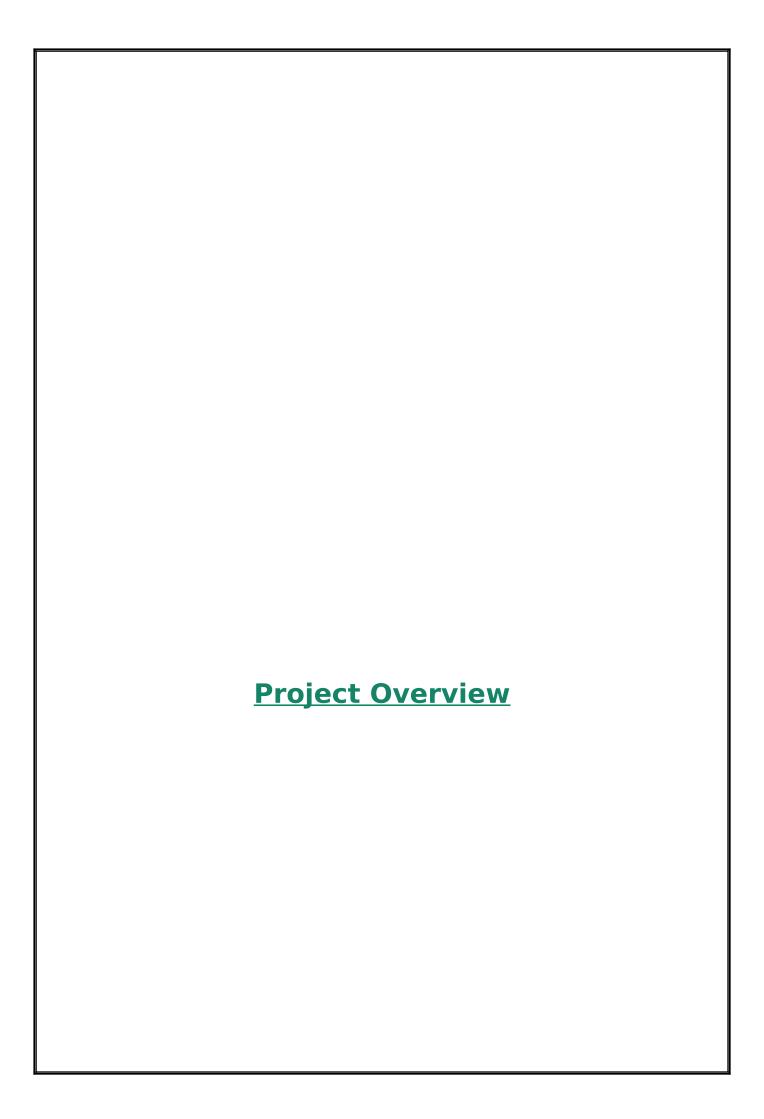
Sunbeam Staff Logsheet Application	

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1. Project Overview

The **Sunbeam Staff Logsheet Application** is a web-based management system designed to streamline the daily teaching and work activity tracking of staff members. The system centralizes logsheets, schedules, course, and module management, providing both staff and coordinators with an efficient and secure platform.

Purpose

- Replace traditional paper-based logbooks.
- Enable real-time tracking of staff activities.
- Provide coordinators with actionable insights and reports.
- Ensure data security and easy accessibility.

Key Features

1. Secure Access

- Separate login for Staff and Coordinators using authentication.
- Role-based access control ensures users only access relevant features.

2. Logsheet Management for Staff

- Submit daily logsheets linked to assigned schedules.
- Record topics taught, assignments given, and student progress.
- Edit or delete logsheets if they are pending approval.

