

Design and Development of a Computerized Information System for Schools in Saudi Arabia

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ABSTRACT. This paper reports on the design and development of a menu driven computerized information system for schools in Saudi Arabia. The input/output design of the system is based on careful analysis of the activities, interviews and study of existing forms and reports used/generated by the school. This analysis led to the design of database files to store data of the major entities of the system such as students, employees, books, equipments, student grades, ... etc. Suitable forms to capture data and the system output also have been designed in well structured format.

The proposed information system conceptually comprises seven modules for Internal Reports, Annual Reports, File Maintenance, Queries, Records/Forms, System Operations and Global Statistics. The system is menu driven and very user friendly. The overall program structure follows the menu structure. For each end activity such as generating a report or a document or a file handling operation, a separate program has been developed. The resulting system consists of 98 programs and 20 format files for screen input and display. Programs which define important characteristics of the system include the Executive Control program, File Maintenance program, Query program, Report Generation programs and the common utility programs.

The system is microcomputer based developed in dBASE IV. Arabic interface has been achieved through Mussa'ed Alarabi/2. The result of the system development is a comprehensive MIS tailored for the schools in Saudi Arabia. The main features of the resulting Computerized School Information System (CSIS) can be summarized as its comprehensiveness, relatively low hardware requirement, ease of use and the Arabic user interface.

1. Introduction

Management information system is a universal tool, which helps management run an organization efficiently. This also applies to a school where efficient management is, of course, important, if not obvious, as in the case of a business organization^[1].

A school, like any other organization, does have some kind of information system or subsystems which may or may not be well designed or integrated. Thus, the need is to examine the information requirements through formal analysis and come up with a well designed and well documented information system. With the availability of computer technology at affordable prices, the trend is towards design and implementation of comprehensive computer based information systems^[2,3].

An extensive analysis carried out by the authors revealed certain unique requirements for such a system due mainly to local practices and regulations^[4]. The requirement of input/output to be in Arabic and preparation of preformatted periodic reports, mostly annual, are two such examples. Such requirements can be met neither by off-the-shelf software available in the West, nor by those used currently by some private schools in Saudi Arabia.

In this paper, the authors report on the design and development of a menu driven computerized information system for schools in Saudi Arabia. One of the critical requirements of the system is the input/output requirement in Arabic. This design is based on extensive analysis of the activities at schools, study of existing forms and reports used/generated by the schools and authors' recommendations of the information requirement of a typical school^[4]. The paper starts with the output requirements of a typical Saudi school followed by the description of data base files needed to produce the outputs. This is followed by the description of the overall system structure and of the major information modules. The menu organization and the programming structure are described next in that order which gives an idea about how the programs are integrated into a system. The paper is concluded with a discussion on the choice of programming language and Arabic interface followed by conclusions.

2. System Output

The output for the proposed system was developed on the basis of extensive analysis of the existing forms, reports, ... etc., used by the schools or generated for higher authorities. Also, the information needs for different activities were analyzed impartially without reference to the forms/reports currently used. As a result, additional system outputs were developed to broaden the scope of the system. The final list of the system output is given in Table 1, which includes existing as well as newly proposed forms and reports.

While most of the external reports generated for the Ministry are highly structured, a lot of the internal ones currently used by the school are not. The system, however, generates all of its reports in well structured format. The scope of this paper precludes giving the design or description of individual reports. However, the title of the reports in the table are self explanatory to a large extent.

3. System Input

The system input must be able to provide all the necessary data to produce designed output. Careful analysis of the designed outputs resulted in the design of database files to store data of the major entities of the system such as students, employees, books,

TABLE I. List of reports generated by the school information system.

