

# Portal System for Secondary Schools

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## Abstract

This paper presents the design and implementation of a portal system for secondary schools in less-developed area. The system represents the typical educational system as a computerized system in a way allow students, parents, teachers, and the school director communicate with each other in a fast and direct way. The system has a system administrative with some administrative privileges that can add/remove users and assign the account type with privileges. The developed system has mobile-based software which allows the user a large amount of freedom to access the system and make it accessible users according to the username and password. The software ASP.Net 2008 and SQL Server Management Studio have been used to build the system. The system can be used by the students, parents, teachers, and the school director. The difference between the developed system and others such as EduWave has no accounts for the parents and they have to use the accounts of their children to access the system.

Keywords: *Education System, Mobile-based Software, Portal System, System Design, and SQL Server.*

## 1. Introduction

The text The Information Technology (IT) infrastructure has been viewed incorrectly as the hardware and software that make up an organization's information system. The reality is more complex than that, but over and above the hardware and software, there are a range of different services needed to make an organization's IT systems come alive.

Therefore IT infrastructure is really a combination of hardware, software and services. So the IT infrastructure can be defined as the combinations of the following building blocks [1].

1. People
2. Information
3. Software
4. Processing Machine
5. Storage Media
6. Input and Output Devices
7. Communication Devices

Also Shipsey in 2010 describes the major components of an IT infrastructure and claims that, "there are seven major components of an IT infrastructure. The aim is to make these components all work seamlessly together to make an enterprise system that works anytime", anywhere. These are [2]:

### A. Computer Hardware

The physical components (a personal computer, server, laptop etc) perhaps made by IBM, HP, Dell or Sun Microsystems, and containing a microprocessor, the heart of any computing device, probably made by Intel, AMD or IBM.

### B. Operating System

Computers need to know what, when and how to do things and it is the operating system that tells them. Operations such as logging-on, file management and network connectivity are controlled by the operating system. Microsoft Windows, in one or other of its versions, is by far the most prolific operating system. However Unix and Linux, which are often associated with large networks because they require less application overheads and have faster processing, are also available for PCs. Linux open-source software is becoming the operating system of choice for organizations looking to reduce their costs because it is free and reliable.

### C. Enterprise Software

The aim of enterprise software applications is to integrate applications into seamless processes across the organization. Customer relationship management and supply chain management systems are the two most popular applications in this category. Thanks to the proliferation of networks, these applications are becoming popular and affordable for even small- and medium-sized organizations.

#### D. Data Management and Storage

More and more data, on customers, employees and the business itself, is being gathered by organizations. Storing and managing this data so that it is easily accessible and provides meaningful information is extremely important. Storage area networks (SANs) provide an economical way to consolidate data from across all of the systems within an organization. Online users want instant access to data and SANs help organizations to provide it deliver this.

#### E. Networking/Telecommunications

As we progress towards the convergence of all things digital, networking and telecommunications are merging into one. Instead of having one platform for networking computing devices, and another for telecommunications, there are now companies who provide a combination of telephone services, mobile phone connectivity, computers and peripheral devices, handheld PDAs and wireless services as one digital package.

#### F. Internet Tools

The Internet continues to expand the services that organizations are able to provide to their employees, customers, suppliers and business partners. Intranets and extranets which are built using existing Internet technologies give organizations an easy and inexpensive method of providing services that were prohibited by cost only a few years ago.

#### G. Consultancy and System Integration

The systems used in many medium- and large-sized organizations are too complex for the organization to manage them on their own. Integration services provided by companies such as IBM and Hewlett-Packard are necessary to keep everything working and up to date.

Wenger in 1999 expected that the introduction of the educational portal systems will give a strong motivation to the integration of information technology into education [3].

The information and communication technology has introduced more powerful ways and tools help people to be connected in the local communities and schools to the outside world [4]. The system will be loaded with the student's marks, assignments, etc. by the teachers. However, students will reach all the information, and parents will reach that information about their children as well.

