Student Management System Using Django

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Project Report

# 1. Introduction

A Student Management System (SMS) is a web application designed to help educational institutions manage student data and administrative tasks. This Django-based system offers functionalities such as student enrollment, attendance tracking, grade management, and data organization to streamline academic processes.

# 2. Objectives

- To develop a web-based application for managing student records.  
- To track attendance and grades efficiently.  
- To simplify administrative operations in educational institutions.  
- To provide role-based access to users (admin, teachers, students).

# 3. Features

- Student registration and data management  
- Attendance tracking system  
- Grade/Result management  
- Admin dashboard for managing all records  
- Clean and simple user interface

# 4. Technology Stack

- Backend: Django (Python)  
- Frontend: HTML, CSS, Bootstrap (optional)  
- Database: SQLite (default with Django)  
- Tools: VS Code, GitHub, Postman (optional)

# 5. Code Explanation and Sample Code

## 5.1 Models

# models.py  
  
from django.db import models  
  
class Student(models.Model):  
 name = models.CharField(max\_length=100)  
 dob = models.DateField()  
 grade = models.CharField(max\_length=10)  
 address = models.TextField()  
  
class Attendance(models.Model):  
 student = models.ForeignKey(Student, on\_delete=models.CASCADE)  
 date = models.DateField()  
 status = models.CharField(max\_length=10) # Present/Absent  
  
class Grade(models.Model):  
 student = models.ForeignKey(Student, on\_delete=models.CASCADE)  
 subject = models.CharField(max\_length=100)  
 score = models.IntegerField()

## 5.2 Views and URLs

# views.py  
  
from django.shortcuts import render  
from .models import Student  
  
def home(request):  
 return render(request, 'main/home.html')  
  
def students(request):  
 students = Student.objects.all()  
 return render(request, 'main/students.html', {'students': students})  
  
# urls.py (inside app)  
  
from django.urls import path  
from . import views  
  
urlpatterns = [  
 path('', views.home, name='home'),  
 path('students/', views.students, name='students'),  
]

## 5.3 Templates

<!-- home.html -->  
<h1>Welcome to the Student Management System</h1>  
<a href="{% url 'students' %}">View Students</a>  
  
<!-- students.html -->  
<h2>Student List</h2>  
<ul>  
 {% for student in students %}  
 <li>{{ student.name }} - {{ student.grade }}</li>  
 {% endfor %}  
</ul>

# 6. Conclusion

The Student Management System built using Django effectively handles student records, attendance, and grades. It demonstrates how web technologies can simplify school administration. This project provides a foundation that can be extended with more advanced features like authentication, dashboards, and data analytics.