

Project – DB Lab

Final Project – Requirements

- Working in group of 3 students
- Topic proposal: defined by members ➔ validated by professor
 - Choose a topic
 - Describe the application that you would to build with all necessary functionalities and data
 - Define functionalities + others requirements
- Design database
- Write SQL statements and analyse them (at least 30)
- Database Management System (DBMS): postgresql
- Small program (optional): programming language: no limit (java, c#, php, ...)
- Project presentation: 16th of the semester or exam date
- **All members** must
 - work together
 - participate to the presentation section, QA section

Expected Results

- **Report (PDF file)** composes of :
 - Description in details the selected subject + Determining necessary functionalities
 - *Database design: ER schema + descriptions of all tables and their relationships*
 - *SQL statements* corresponding for each functionality + requirements, analyse SQL statements. Each student has at least 10 requirements: with different SQL statements + performance analysis
 - Installed functionalities: not all functionalities are required, *but some should be implemented*
 - Difficulties in carrying out the project ? And solutions?
 - Evaluation about the final results: advantages/ disadvantages
 - *Tasks of each member*
- **SQL file: DB definition + SQL queries+ Triggers+ functions, ..**
- **Small program (optional but recommended):**
 - Source code
 - it need Installation guide / Usage guide: Description in details how to install and how to use your product

Project Evaluation

- Evaluated in group and also individually
- Description + DB design
- SQL statements:
 - Quality and quantity
 - Different solutions + performance analysis
- Final program (bonus)
 - Quality:
 - Functionalities: complete, correct,
 - User interface: easy to use (user-friendly interface)
 - Demo: demo scenario should be prepared
- Presentation quality
- Report quality

Topic proposal

- Each group proposes a topic (for example: human resources management, football club management, hotel management, ...)
- Topic proposal must be described in details:
 - 1-2 pages
 - Description: objectives, usage scenario, functionalities, data and all requirements or relationships between data.
 - Database design (1st version)
 - ER schema (entities and relationships)
 - ER schema → Relational Model (tables, keys)
 - Group members:
 - List of all members: fullname, classe, email
 - Leader

Topic: examples

- Information Management Systems:
 - Normal user: information query / retrieval
 - Administrator: update database, update data (create/drop, insert, update...)
- Library management (users: lecturer, staff)
- Learning management system (users: students, teacher, staff,...)
- Sales management system (selling online/offline, selling books, selling supplies ...)
- Management system for fitness club / English Teaching Center, ...

Topic proposal - Plan

- Group assignment:
 - choose your partners: **18/10/2021**
 - Team leader
- Topic proposal: 1er version:
 - Before **25/10/2021 (on MS Teams)**
 - Your proposal must contain : group members, topic description. If you have done the ER schema and the DB, do not hesitate to add on.
 - File name: **leader name_topic.pdf** (Ex.: *cuongth_hotelManagment.pdf*)
- Discussion about the topic and 1st version of DB design
 - **25/10 (on Teams)**

Programming language/ Interface

- No limit: Pascal, C, **C#**, **Java**, **PHP**...
- Interface:
 - GUI (Graphical User Interface): menu, button, tab...
 - Console: command-line interface; menu: list of functionalities => users choose by typing option listed on the menu