

KISHKINDA UNIVERSITY



Mini Project Report

On

“Analysis of Students Marks”

Department of Computer Science and Engineering

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1. Introduction

- The "Analysis of Students Marks" project is designed to manage and analyze student academic performance efficiently. Educational institutions generate vast amounts of student data, including marks, attendance, and personal details. This project aims to provide a structured approach to store, retrieve, and analyze this data to enhance academic planning and reporting.
 - Key benefits of the project include:
 - Efficient data management and retrieval.
 - Improved communication between students, faculty, and administrators.
 - Data-driven decisions to improve student retention and success rates.
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2. Project Overview:

- The project focuses on creating a system to analyze student marks and generate performance reports. It includes the following components:
 - **Student Database:** Stores student details, marks, and academic records.
 - **Analysis Module:** Analyzes marks to generate performance reports.
 - **Reporting Module:** Provides visual and textual reports for faculty and administrators.

3. Problem Statement:

Educational institutions often struggle with:

- Manual and inefficient mark analysis processes.
- Lack of centralized data storage leading to inconsistencies.
- Difficulty in generating actionable insights from student performance data.

This project addresses these challenges by automating mark analysis and providing a centralized platform for data management.

4. Objective

- Develop a system to store and manage student marks efficiently.
- Analyze marks to identify trends and performance patterns.
- Generate comprehensive reports for faculty and administrators.
- Ensure data security and compliance with educational regulations.

SoftwareRequirements:

- Python3.12(64-bit)
- VisualStudioCode

HardwareRequirements:

- Processor : Inteli5
 - Ram :16 GB
 - HardDisk :500GB
-

5. Methodology

The project follows a structured development approach:

5.1 Requirements Gathering:

- Identified functional and non-functional requirements through stakeholder interviews and literature review.
- Focused on data storage, analysis, and reporting needs.

5.2 System Design

- **Database Design:** Utilized relational database principles with tables for Students, Marks, and Subjects.
 - **Students Table:** Stores student details (StudentNo, Name, etc.).
 - **Marks Table:** Stores marks for each subject (StudentNo, SubjectCode, Mark, Year).
 - **Subjects Table:** Stores subject details (SubjectCode, SubjectName).
- **Normalization:** Applied to reduce redundancy and improve data integrity.

