

Designing and Building a Database of Denial and Excuses for Student Affairs Unit

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Abstract—This paper presents a database system proposal to converting the manual procedures at Student Affairs Unit for discontinuity, denial, and medical excuses to computerized procedures within a single database.

Database; DBMS; MS Access;

I. INTRODUCTION

Student Affairs Unit is one of the administrative units in Economics and Administration Faculty at Qassim University, chaired by the Vice Dean for Student Affairs. The unit provides services to students. Tasks and services of the unit are described briefly below:

- Prepare the timetable and the final exam schedules, using the electronic system of the University.
- Solving students' problems related requests: to excused opportunities; extending the duration; re-entry; the alternative final tests.
- Implementation of the requests for allocation and reallocation for students.
- Preparing final exams monitors distribution.
- Issuing of a letter of identification for students, regular letters and letters directed to the health center or hospital.
- Medical excuses approval.
- Issuing the discontinuity and deprivation lists.

The number of staff at Student Affairs Unit is seven employees in addition to the Vice Dean of Student Affairs. The unit contains sixteen workstations and one server.

II. PROBLEM STATEMENT

With the increasing number of student admission at the University level, it's become necessary to improve and develop the performance of the Student Affairs Unit to cope with the ever-increasing students' numbers. This development represents a shift from manual work to computerized procedures. The Student Affairs Unit suffered from:

- Delay on issue denial lists, which is a waste of time.
- Duplication of excuses by repeating the same excuse as a result of receiving it more than once, with the absence of a mechanism to prevent the registration of the same excuse more than once on Excel.
- It's hard to find a particular student excuses.
- The absence of accurate data of denial students who have excuses.
- The lack of a database that can be referenced when needed with respect to denial and excuses.

Some of the developed tasks are the adoption of medical excuses, issuing the interruption and denial lists to be computerized procedures within a single database.

Since the task of approval of medical excuses and issuing of interruption and denial lists are performed by the staff within the unit and without having to use the Web, and the number of current and potential future staff within natural range of the small institutions, Microsoft Access [1,2] is the best program suited to build a database of denial and excuses, without the need to use another database management system, such as Oracle.

III. ADVANTAGES OF MICROSOFT ACCESS

Microsoft Access is a database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It has a collection of objects that serve to create an integrated database of small size, these objects are Tables, Queries, Models, Reports, Macro, and Modules [3-5].

The Benefits and Advantages of Microsoft Access such as [1-5]:

- Quick and easy to create database systems.
- It produces very user-friendly applications through its comprehensive programming language (VBA).
- It produces flexible and adaptable database systems.

- Placing all of the database objects in a single file with extension MDB, Making it easier to handle all objects within a single window.
- The ability to import and export different data types to and from all Microsoft programs.
- Designed for file server solutions on local area networks.
- Supports several levels and methods of file protection.
- The ability to split the database into two separate files, "back-end" file that contains the data tables (shared on a file server) and a "front-end" (containing the application's objects such as queries, forms, reports, macros, and modules). The "front-end" Access application is distributed to each user's desktop and linked to the shared database. Using this approach, each user has a copy of Microsoft Access (or the runtime version) installed on their machine along with their application database. Microsoft Access has two built-in utilities, Database Splitter and Linked Table Manager, to facilitate this architecture [4,5]. Fig. 1 illustrates the principle of split database.

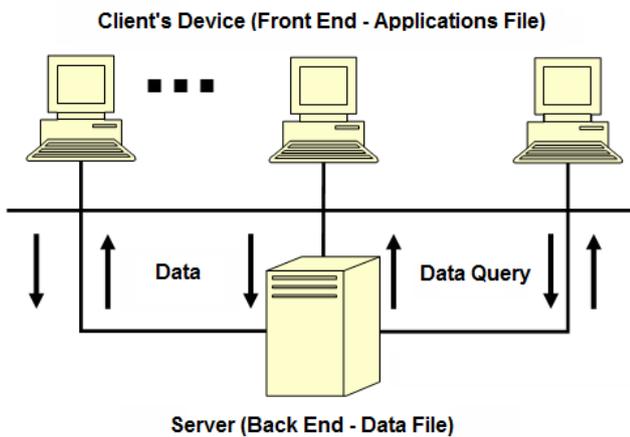


Figure 1. Split database

IV. DATA COLLECTION AND ANALYSIS

Several methods have been used to gather data on the current and proposed system, to identify the working mechanism of the unit, in addition to identifying the current system weaknesses and workers opinions:

- Interview with the current system officials; and
- Analysis of the documents relating to the current system.

Fig. 2 shows the proposed system structure based on the collected information.

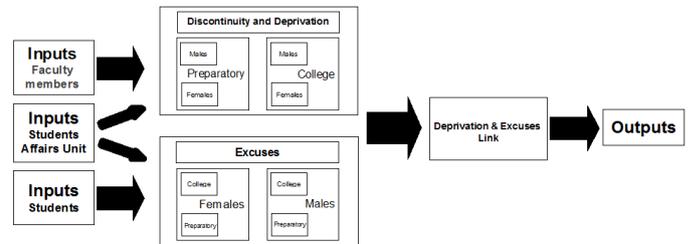


Figure 2. The structure of the system

The data inputs and outputs of the proposed system are described below:

System Data Inputs:

- Student Affairs Unit data input, such as males and females' students data, faculty members data, and the semester data.
- Faculty members data input, such as discontinuity and denial lists.
- Data inputs of both males and females students such as excuses of various kinds.

System Data Outputs:

- Lists of interruption and denial at the college and preparatory level for both male and female students.
- Students list of excuses for both male and female students.
- Lists of denial students and their excuses.