The education model that contains students, teachers, and directors has been redefined by the advent of the information and communication technology. Educational portals utilize communication technology and the learning

options in an emerged model. Therefore, Educational portals take the advantage of the connectivity and information delivered and received primarily through wired or wireless networks. Educational portals benefit from the dynamic updating, storage, and sharing of the knowledge and information. Users, location, time, learning, and training approaches are considered as terms that are used in the educational portals for defining the functional framework. Therefore, the educational portals consist of three main components: a community of practice, a body of knowledge, and services to maintain the body of knowledge [5]. Educational portals are gateways to the educational information and services that are targeted at a certain community.

Educational portals provide the interaction, communication and learning among the communities by creating a virtual meeting place [6]. That means educational portals aim to create connectivity between Future Work people and information. They aim to provide opportunities for shared cognition and social learning approaches [7].

The Internet has transformed the way people access and interacts with information. In the developed world, the continuous availability and comprehensive content of the web makes it a compelling resource for communication and research [8, 9, and 10].

Jordanian schools have a lack access to this resource; Internet access tends to be expensive, unreliable and largely confined to urban areas [11, 12].

## 2. The Proposed Portal System Structure

The system considers teachers, students, and directors as users as seen in figure 3.1. The system will have an administrator who is responsible for troubleshooting, failure recovering. Additionally, the administrator defines new users, gives the privileges, freezes the account, deletes accounts, updates the system by adding new functions, and maintains the system security.

This system provides a full communication between the secondary school members, teachers, students, parents and director. It provides an easy, user-friendly, and fast communication besides the full organization. The paper communication will be reduced dramatically. The system will create a community for the secondary school that can be even monitored by the ministry of education. The teachers can reach their students easily and be more contacted and bounded with the students. The students can be alerted in the emergency cases simultaneously. The parents will follow up the situation of their children easily.