SYSTEM OUTPUT	CODED NAME	USER
INTERNAL REPORTS		
1. REPORTS ON STUDENTS		
LIST OF ALL STUDENTS		
1> STUDENT LIST BY NATIONALITY	CLST-1	ADMIN.
2> STUDENT LIST BY CLASS & SECTION	CLST-2	ADMIN./ TEACHERS
3> LIST OF NEW STUDENTS BY CLASS & SECTION	CLST-3	ADMIN.
4> LIST OF REPEATERS BY CLASS & SECTION	CLST-4	ADMIN.
5> LIST OF STUDENTS WITH THEIR ADDRESSES	CLST-5	ADMIN./ TEACHERS
6> LIST OF DEPARTING STUDENTS	CLST-6	ADMIN.
DISTRIBUTION OF STUDENTS		
1> DISTRIBUTION OF STUDENTS BY NATIONALITY	CLSTD-1	ADMIN.
2> DISTRIBUTION OF STUDENTS BY CLASS	CLSTD-2	ADMIN.
3> DISTRIBUTION OF STUDENTS BY AGE	CLSTD-3	ADMIN.
4> DISTRIBUTION OF NEW STUDENTS BY CLASS	CLSTD-4	ADMIN.
SUMMARY STATISTICS ON STUDENTS		
	CLSS-1	ADMIN.
2. REPORTS ON GRADUATES		
1> LIST OF GRADUATES	CLGR-1	ADMIN./TEACHERS
2> SUMMARY STATISTICS ON GRADUATES	CLGR-2	ADMIN./TEACHERS
3. REPORTS ON CLASSES		
1> LIST OF ALL STUDENTS	CLCLS-1	TEACHERS/ ADMIN.
2> LIST OF NEW STUDENTS	CLCLS-2	ADMIN.
3> LIST OF ALL STUDENTS BY NATIONALITY	CLCLS-3	ADMIN.
4> LIST OF REPEAT STUDENTS	CLCLS-4	ADMIN.
5> LIST OF CLASS TEACHERS	CLCLS-5	ADMIN.
6> LIST OF PROMOTED STUDENTS	CLCLS-6	TEACHER/ADMIN.
7> CLASS SCHEDULE	CLCLS-7	ADMIN./TEACHER/STUDENT
4. REPORTS ON STUDENT MARKS		
YEAR-END REPORTS ON MARKS		
1> SUBJECT-WISE DETAILED MARK SHEET	CLMK-1	TEACHERS/ADMIN.
2> CLASS-WISE MARK SHEET AFTER 1ST ROUND EXAM.	CLMK-2	TEACHERS/ADMIN.
3> CLASS-WISE MARK SHEET AFTER 2ND ROUND EXAM.	CLMK-3	TEACHERS/ADMIN.
4> CLASS-WISE FINAL MARK SHEET	CLMK-4	TEACHERS/ADMIN.
5> CLASS-WISE FINAL MARK SHEET BY STUDENT RANK	CLMK-5	TEACHER/STUDENT/ADMIN.
6> STUDENT PROGRESS REPORT	CLMK-6	STUDENTS/ADMIN.
7> SUBJECT-WISE MARK ANALYSIS OF A CLASS	CLMK-7	TEACHERS
8> SUMMARY STAT. ON ATTENDANCE/PERFORMANCE	CLMK-8	TEACHERS/ADMIN.
MID-YEAR REPORTS ON MARKS		
1> SUBJECT-WISE DETAILED MARKSHEET	CLMK-9	TEACHERS/ADMIN.
2> CLASS-WISE DETAILED MARKSHEET	CLMK-10	TEACHERS/ADMIN.
3> STUDENT PROGRESS REPORT	CLMK-11	TEACHERS/ADMIN.
5. REPORTS ON FACULTY AND STAFF		
1> LIST WITH PERSONAL INFORMATION	CLFS-1	TEACHERS/ADMIN.
2> TEACHERS LIST WITH ACADEMIC INFORMATION	CLFS-2	ADMIN.
3> TIME SCHEDULE BY TEACHER	CLFS-3	TEACHERS/ADMIN.
4> SCHEDULE OF INDIVIDUAL TEACHER	CLFS-4	TEACHERS/STUDENTS
6. REPORTS ON BOOKS		
1> LIST OF TEXTBOOKS BY CLASS	CLBK-1	STUDENT/TEACHER/ADMIN.
2> LIST OF BOOKS RECEIVED FROM MINISTRY	CLBK-2	ADMIN.
3> DISBURSEMENT OF TEXTBOOKS BY DATE	CLBK-3	ADMIN.
4> INVENTORY STATUS OF TEXTBOOK BY CLASS	CLBK-4	ADMIN.
5> LIST OF BOOKS BY TITLE	CLBK-5	STUDENT/TEACHER/ADMIN.
6> LIST OF BOOKS BY AUTHOR	CLBK-6	STUDENT/TEACHER/ADMIN.
7> LIST OF BOOKS BY SUBJECT/AREA	CLBK-7	STUDENT/TEACHER/ADMIN.

TABLE I. Contd.

SYSTEM OUTPUT	CODED NAME	USER
7. REPORTS ON FACILITIES		
1> LIST OF GROUNDS AND UTILITIES	CLGF-1	ADMIN. / MINISTRY
8. REPORTS ON EQUIPMENT		
1> MASTER LIST OF EQUIPMENT	CLEQ-1	ADMINISTRATION
2> LIST OF FURNITURE AND OFFICE EQUIPMENT	CLEQ-2	ADMINISTRATION
3> LIST OF EQUIPMENT OBTAINED IN A TIME PERIOD	CLEQ-3	ADMINISTRATION
4> LIST OF EQUIPMENT OUT OF ORDER	CLEQ-4	ADMINISTRATION
5> LIST OF TEACHING AIDS	CLEQ-5	ADMIN./MINISTRY
ANNUAL REPORTS (FOR THE DIRECTORATE)		
1. ANNUAL REPORTS ON STUDENTS		
1> GENERAL INFORMATION ON THE SCHOOL	CLY-1/2	ADMIN./MINISTRY
2> SUMMARY OF SECTIONS AND STUDENTS	CLY-3	ADMIN./MINISTRY
3> NO. OF STUDENTS JOINED, PROMOTED & REPEATING	CLY-4	ADMIN./MINISTRY
4> DIST. OF STUDENTS BY AGE AND CLASS	CLY-5	ADMIN./MINISTRY
5> RESULTS OF LAST SHAHADA EXAM. BY NATIONALITY	CLY-7	ADMIN./MINISTRY
6> DISTRIBUTION OF ATTRITION	CLY-8	ADMIN./MINISTRY
7> DIST. OF JOINING STUDENTS BY CLASS	CLY-9	ADMIN./MINISTRY
8> DIST. OF STUDENTS BY COUNTRY OF ORIGIN	CLY-16	ADMIN./MINISTRY
2. ANNUAL REPORTS ON FACILITIES		
1> LIST OF FURNITURE ITEMS	CLY-17	ADMIN./MINISTRY
2> LIST OF TEACHING AID ITEMS	CLY-18	ADMIN./MINISTRY
3> AVAILABILITY OF GROUNDS/POWER/WATER	CLY-19	ADMIN./MINISTRY
4> GENERAL INFORMATION ON BUILDING	CLY-20	ADMIN./MINISTRY
5> BUILDINGS BY TYPE OF STRUCTURE/OWNERSHIP	CLY-21	ADMIN./MINISTRY
6> DISTRIBUTION OF ROOMS BY USAGE	CLY-22	ADMIN./MINISTRY
7> DIST. OF ROOMS ALLOCATED TO OTHER SCHOOLS	CLY-23	ADMIN./MINISTRY
3. ANNUAL REPORTS ON PERSONNEL		
1> DISTRIBUTION OF STAFF BY NATIONALITY	CLY-24	ADMIN./MINISTRY
2> DIST. OF FULL-TIME ACAD. STAFF BY DEG. & NAT.	CLY-25	ADMIN./MINISTRY
3> DIST. OF FULL-TIME STAFF BY CAT., JOB & NAT.	CLY-26	ADMIN./MINISTRY
4> DIST. OF PART-TIME STAFF BY CAT. & NAT.	CLY-27	ADMIN./MINISTRY
5> DIST. OF OFF-DUTY STAFF BY REASON & CATEGORY	CLY-28	ADMIN./MINISTRY
6> DIST. OF NEW ACAD. STAFF BY REASON	CLY-29	ADMIN./MINISTRY
7> DIST. OF ACAD. STAFF BY SUBJECT & NATIONALITY	CLY-30	ADMIN./MINISTRY
8> EXPENDITURE ON STAFF BY NAT. & CATEGORY	CLY-31	ADMIN./MINISTRY
9> DIST. OF SAUDI STAFF BY LEVEL, GRADE & CAT.	CLY-32	ADMIN./MINISTRY
10> DETAILED INFORMATION ON STAFF	CLY-33	ADMIN./MINISTRY
11> DETAILED INFORMATION ON JANITORIAL STAFF	CLY-34	ADMIN./MINISTRY
12> DETAILED INFORM. ON STAFF DEPARTED LAST YEAR	CLY-35	ADMIN./MINISTRY
13> DIST. OF ACAD. STAFF LEFT LAST YEAR BY REASON	CLY-36	ADMIN./MINISTRY
4. ANNUAL REPORTS ON GRADES		
1> SUMMARY STATISTICS ON FINAL EXAM ATTENDANCE	CLG-1	ADMIN./MINISTRY
2> SUMMARY STATISTICS ON PERFORMANCE BY SUBJECT	CLG-2	ADMIN./MINISTRY
3> STUDENTWISE DETAILED RESULTS OF YEARWORK	CLG-3	ADMIN./MINISTRY
4> SUMMARY STATISTICS ON FIRST ROUND EXAM. RESULT	CLG-4	ADMIN./MINISTRY
5> DETAILED RESULTS OF FIRST ROUND EXAM	CLG-5	ADMIN./MINISTRY
6> SUMMARY STATISTICS ON SECOND ROUND EXAM. RESULT	CLG-6	ADMIN./MINISTRY
7> DETAILED RESULTS ON SECOND ROUND EXAM.	CLG-7	ADMIN./MINISTRY
5. GLOBAL STATISTICAL REPORT	GLSS-1	ADMIN./MINISTRY
RECORDS/ FORMS		
1> SCHOOL RECORD	CLH-1	TEACHERS / ADMIN.
2> STUDENT RECORDS	CLH-2	TEACHERS / ADMIN.
3> TEACHER/STAFF RECORDS	CLH-3	ADMINISTRATION
4> EQUIPMENT RECORDS	CLH-4	ADMINISTRATION
5> COURSE RECORDS	CLH-5	ADMINISTRATION
6> BOOK RECORDS	CLH-6	ADMINISTRATION
7> ATTENDANCE RECORD SHEET FOR CLASSES	CLH-7	TEACHERS / ADMIN.
8> CLASS SCHEDULER FORM	CLH-8	ADMIN. / TEACHERS
9> MARKSHEET FORM FOR EACH CLASS	CLH-9	TEACHERS / ADMIN.