3. Approval Workflow for Coordinators

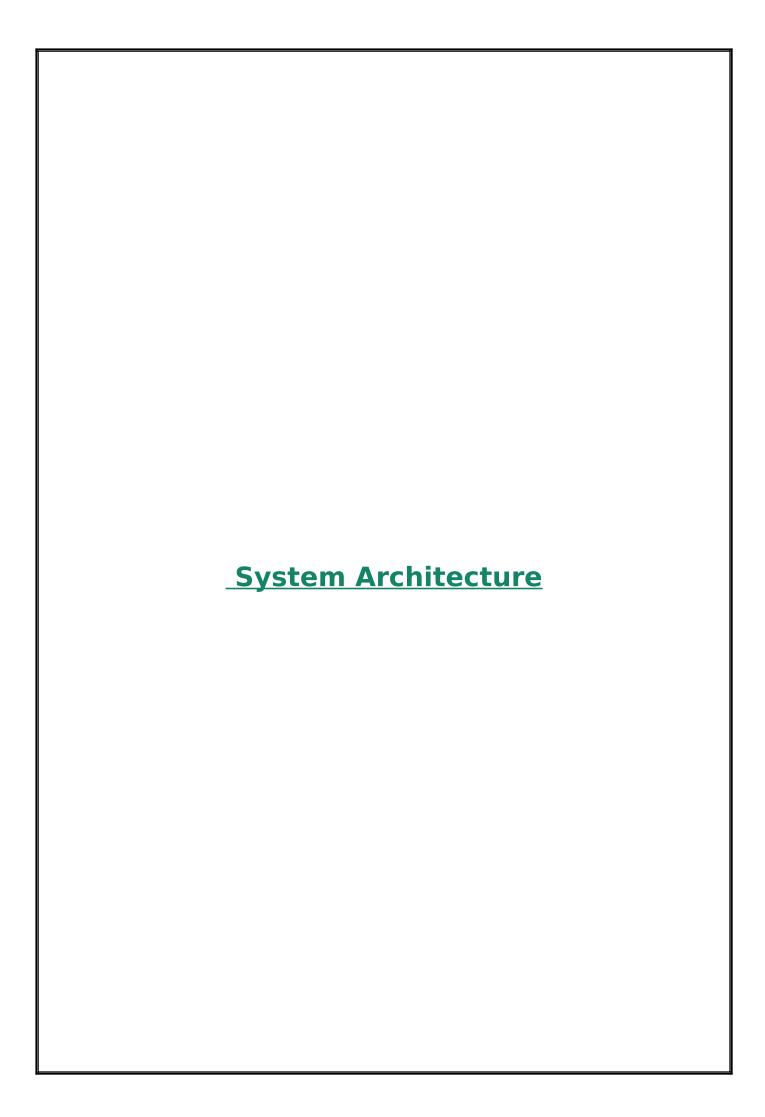
- · Review logsheets submitted by staff.
- Approve or reject logsheets with optional remarks.
- · Maintain accurate records of staff activity.

4. Course, Module, and Schedule Management

- Maintain a complete database of courses, modules, schedules, and staff.
- Update or assign records efficiently.
- Bulk upload schedules via Excel files.

5. Reports and Dashboards

- **Staff:** View logsheet status (Pending/Approved/Rejected), track hours.
- **Coordinator:** View overall teaching activity, course coverage, and staff performance metrics.



2. System Architecture

The system follows a **three-tier architecture**, ensuring a clear separation of concerns between the user interface, application logic, and data storage. The architecture allows scalability, maintainability, and secure role-based access.

Architecture Layers

Frontend (React.js)

- Responsible for the user interface, navigation, and state management.
- Displays dashboards, logsheet forms, tables, and modals.
- Sends API requests to the backend via Axios and renders responses.
- Handles role-based access to show different views for Staff and Coordinators.

Backend (Node.js + Express.js)

- Handles business logic and exposes REST APIs.
- Processes authentication and role-based authorization using JWT tokens.
- Manages CRUD operations for staff, courses, modules, schedules, logsheets, and uploads.
- Interacts with the database to store and retrieve data, ensuring consistency and security.

Database (MySQL)

Stores structured data for the following entities:

- **Staff** user credentials, role information, personal details.
- Courses & Modules curriculum details, module assignments, linked courses.
- **Schedules** class/session details, faculty assignments, timings.
- **Logsheets** daily work/activity logs submitted by staff.
- **Uploads** module files, schedule files, curriculum documents.

Establishes relational links between entities:

- Staff → Logsheets
- Course → Modules
- Schedule → Logsheets

Authentication & Authorization

- Implemented using JWT tokens, ensuring secure access.
- Role-based access controls dictate which features each user can interact with:
 - Staff: Can view assigned schedules, submit logsheets, and track log

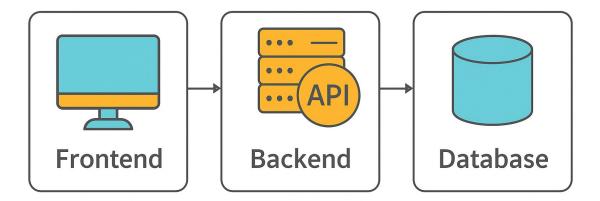
status.