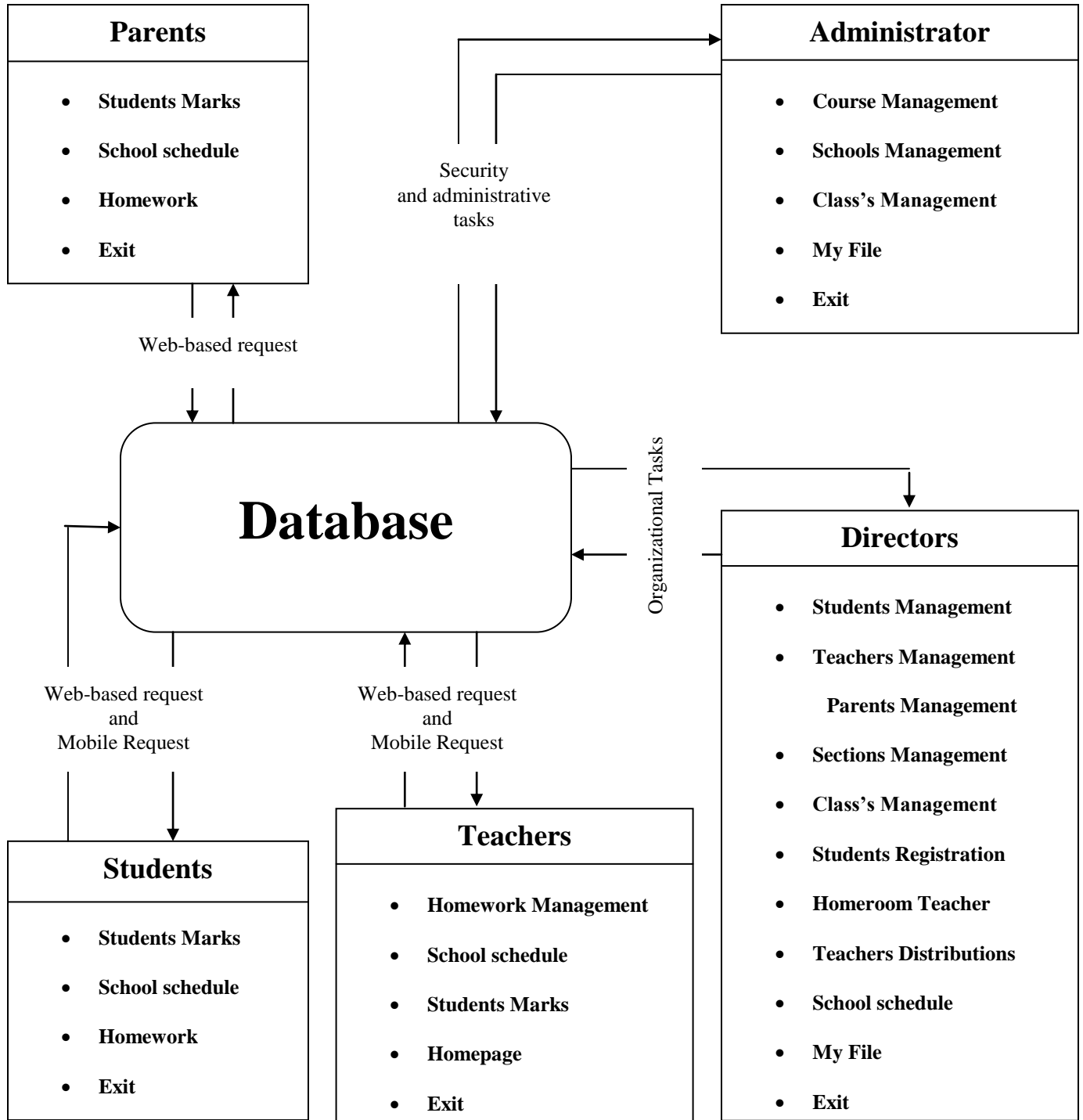


Fig. 1: The General Structure of the Proposed System

## 2.1 Requirements for Portal System Model

The portal system model requirements will be organized according to the following:

A. The software: there will be server software, computer-based software, and mobile-based software. Because the system will be built as web-based application, the system needs an internet domain to be accessible through World Wide Web. The students and the teachers can reach their accounts with fully functions through any internet browser or with partially function through the mobile-based software, the parents can reach their accounts with fully functions through web. The administrator and the school director can reach the database and update it through computer-based software. The server software will intermediate students, teachers, parents, school director, and the system administrator. The following are a brief description of the three types of software:

1. The server software will be managed directly by the administrator and will be installed on a central computer in the server's room. It holds the database for the users and manages the security for them. Besides the above mentioned functions of the administrator, the server communicates with users' computers and provides them with services. In addition, it sends the alerts for their predefined mobiles (the mobiles of the teachers, the directors, the parents and the students). The alerts will be sent to the students through SMS on time.
2. The computer-based software is used for management purposes. It can be installed on computers inside the school for security purposes. Only the administrator and the school director can use the computer-based software. In this way, the computer-based software can be updated without making the whole system down, the functions can be added easily by the system administrator, and the administration and the organization commands cannot be given without this software.
3. The mobile-based software allows the users to overview the daily plan; the courses schedule, the tasks and assignments, and contact information. The mobile-based software allows the user to make the daily plan, perform local alerts in the user level. Any task, that is performed in the mobile, will be sent to the database through the internet, and

the user will see them if he/she explore from any internet browser.