equipments, student grades, ... etc. Also, suitable forms have been designed to capture the data. The following is a brief description of the major database files designed for the system.

- a) STDFE : This is the student file. Each student is represented by one record.
- b) CLASSFE : This file keeps information on classes. Each section within a class is represented by one record.
- c) CLMRKFE : This is the student mark file. A separate record is maintained for marks obtained by each student in each course in an academic year.
- d) CLCRSFE : This is the master file that keeps detailed information about courses. A separate record is maintained for each course.
- e) BKMSTFE : This is the master book file. A separate record is maintained for each book. It contains detailed information on the book and its use.
- f) SCHLFE : This single record file is used to keep all information on the school.
- g) BLDGFE : This file keeps all relevant information about each building.
- h) SCHDLFE : This is the class schedule file. It contains section wise information on the schedule of different courses.
- i) EMPLFE : This is the master employee file. Each employee is represented by a record in the file.
- j) EQPMFE : This is the master file for keeping information on equipments.
- k) PW : This file keeps information on password, user name and pass level for system users.
- l) USER : This file keeps information about the users of books and equipments.
- m) GLSS : Global statistics file. It contains overall statistics on different aspects of the school performance.

Due to space limitation, the file structure and the relevant data entry forms of only two files, viz., the Course file and the Mark file are given in Appendix (A) as a sample. It should be noted that, the system makes extensive use of index files related to different database files for efficient data processing.

4. System Structure

The proposed information system conceptually comprises seven modules whose functions are given below, while the overall system structure is shown in Fig. 1 and 2.

4.1 Internal Report Model

This module generates reports for the management of internal activities at the school. The module is divided into 8 sub-modules for generating reports on students, classes, graduating students, grades, books, employees, equipments and facilities.

4.2 Annual Reports Module

This module is responsible for generating annual reports for internal and external users. It comprises 4 sub-modules for creating reports on students, personnel, facilities and student grades.

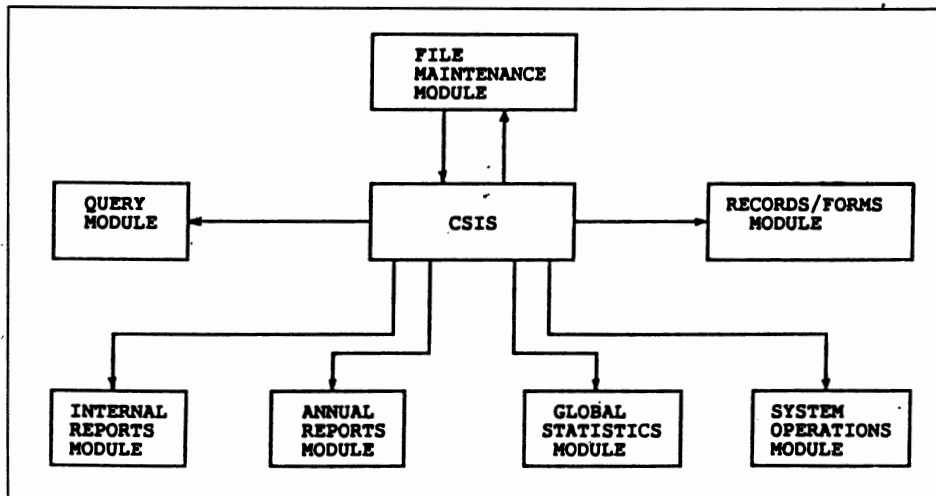


FIG. 1. Overall system structure showing major modules of the school information system.

