Student Management System

BY

S M Rassel

ID: 112-15-1483

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

<u>Md. Mahmudul Hasan</u>
Senior Lecturer
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

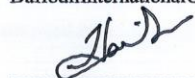**DHAKA, BANGLADESH**

AUGUST 22, 2015

APPROVAL

This Project/Internship titled **"Student Management System"**, submitted by **S M Rassel** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on Wednesday 12 November 2014.
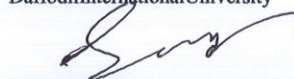
BOARD OF EXAMINERS

Dr. Syed Akhter Hossain   **Chairman**
Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
DaffodilInternationalUniversity

Dr. Sheak Rashed Haider Noori   **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
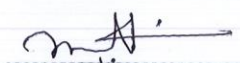DaffodilInternationalUniversity

Muhammad Sarawar Jahan Morshed   **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
DaffodilInternationalUniversity

Dr. Mohammad Shorif Uddin   **External Examiner**
Professor and Chairman
Department of Computer Science and Engineering
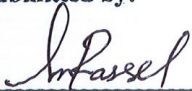Jahangirnagar University

DECLARATION

We hereby declare that, this project has been done by S M Rassel under the supervision of **Md. Mahmudul Hasan, Senior Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Md. Mahmudul Hasan
Senior Lecturer
Department of CSE
Daffodil International University

Submitted by:

(S M Rassel)
ID: 112-15-1483
Department of CSE
Daffodil International University

ACKNOWLEDGEMENTS

First, I thank and express gratefulness to Almighty Allah for this divine blessings and giving me the Strength to complete this project work. I wish to acknowledge our profound indebtedness to my adorable and sincere supervisor **Md. Mahmudul Hasan,** Senior Lecturer, Department of CSE Daffodil International University. For his support and inspiration, our project achieved its desired success. I would like to express or heartiest gratitude to our department head **Dr. Syed Akhter Hossain,** Professor and Head**,** Department of Computer Science and Engineering, Daffodil International University. Discussions with many of them have enriched my conception and knowledge about this project work. I would like to acknowledge with due respect the constant support, patience and encouragement of our family and friends, who have always been a success of living inspiration for me.

ABSTRACT

The project aims to design and develop student management system especially for school. The application provides the facility to store the details of a particular school and its necessary information. It allows to manage all records like student name, address, marks, results, mobile numbers & parents' details also. It can be accessed through local or cloud servers through internet. So that, authorized persons or parents can see those details from anywhere in the world. A separate admin section will be available for the private use. It has all the academic details like percentage of attendance, exam results, course information and those particular organization's related details. In addition, it has the features of admin roles where users can edit, update & delete these details. To develop this project, we have used HTML, CSS, Java Script, XAMPP and MySql as a database. Admin users of the project are permitted to modify any data to update necessary information. To sum up, the project emphasizes the overall management of the students.

TABLE OF CONTENTS

List of Figures

CHAPTER 1

INTRODUCTION

1.1 Overview

Nowadays education plays a great role in development of any country. Many of education organizations try to increase education quality. One of the aspects of this improvement is managing of school resources.

1.2 Objective of the study

School portal is education management system. It is basically a web application. It has been designed based on PHP. Students will be able to learn something through it all. They will be able to see all the information. Here, there will be updates student and teacher information, class routines, attendance, tuition fee, notice board, Mark, exams, books, libraries, transport etc.

1.3 Outline of the study

The overview of related and used technologies in the implementation is given in Chapter 2. The architecture and way of communication between client and service is explained in Chapter 3. The detailed information about implementation of the system is presented in Chapter 4. Chapter 5 provides the summary of the implemented system. The Appendices provides some additional information concerning the system

CHAPTER 2

Project Requirement and Tools

2.1 XAMPP

XAMPP is an open-source web server package that works on various platforms. It is actually an acronym with X meaning "cross" platform, A for Apache HTTP server, M for MySQL, P for PHP, and P for Perl. XAMPP was designed to help webpage developers, programmers, and designers check and review their work using their computers even without connection to the web or internet. So, basically XAMPP may be used to stand as pages for the internet even without connection to it. It can also be used to create and configure with databases written in MySQL and/or SQLite. And since XAMPP is designed as a cross-platform server package, it is available for a variety of operating systems and platforms like Microsoft Windows, Mac OS X, Linux, and Solaris. Shows the admin login design shown in Figure 2.1 [1].