- B. The hardware: the systems need a server, standalone computers that can be used by the school director and the system administrator, computer network in the school (Local area network and wireless network), internet connection, and mobiles. The network which is found in almost every secondary school can be facilitated to the proposed system. Additionally, most of the secondary schools are provided with the internet. The server will be provided by the database and will be installed in a special server room. The stand alone computers represent the control terminals that the administrator and the school director use to update the database. The computer-based software will be installed on the stand alone computers. Finally, the mobiles must be smart mobiles to provide the communication ability with the internet. The mobiles can be provided by the mobile-based software and allows the users to overview their accounts. Additionally, the mobiles represent the reminder for the students either by receiving SMS's all by the predefined alerts by the users.
- C. The Security: Since the security of any system is very importance, therefore will be provided in different ways in many levels as following:
  1. The server which is managed by the system administrator: the server will be installed in a safe place where the server room will not be accessible for everyone. Backup of the database will be made frequently and the backup copies will be stored in a separate and safe place. A firewall will be used to prevent the external hacking. And accounts will be created for the users.
  2. The stand alone computer which is used by directors: the users for the computer-based software need password to access the system. And there will be a log file that registers the access time and the user who accessed the system besides the changed that has been made.
  3. The mobiles: the system administrator will give the permission for the students and teachers to install and use the mobile-based systems, i.e. the students and teachers cannot used their mobile-based software unless the administrator install the software in there mobiles (physical security) and make a check on the system to allow them to communicate with system by mobile. The system administrator will define an access list that

contains the accounts that are allowed to access the account remotely using the mobiles.

The user needs to use his/her account information to access the account. That will help in the case of the mobile lost, only the user will have the access to the system, and the user can inform the system administrator to remove the mobile for the access list. The user needs to use his/her account information to access the account. That will help in the case of the mobile lost, only the user will have the access to the system, and the user can inform the system administrator to remove the mobile for the access list.

## 2.2 Portal System Components

The system consists of several main parts; these parts have been relied upon to build the system by identifying the tasks and functions of each part. The following subsections are the descriptions of them.

### 2.2.1 Administrator

The Administrator page consists of different functions that mainly provide the control of the system. The administrative functions within the system are the following:

1. **Course Management:** control the courses by functions Add and Delete Course.
2. **Schools Management:** control the schools by functions Add and Delete school.
3. **Class's Management:** control the classes by functions Add and Delete rows.
4. **My File:** security function that allows changing password.
5. **Exit:** End of work.

### 2.2.2 Directors

The Directors page consists of different functions that provide an administrative function on the school organization. The administrative functions of the school organization are the following:

1. **Students Management:** Add comprehensive information about students on their database which is required for the school's management about each student.
2. **Teachers Management:** controls the security of teacher's accounts by changing passwords for teachers.

3. **Parents Management:** control the parent's accounts by adding children to parents and modify their own passwords.
4. **Sections Management:** Add a new section for a particular school and the amendment to the existing people
5. **Class's Management:** controls the organizational tasks of the classes
6. **Students Registration:** control the registration operation for the students and bind them to the class, the school calendar, section, and parent accounts.
7. **Homeroom Teacher:** Determine the homeroom teacher
8. **Teachers Distributions:** Distribution of teachers
9. **School schedule:** See the course schedule
10. **My File:** security function that allows changing password.
11. **Exit:** End of work

### 2.2.3 Teachers

The teacher's page consists of different functions that provide an administrative function on the class level, these are:

1. **Homework Management:** represents the communication between the students and the teacher, the teacher here can upload the homework, send it to the students, receive the student solutions and correct it.
2. **School schedule:** it provides the course schedule to help him/her to make the study plans.
3. **Students Marks:** provide an online entry of students marks, which can be make easy control and view of the marks for the other system users.
4. **Homepage:** Back to the main window, which contains information on classes taught by teachers
5. **Exit:** End of work

### 2.2.4 Parents

The Parents page consists of different functions that make them able to view the status of their child/children in the school. The functions that are found in the parent page are the following:

1. **Students Marks:** allow the parents to see the marks of materials.
2. **School schedule:** allow the parents to see the course schedule.
3. **Homework:** allow the parents to see the homework that the teacher sent to the student.
4. **Exit:** End of work



## 2.2.5 Students

The Students page consists of different functions that allow the student view some student related tasks and download/upload the home work. The view functions of the students are the following:

1. **Students Marks:** this function is considered as basic function allows the student see their marks of materials.
2. **School schedule:** this function allows the student overview and sees the course schedule.
3. **Homework:** See the homework that the teacher sent to students, and then provide the possibility for the student to answer then re-sent to the teacher in order to be corrected.
4. **Exit:** End of work

## 3. Tables, Figures and Equations

The data in a table does not have to be physically stored in the database. Views are also relational tables, but their data are calculated at query time. Another example is nicknames, which represent a pointer to a table in another database. In the following subsections are the descriptions of the tables used in the proposed portal system:

### 3.1 Tables and Figures

#### 3.1.1 The table of school ( Tbl\_School )

Table 4.1 presents the table used to store all needed information about certain schools. It contains different columns within the same data type except that for schoolId has a different data type “smallint” to make it unique and to be identified as primary key. The columns are: schoolId, schoolName, schoolAddress, schoolTel, and schoolNote within “nvarchar ( )” data type, these all columns give the system the needed information about schools to use it when it is needed.

Table 1: Tbl\_School

	Column Name	Data Type	Allow Nulls
▶	Fid_SchoolId	smallint	<input type="checkbox"/>
	Fid_SchoolName	nvarchar(50)	<input checked="" type="checkbox"/>
	Fid_SchoolAddress	nvarchar(1000)	<input checked="" type="checkbox"/>
	Fid_SchoolTel	nvarchar(20)	<input checked="" type="checkbox"/>
	Fid_SchoolNote	nvarchar(2000)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

#### 3.1.2 The table of Student ( Tbl\_Student )

Table 4.2 shows all the data required for the student. It contains different columns, these columns are: StudentName, StudentTel, StudentMobile, StudentBirthPlace, StudentNationalty, StudentPassword, and StudentMail within the same data type “nvarchar( )”. The column Student BirthDate is defined as “datetime” data type and StudentId is defined as “int” data type. The column StudentId has been identified as a primary key.

Table 2: Tbl\_Student

	Column Name	Data Type	Allow Nulls
▶	Fid_StudentName	nvarchar(100)	<input checked="" type="checkbox"/>
	Fid_StudentTel	nvarchar(20)	<input checked="" type="checkbox"/>
	Fid_StudentMobile	nvarchar(20)	<input checked="" type="checkbox"/>
	Fid_StudentBrithPlace	nvarchar(50)	<input checked="" type="checkbox"/>
	Fid_StudentBrithDate	datetime	<input checked="" type="checkbox"/>
	Fid_StudentNationalty	nvarchar(50)	<input checked="" type="checkbox"/>
	Fid_StudentPassword	nvarchar(20)	<input checked="" type="checkbox"/>
	Fid_StudentUserName	nvarchar(20)	<input checked="" type="checkbox"/>
	Fid_StudentMail	nvarchar(50)	<input checked="" type="checkbox"/>
⚡	Fid_StudentId	int	<input type="checkbox"/>
			<input type="checkbox"/>

#### 3.1.3 The table of Students Marks

##### ( Tbl\_StudentMark )

Table 4.3 presents the table used to add and store the marks of students. It is used to retrieve and check the marks of students by parents and student. This table has different relationships in compare with other tables such as Tbl\_Teacher, Tbl\_Course, Tbl\_Section, and Tbl\_Student. It contains different columns, these column are: StudentId, TeacherId, SectionId, CourseId which have the same data type “int”.

The columns of SchoolId and SemesterId have “smallint” data type. The four columns FirstMark, SecondMark, ShareMark, and Final have “Float” data type. Finally, the column RegYear has “nchar( )” data type.