4.3 File Maintenance Module

This module is responsible for maintaining and updating different database files. Separate sub-modules take care of the individual files.

4.4 Query Module

This module is developed to help the user address general type of queries related to the major files in the system.

4.5 Records/Forms Module

This module generates blank forms used by the system for data entry. Also, it can produce records (*i.e.*, filled up forms) based on data already entered.

4.6 System Operations Module

This module takes care of special support operations such as system backup, retrieval and re-indexing of files.

4.7 Global Statistics Module

This module generates reports containing global statistics on all aspects of school and its performance. The primary purpose of these reports is to serve as data input for the ministry on individual schools.

Thus, all the modules or sub-modules where appropriate lead to the realization of a terminal activity such as generating a report, maintaining a file, or on-line queries. The detailed flow chart of individual modules have been reported elsewhere^[4].

5. Menu Organization

The system has been designed as a user friendly menu driven system. A lot of care was taken to organize the menu structure logically. The menu organization follows the *footprints of the overall system structure* described in the previous section. Figure 3 shows the menu structure with further levels of menu beyond that shown in the figure.

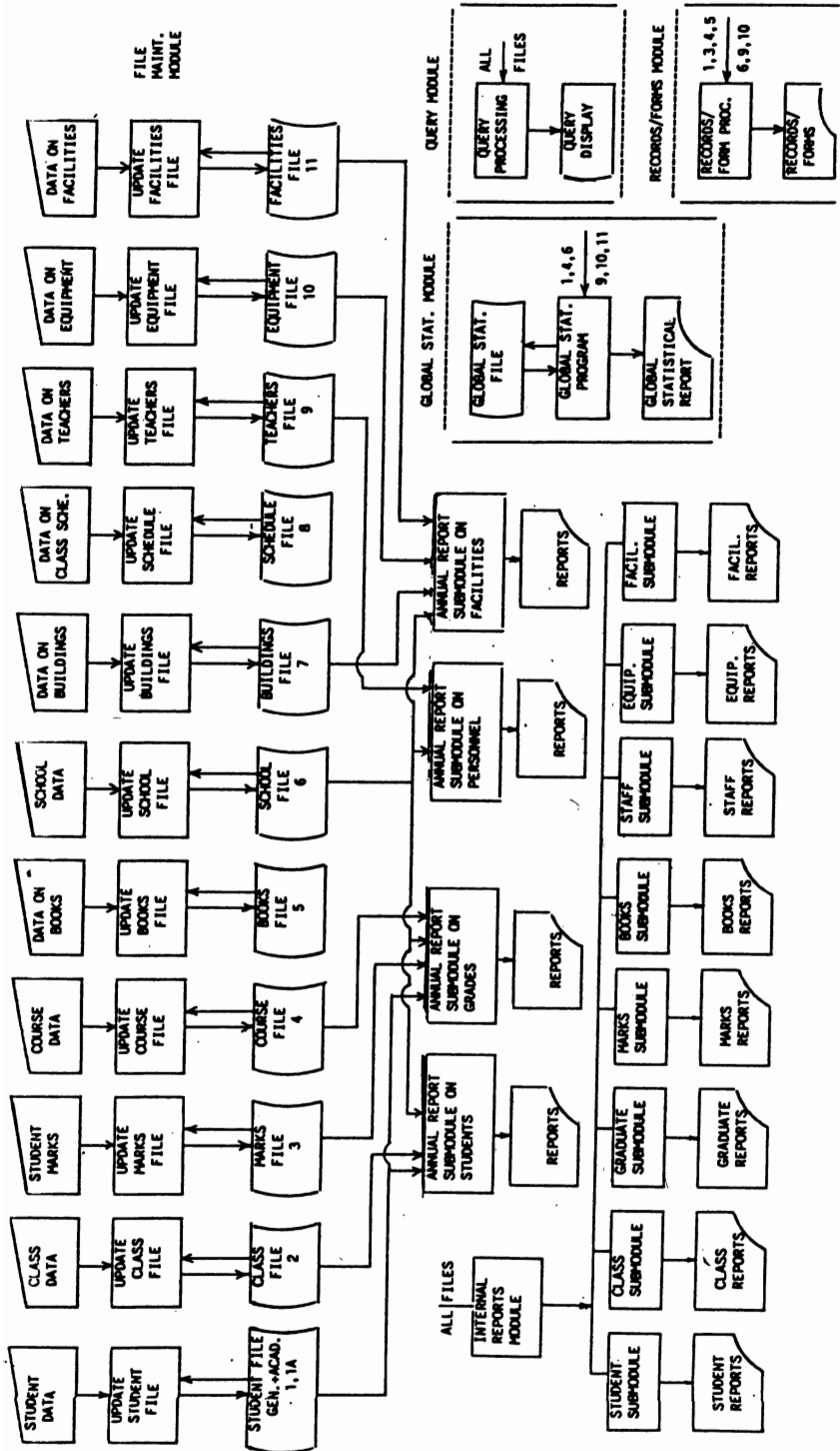


FIG. 2. Intermediate level system flowchart identifying input-output of various modules.