Figure 2.1: Admin Login Design

2.2 Notepad++

Notepad++ supports over 50 languages through the built-in support provided by the Scintilla component. More languages can be supported, using the User Defined Languages framework. Here is a list of the files that users have contributed to the community so far.

When an archive file is being supplied, it usually contains both a user language definition file and an auto completion file. Standalone auto completion files will be featured on this page when some are submitted.

2.3 PHP

PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. More information about PHP can be obtained from PHP official site [2].

<! DOCTYPE html>

<html>

<head>

<title>403 Forbidden</title>

</head>

<body>

<p>Directory access is forbidden.</p>

</body>

</html>

2.3 MySQL

MySQL –pronounced either "My S-Q-L" or "My Sequel," is an open source relation database management system. It is based on the structure query language (SQL), which is used for adding, removing, and modifying information in the database. Standard SQL command, such as ADD, DROP, INSERT, and UPDATE can be used with MySQL.

MySQL can be used for a verified of applications, but is most commonly found on web servers. A website that uses MySQL may include Web pages that access information from a database. These pages are often referred to as "dynamic" meaning the content of each page is gendered from a database as the page loads. Websites that use dynamic Web pages are often referred to as database-driven website.

MySQL will use by the researcher because it is one of the database that is compatible with the development of the system [3].

2.3 HTML

HTML- This is the language that Web pages are written in. If we want to create really great Web pages then you will need to learn this. As far as computer language go this is the easiest to learn. We can create a Web page without it using a Web page editing program but the program will still use HTML to create the page.

2.4 CSS

CSS- Cascading style sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be in a page's HTML.CSS helps Web developers create a uniform look across several pages of a Web site.

2.5 JavaScript

JavaScript –like java, this a programming language designed by sun Microsystems in conjunction with Netscape that can be integrated into standard HTML pages, While JavaScript is based on the java syntax, it is scripting language, and therefore cannot be used to create stand-alone programs. Instead, it is used mainly to create dynamic, interactive Web pages. For example, Web developers can use JavaScript to validate form input, create image rollovers, and to open those annoying pop-up windows. Like so many other things, we have to take the good with bad [4].

CHAPTER 3

USE CASE Model

This section describes the main aspects of the system design and architecture. The first section describes business design represented in terms of use case diagrams. The second section provides class diagrams that were designed for Java Web Services. The third section provides ER diagram for database of the system. And finally the fourth section provides brief information about modules of the system.

3.1 Use case Model

3.1.1 Actors

There are six types of actors in the system namely administrator, teacher, assistant, chairman, secretary/student affair, chairman, and student. The actors have access via the online interface of the system which requires authorization.

3.1.2 Use Cases

The Use Case diagram for the system is shown in Figure 3.1. As can be seen from the diagram each actor has access to different Use Case, but some of them overlap.

The administrator is able to manage such resources as faculty, department, room, hour, authorities, calendar, semester, and person. It means that Administrator can add modify and delete information related to those resources.

The assistant is able to view information about course, attendance, exam, grade, and schedule of course he is assists. On the other hand, in case he is given permission, he is able to create new exam and update attendance.

The teacher able to view information about course, attendance, exam, grade, and schedule of course he is giving. Also he is able to update attendance, grade, and syllabus of the course he is giving and, create new exams.

The student is able to view information about course, attendance, exam, grade, and schedule of course he is taking. Also he is able to view curriculum of own department and take courses if permission is given.