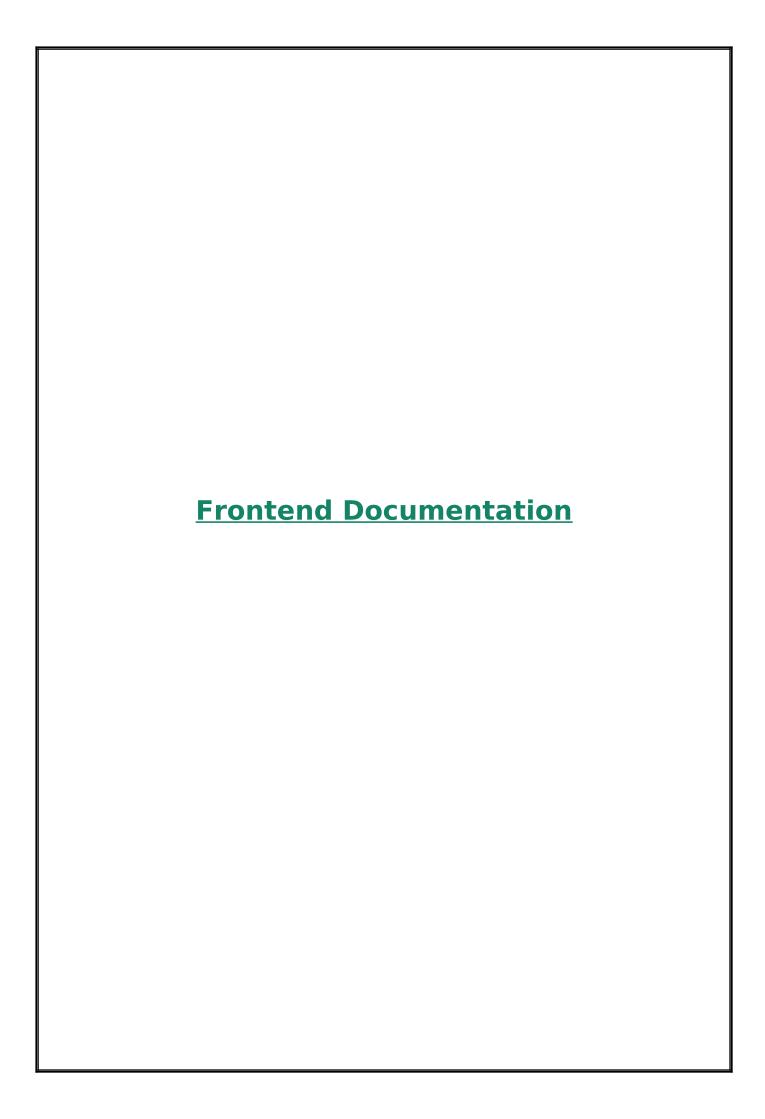
• **Coordinator:** Full access to manage staff, courses, modules, schedules, approve/reject logsheets, and generate reports.

Data Flow

- 1. User interacts with the frontend (view dashboard, add logsheet, export schedules).
- 2. Frontend sends requests to backend APIs.
- 3. Backend processes the request, applies business logic, and queries the database.
- 4. Backend returns the response to the frontend for display.

Image: Architecture Layer Diagram (Frontend - Backend - Database)





3. Frontend Documentation

The frontend of the **Sunbeam Staff Logsheet Application** is built with **React.js** and provides a responsive, interactive interface. It adapts dynamically to the user's role (**Staff** or **Coordinator**) and uses **Axios** to communicate with backend APIs. The UI is designed for clarity, quick navigation, and easy data management.

3.1 Authentication

3.1.1 Login

- URL: /login
- Steps:
 - 1. Enter your registered email and password.
 - 2. Click **Login**.
 - 3. On successful authentication, you are redirected to your role-specific dashboard.
- Error Cases:
 - 1. Incorrect credentials: Verify email/password.
 - 2. Inactive account: Contact your coordinator/admin.

3.1.2 Logout

- Click **Logout** in the top navigation bar.
- You will be redirected to the login page.

3.2 Key Pages & Components

3.2.1 Login Page

- Handles authentication for Staff and Coordinators.
- Validates email and password.
- Displays error messages for invalid credentials.

