CCINFOM Database Design Mock Exam

CASE STUDY 3: Peer Tutors Society

Background of the Case

The Peer Tutors Society (PTS) operates under the Office of the Associate Dean of the College of Computer Studies. This student-led initiative focuses on assisting fellow students struggling in subjects related to mathematics, computer studies, and other foundational courses. The goal of the PTS is to provide academic support by selecting, training, qualifying, and deploying volunteer tutors who are proficient in their respective fields. However, the existing system for managing tutor applications, scheduling tutorial sessions, registering students, and collecting feedback is entirely manual, relying on paper forms and physical logs. This outdated approach has led to inefficiencies, such as difficulty in tracking tutor performance, scheduling conflicts, and delayed reporting of session outcomes.

Tutors

When a student expresses interest in becoming a tutor, they must complete a registration form. The information gathered includes the applicant's full name, student ID, email address, phone number, year level, and course. Additionally, the PTS requires applicants to specify the subjects that they can teach (e.g., Calculus, Python Programming, Data Structures) and their available day(s). Each tutor is assigned a unique Tutor ID upon acceptance, which is used to track their activities within the organization. The qualifications and certifications obtained by tutors are logged to monitor their competencies.

Tutorial Sessions

Tutorial sessions are typically organized on a weekly basis, with each session focusing on specific subjects or topics as requested by students. When a new session is created, the details include the subject, topic, session date, start time, end time, and location (either a classroom or a link). Each session is assigned a unique Session ID. The system also records the Tutor ID of the assigned tutor and the capacity for each session, ensuring that it does not exceed the maximum number of students allowed. If a tutor is unavailable due to scheduling conflicts or personal reasons, the system automatically searches for other qualified tutors who can cover the session.

Student Enrollment

Students seeking academic support must register for specific tutorial sessions. To enroll, students provide their student ID, full name, email address, course, and the Session ID of the tutorial they wish to attend. Each student is assigned a unique Enrollment ID for tracking purposes. Enrollment status is limited to the available slots for each session, and if the session is full, the student is placed on a waitlist. The system also ensures that students do not enroll in overlapping sessions, reducing scheduling conflicts.

Tutor Performance Evaluation

To maintain the quality of tutorial services, the PTS collects feedback from students after each session. Feedback includes ratings on these following aspects: the tutor's preparedness, clarity of explanations, and overall effectiveness. Additional comments are also encouraged to provide more detailed insights. Each feedback entry is linked to the relevant Session ID and is marked with the date the feedback was submitted. Tutors with consistently high ratings are given opportunities for advanced training, while those receiving lower ratings are reviewed for further mentoring or support. The system generates periodic performance reports to identify top-performing tutors and areas for improvement.

Training and Certification

To ensure that tutors are well-prepared, the PTS conducts regular training sessions. Attendance at these training sessions is recorded, and tutors who complete the training receive certifications. The certifications are tracked in the system and linked to each tutor's profile. This information is used when assigning tutors to high-demand subjects or specialized sessions.