Fig. 3 illustrates the data flow diagram of the proposed system.

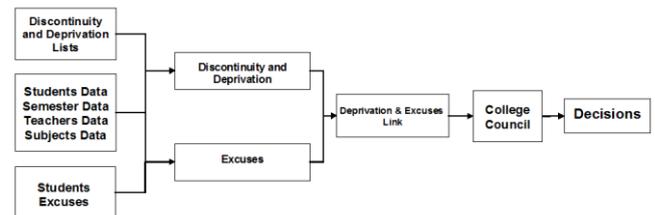


Figure 3. The data flow diagram

V. DATABASE DESIGN

The database of the proposed system consists of the following tables: students, department, subjects, semester and years of study, students' excuses, deprivation students table, subsidiary denial students, interruption student, and subsidiary interruption. Fig. 4 shows the Entity-Relationship diagram of the system.

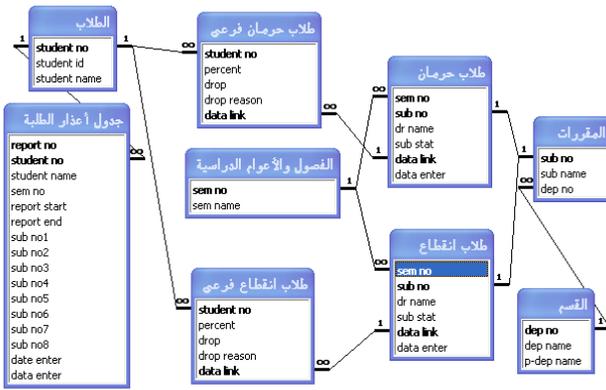


Figure 4. The E-R diagram of the system

Excuses and denial program interfaces:

The main idea of this program is to enter the data of male and female students' excuses and then the interruption, if there is, and finally to enter the data of denial. The system generates tens of reports which concerns with excuses, interruption, and denial. Fig. 5 illustrates the structure of system screens.

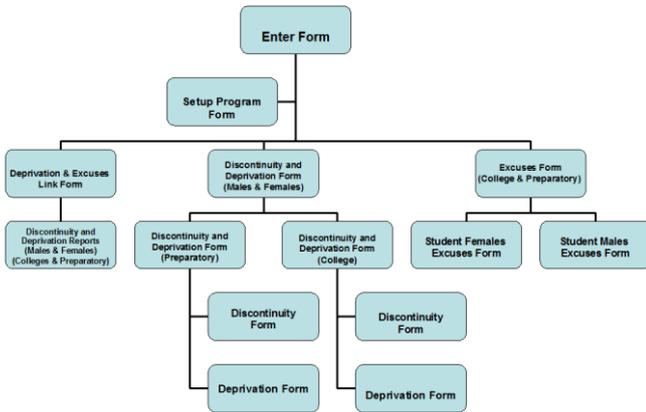


Figure 5. The structure of the system screens

Fig. 6 shows the main screen of the system.



Figure 6. The main screen

Fig. 7 shows the data entry of students' excuses screen.



Figure 7. The data entry of students' excuses screen

Fig. 8 shows the students' interruption screen (for male and female students).



Figure 8. Students' interruption screen

VI. DENIAL AND EXCUSES SYSTEM OUTPUTS

The program outputs 118 reports, the most important of them:

- Reports of excuses: The overall report of students excuses (college and preparatory), the detailed report of students excuses (college and preparatory), students excuses of preparatory students, and inquire about excuses one student.
- Reports of linking denial and excuses: male and female students' excuses for denial students, male and female students' excuses for denial students of the preparatory year.
- Reports of interruption and denial: Final report of interruption students for each course (for College Board, and for students), final report of interruption students for all courses, final report of denial students for each course (for College Board, and for students), final report of denial students for all courses, and detailed report for a particular student.

Fig. 9 shows an example of a report generated by the system.

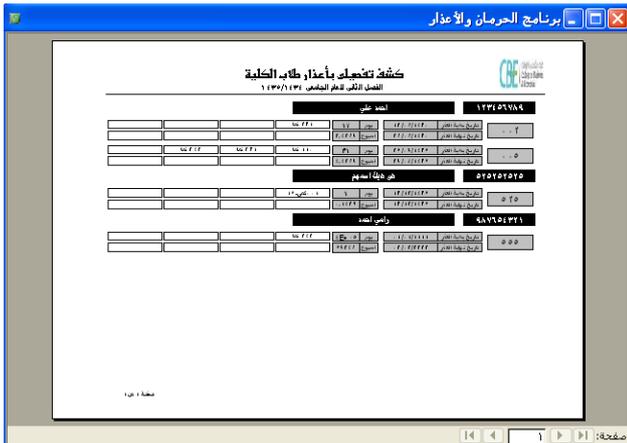


Figure 9. An example of the system reports

VII. CONCLUSION

Student Affairs Unit used a manual method to implement the procedure of interruption and denial and MS Excel to insert students' excuses, which leads to waste time and effort. The solution of the problem was by designing and implementing a database system using MS Access, which is designed to:

- Data entry and filter lists of interruption and denial by the Student Affairs Unit are computerized, results in accuracy as well as reducing the time and effort.
- Data entry of excuses in a computerized way after coding it, results in accuracy and prevents the repetition of the same excuses, and reduces the time needed to find a particular student excuse.
- Linking denial and excuses to provide the accurate decision of denial students who have excuses, which reduce the search effort and providing sufficient time to issue and announce the final denial lists to students before the final exams.

REFERENCES

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