

Young people today live in a world characterized by enforcing the information and communication technology and the modern media culture in our daily life, the use of information and communication technologies is skyrocketing. Although they are witnessing benefits of using technology in the life, the education sector is still suffering from a real problem related to the type of traditional paper and pen exams. These Traditional exams are still used in this technological era where electronic computer devices have replaced most of the paper-based test systems (PBT). Researchers highlighted some problems that related to the traditional paper and pen exam which is also called PBT as a following: The PBT is not being able to provide interaction with test items, to provide real-life environment by using dynamic graphics and sound and enabling immediate score/result report. Educational experts consider those features that are increasingly used to enhance educational assessments. In a PBT it is not likely to record accurate information, such as item response times. The PBT requires printing, storage, and distribution of booklets, in addition to the collection and scanning of answer sheets, these are no longer suitable. Traditional pen and paper exams have a few methods for assessment. Besides that, a gradual shifting of the philosophy of teaching and learning began moving towards using computers and information and communication technologies to introduce effective teaching environment. This teaching environment has special attention to activities that generate awareness, initiative, inquiry, collaboration, and contribution to new knowledge in obvious ways-based computers. Your goal is to provides a better quality exam using information and communication technologies in terms of saving cost, time, and effort; which satisfies both lecturers and students in terms of flexible client/server database architecture, easy web-based application, friendly user interface, multiple question types, multimedia, auto marking, rapidly available scores, resume capability, and auto-submit feature.

Your task will be to:

1. Create database architecture according to the needs of your e-exam application.
2. Create a separate database that store user ID and passwords (to handle the security of the system).
3. Link the two databases: when a student, teacher or employee successfully access to their account, their profile should be load.
4. Only administrator is allowed to create user accounts through a dedicated portal unavailable for students and teachers.
5. Only a super admin (It DEPARTEMENT) can handle administrator accounts.
6. The task of the administrator is to handle the creation, deletion and modification of users' data.
7. A lecturer should be able to create a mid-term exam, final exam or practical tasks to the students.
8. A lecturer should be able to create an exam only for all the subjects he is assigned to.

- 9.** A lecturer should be able to select the type of exam he wishes to create.
- 10.** A lecturer should choose the type of each question individually (MCQ, normal Q/A exams).
- 11.** A lecturer should assign a timer to each question.
- 12.** A student should be able to access to the platform and register for an exam.
- 13.** A student can't register for an exam if he is not registered for the subject.
- 14.** While taking an exam, it is forbidden to change browser tab, or to open any other application. If detected the student will receive consequent time penalty.
- 15.** A data base of created exams should be stored in a separate database. And lecturers should be able to access to it as well as the students to train for the upcoming exam period.
- 16.** The prototype and a detailed documentation should be submitted through a Git-HUB repository for the whole project.