3.2.2 Staff Dashboard

- Displays today's schedule with module, time, and venue.
- Quick Links:
 - Add Logs
 - Verify Logs

- My Logs
- Status Summary Panel: Pending, Approved, Rejected logs.
- **Statistics:** Assigned schedules, logs submitted, pending approvals, approved hours.
- Shows recent logsheets with current status.

3.2.3 Coordinator Dashboard

- Displays pending logsheets, recent uploads, and key statistics:
 - Total staff
 - Active courses
 - Pending logs
 - Total hours logged

• Quick Navigation:

- Reports
- Logsheets
- Uploads
- Schedule Management

3.2.4 Logsheet Entry Page (Staff)

- Staff can submit logsheets including:
 - Date, Start & End Time
 - Course & Module (auto-filled)
 - Type (Lecture/Lab)
 - Topics taught
 - Assignments given
 - Student progress notes
- Validations: Required fields must be completed.
- Rules:
 - Only assigned schedules can be submitted.
 - Duplicate submissions for the same schedule are prevented.

3.2.5 Course & Module Management (Coordinator)

- · Create, update, delete courses and modules.
- Upload curriculum files.
- Bulk upload support for modules.
- View courses along with associated modules.

3.2.6 Schedule Management (Coordinator)

- Add, edit, delete, or bulk import schedules.
- Assign schedules to staff members.
- Export schedules to Excel for reporting.

3.2.7 Reusable Components

- **Modals:** For adding/editing schedules, logsheets, or staff details.
- **Tables:** For listing logsheets, schedules, courses, and modules.
- **Filters & Search:** Efficient navigation across large datasets.
- **Toast Notifications:** Display success or error messages on actions.

3.3 Staff Features

3.3.1 Dashboard

- Displays assigned schedules, logs submitted, pending approvals, and approved hours.
- Shows recent logsheets with status indicators.

3.3.2 View Schedules

- Navigate to **Schedules** → **My Schedules**.
- View assigned sessions including course, module, date, time, type, and venue.
- Filter schedules by date or course.

3.3.3 Submit Logsheets

- Navigate to **Logsheets** → **Add New**.
- Select schedule, enter date, start/end time, course, module, type, and details:
 - Topics taught
 - Assignment given
 - Student progress
- Click Submit.

Rules:

- Logsheets can only be submitted for assigned schedules.
- Duplicate submissions for the same schedule are not allowed.

3.3.4 View Logsheets

Navigate to Logsheets → My Logsheets.

- View status: Pending, Approved, Rejected.
- Edit or delete logsheets **only if Pending**.

3.3.5 View Courses & Modules

- Navigate to Courses → My Courses.
- · Click a course to view modules.
- Download curriculum files if available.

3.4 Coordinator Features

3.4.1 Dashboard

- Displays overall statistics:
 - Total staff
 - · Active courses
 - Pending logs
 - Total hours logged
- Shows recent pending logsheets awaiting approval.

3.4.2 Manage Staff

- Navigate to **Staff** → **All Users**.
- View details, add, update, or delete users.
- Reset passwords if required.

3.4.3 Manage Courses

- Navigate to **Courses** → **All Courses**.
- Add new courses (assign a coordinator).
- Update or delete existing courses.
- View the number of modules per course.

3.4.4 Manage Modules

- Navigate to **Modules** → **All Modules**.
- · Add new modules under a course.
- Upload curriculum files.
- Update or delete modules.

3.4.5 Manage Schedules

• Navigate to **Schedules** → **All Schedules**.

