BANNARI AMMAN INSTITUTE OF TECHNOLOGY

An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade

Sathyamangalam - 638401 Erode District, Tamil Nadu, India

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Project Id: 29

Project Title: COURSE FILE AUTOMATION

Technical Components

Component	Tech Stack
Frontend	Angular
Backend	Express with Node.js
Database	MongoDB (NoSQL)
API	Restful API

Implementation Timeline

Phase	Deadline	Status	Notes
Stage 1	25/07/2024	Completed	Planning and Requirement gathering
Stage 2		In progress	Design and Prototyping
Stage 3			Database Designing
Stage 4			Backend Implementation
Stage 5			Integration and Testing

PROBLEM STATEMENT:

The primary challenge in educational institutions is efficiently managing and organizing the various course-related documents and data. Faculty members need a streamlined process to upload, validate, and access information such as course objectives, schedules, test results, and student feedback. Administrators require a centralized system to oversee and ensure the accuracy of this data. The lack of an integrated solution can lead to inefficiencies, data inconsistencies, and difficulty in generating comprehensive reports.

PROJECT-FLOW:

Purpose:

The purpose of this course file automation project is to enhance the efficiency of managing academic course files within an educational institution. The project aims to digitize the process of collecting, validating, storing, processing, and generating reports as PDF format for various course-related documents. This will reduce the manual effort required from faculty members and administrative staff, ensuring better organization, easier access, and higher accuracy of course files.

Scope:

Data Input and Validation:

- Allow faculty to input data through a web-based interface.
- Validate the data for completeness and accuracy.

Data Management:

- Store static information such as the Vision and Mission of the Institute and Department, PEOs, POs, and PSOs.
- Fetch dynamic information like the Academic Schedule, Syllabus, and Timetable from relevant websites or APIs.
- Enable manual uploads for documents like Lesson Plans, Lecture Notes, Test Marks, Attendance, and more.

Report Generation:

- Generate comprehensive PDF reports based on the processed data.
- Allow faculty members to download the generated PDF reports.

User Roles:

- **Faculty Member:** Responsible for uploading and managing course-related data.
- **Admin:** May oversee the system and ensure data integrity.

User Stories:

- **Admin:**

✓ I want to validate and monitor the data uploaded by faculty, so that I can ensure the accuracy and compliance of the information with institutional standards.

- **Faculty Member:**

✓ I want to upload and manage course-related documents such as syllabi, lecture notes, and assessments, so that I can organize and provide necessary materials for my students effectively.

✓ I want to generate reports on student performance and course outcomes, so that I can assess the effectiveness of my teaching and identify areas for improvement.

FUNCTIONAL REQUIREMENTS:

- **User Authentication and Authorization:** The system must provide secure login and authentication mechanisms, ensuring that only authorized faculty and administrators can access specific functionalities based on their roles.

- **Data Upload and Management:** The system must allow faculty to upload, edit, and manage various course-related documents, including syllabi, lesson plans, test results, and student feedback, in different formats such as text, Word, and Excel.