Chairman is able to view information about course, attendance, exam results, grades, student details, teacher evaluation results, and curriculum of his department. Also he is able to update course, schedule and curriculum of his department. In addition he can open new course and approve students add/drop and add courses to list of courses student selected [5].

Secretary/ Student affair is able to manage such resources as calendar, semester and person information in case permission is given by the administrator. On the other hand, he is responsible for opening and closings add/drop. Updating of evaluation results and course information can also be performed by this actor. Shows the use case diagram shown in Figure 3.1
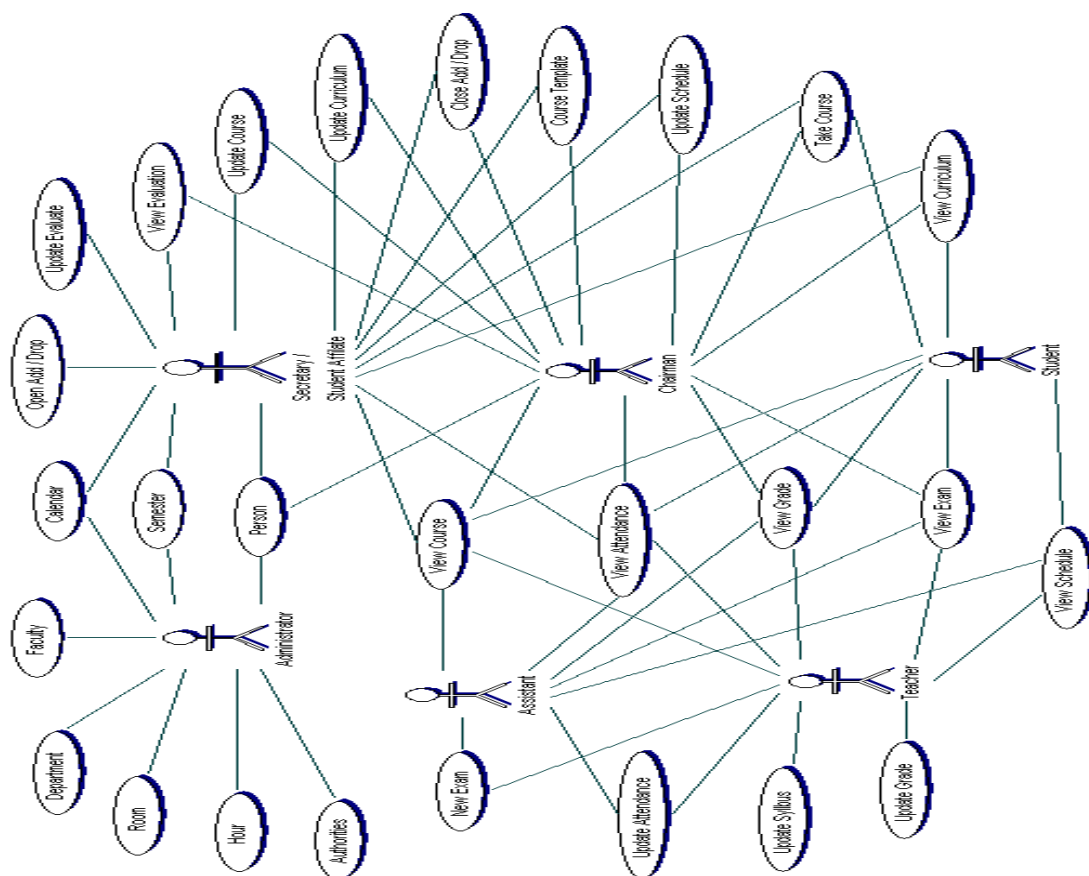

Figure 3.1: Use Case diagram for SMS

3.1.3 Models

The School Management System consists of sixteen modules. These are Add/drop, Attendance, Calendar, Schedule, Exam, Grade, Semester, Course Template, Course Curriculum, Course, Teacher, Student, Parent, Faculty, Department, Room, Transport, Book, Library, Tuition fee, and Hour. Each module can be accessed by a restricted group of users. This section provides a general overview of each model and more details are presented in Implementation section.