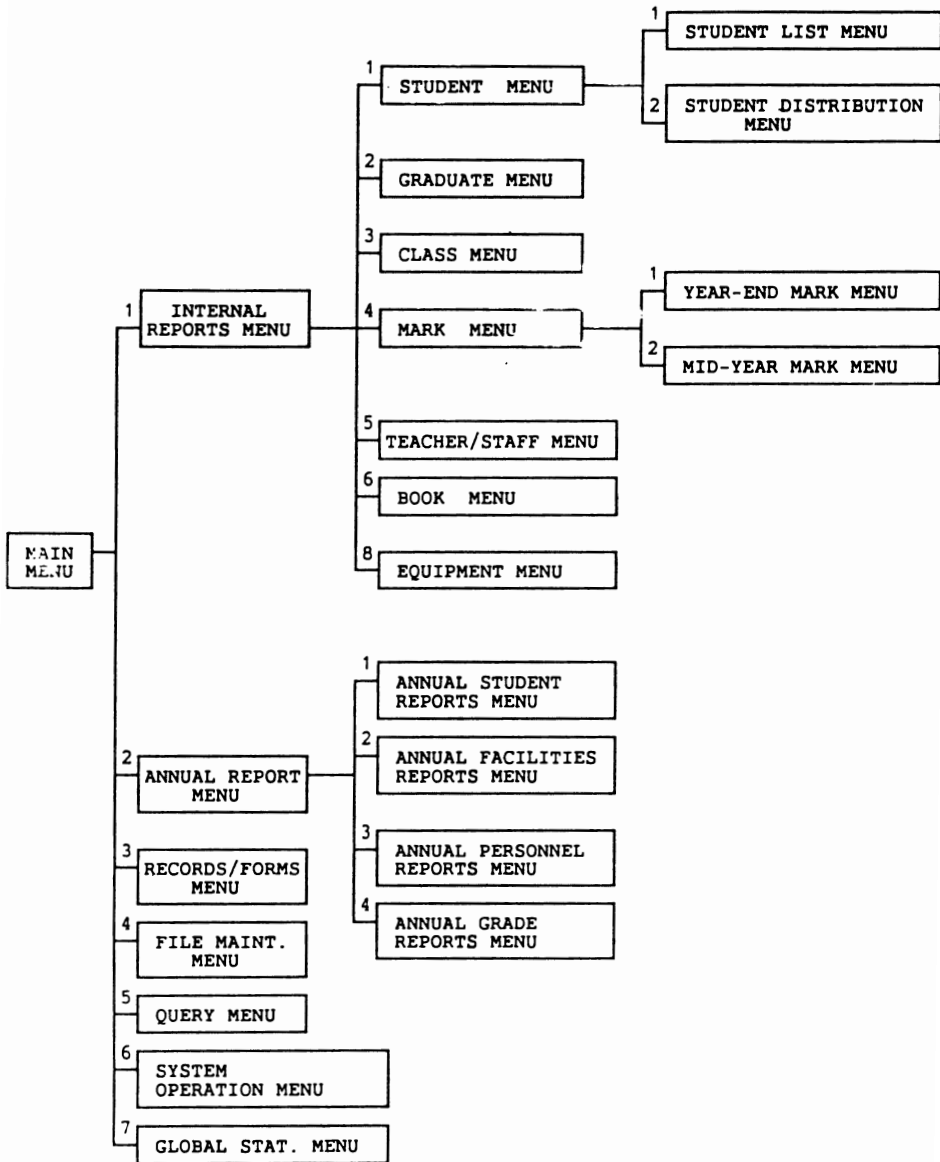


FIG. 3. The menu organization for the school information system.

6. Program Structure

The overall program structure follows the menu structure for obvious logical reasons. For each end activity, such as generating a report or a document or a file handling

operation, a separate program has been developed. Only when the user requests an activity by going through menus, the relevant program is called by the system.

The heart of the system is an executive control program CSIS.PRG, which lets the user to go through the menus and calls the necessary program when the final menu selection is made. Figure 4 shows how this executive program integrates the other programs through menus to a desired activity. The figure, however, does not show all the end programs. There are other levels of the menu which ultimately lead to individual programs for different end activities.

The system consists of 98 programs and 20 format files for screen input and display. Programs which define important characteristics of the system are briefly described below.

6.1 The Executive Control Program (CSIS.PRG)

This is the main control program for the overall system. It serves two most important functions :

- i) Generation and display of Menus.
- ii) Integration of the system by controlling the program flow through different levels and ultimately activating relevant programs.

This program uses a new approach for generating and displaying different menus^[4]. Each menu in the system is represented by a set of contiguous records in a database file called the Menu file. Each record has four fields. Field 1 contains the description of the option, which is displayed as part of the menu. Field 2 contains the name of the program associated with the option. If the option is for generating a report or updating a file, then the executive program picks up the relevant program name for this field and executes it. If the option requires displaying another menu, then the beginning and ending record numbers of the next menu is picked up from fields 3 and 4 (field 2 is kept blank in this case). Field 1 of these records then form the next menu which is displayed on the screen.

At start-up, the main menu is displayed by the program. After that, the control passes to the user. The system allows the user to move forward or backward through the menus. The advantage of this approach lies in the generalization of the program and coding efficiency. To add a new menu, one only needs to add a few records to the Menu file. All menus are displayed in Arabic at the center of the screen. Options can be selected either by placing a light bar on the option or by typing the option number. The light bar can be moved by using Up and Down arrows. The system displays necessary messages and status at all time to aid the user.

6.2 File Maintenance Programs

The file maintenance program for each database file has been developed separately to take care of their unique requirements. Each file has custom designed screen form(s) for data entry. Suitable pop-up menus appear where necessary to aid the user in fast and accurate data entry. The user has to select the right item on the pop-up menu, press Enter key and the data is automatically entered in the current field. File maintenance programs also have the capability of updating, displaying and deleting selected records.

