Instructions for the database project

Form a group of two to four students. Try to **find a topic** for your project so that it really interests you. **Introduce your topic to the teacher** before you continue to design and implement it.

Recommendation: share your contact information to other group members and decide what communication channels you will use (WhatsApp, Teams, Zoom etc.).

At the beginning of the project, you create a **short requirements specification**. There you specify the problem you are solving, who you are developing the database for, what the basic functional requirements (must, important, and nice-to-have) and non-functional requirements are (e.g. usability and response time requirements).

Then you perform a **conceptual analysis** and create a **conceptual data model** (CDM), which is a high-level Entity-Relationship (ER) data model, by using UML class diagram. Then you **normalize it** to the third normal form (3NF). Please **show your specification to the teacher ASAP** (before implementation): you typically get some advice on how to improve it. You can use any CASE tool as well as a database management system (DBMS).

For the **actual database**, you need to create tables, primary and foreign keys, additional indexes, referential integrity, queries, and views (based on the requirements specification). In addition, you should create a prototype containing a simple interface for viewing and maintaining (inserting, updating, and deleting) data. A prototype is important in order to test the database structure before the actual implementation (not part of this course).

In order to achieve a good grade, you need to document the database properly including the meta data (concepts, versioning etc.). This includes a **database management plan** containing descriptions of database security etc.

Documentation and returning the project work

1. When returning the work, you need to include the following:
   - a short requirements specification; the cover page contains the code and the name of the course, the name of the topic, your names, student numbers, and email addresses
   - a document containing the conceptual model (as a UML class diagram) and your reasoning (arguments, explanations) for the solution to the problem
   - the actual database including SQL (DDL) script, queries (views); a prototype with a user interface (as a URL) and the database management plan
   - a summary document (final report) and presentation which include the problems and solutions encountered during the project + your suggestion for the grade (on a scale from 1 to 5) either for the whole group or individually
2. Return your solution in one zip packet to the learning environment. The name of the zip file should be in the following form: LastNames.zip, where LastNames are your surnames.
3. Return your individual learning diary separately to the learning environment.
4. Reserve time for presentation or record it and send a link to your video presentation.