Term Paper

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1 Abstract

An organized and systematic office solution is essential for all colleges, universities and organizations. There are many departments of administration for the maintenance of college information and student databases in any institution. All these departments provide various records regarding students. Most of these track records need to maintain information about the students.To maintain all this data manually, we need so much of manpower and time. For this reason we have college database management system . It makes our task a lot easier by making it computerized and also increases accuracy. We can also get the backup easily within just few minutes! In this paper, we will see College Management System in detail through its ER Model and Relational Model.Lastly We will also see the database management in college libraries and Datat flow diagram in Library Management System.

2 Introduction

"College Database Management system" deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details and other resource related details too. It tracks all the details of a student from the day one to the end of his/her course which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters years, coming semester year curriculum details, exam

details, project or any other assignment details, final exam result; and all these will be available for future references too. College Database Management System also gives a straightforward interface to support of understudy data, staff information,attendance,fee record. Different reports and Queries can be generated based on vast options related to students, batch, course, teacher / faculty, exams, semesters, certification and even for the entire college. So, Database Management system basically enhances efficiency and at the same time maintain information accurateness.

3 Body

Given below is the diagram, showing benefits and significance of Database Management System. And all these benefits are the reason that DBMS is being adopted everywhere, in every field 3.

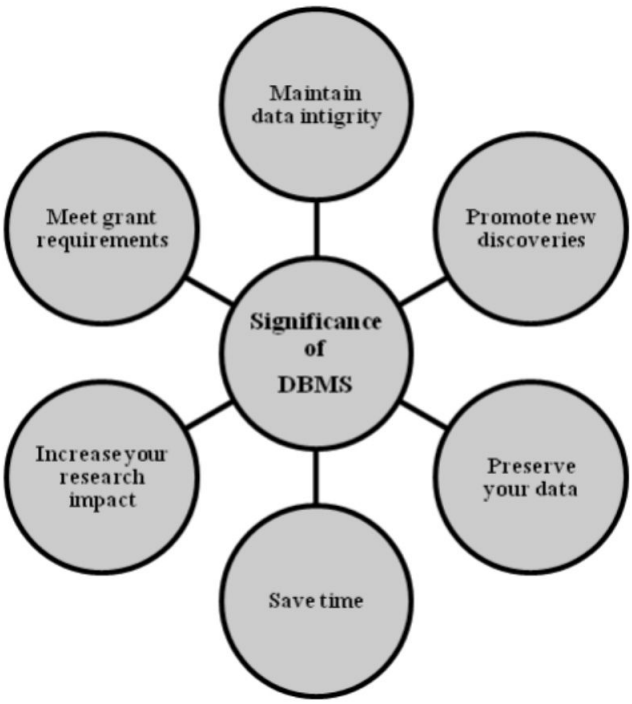

Figure 1: Significance of Database Management

The College Management System is very vast , but here I'm explaining it with some of the important entities through ER Model. After that we will also see the database tables details such as **Field Name, Descriptions, Data types, Character lengths** 3.