5.3 Implementation

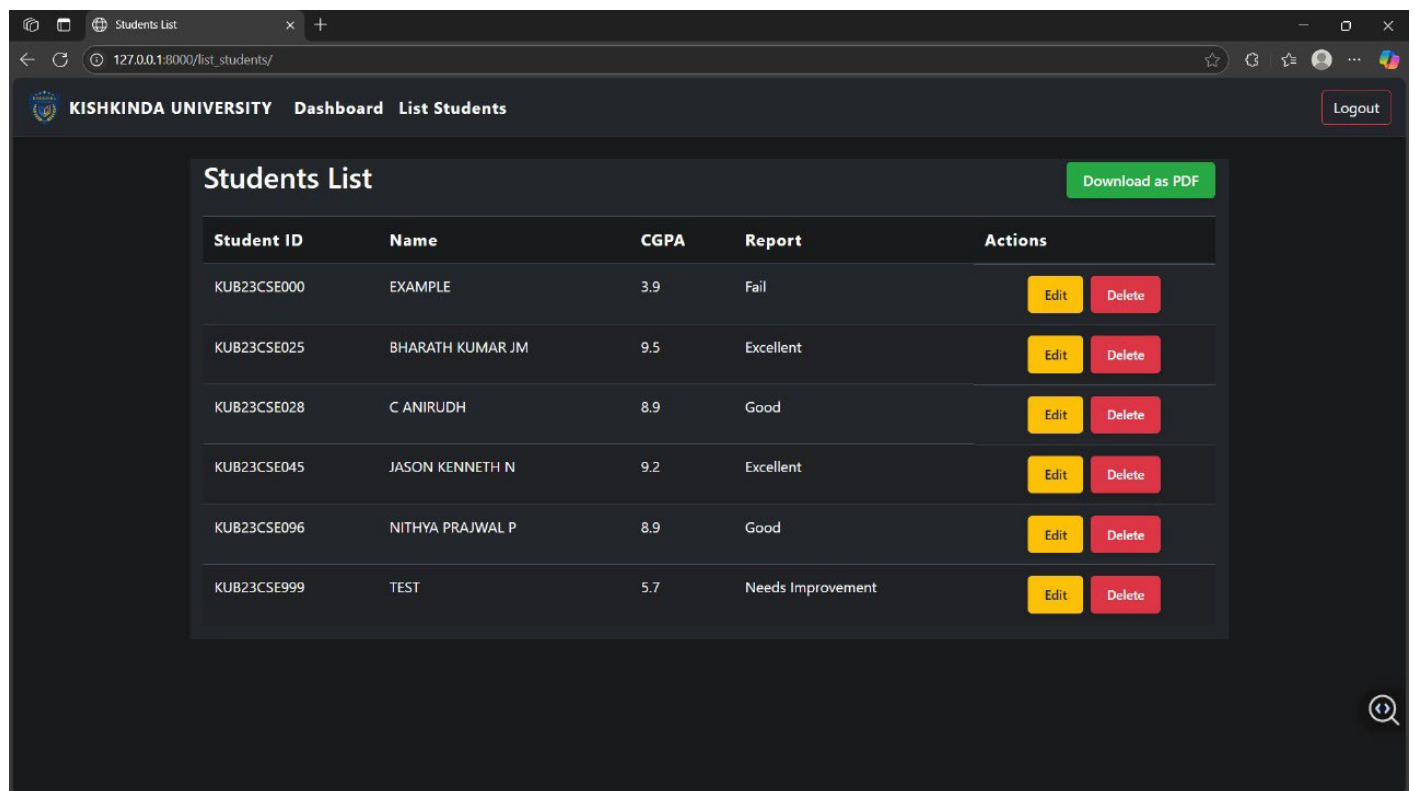
- **Backend:** Python-based application for data processing and analysis.
 - **Frontend:** Simple interface for data entry and report generation.
 - **CRUD Operations:** Implemented for managing student and marks data.
-

5.4 Testing

- Conducted unit testing to validate functionalities.
- Tested data accuracy and report generation.

6. System Design

6.1 Database Schema



The screenshot displays a web application interface for Kishkinda University. The main content area is titled 'Students List' and features a table with the following data:

Student ID	Name	CGPA	Report	Actions
KUB23CSE000	EXAMPLE	3.9	Fail	<button>Edit</button> <button>Delete</button>
KUB23CSE025	BHARATH KUMAR JM	9.5	Excellent	<button>Edit</button> <button>Delete</button>
KUB23CSE028	C ANIRUDH	8.9	Good	<button>Edit</button> <button>Delete</button>
KUB23CSE045	JASON KENNETH N	9.2	Excellent	<button>Edit</button> <button>Delete</button>
KUB23CSE096	NITHYA PRAJWAL P	8.9	Good	<button>Edit</button> <button>Delete</button>
KUB23CSE999	TEST	5.7	Needs Improvement	<button>Edit</button> <button>Delete</button>

A 'Download as PDF' button is located in the top right corner of the table area. The application header includes the Kishkinda University logo, the name 'KISHKINDA UNIVERSITY', and navigation links for 'Dashboard' and 'List Students'. A 'Logout' button is in the top right corner of the header.

