

# School Management System project

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**Abstract**— School Management System is a large database system which can be used for managing your school's day to day business. School Management System allows users to store almost all of their school's information electronically, including information on students, properties, teaching meteorites etc. Most importantly, this information can be easily shared with authorized users, records can be easily searched, and reports can be easily generated.

An efficient Student Management Solution that, enables in maintaining and give the promotions and remarks for the student in the School management system.

**Keywords**— Project Scope of School Managemnt system, Features of School Management System, Functional And Non-Functional Requirement, Importance of School Organization.

## I. INTRODUCTION

Schools are social organizations in which the members are tied together in interpersonal relations in a complicated way. Only if those relationships are understood, the school organization can function and be managed effectively. Metaphors can serve as a powerful strategy to describe those complicated realities related to school management, illuminating aspects of school management phenomena not previously noticed, and adding depth of meaning to understanding it. School Management System is a large database system which can be used for managing your school's day to day business. School Management System allows users to store almost all of their school's information electronically, including information on students, employees, properties, teaching materials etc. Most importantly, this information can be easily shared with authorized users, records can be easily searched, and reports can be easily generated. School Management System could make your school staff's life easier than ever. Using School Management System, finding student information is just a few seconds away which might have cost hours, or even days, before. At

the end of the semester, printing students' statement becomes just a few minutes' job (the speed limitation determined by your printer), but it could be a nightmare without using School Management System.

## Features of School Management System:

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Admission and financial AID  
Registration and Scheduling  
Grades and Transcript  
Homework  
Fee Tracking and online payment.

## FUNCTIONAL REQUIRMENTS:

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### LOGIN:

Since the system needs to handle a lot of confidential student information, a login function is essential for ensuring security. Users who do not have the correct access rights will be prevented from connecting to the database. There are three groups of users of the system with different access rights:

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Principal - acts as the system administrator and can perform all functions,

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Staff - can view, input and modify records of all students and teachers.

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Teachers - can view, input and modify information of the students they teach. This function also allows users to change their own password.

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#### Student Information Management:

This function allows the personal information of students, such as their name, sex address, etc., to be managed. Using this function a user can:

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Insert a new student record.

Make changes to the student information.

Remove a student record if the student graduates or leaves the school.

Search for a particular student or group of students.

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#### Student Performance Management:

This function allows the user to maintain the details of the academic performance of the students, such as the examination results, their conduct, etc.

Using this function a user can:

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Insert a subject and its paper.

Modify a subject's details (e.g., name, weighting, etc.)

Insert examination marks for a student.

Make changes to the examination marks of a student.

Insert a conduct evaluation for a student.

Make changes to the conduct evaluation of a student.

Search for a particular student or group of students.

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#### Student Extracurricular Activity Management:

As each student is encouraged to join a large variety of extracurricular activities, the system will handle this information for the students.

Using this function a user can:

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Insert a new activity.

Modify an activity's details.

Indicate that a student participates in an activity.

Make changes to the activity records of a student.

Insert a new award.

Modify an award's detail.

Make changes to the awards of a student.

Search for a particular student or group of students.

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#### Staff Information Management:

The school needs to change the records of teachers, such as the particulars, their qualifications, the classes they teach, etc.

Using this function a user can:

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Insert a new record for a teacher.

Make changes to the record of a teacher.

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Search for a particular teacher or a group of teachers in a class.

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#### Classroom Management:

In addition to the information about students; the school also needs to store the information for different classes for effective school

management. This information includes the class mistress, the teachers for each subject of the class, classroom allocation for each lesson, etc. Using this function a user can:

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Insert a new class.

Make changes to the class details.

Assign students to a new class.

Assign subjects taken by a student.

Assign teachers to teach a subject for a class.

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Generate timetables.

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Search for a particular data or group of data in a class or a group of classes.

#### Graduate Information Management:

When a student graduates or leaves the school, for the sake of future references, the records of the student should be kept, presumably, forever. To manage the data of the graduates, this function allows a user to:

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Move a student's record to the graduate database when she graduates or leaves the school.

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Search for information of a graduate or group of graduates.

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Search on the performance of a graduate or group of graduates.

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Search on the extracurricular activities and the awards of a graduate.

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#### Report Generation:

The school needs to produce many different kinds of reports and documents throughout the whole academic year. This function provides the necessary paper output, such as records printing, report printing, etc. Some standardized documents, such as the class lists, timetables, etc. for teachers, students and parents can also be printed

## NON FUNCTIONAL REQUIRMENTS:

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#### Security:

System should be used only by allowed users and users can use the system as per given rights.

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#### Reliability:

System should be designed in such a way that system should not be affected by system failure or any errors occurred during execution.

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#### Portability:

It should be Platform Independent.

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Performance:  
System should be robust and fast for any number of users.  
2.4.

Tools

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Front End: Visual Studio / VB 6.0 Back End: MS Access / MYSQL

## USE CASE DIAGRAM

SCHOOL MANAGEMENT SYSTEM - USE CASE DIAGRAM:

UML USES CASE DIAGRAM FOR SCHOOL MANAGEMENT SYSTEM IS SHOWN BELOW. THE VARIOUS PARTICIPANTS OF THE SAME ARE DETAILED BELOW:-

### ACTORS

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ADMIN, TEACHER, STUDENTS THE CORRESPONDING USE CASES FOR THESE ACTORS ARE:

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ADMIN:

LOGIN, LOGOUT, ADD TEACHER, ADD STUDENTS, ADD CLASS, ADD DIVISIONS, ADD SUBJECTS, MODIFY/DELETE STUDENTS, MODIFY/DELETE CLASS, MODIFY/DELETE DIVISION, MODIFY/DELETE SUBJECTS.

