ENGINEERS WITH
SOCIAL RESPONSIBILITY

SUCCESS-SPHERE COACHING

Revolutionizing Education

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DBMS Project-Report

Objective : To design and implement a database for an educational application focused on providing dynamic courses, real-time analytics, and interactive features for students preparing for JEE and NEET entrance tests. Users can also monitor their progress, keep track of their accomplishments, and take advantage of technological advancements by encouraging cooperation, constant improvement, and conformity to educational standards.

Application Users :
1. Registered Students
2. Instructors
3. Assistants
4. Parents
5. Unregistered Students

Use Case 1) Registered Students → Students who are registered in a course on the app.
1. Register/Login
2. Create/Modify Profile
3. Enroll in any course
4. Attendance Tracking
5. Accessing course materials
6. Tracking real-time performance
7. Monthly/Two-weekly Practice Tests
8. Doubt Solving and Feedback Surveys

❖ **Register/Login**
→ Allow students to create accounts or log in to access personalised features. Provide a user-friendly registration process with email verification and password creation.

❖ **Create/Modify Profile**
→ Allow students to manage and update their personal information. Design a profile management section where students can input details such as name,

contact information(mobile number, email id, address), educational background(current class/school/board) and academic interests(target exam).

❖ **Enroll in any Course**
→ Enable students to choose and enroll in courses based on their preferences or academic requirements by accessing the course description which includes subject, topics covered, instructor, language, batch, duration, price, no. of students enrolled.

❖ **Accessing Course Materials**
→ Students can find and download lecture notes, presentations, and supplementary material. For practice purposes they can access quizzes and practice sheets.

❖ **Tracking real-time performance**
→ Create a dashboard displaying ongoing coursework, grades, and overall performance metrics.

❖ **Doubt Solving and Feedback Surveys**
→ A group of students will be assigned a particular instructor and an assistant teacher with whom they can interact and get their doubts cleared in real-time chats as well as on mail.

Use Case 2) Instructors → Educators who create, manage and teach course content.
1. Register / Login
2. Create / Modify Profile
3. Creating and Managing a Course
4. Scheduling lectures, tests and quizzes
5. Communication with Students
6. View Analytics on a course

❖ **Create/Modify Profile**
→ Design a profile section where instructors can input details such as their credentials, expertise, and contact information. Allow them to modify and update their profiles as needed.

❖ **Create and Managing a Course**

→ Allow instructors to create new courses, set syllabi, and define assessment criteria. Implement features for course editing, archiving, and managing enrolled students.

❖ **View Analytics on a course**

→ Instructors can see various details pertaining to their respective courses like no. of students enrolled, ratings and reviews, etc. and accordingly modify their engagement with students.

Use Case 3) Assistants → Supporting instructors for a particular course to solve doubts, prepare quizzes/tests, and give personal guidance to students.

1. Register / Login
2. Create / Modify Profile
3. Course Assistance
4. Communication

❖ **Course Assistance**

→ Assistants will be assigned a course according to their profile of expertise. He/She will help in clearing doubts in a real-time environment.

Use Case 4) Parents

1. Login / Register
2. View performance of their child
3. Interaction with Instructors / Assistant Instructors

Use Case 5) Unregistered Students

1. Search courses based on their preference
2. View course details
3. Compare ratings and prices of courses

Tentative List of Queries

➢ For Registered Students

1. Retrieve students' profiles based on their user id.
2. Display list of courses in which a student is enrolled in.
3. Fetch attendance records for a particular course
4. Retrieve performance results of a specific course.
5. Modify any basic information in their profile
6. Enrol in another course
7. Retrieve contact information of the course assistant or instructor
8. Display the upcoming schedule of the lectures, tests and quizzes.

➢ For Instructors

1. Create or modify a course.
2. Create or modify the schedule of their courses.
3. Display list of students enrolled in their course.
4. Display list of courses taught by the instructor and corresponding ratings.
5. Retrieve results of top 'n' students in a particular test.
6. List of students who are enrolled in all courses of a particular course instructor.
7. Retrieve/Modify their profile details.

➢ For Assistants

1. Display the list of courses for which an assistant is providing support.
2. Count the number of assistants who are working as part-time employees.
3. List of the assistants having ratings greater than 4 out of 5.
4. Display list of students who are mentored by a particular assistant.

➢ For Parents

1. Count the number of tests in which their ward has scored less than average marks.
2. Display the upcoming test schedule.
3. Display subject-wise score of their ward in tests.
4. Display contact information of the assigned assistant instructor.

➤ For Unregistered Students

1. List of all available courses for a particular subject
2. Sort the course of a particular instructor in order of rating/prices.
3. List courses which are completely free of cost.

➤ For Admin

1. Display total revenue generated in a particular year.
2. Set price of the courses.
3. Display list of instructors that have ratings below 2.
4. List most sold courses.
5. Display information of the top 10 performing students for a particular course.