6.2 Modules

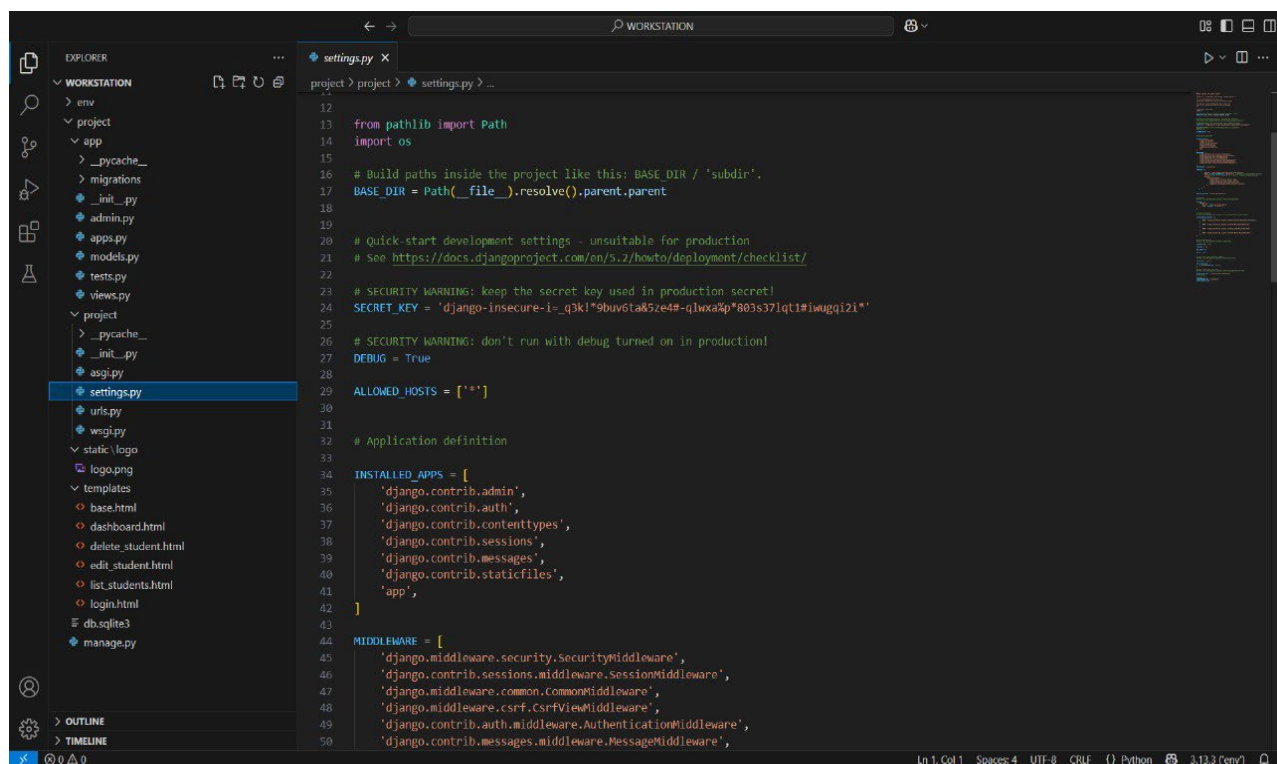
- **Student Module:** Manages student details.
- **Marks Module:** Handles mark entry and updates.
- **Report Module:** Generates performance reports

