BANNARI AMMAN INSTITUTE OF TECHNOLOGY
An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade
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Project ID: 7

Module Name: Project Work

Mark Consolidation System

Technical Components

Component	Tech Stack
Backend	Python Django
Frontend	Html Css Javascript
Database	MySQL
API	Rest Ful API

Module Description :

To build the system for calculating project reviews mark for individuals based on the constrain given by the admin. The calculated mark must be displayed in the individual student login. Provide analytics and reporting capabilities for data analysis.

Problem Statement:

Educational institutions often face challenges in consolidating and managing student marks, especially when they are reviewed by multiple evaluators. Discrepancies between reviewer marks can lead to moderation requirements, and updating individual records for each student can be time-consuming. A system is needed to automate these tasks, ensuring accuracy and providing a unified view for different user roles (admin, staff, students).

Solution :

The student mark consolidation system aims to streamline the process of consolidating student marks and managing moderation, using a Python-based backend (Django) and a RESTful architecture. The system allows admins to import Excel or PDF files containing student data and reviewer marks, then automatically calculates the final marks based on specified rules. It provides separate dashboards for admins, staff, and students, each with appropriate access permissions. The solution includes a database to store mark details and manages updates to student and staff dashboards as new results arrive.

Workflow Overview :

- **Data Import by Admin:**

  The admin logs into the system and uploads an Excel or PDF file containing student data and marks by multiple reviewers. The file typically contains student name, roll number, project title, guide mark, and reviewer marks.

- **Extract and Process Data:**

  The backend, implemented with Django, extracts the data from the uploaded file using a library like Pandas. It calculates the variance between the maximum and minimum reviewer marks to determine if moderation is needed.

Calculate Final Marks:

If the variance is less than 10%, moderation is required. The final mark is calculated as guide mark + moderation, where the moderation value is provided by the admin.

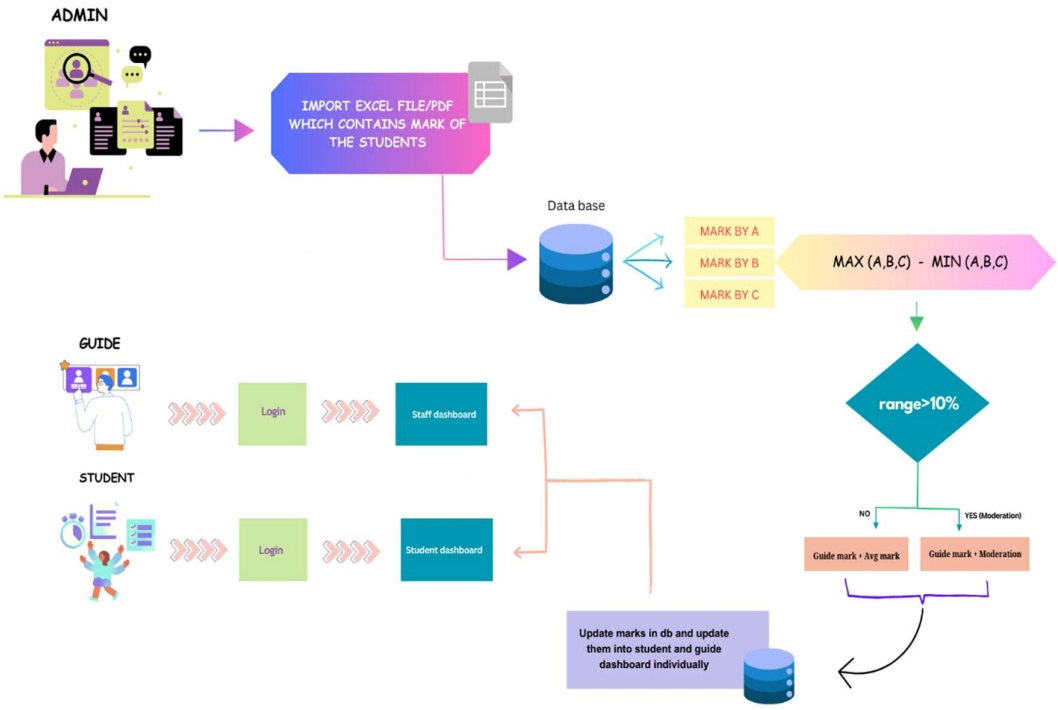
If the variance is 10% or more, the final mark is calculated as guide mark + avg(reviewer marks).

