

Private School Management System

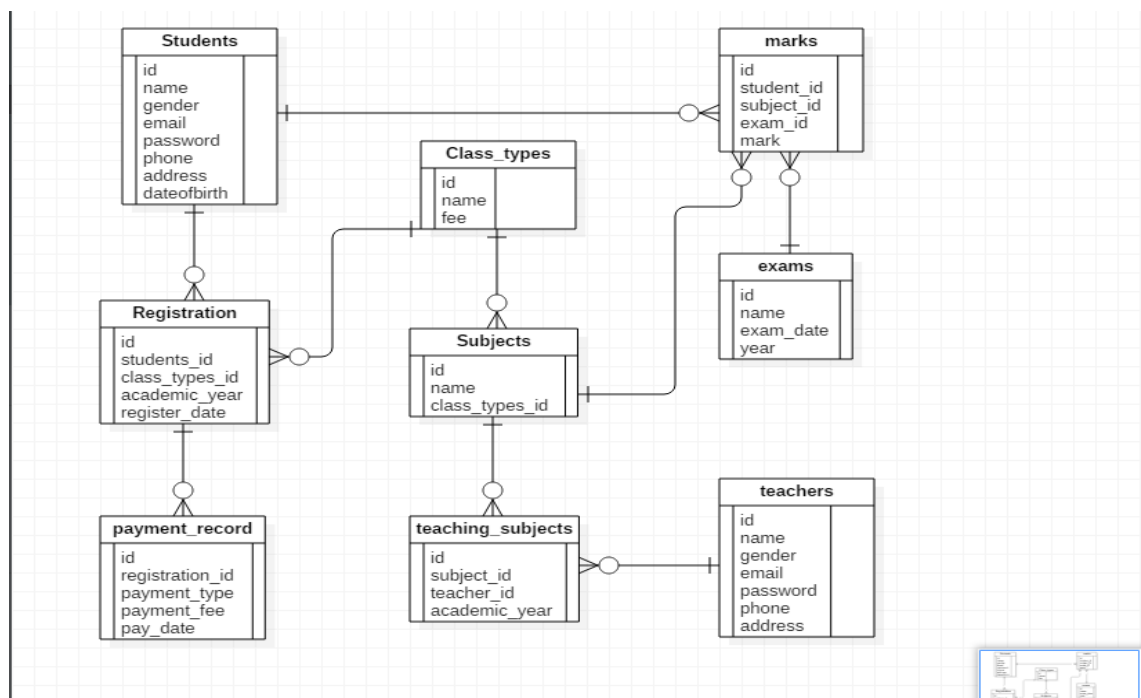
Abstract

The main challenge for any school management system (private or public), is to maintain an exhaustive system that's easy to use. The smooth functioning of an educational enterprise is dependent on the efficiency of the maintenance and recording process.

The System contains:

- Quick and easy way to search access and edit all your student records.
- Configure and manage multiple classes according to subjects.
- Allow teachers to perform their tasks efficiently depending on privileges assigned by their roles.
- Configure and manage multiple subjects.
- Provide marks about a student's performance in class and in exams.
- Provide payment system efficiently depending on each registration.

ER Diagram



Data Dictionary

1. students :This table contains details of different students.

Sr No.	Name	Data Type	Size	Constraint	Description
1	id	Integer		Primary Key	Id for students
2	name	String	30	Not Null	Name for students
3	dateofbirth	Date		Not Null	Date of Birth for students
4	gender	String	10	Not Null	Gender for students
5	email	String	50	Not Null/Unique	Email for students
6	password	String	25	Not Null	Password for students
7	phone	String	11	Not Null	Phone no for students
8	address	String	100	Not Null	Address for Students

2. teachers :This table contains details of different teachers.

Sr No.	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for teachers
2.	name	String	30	Not Null	Name for teachers
3.	gender	String	10	Not Null	Gender for teachers
4.	email	String	50	Not Null/Unique	Email for teachers
5.	password	String	25	Not Null	Password for teachers
6.	phone	String	11	Not Null	Phone for teachers
7.	address	String	100	Not Null	Address for teachers

3. class_types : This table contains details of different classes.

Sr No.	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for class
2.	name	String	30	Not Null	Name for class
3.	fee	BigInteger	6	Not Null	Fee for class

4. subjects :This table contains details of different subjects.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for subjects
2.	name	String	30	Not Null	Name for subjects
3.	class_types_id	Integer		Foreign key class_types	Id for class (from class_types)

5. registrations :This table contains details of different registrations.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for registration
2.	student_id	Integer		Foreign Key(students)	Id for student(students)
3.	class_types_id	Integer		Foreign Key(class_types)	Id for class(class_types)
4.	academic_year	String	4	Not Null	Year of registration
5.	register_date	Date		Not Null	Date for registration

6. teaching_subjects :This table contains details of different teaching_subjects.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for teaching_subjects
2.	subject_id	Integer		Foreign Key Subjects	Id for subjects(subjects)
3.	teacher_id	Integer		Foreign Key Teacher	Id for teachers(teachers)
4.	academic_year	String	4	Not Null	Year for teaching_subjects

7. exams :This table contains details of different exams.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for Exam
2.	name	String	30	Not Null	Name for Exam
3.	exam_date	Date		Not Null	Date for Exam
4.	year	String	4	Not Null	Year for Exam

8. marks :This table contains details of different marks.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for marks
2.	student_id	Integer		Foreign Key students	Id for students (students)
3.	subject_id	Integer		Foreign Key Subjects	Id for subjects (subjects)
4.	exam_id	Integer		Foreign Key exams	Id for exams(exams)
5.	mark	Integer	3	Not Null	Marks

9. payment_records :This table contains details of different payment_records.

Sr No	Name	Data Type	Size	Constraint	Description
1.	id	Integer		Primary Key	Id for payment
2.	registration_id	Integer		Foreign Key registrations	Id for registration (registrations)
3.	payment_type	String	15	Not Null	Type for payments
4.	payment_fee	BigInteger	6	Not Null	Fee for payments
5.	pay_date	Date		Not Null	Date for payment

Relationship between Tables

- Relationship between students and marks: Student has many marks and marks have a student. So One-to-Many Relationship..
- Relationship between students and class_types: Students can have many classes so they are in Many to Many relationship .So create a pivot table called registrations table.
- Relationship between students and registrations: A student has many registrations (such as Grade 1, Grade2,...).
- Relationship between class_types and registrations: A class may have many registrations.
- Relationship between class_types and subjects: A class has many subjects (such as Myanmar, English, Mathematics,...).So One-to-Many Relationship.
- Relationship between subjects and marks: A subject may have several marks. So One-to-Many Relationship.
- Relationship between exams and marks: A exam has many marks. So One-to-Many Relationship.
- Relationship between registrations and payment_record:A registration has contain several payment_record(such as payment_type(firstPayment,secondPayment,...)).So One-to-Many Relationship.
- Relationship between teachers and subjects: Several teachers can have many subjects so Many-to-Many Relationship. So use a pivot table called teaching_subjects table.
- Relationship between teachers and teaching_subjects: A teacher has many teaching_subjects table. So One-to-Many Relationship.
- Relationship between subjects and teaching_subjects: A subject may has several teaching_subjects. So One-to-Many Relationship.