7. Implementation

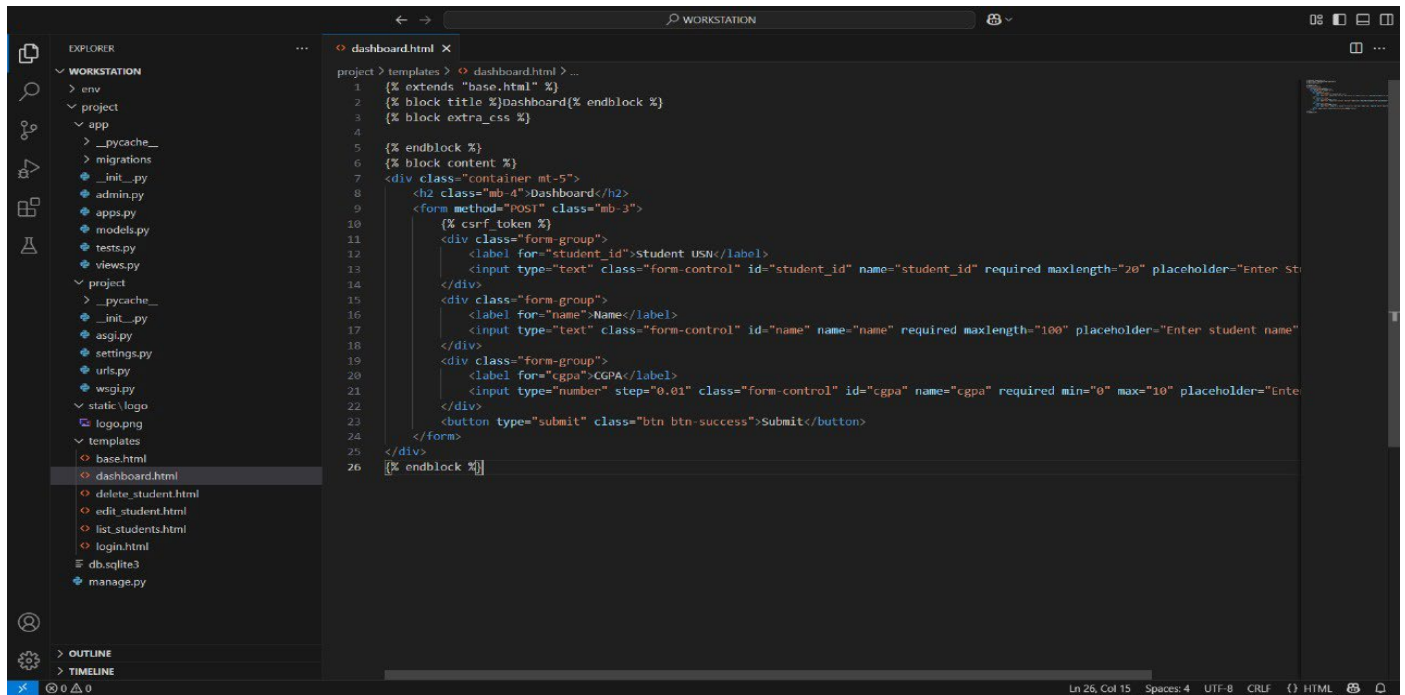
7.1 Key Features

- **Student Data Entry:** Faculty can enter and update student marks.
- **Performance Analysis:** Calculates CGPA and generates performance reports.
- **Report Generation:** Exports reports in PDF format.

7.2 Sample Code Snippet

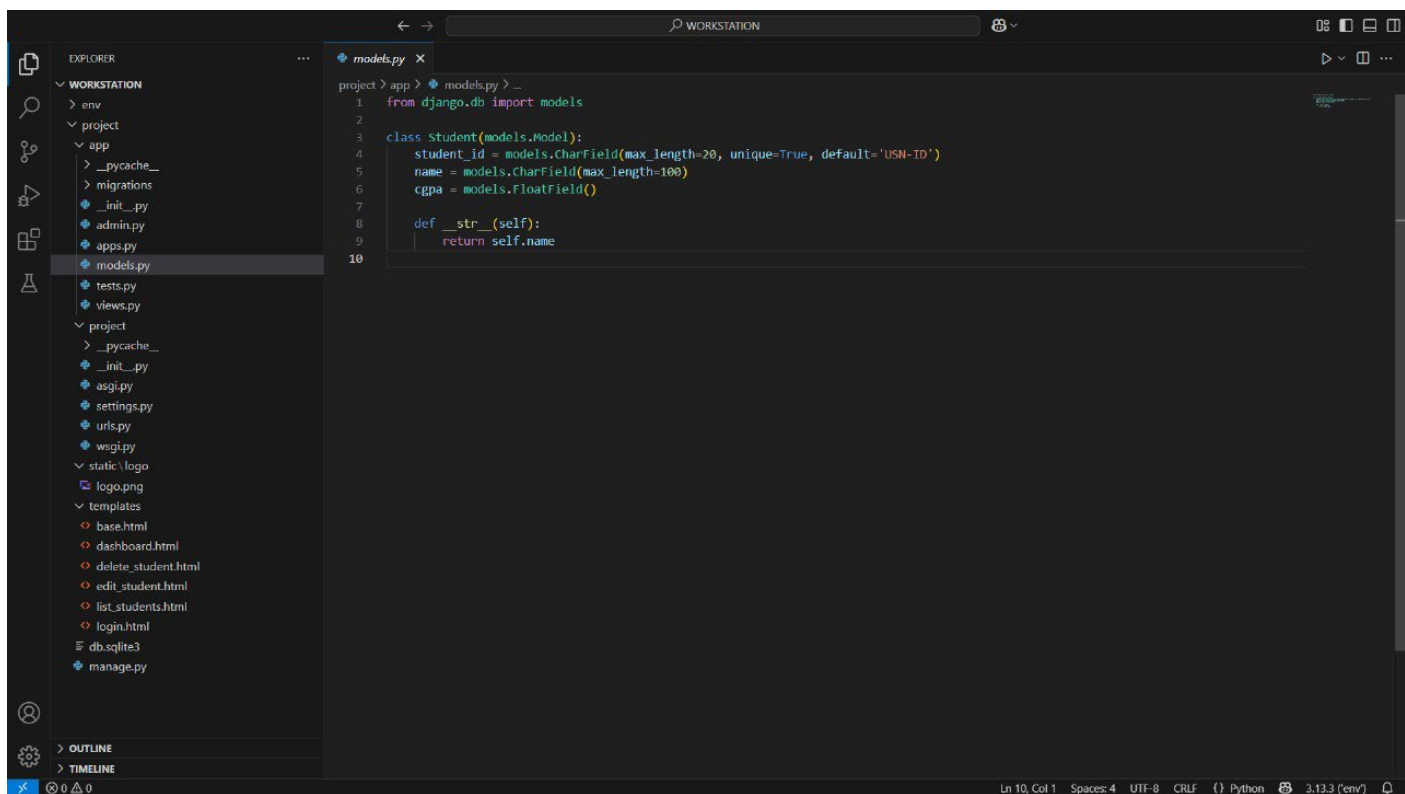
A screenshot of a code editor window titled 'WORKSTATION'. The left sidebar shows a file explorer with a project structure including 'env', 'project', 'app', and various Python files like 'settings.py', 'urls.py', 'wsgi.py', 'static', 'logo', 'templates', 'base.html', 'dashboard.html', 'delete_student.html', 'edit_student.html', 'list_students.html', 'login.html', 'db.sqlite3', and 'manage.py'. The main editor area displays the content of 'settings.py'. The code includes imports for Path and os, path building logic, Django settings for SECRET_KEY, DEBUG, ALLOWED_HOSTS, INSTALLED_APPS, and MIDDLEWARE. The status bar at the bottom indicates 'Ln 1, Col 1', 'Spaces: 4', 'UTF-8', 'CRUF', 'Python', and '3.13.2 (env)'.