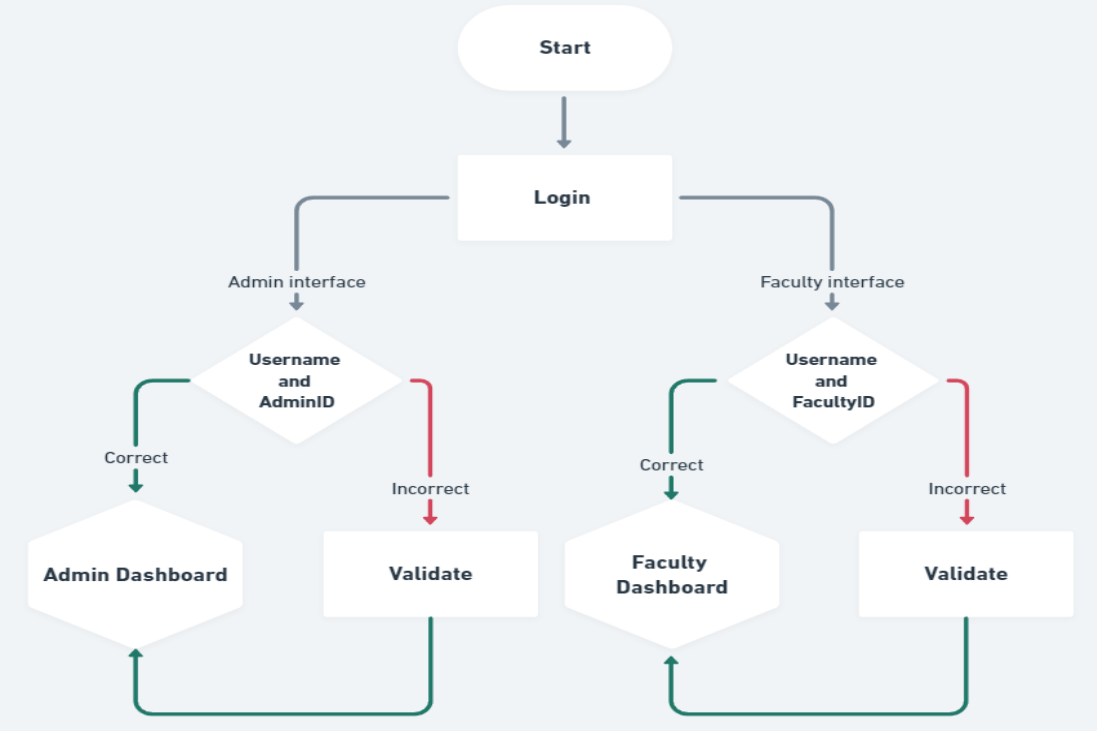
- **Data Validation and Review:** The system must provide functionalities for administrators to validate and review the data uploaded by faculty members, ensuring its accuracy and completeness before approval or further processing.

- **Report Generation:** The system must support generating various reports, such as student performance reports, course outcome assessments, and attendance records, in PDF format for easy sharing and record-keeping.

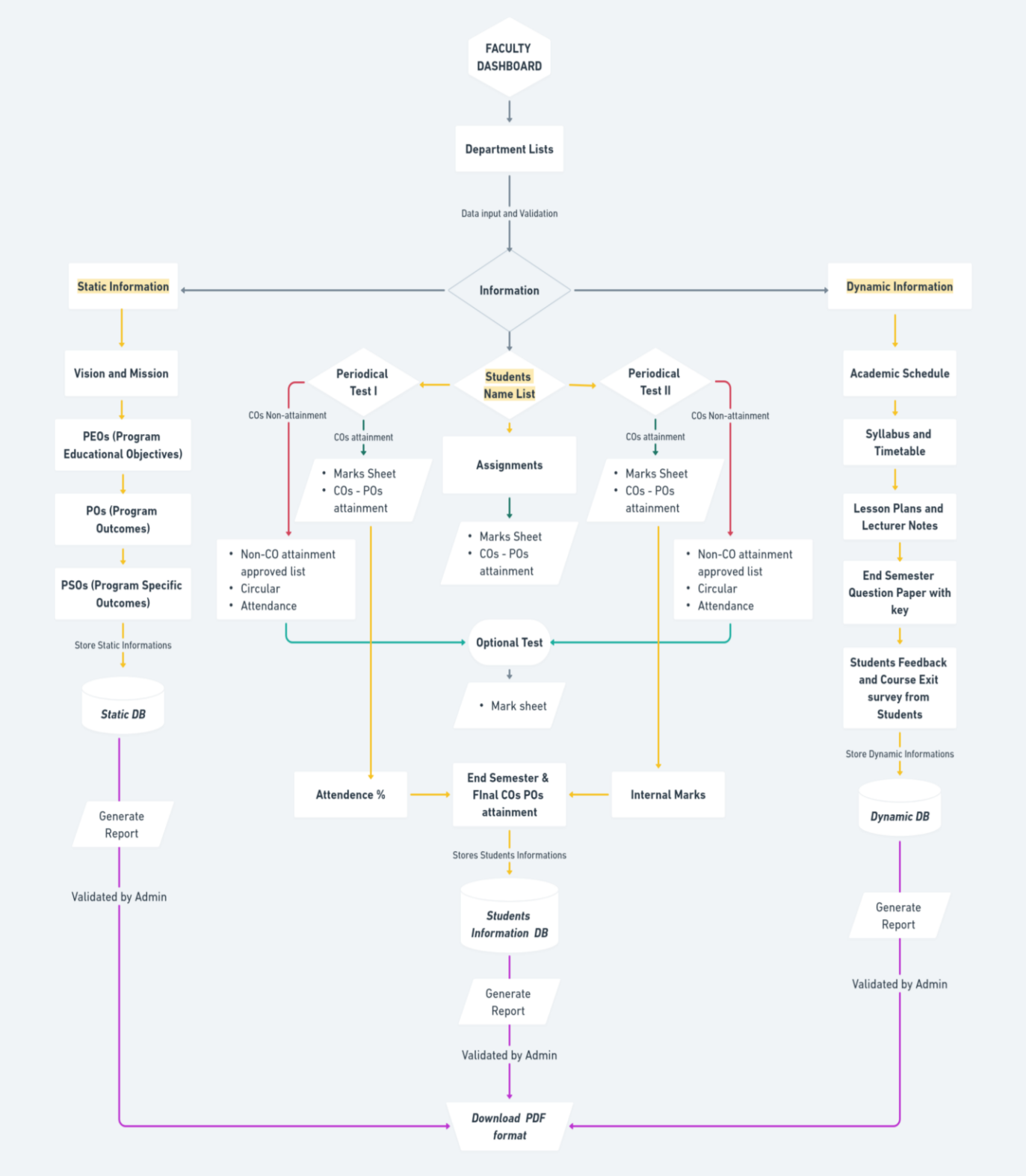
- **Data Integration and Import:** The system must integrate with existing institutional systems, such as academic scheduling and grading systems, to automatically import relevant data like academic calendars, timetables, and student information.