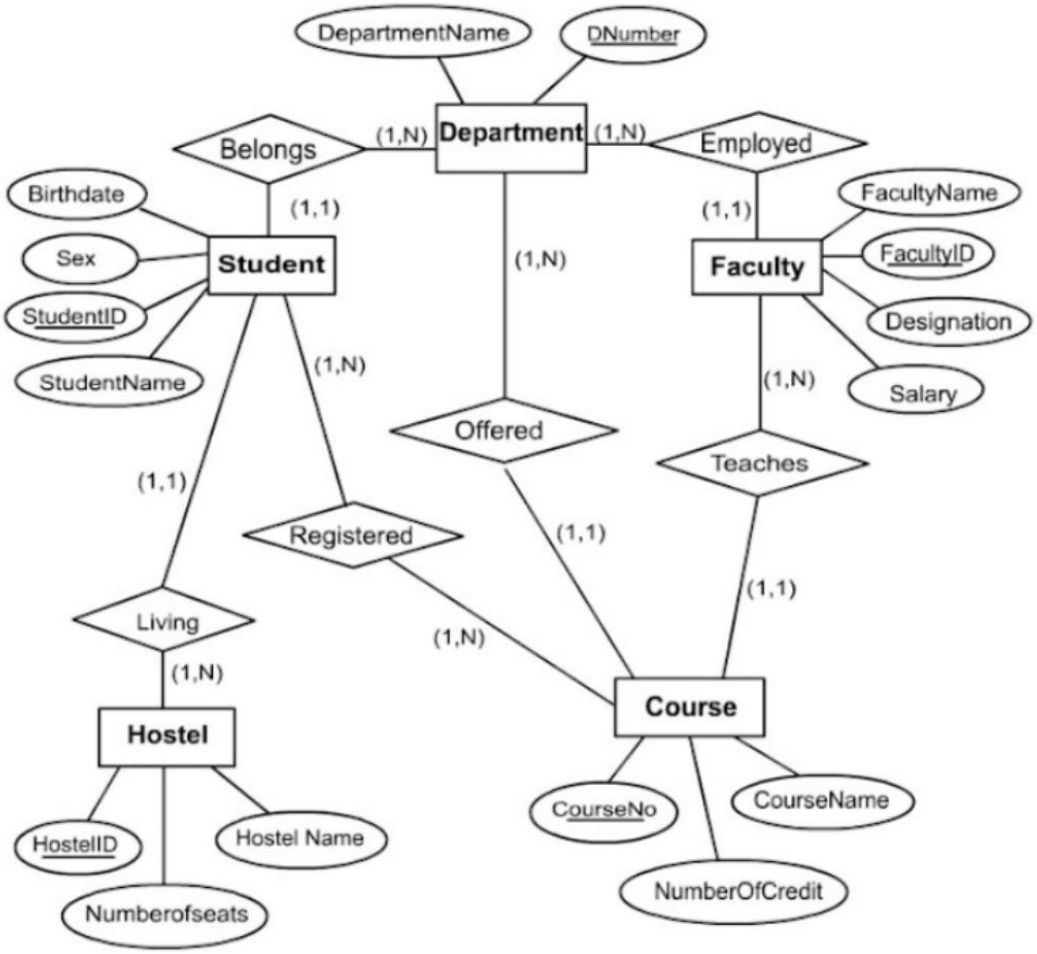

Figure 2: ER Diagram of College Management System

In the above ER Diagram, Student, Department, Faculty, Hostel and

Course are the 5 **Entities** which are represented by rectangle. Each of these entity have some **Attributes** for example: Student(entity) have four Attributes- BirthDate, sex, $student_id$, studentName and course(entity) has 3 Attributes- CourseNo, CourseName, NumberOfCredit and so on. Attributes in ER diagram are represented by oval. Another component of ER diagram is **Relationship** which is represented by Diamond shape. In above diagram, 'living' is the relationship among student and hostel, which means it shows the association among those two entities.Another thing we can see in this ER diagram is **Degree of Relationship** which represents the number of entity types that associate in a relationship.For example: We can see the relationship among two entities named- Student and Department, many students can belong two one department but , one student cannot belong to many departments.Let us now see these database tables in detail:

Student and Faculty Table: 3.

Field	Description	Type	Length
stud_id (PK)	Student ID	Int	11
birth_date	birth date	Int	11
stud_name	student name	Varchar	255
sex	sex	Varchar	255

Field	Description	Type	Length
faculty_id	faculty_id	Int	11
salary	salary	Int	11
faculty_name	faculty_name	Varchar	255
designation	designation	Varchar	255

Figure 3: Student and Faculty

Hostel, Department and Course table: 3.

Field	Description	Type	Length
host_id	hostel id	Int	11
host_name	hostel name	Varchar	255
no_seats	no. of seats	Int	11

Field	Description	Type	Length
dep_name	department name	Varchar	255
dep_no.	department number	Int	11

Field	Description	Type	Length
course_id	course id	Int	11
course_name	course name	Varchar	255
no_credit	no of credit	Int	11

Figure 4: department,course,hostel

Let us now write a Query for example: 3.

```
Write a query to list the course names
# of students in those courses --- for all courses
where --- there are no assigned faculty
output ordered --- first by # of students descending
then by course name ascending
*/

SELECT course.courseName, student.majorid AS '# of Students'
FROM student
JOIN course
ORDER BY course.courseName ASC, '# of Students' DESC;
```

Figure 5: Query

Data Flow Diagram of college management system-Figure 6 3.

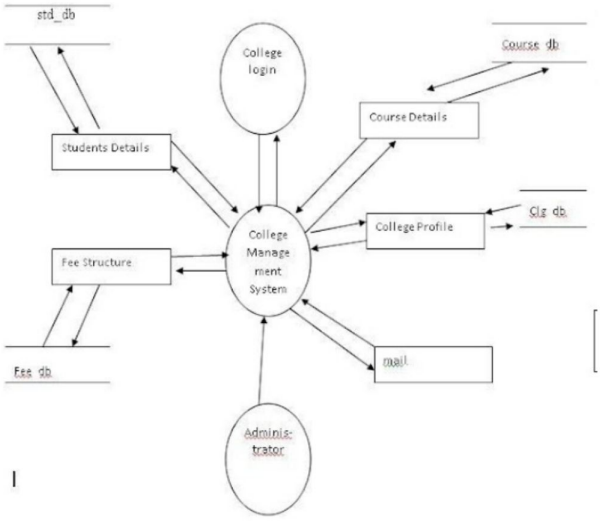

Figure 6: DFD college management sys