Django Settings



```
project > templates > dashboard.html > ...
1 {% extends "base.html" %}
2 {% block title %}Dashboard{% endblock %}
3 {% block extra_css %}
4
5 {% endblock %}
6 {% block content %}
7 <div class="container mt-5">
8   <h2 class="mb-4">Dashboard</h2>
9   <form method="POST" class="mb-3">
10     {% csrf token %}
11     <div class="form-group">
12       <label for="student_id">Student USN</label>
13       <input type="text" class="form-control" id="student_id" name="student_id" required maxlength="20" placeholder="Enter St
14     </div>
15     <div class="form-group">
16       <label for="name">Name</label>
17       <input type="text" class="form-control" id="name" name="name" required maxlength="100" placeholder="Enter student name"
18     </div>
19     <div class="form-group">
20       <label for="cgpa">CGPA</label>
21       <input type="number" step="0.01" class="form-control" id="cgpa" name="cgpa" required min="0" max="10" placeholder="Ente
22     </div>
23     <button type="submit" class="btn btn-success">Submit</button>
24   </form>
25 </div>
26 {% endblock %}
```

HTML



```
project > app > models.py > ...
1 from django.db import models
2
3 class Student(models.Model):
4     student_id = models.CharField(max_length=20, unique=True, default='USN-ID')
5     name = models.CharField(max_length=100)
6     cgpa = models.FloatField()
7
8     def __str__(self):
9         return self.name
10
```

