EICTA 2024/25

THIRD PROJECT DELIVERY

MongoDB

The 3rd Project Delivery is built starting from the 1st Project Delivery. In particular, we ask you to choose a set of minimum 5 entities from your ER Model and develop a MongoDB Database. Define the basic structure of each document (i.e., name, type, etc.) and the containment hierarchy (i.e., if a document representing an entity has an array of sub-documents representing an entity, describe the main document accordingly). You can re-use the data you created for the first delivery, although you'll have to reshape it to be coherent with the new MongoDB structure. Define at least 10 documents for each entity. If an entity's document is contained in another entity, please define at least 20 of them **in total** (i.e., across all documents, e.g., 2 documents for each of the 10 main documents). Leave no empty arrays.

The final delivery should include the following.

> **DB)** A schematic representation of the chosen documents (i.e., attributes, their name, type, description, etc.) and the containment hierarchy. If your 1st delivery already included these elements, you can either copy-paste them or refer to your 1st delivery section.
>
> **Query)** Write the following queries
> - A total of 5 creation/update/delete queries (at least 1 for each type)
> - A total of 10 queries of the following complexities
>   - 2 queries with projections and logical query operators
>   - 2 queries with limit, sort, and comparison query operators
>   - 1 query element query operators
>   - 1 query with a simple aggregation
>   - 1 query with an unwind and an aggregation
>   - 1 query with an unwind, an aggregation, and followed by a filter
>   - 1 query with two conditions (evaluated separately) on a sub-document of an array
>   - 1 query with two conditions (evaluated simultaneously) on a sub-document of an array
>
> For each query, provide the same elements required in the 1st delivery (i.e., title, description, screenshots, etc.).

To write the final report, you can use any text tool (e.g., Word, Overleaf, etc.). I highly advise using Latex through Overleaf, and downloading the template for the project at the following link. Remember that the document **structure** and **appearance** will also affect the evaluation. The final document is to be delivered in **.pdf** format.

The final delivery must contain the following items.
- A dump of the MongoDB database
- The **.pdf** file with the report, including
    - First Page (members' name, surname, personal code, title, academic year)
    - Index (index of the contents of the document)
    - Introduction (text of the delivery)
    - A chapter for each one of the requests previously defined
- A folder with **high-resolution** pictures of the ones included in the report (e.g., ER Model, Tables, etc.).

Make a simple description below each figure you include in the delivery.