

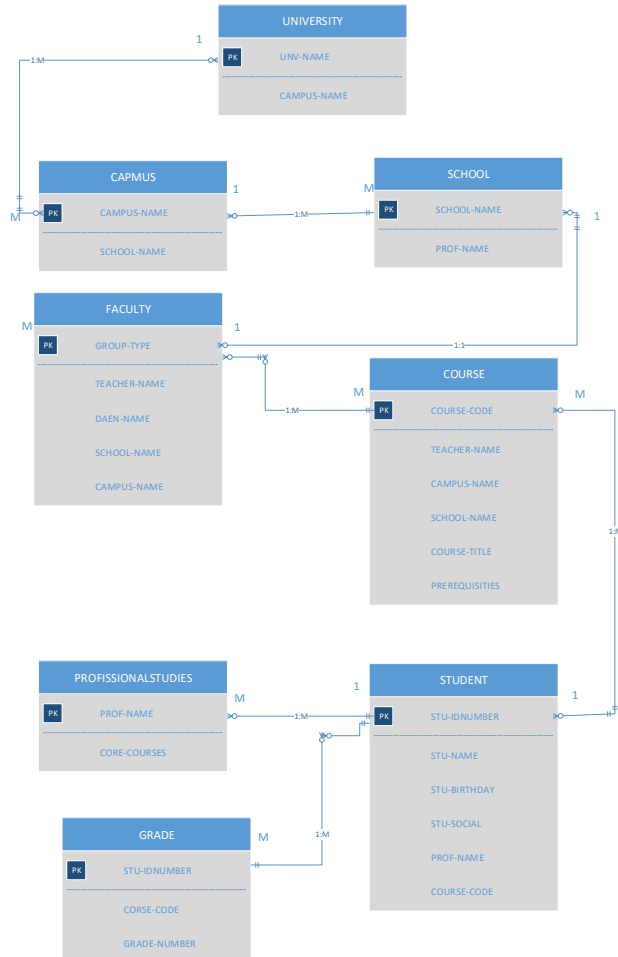
University Database

The University Database

Introduction:

The University database must be built by the many entities: University, campus, school, student, faculty, degree, and professional studies. Every entity must have at least one attribute, and must have primary keys for more database integrity. In this paper, I will build this database by the ER Model with all its necessary entities and all the entity attributes. Then, I will describe all the relationship types among the entities such as the 1: 1, and 1: M relationships. So, I will determine the many limitations in this database that is necessary to describe the relationships in it. Next, I will draw the database by the UML Class Diagram to represent the primary and foreign keys. The important of The Business Intelligence reports must be clarified here, and many suggested reports may be useful for improving the execution. In the last, I will display the vendors who develop the management database systems, compare and contrast them. Then I will choose the best one of their platforms, and then I will explain the reason for this choosing.

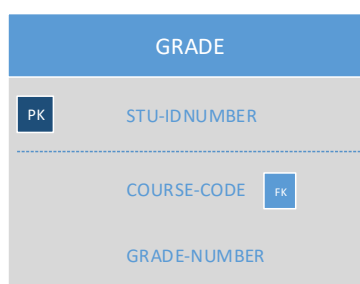
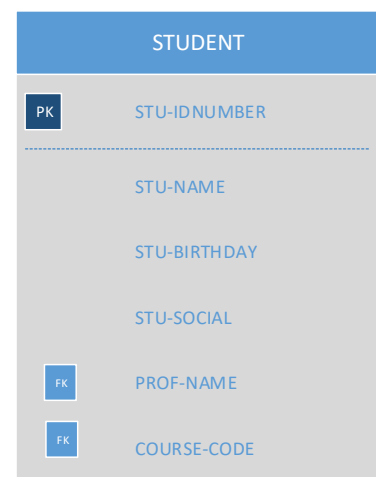
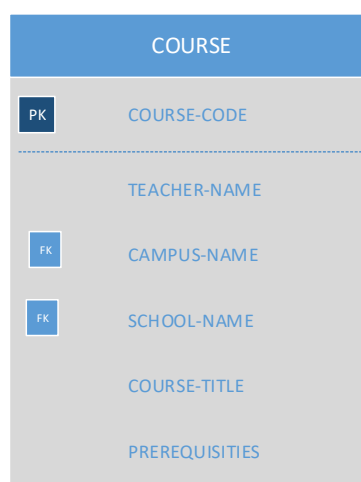
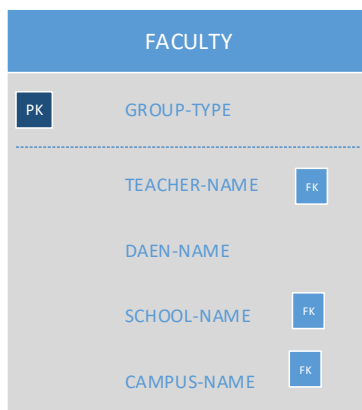
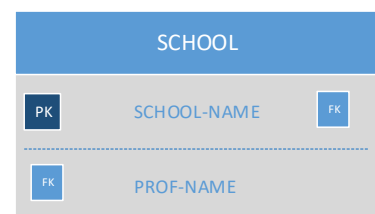
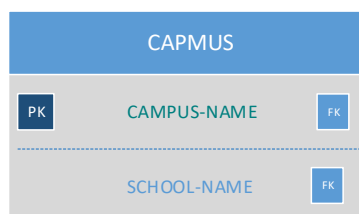
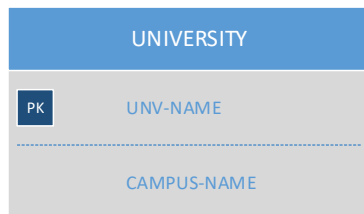
An Entity Relationship Model (ERM) that will describe the data structure that will store all data elements of the University database:



The limitations for the relationships:

1. The University has many campuses in various locations.
2. Every campus has various school types.
3. Every school has only one faculty group.
4. Every faculty group has many teachers.
5. Every teacher may have more than one course.
6. Every student may register for more than one course.
7. Every course must have one degree only.

UML Class diagram for the University database with all the Primary and Foreign keys:



The business intelligence reports :

The Business Intelligence reports are a very necessary matter to increase the university's performance because it improves the system by the users opinions. There are many reports may be found to maximize the benefit for the course management, student enrollment, or historical tracking:

1. The enterprise reporting: It is the most spread of reporting because of its helping to the users for answering their questions. The example of this report type is the report of the college courses. It is important for people to find the suited college to take the seat.
2. Alerting Report: By it the users receive all the alerts and announcements about their courses or university situation.
3. The grading report: It helps the students to find their grades after any exam or assessment.
4. The report of course list: It is a very necessary report for the student to find all the information about their registered courses. (Barbara H. Wixom, 2014).

The vendors that developed and are employing efficient registrar and school management database systems, my prefer, the compare, and contrast among them:

There are many organizations (companies) which have the platforms that are used with the Relational Database Management System (RDBMS), and every option has many pros and cons. The following are three of these companies:

1. Amazon company provides the open source database system, PostgreSQL, which is the good program to run the (RDBMS) with the best database design. (Miles Ward, et al., 2013).
2. Microsoft company produces many popular options of the (RDBMS) platforms such as the Access and Excel, which are used to build the database easily. (Adam Wilbert, 2014).
3. Oracle.com: produces the many Oracle versions such as, Oracle 11g, which is an open source of the DBS, and it helps the universities to handle and improve it easily. (education.oracle.com).

I prefer the Oracle platform to use it with the RDBMS, because of its features: easy to improved, and used by many users (until thousand user simultaneously). While, the Access programs is used by the single user only. (Adam Wilbert, 2014).

PostgreSQL: It has the various features such as the performance, durability, and security. Also, it supports scalability, high-availability, and fault-tolerance. It provides the cloud service, free install, and Amazon.com produces it. (Miles Ward, et al., 2013).

Access: It has security features, free install, easy to use. It is installed through the setup of the office in the PC desktop, you didn't need the IT department to get it, and it is produced by Microsoft Corporation. (Adam Wilbert, 2014).

Oracle: Also, it has security characteristics, easy to improve, want the scientific background to use it, free install, and Oracle.com produces it. (education.oracle.com).

Conclusion:

The University database has many Entities with many attributes. Also, it has various relationships among these entities. The primary keys increased the integrity of the database. The limitations indicated to how the relationships were built. The Business Intelligence reports are very important for increasing the university's performance because it improves the system by the users opinions. There are many suggested reports such as The enterprise reporting, Alerting Report, The grading report, The report of courses list. Also, there are many companies help (by their platforms) to improve the Relational Database Management System (RDBMS). Such as of these companies are: Amazon.com, Microsoft.com, and Oracle.com, and their programs are: PostgreSQL, Excel, access, and Oracle 11g. I prefer the Oracle platform to use it with the RDBMS, because of all its features.

References

Barbara H. Wixom, (2014), Article of (BUSINESS INTELLIGENCE SOFTWARE FOR THE CLASSROOM: MICROSTRATEGY RESOURCES ON THE TERADATA UNIVERSITY NETWORK), Communications of the Association for Information Systems, Retrieved from <https://eds-b-ebshost-com.libdatab.strayer.edu/ehost/pdfviewer/pdfviewer?sid=d1cdb74c-00f3-4826-8dda-92ceb00ad6e1%40sessionmgr111&vid=14&hid=104>

education.oracle.com (website), Retrieved from http://education.oracle.com/pls/web_prod-plq-dad/ou_product_category.getPage?p_cat_id=163

Miles Ward et al., (2013), RDBMS in the Cloud: PostgreSQL on AWS (PDF).

Adam Wilbert, (2014), Watch the Online Video Course Relational Database Fundamentals, (linda.com).

Professional Visio 2013.