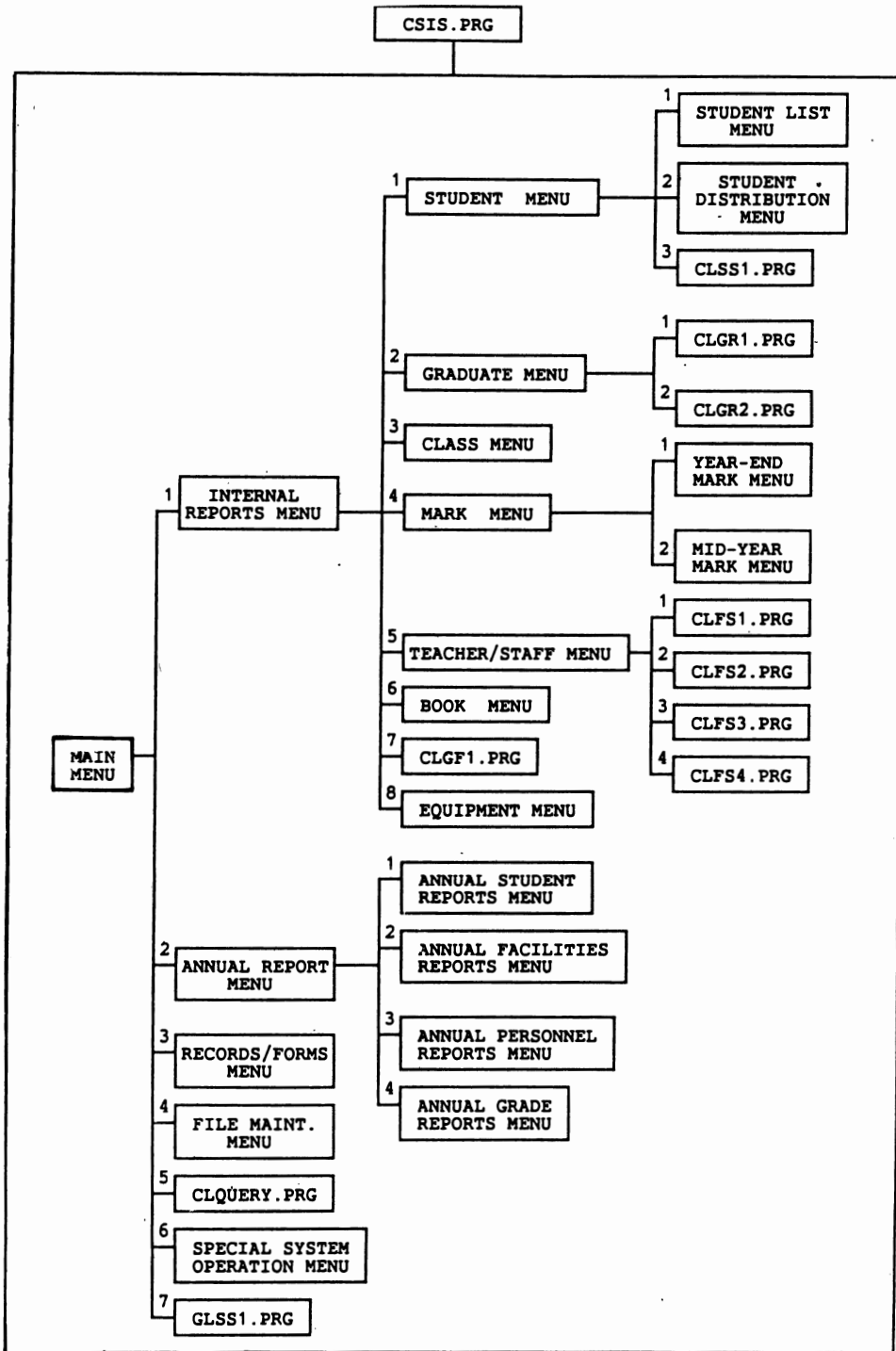


FIG. 4. The program structure of the classical school system.

6.3 Query Program

The query program is designed to answer queries related to major files such as student file, book file, employee file, ... etc. The program allows the user to look at selected records in the database files. The program displays a menu of files on which queries can be made. Upon the selection of file, the user is prompted to enter key values against 3 or 4 major fields. These values will form the basis of record selection. The user may supply as many key values as he can. The system will then display the records matching the attributes defined by the user. The user will have the option of displaying the records either in Edit mode or in Browse mode or in predefined screen form.

6.4 Report Generation Programs

The report generation programs have been developed separately for each report to take care of its unique data contents and formats. While all the reports can be printed, some may also (where the report width is less than 80 columns) be viewed on the screen. There are two utility programs which support all the report generation programs. One of them (MAINHEAD.PRG) generates the top heading of all reports. The second program (PRNTXX.PRG) sets the layout (right and left margins, pitch, paper size) of all printed report. This program also advises the user about the size of paper needed for printing each report.

6.5 Common Utility Programs

The system uses a set of special purpose common utility programs to display error messages, check password, control printer environment, initialize data, ... etc. These programs are used internally by other programs. Other system utility programs help the user perform special system operations such as backing up/ restoring files and password management, ... etc.

7. Programming Language and Arabic Interface

As the system was envisioned to be microcomputer based, dBASE IV was selected as the widely used and powerful database language currently available although other available languages such as Foxpro, Clipper, ... etc., were also considered. Arabic interface has been achieved through Mussa'ed Alarabi/2, which seemed most promising for the purpose despite some limitations like the non-availability of certain special characters. Mussa'ed Alarabi/2 is versatile because of its compatibility with dBASE IV, speed and wider printer support and was considered satisfactory for the purpose.

8. Results

The result of the system development is a comprehensive MIS tailored for the schools in Saudi Arabia. The system can generate 92 different reports and forms covering all aspects of school operation. A sample of the system generated reports based on synthetic data-is presented in the appendix. The sample reports presented are student class list, student exam results by class, grade analysis by class and course data form.

The system can generate blank data entry forms to be used for data capture. The data are entered through screens identical to the data entry forms. The system guides the

user with adequate messages, popup menus, ... etc. A concise user guide in Arabic as well as in English is also available to the user.