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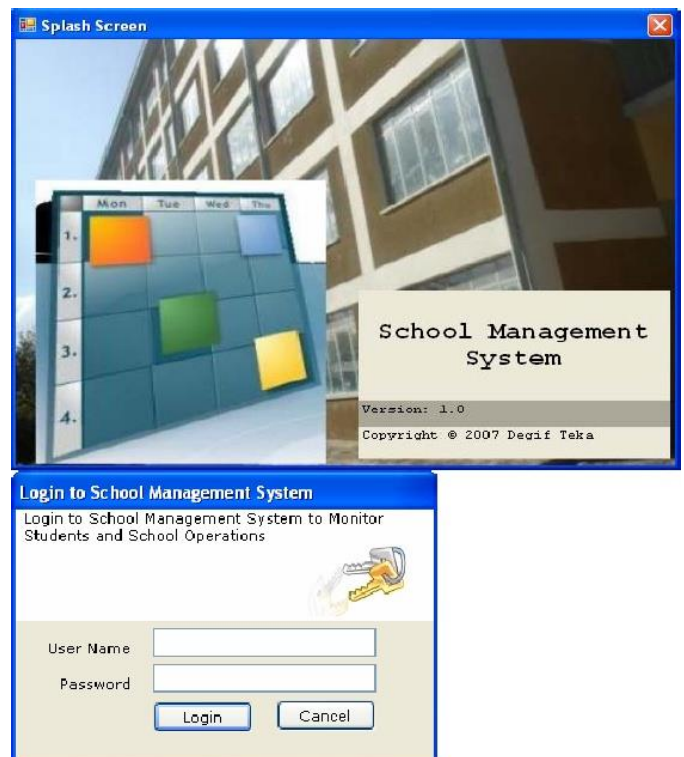
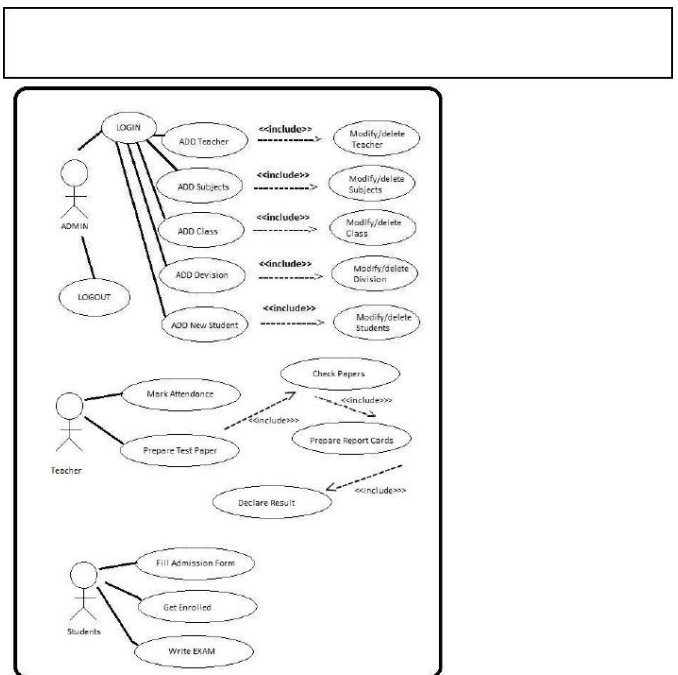
TEACHER

: MARK ATTENDANCE, PREPARE TEST PAPER, CHECK PAPERS, PREPARE REPORT CARDS, DECLARE RESULT.

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STUDENT

: FILL ADMISSION FORM, GET ENROLLED, WRIT EXAMS.



THE USE CASE UML DIAGRAM FOR SCHOOL MANAGEMENT SYSTEM

## II. CONCLUSIONS

In this project, we developed an automated school management system that facilitates the various activities taking place at schools. The system developed in the project consists of windows and web applications. These are two different applications on the same database. The windows application takes most of the activities such as offline student registering, transcript and report card generation and producing the timetable. The web application facilitates attendance recording by the homeroom teachers and to view reports, to view status of students by students, teachers and parents. Our solution of the timetabling problem is very simple. Data structures are used to implement the timetable designed. The scheduler selects a subject-teacher from the database, retrieves all the classes assigned to the teacher, calculates the load of the teacher which cannot be greater than the maximum load and selects one of the days randomly based on the number of lessons of the subject, searches a free appropriate time slot and assigns the slot to the lesson. The scheduler repeats the process until the load of the teacher becomes zero and all the teachers in the database are visited. Finally the result generated is stored in a database. The prototype has been tested with data from Kokebe Tsebah Secondary School. It has been shown that the system effectively registers students along with parental information, easily retrieves information about a student and generates the required reports such as transcript, report card and timetable. In addition to generating a feasible master timetable it produces a timetable for each teacher. Further more it has been shown that the web application of the system helps attendance recording by the homeroom teacher and parents can view the status of their children using the Internet or Intranet of the school

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