

12-780 Advanced Python and Web Prototyping for Infrastructure Systems

Project Proposal:

Employee Training Management System

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Introduction

Employee training is important for companies and employees. Engaged in skilled categories of workers must undergo training before induction. Thus, companies would like to use a system to administrate information about employees and trainings. For example, employees can search and register courses they are interested in, and review their grades and scores of courses they have completed by using that system on webpage. And instructors can assign courses, review students' profiles and do grade on that site.

In order to accomplish this system, a database driven website, which is dynamic, should be established. I will create a database focusing on employee training, and connect it to the web application. A search bar will be established for searching courses and instructors. In addition, log-in function will be developed, because this system should provide different functions for employees and instructors.

Potential users

This web application is useful for many companies, especially, which are technology companies. The instructors and employees in those companies are the main potential users. In order to serve different categories of users, people need to sign in the system firstly. Furthermore, this system can be developed to be an educational administration system used by universities in the future.

Main Features for the whole product

- Log-in and sign-up on the homepage;
- Show employees' or instructors' profile on the subpage;
- Employees can search, register and drop courses after signing in;
- Instructors can grade and view employees' profiles after signing in.

Main Features be developed in this project

Database:

Following is the schema of my database:

EMPLOYEE (Emp_ID, Emp_Lname, Emp_Fname, Email, DOB, Hire_Date, Street, City, State, Zip_Code)

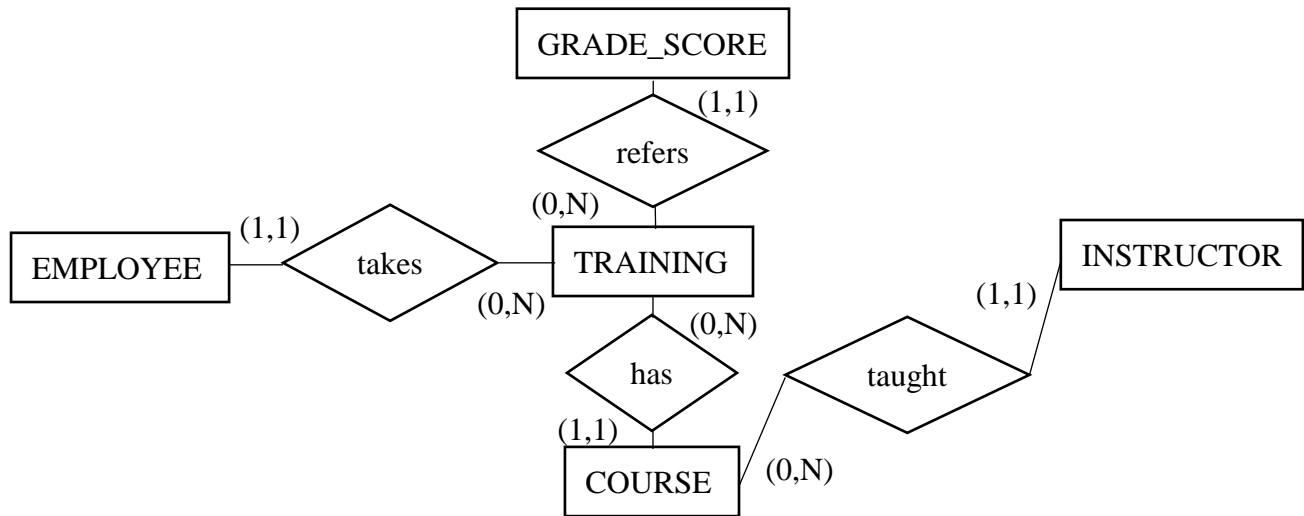
TRAINING (TID, Emp_ID@, Crs_ID@, Grade@)

COURSE (Crs_ID, Crs_Title, Crs_Type, Instr_ID@)

INSTRUCTOR (Instr_ID, Instr_Lname, Instr_Fname, Instr_Phone, Specialty)

GRADE_SCORE (Grade, Score)

The ER diagram of my database is shown in Figure 1.

*Log-in:*

Users need to enter their sign-in name and password to log in the account. There are two types of accounts, one is the employee account. And the other one is the instructor account. Different types of account will direct to different webpages. For employees, they can inquire the information of courses, review their profiles and grades. And for instructors, they can do grade, and search information of students in their class.

Profile:

After logging in the system, the profile of the employee or instructor should be shown on the webpage. And this information is selected from database.

Search courses:

One important feature of this application for employees is to search their interested courses. In order to achieve this function, a search bar will be developed for inputting keywords of courses. Then, SQL query will be used for selecting from the database using these keywords.

Grading:

For instructors, they may not use the course-searching function. Instead, they need to grade the employees depending on exam or final project they have done. For this feature, SQL query for altering tables will be used.

Estimated Schedule

The following table is a planning of this project.

Task	Period
Establish the database and framework of the system	7 st Nov – 10 th Nov
Complete the log-in system and landing page	11 th Nov - 17 th Nov
Connect the database to the website	18 th Nov – 21 st Nov
Complete search and grading functions	22 nd Nov – 27 th Nov
Complete other subpages and the system	28 th Nov – 2 nd Dec
Finish report and video	3 rd Dec – 8 th Dec