8. Conclusion

This paper has presented the design of a Computerized School Information System, the main features of which are as follows :

- The system is comprehensive in that it addresses all major aspects of school operations; especially the ones pertaining to grades and academic activities of students.
- The system has a relatively low hardware requirements (an AT or compatible), thus making it affordable.
- The system is user friendly as all operations are guided through on screen menus.
- The user interacts with the system entirely in Arabic language. All the inputs and outputs are in Arabic, thus, making it specially suitable for Saudi schools.

Implementation of such a system and the necessary training needed to use it would be easy if right cooperation is available from schools. Adoption of the system will have a positive impact on the individual school performance through streamlining the different activities and improving the overall efficiency.

Acknowledgment

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References

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Appendix A

FILE STRUCTURE OF CLMRKFE.DBF (MARK FILE)

NO	NAME	TYPE	LENGTH	DEC	FIELD DESCRIPTION	INDEX
1	STN	C	6	0	STUDENT NUMBER	Y
2	CRSNM	C	4	0	COURSE NAME	N
3	CRSCOD	C	3	0	COURSE CODE	Y
4	STCL	C	3	0	CLASS	Y
5	STSEC	C	1	0	SECTION NUMBER	Y
6	CLSM1	N	2	0	CLASS MARK IN FIRST TERM (15%)	N
7	FINM1	N	3	0	EXAM MARK IN FIRST TERM (35%)	N
8	CLSM2	N	2	0	CLASS MARK IN SECOND TERM (15%)	N
9	FINM2	N	3	0	EXAM MARK IN THE FINAL (35%)	N
10	TOTM	N	3	0	TOTAL SCORE AFTER THE FINAL EXAM	N
11	RETM	N	3	0	MARKS IN THE RETAKE EXAM (70%)	N
12	TOTRM	N	3	0	TOTAL SCORE AFTER RETAKE EXAM	N
13	ACYR	C	4	0	ACADEMIC YEAR	N

FILE STRUCTURE OF CLCRSFE.DBF (COURSE FILE)

NO	NAME	TYPE	LENGTH	DEC	FIELD DESCRIPTION	INDEX
1	CRSNM	C	12	0	COURSE NAME	N
2	CRSCOD	C	3	0	COURSE CODE	Y
3	CLASS	C	3	0	CLASS	N
4	LECN	N	1	0	NUMBER OF LECTURE HOURS	N
5	LABN	N	1	0	NUMBER OF LAB HOURS	N
6	CRSSTAT	L	1	0	COURSE STATUS (ACTIVE/INACTIVE)	N
7	CRSFLD	C	4	0	SUBJECT AREA OF THE COURSE	N
8	CLMRK1	N	4	1	CLASS MARK IN 1ST SEMESTER	N
9	MIDMRK	N	5	1	MARK IN FIRST SEMESTER EXAM	N
10	TOTAL1	N	5	1	TOTAL MARK IN FIRST SEMESTER	N
11	CLMRK2	N	4	1	CLASS MARK IN 2nd SEMESTER	N
12	TOTAL2	N	5	1	MARK BEFORE FINAL EXAM	N
13	FINMRK	N	5	1	MARK IN THE FINAL EXAM	N
14	PMRKF	N	5	2	PASSING MARK IN FINAL	N
15	TOTMRK	N	5	1	TOTAL MARK ON SUBJECT	N
16	PMRKT	N	5	1	PASS MARK FOR THE COURSE	N
17	TBN1	N	1	0	NUMBER OF TEXTBOOKS FOR THE COURSE	N

نموذج 2: clst

المملكة العربية السعودية - وزارة المعارف

إدارة التعليم بالمنطقة الغربية

مدرسة الشرف الابتدائية

قائمة الطلاب لكل فصل

الفصل: ١ الشعبة: ١ العام الدراسي: ١٤١١

صفحة: ١ التاريخ: ١٤١٢/٠٧/١٠

تظهر	اسم الطالب	الجنسية	اسم ولد الامر	رقم الهاتف	
				محل	منزل
١	ابو الطاهر عامر عابد	سعودي	سراج مطيع العتيبي	٦١٠٨٢٦١	٦١٩٢٧٩١
٢	تركى سراج مطيع العتيبي	سعودي	علي من بكر بخادي	٦٨٠١٧٣١	
٣	خامر علي من بخادي	سعودي	محمد فاخر المغربي	٦١٠٨١٥٢	٦٧٩٢٣٥١
٤	جويل علي العري	سعودي	سعيد عبدالله الزهراني	٦٧٧٢٣٤١	٦١٥١١٢٢
٥	خالد محمد فاخر المغربي	سعودي			
٦	رضان عبدالله مطر الزهراني	سعودي			
٧	كامل عبد الله الخيطان	سعودي			
٨	منصور هاني اخوان	سوداني			

المملكة العربية السعودية - وزارة المعارف

إدارة التعليم بالمنطقة الغربية

مدرسة الشرف الابتدائية

١٩٩١/٠٧/٢٢

المقررات الدراسية ودرجاتها

CLW 5

الصف: ١	رقم المقرر: ١٢٢	اسم المقرر: توحيد
عدد حصص الدراسة اسبوعيا: ٣		عدد حصص المعمل اسبوعيا: ٠
أعمال السنة للنصف الأول: ١٥,٠٠		درجة اختبار النصف الأول: ٣٥,٠٠
الدرجة الكبرى للنصف الأول: ٥٠,٠٠		
أعمال السنة للنصف الثاني: ١٥,٠٠		الدرجة قبل الاختبار النهائي: ٦٥,٠٠
درجة اختبار النصف الثاني: ٣٥,٠٠		درجة النجاح للاختبار النهائي: ٨,٧٥
الدرجة الكبرى للمادة: ١٠٠,٠٠		الدرجة الصغرى للمادة: ٥٠,٠٠

المملكة العربية السعودية - وزارة المعارف

إدارة التعليم بالمنطقة الغربية

مدرسة النضر الابتدائية

صفحة: ١ التاريخ: ١٤١٢/٧/١١

تعديل العلامات حسب المواد الدراسية للصف: []