Table 3: Tbl\_StudentMark

Column Name	Data Type	Allow Nulls
Fid_StudentId	int	<input type="checkbox"/>
Fid_TeacherId	int	<input checked="" type="checkbox"/>
Fid_SectionId	int	<input type="checkbox"/>
Fid_SchoolId	smallint	<input checked="" type="checkbox"/>
Fid_CourseId	int	<input type="checkbox"/>
FristMark	float	<input checked="" type="checkbox"/>
SecondMark	float	<input checked="" type="checkbox"/>
ShareMark	float	<input checked="" type="checkbox"/>
Final	float	<input checked="" type="checkbox"/>
Fid_SemesterId	smallint	<input checked="" type="checkbox"/>
Fid_RegYear	nchar(4)	<input checked="" type="checkbox"/>

### 3.1.4 The Table of courses ( Tbl\_Course )

Table 4.4 shows the table used for store all needed data about all courses. It contains different columns within the same data type except the courseId which have different data type to be unique and to be identified as primary key. The column ClassId is defined “int” data type. The columns courseMarkMax, courseMarkmIN, courseName, courseNote are “nvarchar( )” data type, these all columns give the system the needed information about courses to be used it when you need it.

Table 4: Tbl\_Course

Column Name	Data Type	Allow Nulls
Fid_CourseId	int	<input type="checkbox"/>
Fid_ClassId	int	<input checked="" type="checkbox"/>
Fid_CourseMarkMax	nvarchar(50)	<input checked="" type="checkbox"/>
Fid_CourseMarkMin	nvarchar(50)	<input checked="" type="checkbox"/>
Fid_CourseName	nvarchar(50)	<input checked="" type="checkbox"/>
Fid_CourseNote	nvarchar(50)	<input checked="" type="checkbox"/>

### 3.1.5 Table of Materials taught by the teacher

#### ( Tbl\_rel\_Course\_Teacher )

Table 4.5 presents the table that used to identify the courses that taught by the teacher. It contains different columns within, these are: userId, sectionId, and courseId which are defined as “int” data type. The column Rel\_super is defined as “bit” data type.

Table 5: Tbl\_rel\_Course\_Teacher

Column Name	Data Type	Allow Nulls
Fid_UserId	int	<input type="checkbox"/>
Fid_SectionId	int	<input type="checkbox"/>
Fid_Rel_Super	bit	<input checked="" type="checkbox"/>
Fid_CourseId	int	<input type="checkbox"/>

### 3.1.6 The table of permissions ( Tbl\_permission )

Table 4.6 presents the table used to identify and verify the users who can login to the system. It is consisted of two columns only, the first column is permissionId within “tinyint” data type, and the second one is permissionName within “nvarchar( )” data type

Table 6: Tbl\_permission

Column Name	Data Type	Allow Nulls
Fid_PermissionId	tinyint	<input type="checkbox"/>
Fid_PermissionName	nvarchar(100)	<input checked="" type="checkbox"/>

### 3.1.7 Table of classes ( Tbl\_Class )

Table 4.7 shows the table used to identify new class, it is consisted of two columns, the first column is classId within “int” data type, and the second one is className within “nvarchar( )” data type

Table 7: Tbl\_Class

Column Name	Data Type	Allow Nulls
Fid_ClassId	int	<input type="checkbox"/>
Fid_ClassName	nvarchar(100)	<input checked="" type="checkbox"/>

### 3.1.8 Table of semesters ( Tbl\_Semester )

Table 4.8 presents the table that used to identify the first semester and the second semester. It is consisted of two columns, the first column is semesterId within “smallint” data type, and the second one is semesterName within “nvarchar( )” data type.

Table 8: Tbl\_Semester

Column Name	Data Type	Allow Nulls
Fld_SemesterId	smallint	<input type="checkbox"/>
Fld_SemesterName	nvarchar(50)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

### 3.1.9 Table of Sections (Tbl\_Section)

Table 4.9 shows the table used for add and store class sections. It is used to retrieve and check the class section and control them. Which make it possible to determine the section that the student can register. This table has different relationship with the other tables such as Tbl\_School, and Tbl\_Class.