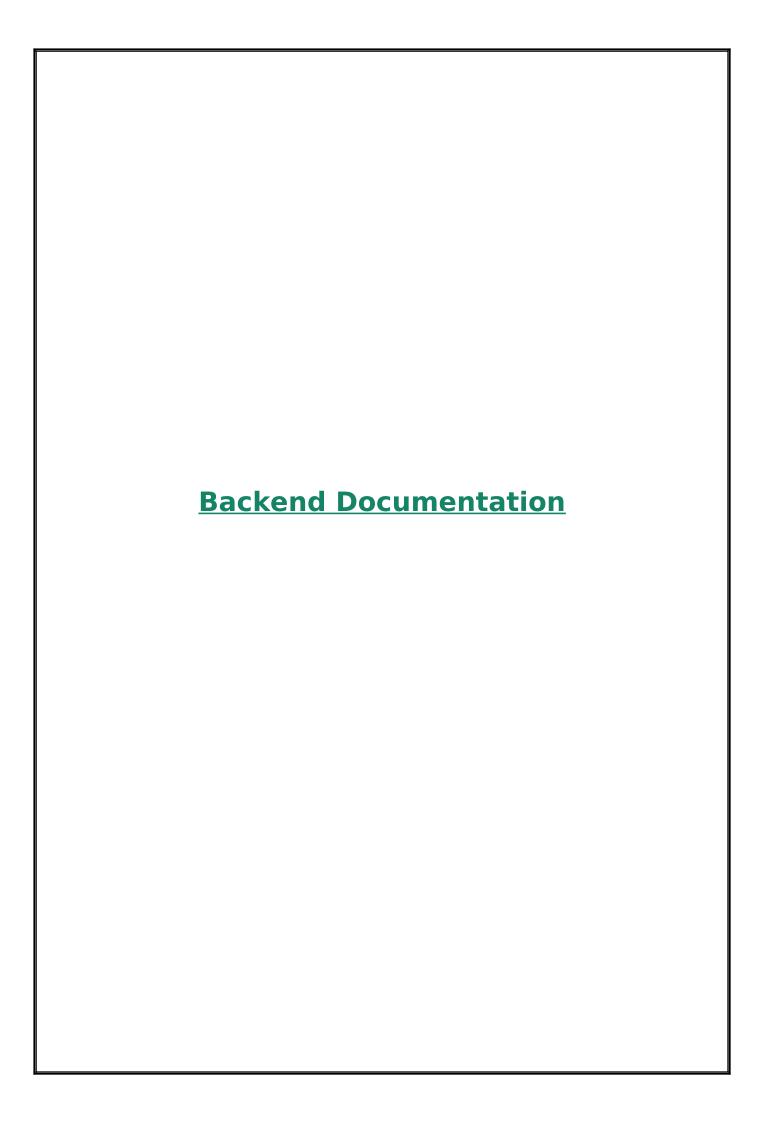
- Add schedules with course, module, staff, date, time, type, group, and venue.
- Update or delete schedules.
- Bulk upload via Excel.
- Export schedules for reporting.

3.4.6 Manage Logsheets

- Navigate to **Logsheets** → **Pending Logsheets**.
- Approve or reject logsheets submitted by staff.
- Filter logs by course, staff, or date.

3.5 Common Actions & Permissions

Action	Staff Access	Coordinator Access	Notes
Submit logsheet			Only for assigned schedules
Edit logsheet	(Pending)		Coordinator can edit any
Delete logsheet	(Pending)		
Approve / Reject log			Must select Approved/Rejected
Add course			Must assign a coordinator
Edit course			
Delete course			
Add module			Optionally upload curriculum
Edit module			
Delete module			
Add schedule			
Upload schedule (Excel)			Bulk-add schedules
View dashboard			Role-specific stats



4. Backend Documentation

The backend of the **Staff Logsheet Application** is built with **Node.js** and **Express.js**, following a RESTful API architecture.

It manages authentication, staff management, courses, modules, scheduling, logsheets, and dashboard statistics.

4.1 Key Features

- JWT-based authentication
- Role-based access control (Staff / Coordinator)
- Validation and business logic for schedule assignments, logsheet approvals, and reporting
- CRUD operations for staff, courses, modules, schedules, and logsheets
- Excel file upload and export for schedules
- Dashboard endpoints providing summary statistics

Tech Stack: Node.js, Express.js, MySQL

4.2 Authentication & Staff APIs

4.2.1 Authentication APIs

Endpoint	Method	Role	Description
/api/auth/signup	POST	Public	Register a new Staff/Coordinator
/api/auth/login	POST	Public	Login user and return JWT token

4.2.2 Staff Management

Endpoint	Method	Role	Description
/api/auth/users	GET	Coordinator	Fetch all users
/api/auth/users/:id	GET	All	Get single user details
/api/auth/users/:id	PUT	Self	Update user profile
/api/auth/users/:id/password	PUT	Self	Update password
/api/auth/users/:id	DELETE	Coordinator	Delete user

4.3 Course APIs

Purpose: CRUD operations for courses. Coordinators can manage courses.

