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OpenCourseWare

Database

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Exercise 6 solution (Topic Relational Model (2.1))

ONLINE COURSES

It is desired to design a DB to store information on the online courses that are carried out in the university in support of the face-to-face classes. In addition to the information of the courses, information is also kept on the students enrolled in those courses and on the resources or materials generated so that the students can use them.

The online courses are identified by a code and are characterized by name, an identifying code, a description, an academic course in which it is taught (for example, 2009-2010, 2010-2011, ...), a starting and ending date. It is necessary to take into account that those courses of different academic courses are considered as different courses. Students, identified by their ID, their NIA, date of birth, telephone, address, e-mail and can enroll in one or more courses.

On the other hand, these online courses use as a support a series of electronic teaching resources, at least one. Each of the resources is identified by a code and we will also want to save information about its name, a brief description, a creation date and the name of the file with its location. A teaching resource can only be used in one course and each course can use several resources.

It is desired to store which professors (ID, name, category, department, office and telephone) manage the courses considering that a course is managed by a single teacher in an academic course. In addition, information is also stored on which teachers generate teaching resources considering that a resource has been developed by a single teacher.

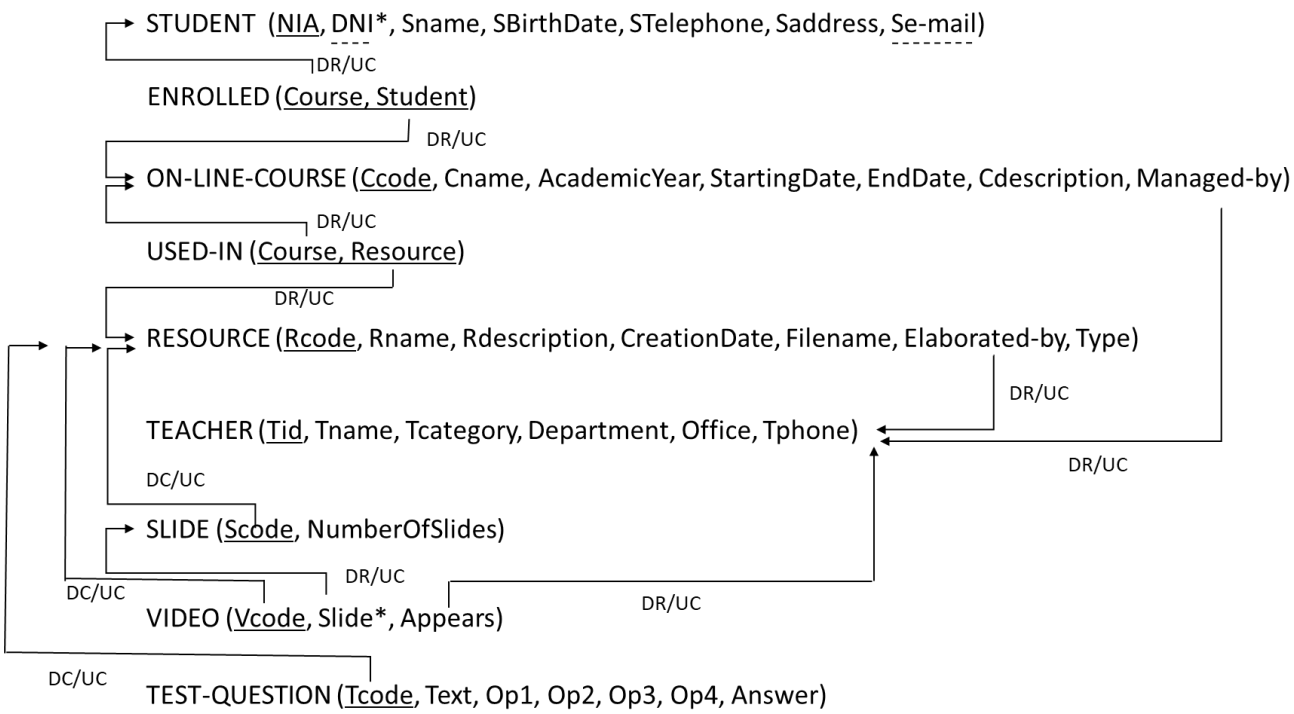
Teaching resources can be of various types (videos with recorded classes, slides, case studies and test questions). In the case of videos, it is important to store which slide resource it corresponds to (in case there is that correspondence); a slide file may have been used in several videos. For practical cases, the name of the file containing the solution will be stored as well as the path on the server. If it is a test question we will store the statement of the question, and the correct answer.

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

SOLUTION

A possible solution is:



Semantic assumptions:

Answer={Op1, Op2, Op3, Op4}
Type= {video, slides, test}
Tcategory ={full, lecturer,…}