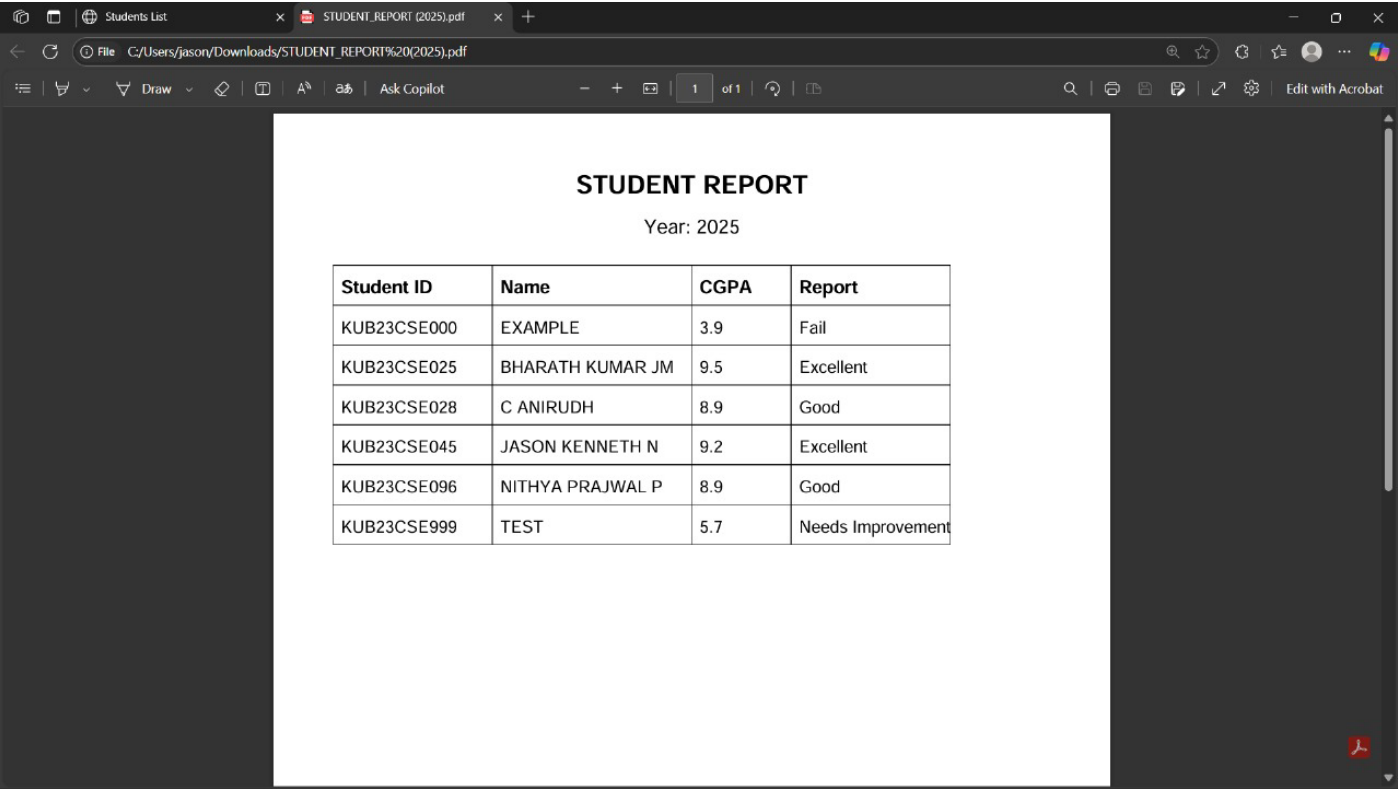
Databasse

8. Results

The system successfully:

- Stores and retrieves student marks efficiently.
- Generates accurate performance reports.
- Provides actionable insights for faculty.

Sample Report Output



Student ID	Name	CGPA	Report
KUB23CSE000	EXAMPLE	3.9	Fail
KUB23CSE025	BHARATH KUMAR JM	9.5	Excellent
KUB23CSE028	C ANIRUDH	8.9	Good
KUB23CSE045	JASON KENNETH N	9.2	Excellent
KUB23CSE096	NITHYA PRAJWAL P	8.9	Good
KUB23CSE999	TEST	5.7	Needs Improvement

9. Conclusion

The "Analysis of Students Marks" project provides a robust solution for managing and analyzing student performance data. By automating mark analysis and report generation, it enhances academic planning and decision-making.

10. Future Enhancements

1. **Integration with Machine Learning:** Predict student performance trends.
2. **User Authentication:** Secure login for faculty and administrators.
3. **Data Visualization:** Interactive dashboards for better insights.
4. **Mobile Application:** Enhance accessibility for faculty and students.

11. References

- Smith, J. (2022). *Database Management in Education: Best Practices*. Academic Publishing.
- Python Documentation. Retrieved from <https://docs.python.org/3/library/>
- Git Repository: https://github.com/jasonkennethn/WEB_DEVELOPMENT_2025_3RD_SEM