Endpoint	Method	Role	Description
/api/courses	GET	Staff	List all courses
/api/courses/:id	GET	Staff	Get course details
/api/courses	POST	Coordinator	Create new course
/api/courses/:id	PUT	Coordinator	Update course
/api/courses/:id	DELETE	Coordinator	Delete course
/api/courses/staff/:staffId	GET	Coordinator	List courses assigned to a staff

4.4 Module APIs

Purpose: CRUD operations for modules, including optional curriculum file upload.

Endpoint	Method	Role	Description
/api/modules	GET	Staff	List all modules
/api/modules/:id	GET	Staff	Get module details
/api/modules	POST	Coordinator	Create module
/api/modules/:id	PUT	Coordinator	Update module
/api/modules/:id	DELETE	Coordinator	Delete module

4.5 Schedule APIs

Purpose: Manage schedules, including bulk upload and export.

Endpoint	Method	Role	Description
/api/schedules	GET	Coordinator	List all schedules
/api/schedules/:id	GET	Staff/ Coordinator	Get schedule by ID
/api/schedules	POST	Coordinator	Add new schedule
/api/schedules/:id	PUT	Coordinator	Update schedule
/api/schedules/:id	DELETE	Coordinator	Delete schedule
/api/schedules/export	GET	Coordinator	Export all schedules to Excel
/api/schedules/upload	POST	Coordinator	Upload Excel of schedules
/api/schedules/ staff/:staffId	GET	Staff	Get schedules assigned to staff
/api/schedules/ staff/:staffId/available	GET	Staff	Available schedules without logsheets
/api/schedules/export/ staff/:staffId	GET	Staff	Export staff schedules to Excel

4.6 Logsheet APIs

Purpose: Staff submit and manage logsheets; Coordinators approve/reject logsheets.

Endpoint	Method	Role	Description
/api/logsheets	GET	Staff/Coordinator	List all logsheets
/api/logsheets/:id	GET	Staff/Coordinator	Get logsheet by ID
/api/logsheets	POST	Staff	Create new logsheet

Endpoint	Method	Role	Description
/api/logsheets/:id	PUT	Staff (Pending)	Update logsheet
/api/logsheets/:id	DELETE	Staff (Pending)	Delete logsheet
/api/logsheets/:id/status	PUT	Coordinator	Approve/Reject logsheet

4.7 Dashboard APIs

Purpose: Provide summary statistics and recent logs for staff and coordinators.

Endpoint	Method	Role	Description
/api/dashboard/ staff	GET	Staff	Shows assigned schedules, logs submitted, pending approval, approved hours, recent logs
/api/dashboard/ coordinator	GET	Coordinator	Shows total staff, active courses, pending logs, total logged hours, pending logsheets