- **Data Security and Privacy:** The system must ensure that all data, including personal and academic information, is securely stored and transmitted using encryption and other security measures. Access to sensitive data must be restricted to authorized users only, in compliance with data protection regulations.

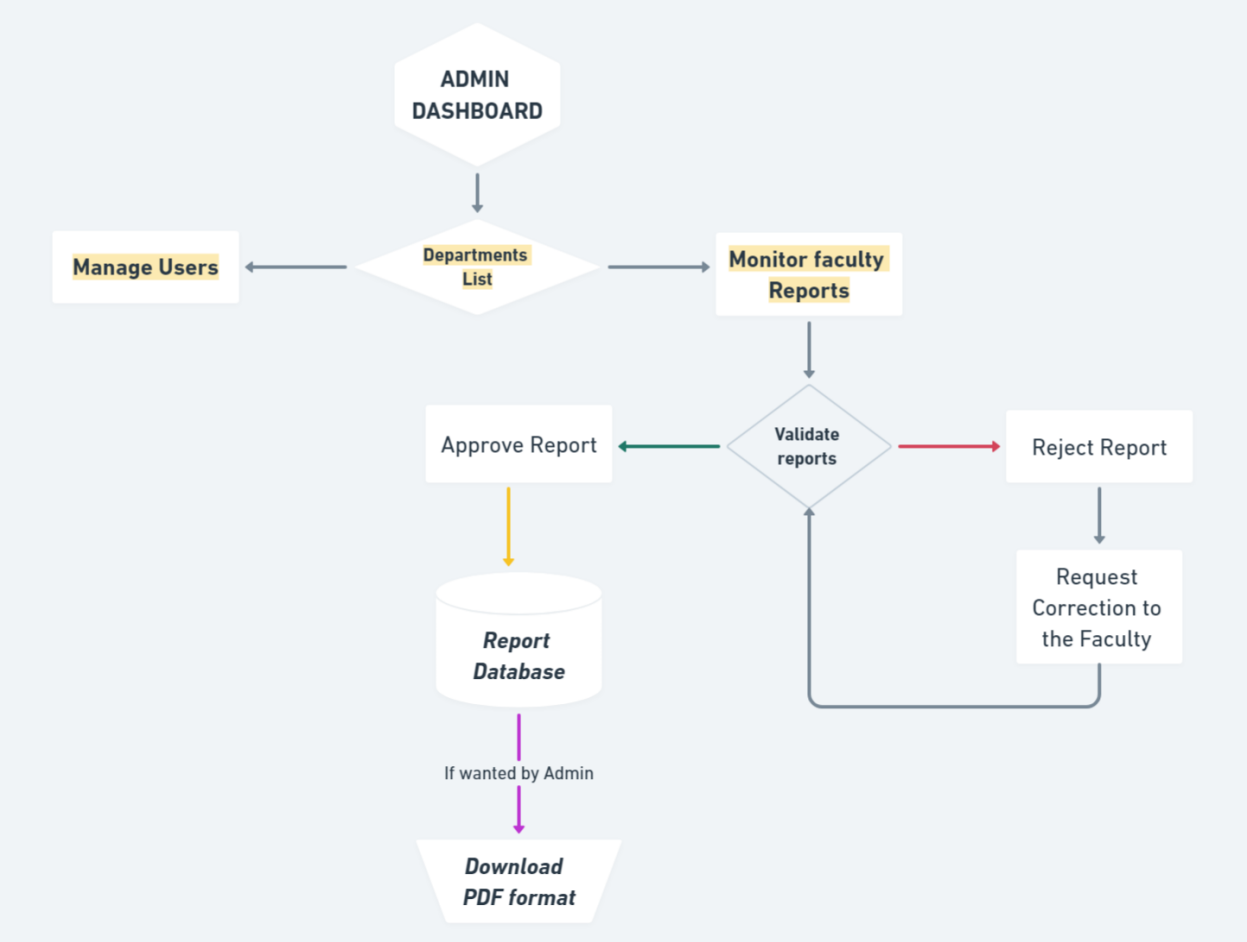
FLOWCHART:



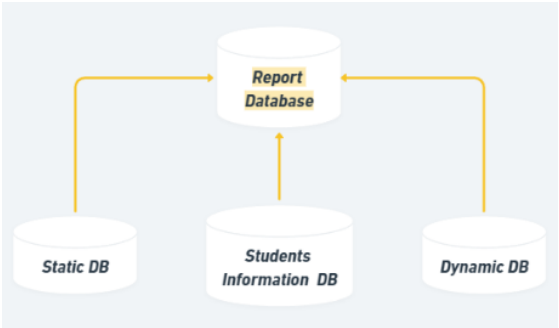
FACULTY DASHBOARD:

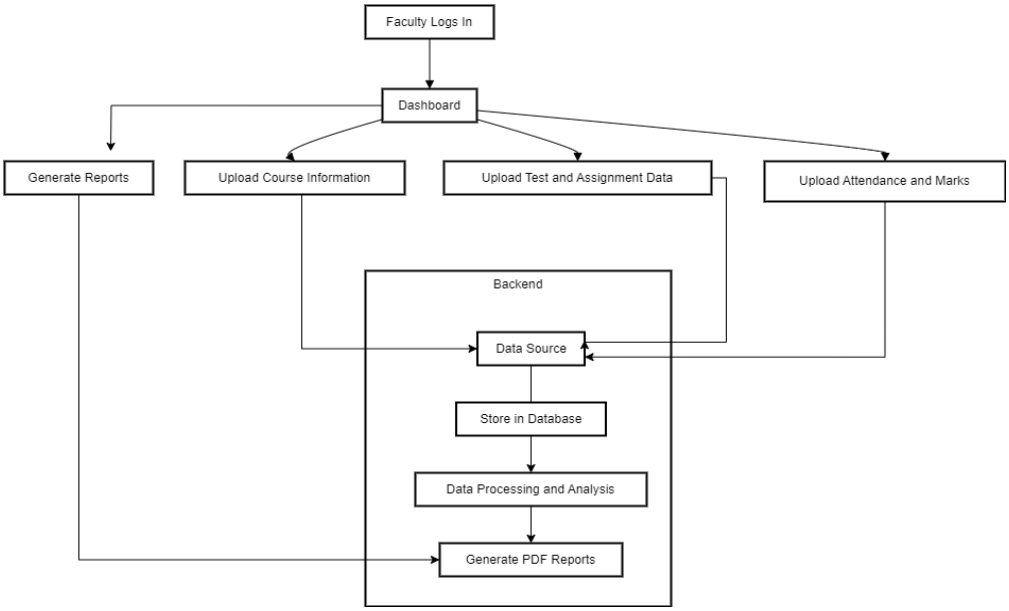


ADMIN DASHBOARD:



DATABASE:




Faculty Logs In
Dashboard
Generate Reports
Upload Course Information
Upload Test and Assignment Data
Upload Attendance and Marks
Backend
Data Source
Store in Database
Data Processing and Analysis
Generate PDF Reports