Update Database:

The final marks, guide marks, and other relevant information are stored in a MySQL database. The system uses REST APIs to manage database interactions.

Update Dashboards:

- The system updates the student dashboard with the final marks and individual reviewer marks.
- The staff dashboard shows results for students they guide.
- The admin dashboard allows full access to all student marks and moderation values.



Technology Stack :

- Backend: Python, Django
- Frontend: HTML, CSS, JavaScript
- Database: MySQL
- API: RESTful architecture for interactions between frontend and backend
- Data Processing: Pandas for Excel/PDF data extraction and calculations
- User Roles and Permissions

Admin:

Can import data, manage moderation, and view/edit all student marks.

Staff:

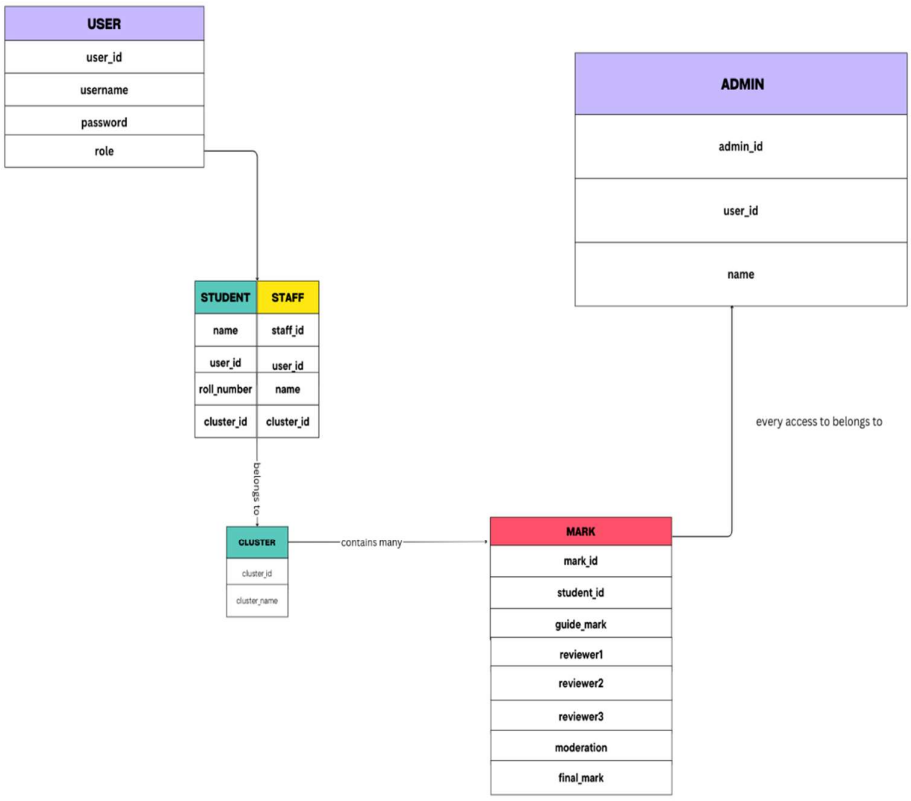
Can view the final marks of students they guide.

Students:

Can view their own final marks and reviewer breakdown.

Dashboard Design

- **Admin Dashboard:**
  - Displays all student marks and provides options to edit/moderate marks.
  - Access to every detail about the students project and their marks
  - Allows data import from Excel/PDF.
- **Staff Dashboard:**
  - Displays the final marks for students they guide.
  - Also displays the performance of each student under their guidance.
  - Allows detailed view of individual student marks and reviewer breakdown.
- **Student Dashboard:**
  - Displays the student's own final mark and reviewer breakdown.



Conclusion :

This project documentation provides an overview of the student mark consolidation system, including the problem statement, solution approach, workflow, technology stack, user roles, and dashboard design. Using Python, Django, MySQL, RESTful APIs, and front-end technologies like HTML, CSS, and JavaScript, this system aims to automate the consolidation and management of student marks while providing tailored dashboards for different user roles.