The Faculty module provides storage of faculties' information of the school. It includes such operations as creation of new faculty record, modification of the existing faculty record, viewing information about existing faculty, and deletion of existing faculty records. The management of faculty records is permitted just for administrators of the school.

The Department module provides storage of departments' information of the faculty that was created. This module provides such operations as addition of new department record, modification of existing department record, viewing information about department, and deletion of existing department records. This module can be accessed only by the administrators of the school.

The Room module provides storage of the rooms' information of the school. Such operations as creation of new room record, modification of existing room record, viewing information about existing room, and deletion of existing room records are provided. This module can be accessed only by administrator.

The Hour module provides storage of the hours' information of the lectures in the school. This module provides such operations as addition of new hour record, modification of existing hour record, viewing the list of existing lecture hours, and deletion of existing hour record. The Hour module can be accessed only by administrators of the school.

The Person/Student module provides storage of the persons' information working or studying in the school. Such information as person's work history, discipline

punishments' history, legal punishments' history, education history, and current work or education information is stored. The module allows performing such operations as addition of new records, modification of existing records, viewing details of existing records, and deletion of existing records of those listed above. This module can be accessed by all users. However, addition of new personnel records, modification and deletion of existing personnel records is permitted to administrator and secretaries of the school. Chairman and secretaries can make manage only records for students of own department. Student affair can manage all students' records.

The Semester module is used to store records related with semester. The records contain name start date and end date of semester. This module can be accessed by secretaries of school, student affair and administrators of the school.

The Calendar module is used two manage records related with calendar of activities that take place during a certain semester. This module can be accessed by all users of the system. However, modification of information can be done just by secretaries of the school, student affair and administrators.

The Course Template module is used to manage information related with courses that can be opened in the school. This module can be accessed by chairmen, secretaries and student affair.

The Course Curriculum module is responsible for representing and storing information related with curriculum for course. This module is accessible by all users accept administrator. However, modifications of information represented by this module can be done only by chairmen, secretaries, and student affair. In addition, chairmen and secretaries can modify only curriculums of own department courses.

The Course module represents and stores information related with opened courses for a semester. This module can be accessed by all users accept administrators. The permissions for modification of records are the same as in Course Curriculum module.

The Schedule module is responsible for representing and storing of data related with schedules for courses. This module can be accessed by all users accept administrators. The permissions for this module are the same as for Course module.

The Attendance module is responsible for storing and representing of information related with students attendance for each course. This module can be accessed by all users accept

administrators. Student can view own attendance, whether other users can view and modify the information stored by module.

The Add-Drop module is used to open add-drop period and approve students taken courses. This module can be accessed by all users accept administrators and secretaries. However, only teachers, chairmen, and student affair can approve courses taken by students.

The Exam module is responsible for storing and representing of information related with exams. This module can be accessed by teachers and students. Students only allowed viewing information of courses taken by them. The teachers are responsible for modifying of information managed by this module.

The Grade module is responsible for representing and storing of records related with students grades taken from exams. The module can be accessed by teachers and students. The permissions for this module are the same as for Exam module [6].

CHAPTER 4

Project Details and Model

The aim of this chapter is to make clear user-system interaction and system implementation aspects. Therefore, more details about system's modules are provided.