التاريخ: ١٤١٢/٧/١١

المادة	الدرجة الكبرى	الدرجة اقل	توزيع الطلاب حسب الدرجات					متوسط الدرجات المعيارى	الانحراف المعياري	مجموع عدد الطلاب	عدد الطلاب	عدد الطلاب
			٩٠+	٨٠+	٧٠+	٦٠+	٥٠+					
قرآن	١٠٠	١٢٥	٦٦	٠	٠	٠	٠	٠	٦٦	١٢	٥	
توحيد	١٠٠	١٢٤	٦٦	٠	٠	٠	٠	٠	٦٦	١١	٦	
لغة	١٠٠	٦٦	٦٦	٠	٠	٠	٠	٠	٦٦	١٢	٥	
حساب	١٠٠	٦٦	٦٦	٠	٠	٠	٠	٠	٦٦	١١	٦	
علوم	١٠٠	٦٦	٦٦	٠	٠	٠	٠	٠	٦٦	١١	٧	
انشيد	١٠٠	٦٦	٦٦	٠	٠	٠	٠	٠	٦٦	١١	٦	

المملكة العربية السعودية - وزارة المعارف

إدارة التعليم بالمنطقة الغربية

مدرسة النضر الابتدائية

العلامات النهائية لجميع الطلاب حسب الترتيب للعام الدراسي ١٤١١

الصف: ١

صفحة: ١ التاريخ: ١٤١٢/٧/١١

عدد	رقم	اسم	قرآن	توحيد	لغة	حساب	علوم	انشيد	مجموع	الترتيب	التقدير
١	١٠٠٠٢١	امصور هاني اخوان	٦٨	٦٨	٦٥	٦٧	٦٧	٦٥	٦٧٧	١	ناجحه
٢	١٠٠٠٢٨	عاطف بيان العكي	٦٣	٦٠	٦٣	٦٣	٦٣	٦٥	٦٥٨	٢	ناجحه
٣	١٠٠٠٢٤	ابو الطاهر عامر عابد	٦٨	٦٦	٥٩	٦٦	٦٦	٦٦	٦٥١	٣	ناجحه
٤	١٠٠٠٣٥	لمن مصور الانولس	٦٥	٦٧	٦٦	٦٧	٦٧	٦٧	٦٦٥	٤	راسب
٥	١٠٠٠٤٠	فخامل عبد الله الخطاطي	٦٨	٦٧	٦٥	٦٧	٦٧	٦٧	٦٥٧	٥	راسب
٦	١٠٠٠٩٩	ابميل علي العري	٦٦	٦٥	٦٤	٦٤	٦٤	٦٤	٦٤٣	٦	راسب
٧	١٠٠٠٣٧	إمام نادر صاحب زادة	٤١	٦٦	٦٧	٦٦	٦٦	٦٦	٦٤٣	٧	راسب
٨	١١٠١٤٨	فخالد احمد البر	٠	٠	٠	٠	٠	٠	٠	٨	راسب
٩	١١٠٠٠٣	اللتايص احمد العود	٠	٠	٠	٠	٠	٠	٠	٩	راسب
١٠	١١٠٠٠١	إبيات احمد البيان	٠	٠	٠	٠	٠	٠	٠	١٠	راسب

(n) العلامة بعد الدور الثاني

(aaa) لم ينجح في الدور الاول وليس له ترتيب

تصميم وتطوير نظام معلومات على الحاسب الآلي للمدارس في المملكة العربية السعودية

أبو الطاهر محمد جميل ، و محمد علي حسن إخوان ، و أبو الكلام محمد عبد الحق
قسم الهندسة الصناعية ، كلية الهندسة ، جامعة الملك عبد العزيز
جدة - المملكة العربية السعودية

المستخلص . تعرض هذه الورقة تصميم وتطوير نظام معلومات آلي للمدارس في المملكة مبني على أسلوب الاختيار من قائمة الخيارات على الشاشة . وقد بني النظام معتمداً على تحليل المدخلات والمخرجات ، وذلك بعد تحليل دقيق للأنشطة المعلوماتية وسيرها خلال النشاط المدرسي ، وللتقارير التي تصدرها المدرسة خلال العام الدراسي .

وقد نتج عن هذا التحليل تصميم قواعد البيانات اللازمة لحزن المعلومات وتسييرها وتغذية الاحتياجات المعلوماتية للتقارير والأنشطة المختلفة ، كما صممت الشاشات والنماذج اللازمة لتحديد وإدخال المعلومات اللازمة للنظام . وتشمل قواعد البيانات ملفات الطلاب ، والمدرسين ، والعلامات ، والمقررات ، والفصول الدراسية ، والأجهزة ، والكتب .

يتكون نظام المعلومات المقترح من سبعة أجزاء رئيسة تتناول التقارير الداخلية ، والتقارير السنوية ، وتحديث الملفات ، والاستفسارات ، والنماذج ، والإحصائيات العامة ، وإدارة النظام . ويعتمد النظام أسلوب الاختيار من الشاشة مباشرة ، حيث ينتهي كل اختيار ببرنامج مستقل يقوم بإعداد وتنفيذ العملية المطلوبة ، وقد جاء النظام مكوناً من ٩٨ برنامجاً و ٢٠ شاشة عرض أو إدخال للمعلومات ، كما يضم النظام برامج عامة تعالج تحديث قواعد البيانات والاستفسارات ، وإصدار التقارير ، والخدمات المشتركة ، إضافة إلى البرنامج الرئيس العام ، الذي يتحكم في بقية البرامج .

يعتمد النظام المقترح على الحاسب الآلي الشخصي (الحاسوب) مستخدماً قاعدة البيانات dBASE IV ، وبرنامج التعريب الرديف المساعد العربي / ٢ ، ويتطابق النظام المقترح مع احتياجات المدارس الحكومية للمملكة العربية السعودية ، كما يتمتع بميزات سهولة الاستخدام والشمولية وبساطة متطلباته من أجهزة الحاسب الآلي .