity-Relationship Diagram (ERD) to show how different things like users, programs, courses, and exams are connected and structured in the database.

- **Entities and Relationships**

  Important parts of our system include different types of people (like students, teachers, and other roles), academic programs, goals for those programs, courses, tests, evaluations, how well people do, and messages.

  We also describe how these things are connected. For example, students joining programs, teachers leading courses, and tests giving results are some of the connections we define.

- **Roles for Users**

  The system allows different types of users to do different things. We have students, teachers, administrators, program organizers, and quality checkers. Each of them can do specific tasks and has their own set of duties.

- **Authentication/Authorization**

  To make sure the system is safe and only the right people can use it, we have a way to check who you are and what you're allowed to do. This means you can only do things that match your role.

- **Communication**

  The system has a way for users to talk to each other. Teachers and students can talk about things related to their courses, and administrators can help answer questions.

- **Administrative Control**

  Administrators have complete power over the system. They can do things like handle courses, program goals, user accounts, make reports, and change how the system works.

- **Program Management**

  Program Coordinators have an important job. They are in charge of the academic program and can do things like setting program goals, working with teachers, and keeping an eye on how students are doing in their studies.

- **Quality Management**

  Quality Assurance Officers have a crucial role in keeping the program top-notch. They check the course materials, tests, and how well students are doing to make sure everything matches the program's goals and meets the industry standards.

- **Reporting and Analytics**

The system makes reports and pictures to see how well the program is doing. It shows information like how students are doing, how good the courses are, and an overall look at the program. This information is shown in numbers, charts, and pictures.

- **Responsive Design and Accessibility**

   The system is made to work well on all kinds of devices, like phones and computers, no matter how big or small their screens are. It also follows rules to make sure people with disabilities can use it easily.

Implementation

The project has two parts: one that you see on the screen (front-end) and one that works behind the scenes (back-end). The front-end is what you use to talk to the system, and the back-end takes care of storing data, getting data back, and making the system work correctly.

To build the system, we can use technologies like HTML, CSS, JavaScript, a type of database system (like MySQL or PostgreSQL), and a framework that runs on the server (such as PHP or NodeJS).

We need to make sure the system is secure by using things like data encryption, controls to limit who can access it, and keeping it up to date.

We also have to test it, fix any problems we find, and listen to what users have to say so we can make it work better and be easier to use.

Summary

To sum it up, this project is all about making a strong Academic Program Management System for everyone involved in an academic program. It includes making a database, checking who can do what, letting people talk to each other, making reports, and giving administrators control. The goal is to make managing the program easier, help people communicate better, and get information to make the program even better.

Please look at the other documents provided such as ER diagram, Schema for better and detailed understanding of the project design and plan.