The user can enter the system entering his personal number and password (in Java Web Service implementation specification of school also required) as shown in Figure 4.1
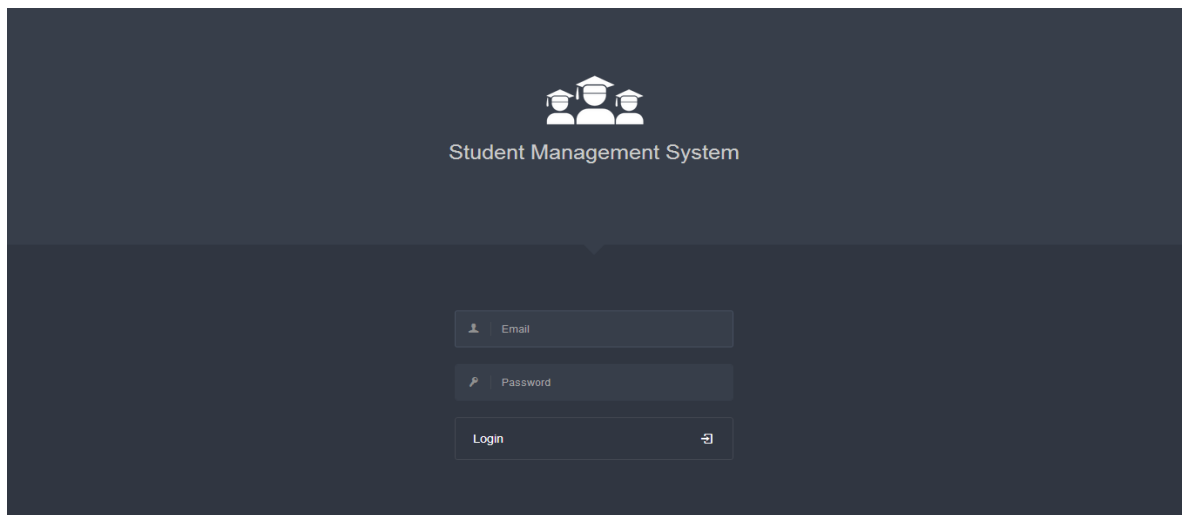

Figure 4.1: Login interface

In case some information is wrong error message is displayed and access is rejected. After the successful entrance the home page, that provides the switch between modules by means of set of appropriate links, is displayed as shown in Figure 4.2.

© Daffodil International University
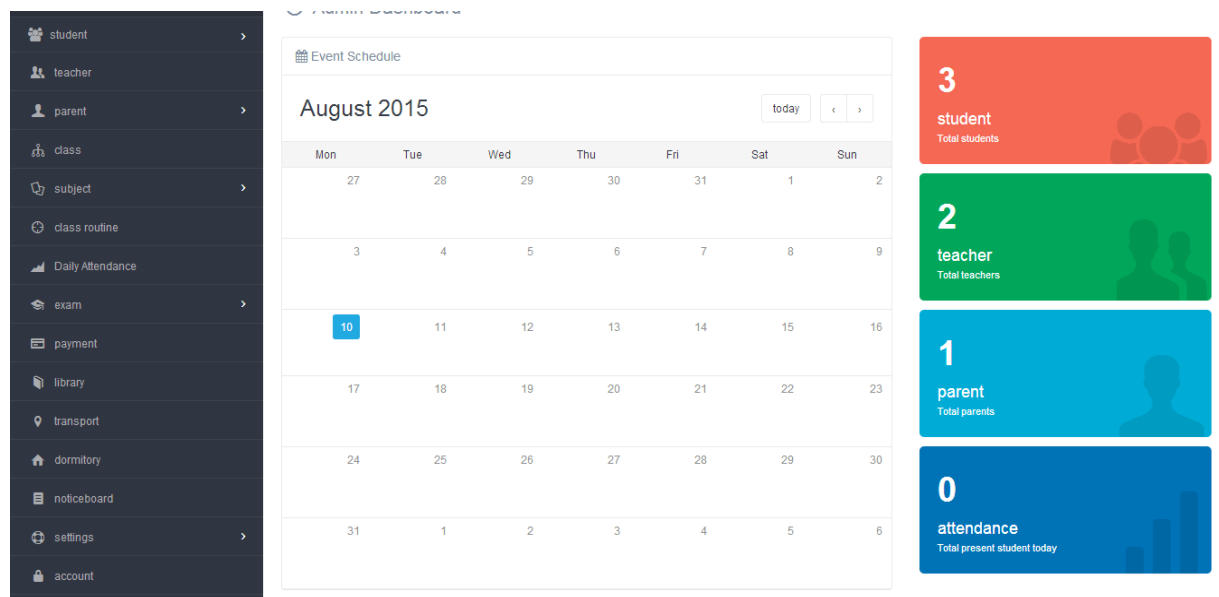
Figure 4.2: The Home page interface

The system automatically detects the home page for each user. This decision is performed on base of entered personal number. Therefore, before any user can perform an entrance his record should be stored in the database of the system.

