uc3m | Universidad Carlos III de Madrid

OpenCourseWare

Database

Lourdes Moreno López
Paloma Martínez Fernández
José Luis Martínez Fernández
Rodrigo Alarcón García

Exercise 5 (Topic Relational Model (2.1))

UNIVERSITY

The university needs a database to store information about the Degree Projects (DP), the final thesis that student have to do to finishing bachelor´s degrees. The DB must collect the following semantic assumptions:

It is of interest to us to store information about the different DP that are offered to undergraduate students in the university. A DP is identified by a code and has a title and a brief summary that indicates the purpose of the work. Each DP is published by a single teacher interested in its supervision.

It is also wanted to keep information on whether the DP is assigned to a student (in which case we want to know what student has it and on what date it was assigned), if it is finished (in which case we want to know what student has defended it and on what date) and lastly if the assignment has only been published and it is pending approval. Each student's ID, name, address, contact telephone number and NIA are stored.

On the other hand, university professors can offer the DP they want. Each teacher is identified by an ID number and is also characterized by a name and the department to which they belong. An identification code and a name are stored for each department (for example, Department of Library and Information Science). A teacher can only be assigned to one department at the university.

The DPs are offered in the existing bachelor´s degree in the university. Each degree has a code that identifies it and a name. A DP can be offered in several degrees and it is interesting to know in which ones. Information is also kept on which students are enrolled in which bachelor´s degree considering that a student can only be enrolled in a single bachelor´s degree.

Each degree groups a set of courses (Cod_course, semester, Nº of ECTS and name). Each course has a unique teacher who coordinates it and is of interest to us to save this information.

You must:

- Obtain the relational schema/diagram according to requirements with the primary and alternative keys. Indicate the foreign keys with their delete and update options.
- Write additional semantic assumptions to the statement, if needed
- Write additional semantic assumptions to the scheme, if needed