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Databases pRoject

**ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ**

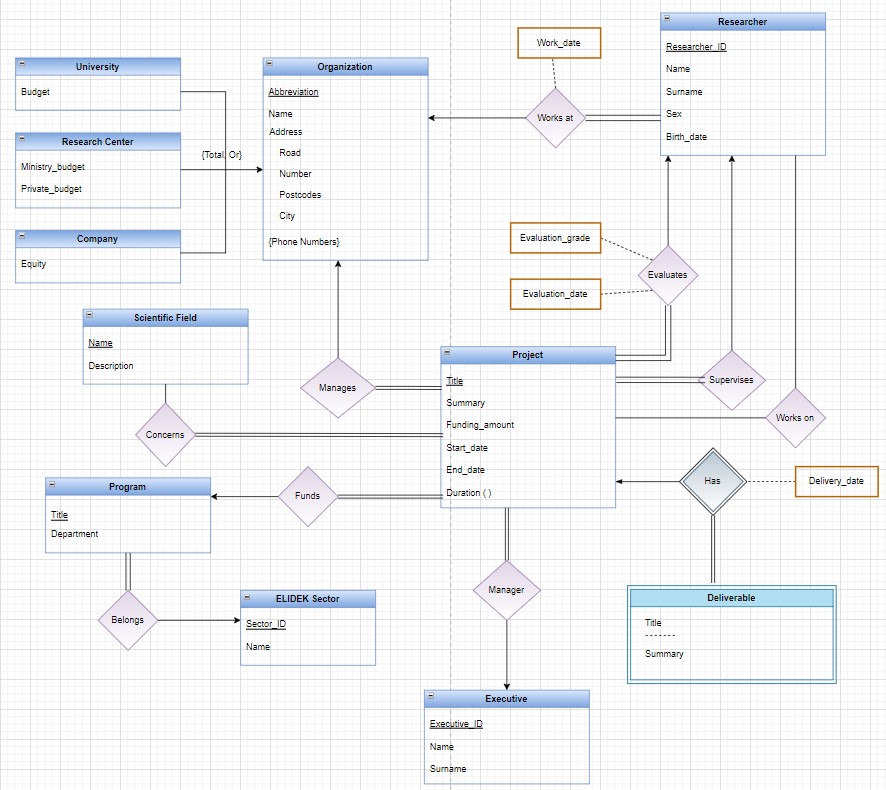
ΣΧΟΛΗ ΗΛΕΚΤΡΟΛΟΓΩΝ ΜΗΧΑΝΙΚΩΝ % ΜΗΧΑΝΙΚΩΝ ΥΠΟΛΟΓΙΣΤΩΝ

*ΤΟΜΕΑΣ ΠΛΗΡΟΦΟΡΙΚΗΣ*

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# Relational Diagram



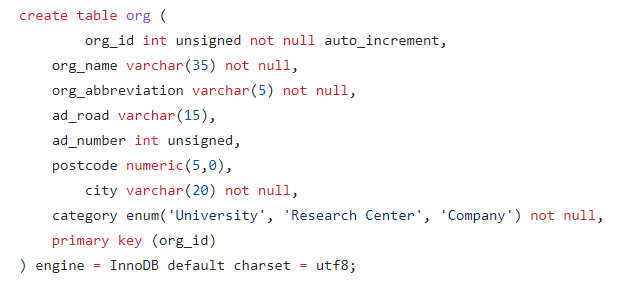
ER Diagram and Relational Diagram illustrate the logic within a database and how individual components relate to one another. Such diagrams lay out the wireframe of internal database structures to aid in understanding, improving efficiency, and debugging logical errors. The key pieces are the entities, attributes, and the relationships between them.

The above relational diagram describes the design of the database of a system which stores, manages and analyzes information for the Hellenic Foundation for Research and Innovation (ELIDEK). This database stores *organizations* (universities, research centers or companies) that manage *projects* and employ *researchers* to carry out these projects. The projects belong to a scientific *field*, while they are financed by ELIDEK *programs*, they have employees, *supervisors*, *evaluators* and *managers* and they may have individual *deliverables*. The necessary data for what was mentioned is stored in the database and the relationships between them are indicated in the diagram with arrows. The separation between entities of the same category is done mainly with the primary keys - IDs.

# Database

The following is the design of the database in SQL language. The tables that are depicted in the relational diagram are created and their primary and foreign keys are defined, based on their importance and the relationships that connect the tables. As for the characteristics of the tables, they are set to NOT NULL when they are deemed necessary for the existence of each element of the respective table and are needed during its initialization. For this reason, the primary keys are always NOT NULL. As primary keys in each table are considered the IDs that are unique for each entity. Foreign keys are also set to NOT NULL, in order to be consistent with the primary keys of the relationships to which they belong.

* Organization



* Researcher