Each interface explained in this chapter has two combo boxes, one for different languages found in the system, and the other for the view of the interface. Different interfaces and languages changes are stored in the database to be remembered next time user enters the system. The change in view of interfaces is achieved by using the power of the XSL.

4.1 Teacher

The Teacher model can be accessed only by administrator. When administrator switches to faculty model the list of faculties specifying number of faculty and its name is displayed as shown in Figure 4.3 Each row in the list contains detail link, by pressing which user can reach the details of the faculty. With purpose of returning back to home page and entering of new record links are provided [7].

The interface for faculty's details is shown in Figure 4.1. As can be seen from the figure there are four links allowing administrator to update or delete current record, or return back to the list of faculties, or return back to the home page. In case, the link for deletion of the record is pressed, the record is deleted if no other record is using information provided by record. Shows the teacher information shown in Figure 4.1

⊕ Manage Teacher

⊕ Add New Teacher

10 ⌄ per page		Excel PDF Print	Search:

photo ∧	name	email	options
	Md. Mahmudul Hasan	mhasan@daffodilvarsity.edu.bd	Action ▾
	Hassanuzzaman Khan	s	Action ▾

Showing 1 to 2 of 2 entries

‹ 1 ›

Figure 4.1 teacher information

4.2 Student

This project basically focuses on students. Maximum information and user interface for students. They can use easily in the any ware anyplace in the world. They can check their all information. They can know new updates. They have user ID and password.

4.2.1 Admit student

The student can add information in this section. This is student form. The add student shown figure in 4.2.1.

Figure 4.2.1 admit student

4.2.2 Student information

The student's information has in this section. The user admin can add student information. Only the student checks their information and they can get edit option. Shows the student information figure in 4.2.2.

Figure 4.2.2 student information

4.2.3 Student mark sheet

© Daffodil International University

Students mark has also included in this project the student mark sheet will be update in this section. They can check their mark and also print their mark sheet. The student mark sheet is in Figure 4.2.3

Figure 4.2.3 student mark sheet

4.3 Parent

This project has parent information. Such as address, mobile number etc. The parents can check their result, payment, attendance exam, class routine etc. By this project help them. They also contact with teacher. The parent is shown in figure 4.3

Figure 4.3 parent information

4.4 Subject

The Subject module can be accessed only by administrators, school secretaries, and student affair. The interface that is displayed when permitted user switches this module is shown in Figure 4.3. As can be seen from figure the list of subject records is displayed in this interface. Each row of the list contains link to update subject record, link to delete subject record, name of subject r, start date of the subject, and end date of the subject. In addition, two links one for addition of new record for subject r and the other for returning back to home page are provided. The subject is shown in figure 4.3

Figure 4.3 Subject

4.5 Class

Class means category of the students. If the secondary level the classes will be, class nine, class ten. If the university levels the department will be CSE, EEE etc. They can add class and remove class. It will be open for the students a limit time. After the limit time this section will be closed. The administration can add or remove by their rules. The class is shown in figure 4.5.

Figure 4.5 Class

4.6 Class Routine

The administration will add this section. They will update class routine. Only students can check their class routine. They can know class routine during time schedule. The class routine is shown in figure 4.6

Figure 4.6 Class routine

4.7 Daily Attendance

The course attendance can be accessed by all users of the system accept administrator. However, only teacher, secretary, chairman, and student affair can perform changes. The teacher can add and delete attendance for own course. Secretary can add and delete attendance for own department or faculty, depending on the responsibilities. Shows in Figure 4.7

Figure 4.7: Add new course to schedule.