It contains different columns, these column are: SectionId, and ClassId within the same data type “int”, SchoolId within “smallint” data type, SectionName, within “nvarchar( )” data type, and finally, code within “nchar( )” data type.

Table 9: Tbl\_Section

Column Name	Data Type	Allow Nulls
Fld_SectionId	int	<input type="checkbox"/>
Fld_SectionName	nvarchar(50)	<input checked="" type="checkbox"/>
Fld_ClassId	int	<input checked="" type="checkbox"/>
Fld_SchoolId	smallint	<input checked="" type="checkbox"/>
Fld_Code	nchar(5)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

### 3.1.10 Table of homework ( Tbl\_Homework )

Table 4.5 presents the table used for store all homework information in DB, and sends it to students. it contains different columns, these columns are: homeworkName, homeworkFile and homeworkNote within the same data type “nvarchar( )”, homeworkId, SectionId, and homeworkOwnerId within “int” data type, homeworkBrif within “ntext” data type, homeworkFrom, homeworkTo, and homeworkDate within “date” data type, semesterId within “smallint” data type, and RegYear within “char( )” data type. In this table the primary key is homeworkId.

Table 10: Tbl\_Homework

Column Name	Data Type	Allow Nulls
Fld_HomeWorkId	int	<input type="checkbox"/>
Fld_HomeWorkName	nvarchar(200)	<input checked="" type="checkbox"/>
Fld_HomeWorkBrif	ntext	<input checked="" type="checkbox"/>
Fld_HomeWorkNote	nvarchar(2000)	<input checked="" type="checkbox"/>
Fld_HomeWorkFile	nvarchar(50)	<input checked="" type="checkbox"/>
Fld_HomeWorkFrom	date	<input checked="" type="checkbox"/>
Fld_HomeWorkTo	date	<input checked="" type="checkbox"/>
Fld_HomeWorkDate	date	<input checked="" type="checkbox"/>
Fld_SemesterId	smallint	<input checked="" type="checkbox"/>
FldRegYear	char(10)	<input checked="" type="checkbox"/>
Fld_SectionId	int	<input checked="" type="checkbox"/>
Fld_HomeWorkOwnerId	int	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

### 3.1.11 Table of students answers ( Tbl\_Solve )

Table 4.5 shows the table that used for store all student answer for homework. It contain different column, these column are: homeworkId, studentId within data type “int”, and solveFile and solveNote within “nvarchar( )” data type.

Table 11: Tbl\_Solve

Column Name	Data Type	Allow Nulls
Fld_HomeWorkId	int	<input type="checkbox"/>
Fld_SolveFile	nvarchar(50)	<input checked="" type="checkbox"/>
Fld_StudentId	int	<input type="checkbox"/>
Fld_SolveNote	nvarchar(4000)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

### 3.1.12 Table of calendar ( Tbl\_Calendar )

Table 4.5 shows the table used to allow the administrator, directors, teachers, students and parents to overview and see the course schedule. It contains different columns, these columns are: RegYear within “char ( )” data type, SectionId, and classId within “int” data type, calenderBody within “ntext” data type, calenderTitle within “nvarchar( )” data type, and SchoolId within “smallint” data type.

Table 12: Tbl\_Calendar

Column Name	Data Type	Allow Nulls
Fld_RegYear	char(4)	<input type="checkbox"/>
Fld_SectionId	int	<input type="checkbox"/>
Fld_SchoolId	smallint	<input type="checkbox"/>
CalenderTitle	nvarchar(100)	<input checked="" type="checkbox"/>
CalenderBody	ntext	<input checked="" type="checkbox"/>
Fld_ClassId	int	<input type="checkbox"/>
		<input type="checkbox"/>



Table 4.5 presents the table used to register students in the schools and determine the class, section, and semester. It contains different columns, these columns are: RegYear within “char ( )” data type, RegId, StudentId, SectionId, and ClassId within “int” data type, RegDate within “datetime” data type, RegNote within “nvarchar( )” data type, and SchoolId and SemesterId within “smallint” data type. In this table the primary key is RegId.