4.8 Exam

The user admin will be updated exam routine for the students. There will be exam schedule with subject, date and time. The students can check their exam schedule. The exam is shown in figure 4.8

Figure 4.8: Exam

4.8.1 Exam grade

After the final exam, the result will be publishing this section with grade point. There is final result in the grade section. The students can check and print their result. Figure 4.8.1

Figure 4.8.1: Exam Grade

4.8.2 Exam marks

In this section which subject how result their individual mark. They can check in the exam marks section. But they cannot do anything. Only user admin edit this section. The exam marks is shown in figure 4.8.2.

Figure 4.8.2: Exam marks

4.9 Notice board

This project has also notice board. The user admin always will be noticed their notice board. There is much information in the notice board. Such as, admission information, exam, parents call, transport, cancelling program, etc. The students can check notice board with system. Notice board is shown in figure 4.9

Figure 4.9: Notice Board

4.10 Library

This is library part. The students can order any book for reading. When they order books, there will be students ID, Name, and class. And also there have an advising person who advised the students. The library table is shown in figure 4.10

Figure 4.10: Library

4.11 Invoice

Invoice means is fine. If any student cannot attend in the class or exam, they will be giving fine. The invoice table is shown in figure 4.11

Figure 4.11: Invoice

4.12 Payment

This is payment section. The administration will add tuition fee. The students can check their all tuition fees. They can also print payment list. The payment is shown in figure 4.12.

Figure 4.12: Payment

4.13 Transport

There are will be transports facilities. The students and teacher can use transport facilities. The user admin will be post schedule of transports. They can check their website. The transport is shown in figure 4.13.

Figure 4.13: Transport

4.14 Dormitory

Dormitory means living place. There are dormitories for the students. How many buildings, room, sit, etc., they can check in the dormitory section. Also user admin used this section. The dormitory is shown in figure 4.14.

Figure 4.14 Dormitory

4.15 Calendar

The calendar module can be accessed by all users of the system. The interface displayed when user switches to this module is shown in Figure 4.15. As can be seen from the figure the information for each semesters activity calendar can be viewed by selecting semester from provided combo box and pressing list button. The semester name, its start date and

21

finish date are provided in the interface. If any event exists for the selected semester, list of events is also displayed in the interface. Each row of the list consists of link, event type, event, start date of event, and end date of event. Delete event link used to delete event is displayed only for administrator, school secretary, and student affair users. The event that have no end date are said to hold just for date specified in the start date column. As can be seen from the figure two links are provided. However, add event link, which is used to add new event, can be viewed and entered only by administrator, school secretary, and school affair users. The home page link can be used to return back to home page [8]. The calendar is shown in figure 4.15
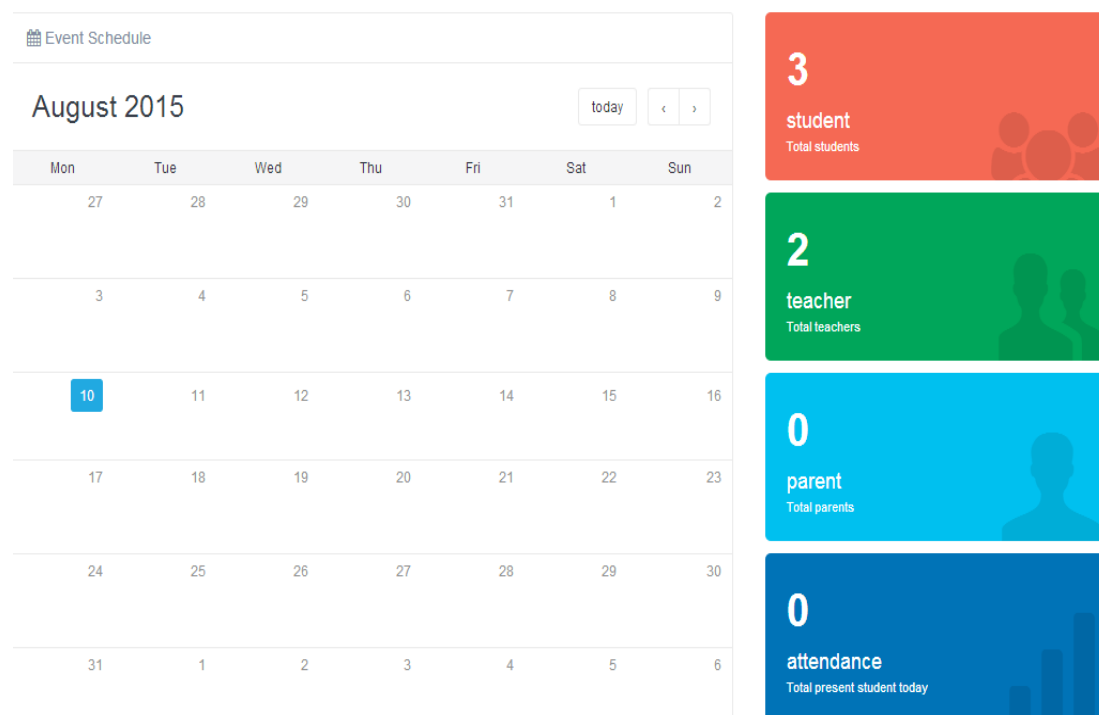

Figure 4.15: Switches to calendar module.

CHAPTER 5: Conclusion

5.1 Summary:

The Education Management System which capable of storing school resources such as students and staff of the school and their relationship was implemented. It is easily to track the relations of students and courses they have taken, courses and teacher they are given by using the friendly interface of the system. The system supports different platforms and different languages. In addition, the interfaces of the system can be easily configured by introducing new XAM transformation files for interfaces of the system, which are implemented in terms of XAMPP standards. The system can work in local or distributed manner. It means that the system can be used on local machines for management of one school or can be located on one server and clients from different schools can connect to the server and obtain requested information.

The system can be easily extended by introducing new modules. An example of such, future work is evaluation questions module that can be used to evaluate teachers, and output the statistics of the evaluation.

5.2 Limitations

The part of the system can be implemented using the current technology although some modifications had to be done at various places. At various places some alterations with the prototypes and functionalities would be done in order to work out the cost constraints and to cope with the scheduling constraints.

- In this system we have don't have facility for attendance management of student.
- In this application search is limited to String or by number. Cannot do search by photo and figure prints.
- In this application can access only our limitations.

5.2 Future Plan

The SMS has been developed with a main aim of making work easier and timesaving for the human capital. The whole system is bi-lingual at present and can be extended to other languages too with minor changes (not in coded).The coding pattern is kept as dynamic as possible with minimum amount of static values to make it easier for future

extensions. As the current system is expected to add more functionality and dependency according to requirement changes and technology, proper coding standards and working platform have been kept in mind to produce a quality product.

One enhancement is that we can make this application in more than 1 language as well. Adding attendance management is also one option for enhancement.

References

[1] Markup Language, www.wikipedia.com/wiki/maarkuplanguage, Accessed Date: 2015.02.20

[2] CSS, http:/www.w3.org/wiki/Website, Accessed Date: 2015.03.01

[3] Elizabeth Naramore, Jason Gerner, Yann Le Scouarnce, Jeremy Stols, and Michael K. Glass, "Beginning PHP5, Apache, MySQL Web Development" 2005.

[4] Tools, http://en/wikipedia.org/wiki/Programming_tool, Accessed Date: 2015.04.10

[5] Database, http:en.wikipediaorg/wiki/Database, Accessed Date: 2015.04.15

[6] Silberschatz.Korth.Sudarshan, "Database System Concepts" 2009

[7] Robert Vieira, "Beginning SQL Server 2005 Programming" 2007

[8] DFD, www.InformIT.com/deitel, Accessed Date: 2015.05.10