Table 13: Tbl\_Reg

Column Name	Data Type	Allow Nulls
<b>Fld_RegId</b>	int	<input type="checkbox"/>
Fld_StudentId	int	<input checked="" type="checkbox"/>
Fld_ClassId	int	<input checked="" type="checkbox"/>
Fld_RegYear	char(4)	<input checked="" type="checkbox"/>
Fld_RegDate	datetime	<input checked="" type="checkbox"/>
Fld_RegNote	nvarchar(100)	<input checked="" type="checkbox"/>
Fld_SchoolId	smallint	<input checked="" type="checkbox"/>
Fld_SemesterId	smallint	<input checked="" type="checkbox"/>
Fld_SectionId	int	<input checked="" type="checkbox"/>

### 3.1.14 Table of Children of parents

(Tbl\_rel\_Parent\_Student)

Table 4.5 shows the table that used for determine the Children of parents in the schools and it is used by the system to help the parents to retrieve the information that needed about their children. It contains two columns, these columns are: StudentId and UserId within “int” data type.

Table 14: Tbl\_rel\_Parent\_Student

Column Name	Data Type	Allow Nulls
<b>Fld_StudentId</b>	int	<input type="checkbox"/>
<b>Fld_UserId</b>	int	<input type="checkbox"/>

### 3.1.15 Table of users (Tbl\_User)

Table 4.5 presents the table used for determine all users of the portal system and it contains the username and password. It contains different columns, these columns are: UserId within “int” data type, SchoolId within “smallint” data type, permissionId within “tinyint” data type, Username, password, and mail within “nvarchar( )” data type Finally, the primary key is UserId.

Table 15: Tbl\_User

Column Name	Data Type	Allow Nulls
<b>Fld_UserId</b>	int	<input type="checkbox"/>
Fld_Username	nvarchar(20)	<input checked="" type="checkbox"/>
Fld_Password	nvarchar(20)	<input checked="" type="checkbox"/>
Fld_PermissionId	tinyint	<input checked="" type="checkbox"/>
Fld_Mail	nvarchar(50)	<input checked="" type="checkbox"/>
Fld_SchoolId	smallint	<input checked="" type="checkbox"/>

## 4. Conclusions

The developed system provides a comfortable accessibility to the system for the users, and communication with all system users in real time. This way makes the communication between the system users very simple and very fast. The control of the teaching system in the school can be managed simply, and the problems and miscommunication can be overcome by this system. Additionally, the parents can control their children and follow them simply and easily. Finally, this system provides a mobile access which makes the communication simpler and easier.

Design and Implementation of Portal System for Secondary Schools in Less-Developed Area is a project that is designed to replace the typical school system. The system tries to break the barriers between the people inside this system. The people are the students, students’ parents, teachers, and the school director.

The system which has been developed contains accounts for each user. Each user has an access for some functions that depends on the user type. The functions that the teacher can access are summarized by controlling the flow of the lectures and communicating with students by uploading the homework, corrections, marks, and gloss organization. The student can upload the solutions to the system and download the homework, receive the marks, communicate with the teacher and see the school timetable. Parents can control the marks of their children without need to go to school and ask personally.

The school director can control the organization of the school from the system, and the organized schedule reaches the system users as soon as it uploaded.

The interface provides an easy navigation among the different functions and simple school organization surfing. Besides the web-based system a mobile-based system has been developed. The mobile based system provides an access to the system for the users. The mobile-based software can be installed on smart mobiles and communicate with the data base.

## Acknowledgments

I wish to acknowledge the middle East University for the financial support, Faculty of Information Technology and specially my supervisor Dr. Hussein H. Owaied, who offered me guidance and assistance throughout this process. I must credit my wife who gave me help, hope, and encouragement along the way. I wish to thank all my friends and family, who helped me by contributing in many ways, big and small.

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