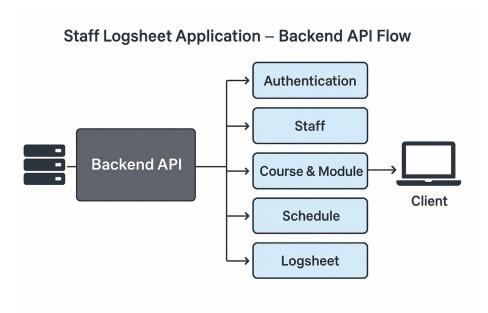
4.8 Security

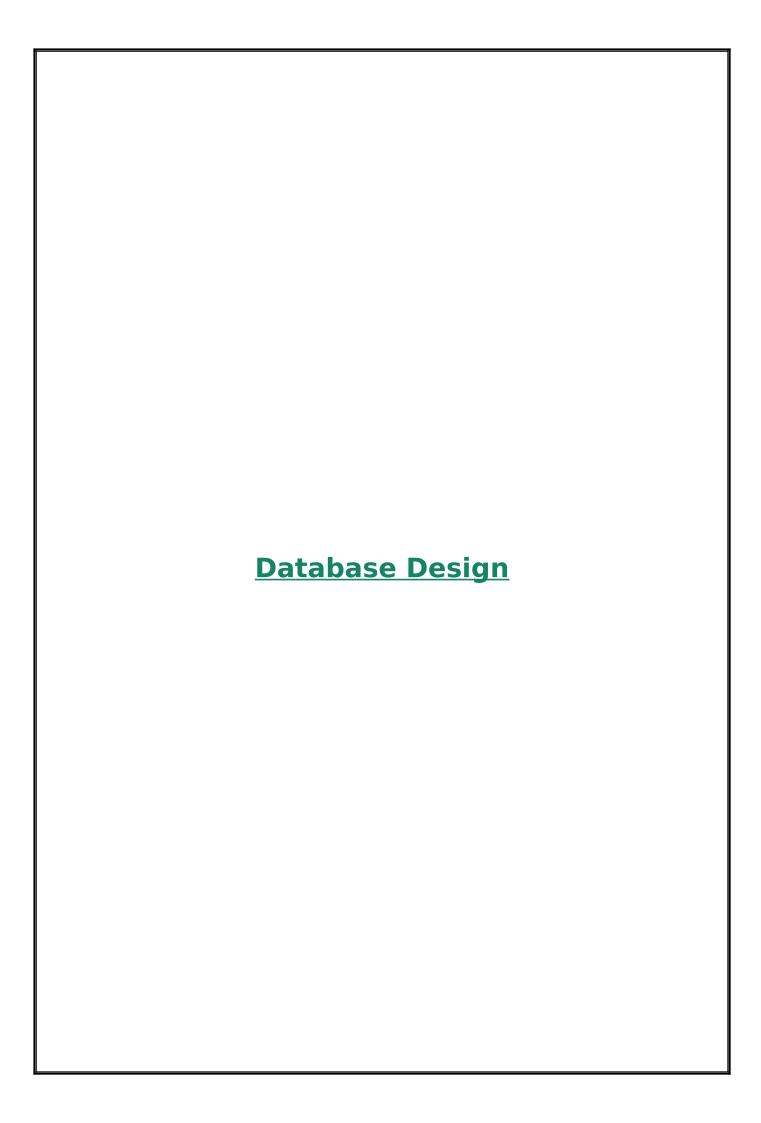
- Authentication: JWT tokens required for all protected endpoints
- Role-based access:
 - Staff: Manage their own logsheets and view courses/modules
 - **Coordinator:** Manage staff, courses, modules, schedules, and approve logsheets

4.9 Error Handling

Status Code	Description
400	Validation error, missing fields, duplicate entry
403	Access denied / Role not permitted
404	Resource not found
500	Server error

Image: Backend API Flow Diagram





5. Database Design

Database Name: logsheet_app

Purpose: Stores staff, courses, modules, schedules, logsheets, and uploads.

RDBMS: MySQL

Constraints: Foreign keys enforce relationships; cascading actions maintain data

integrity.

5.1 Tables & Key Columns

Staff

- **Description:** Stores coordinators and staff members.
- Key Columns:
 - staff_id (PK)
 - name
 - role
 - username
 - email
 - password

Courses

- **Description:** Courses managed by coordinators.
- Key Columns:
 - course_id (PK)
 - course_name
 - coordinator_id (FK)
 - modules_count
 - status

Modules

- **Description:** Course modules with optional curriculum files.
- Key Columns:
 - module_id (PK)
 - course_id (FK)
 - module_name

• curriculum_file_path

Schedules

- Description: Class schedules with assigned faculty.
- Key Columns:
 - schedule_id (PK)
 - course_id (FK)
 - module_id (FK)
 - date
 - start_time
 - end_time
 - faculty_id (FK)

Schedule Uploads

- **Description:** Tracks uploaded Excel files by coordinators.
- Key Columns:
 - upload_id (PK)
 - file_path
 - uploaded_by (FK)
 - uploaded_at

Logsheets

- **Description:** Staff logs for scheduled sessions.
- Key Columns:
 - logsheet_id (PK)
 - schedule_id (FK)
 - course_id (FK)
 - module_id (FK)
 - status
 - faculty_id (FK)

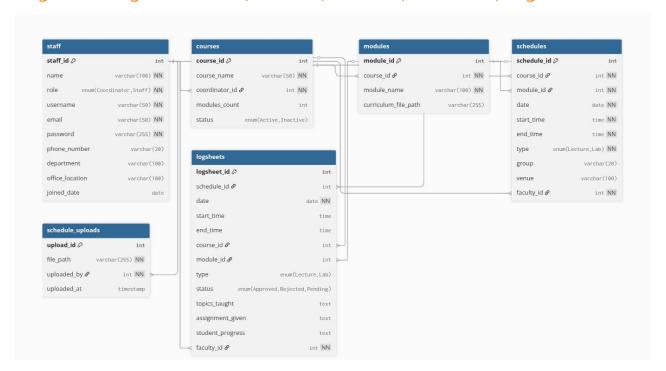
5.2 Relationships

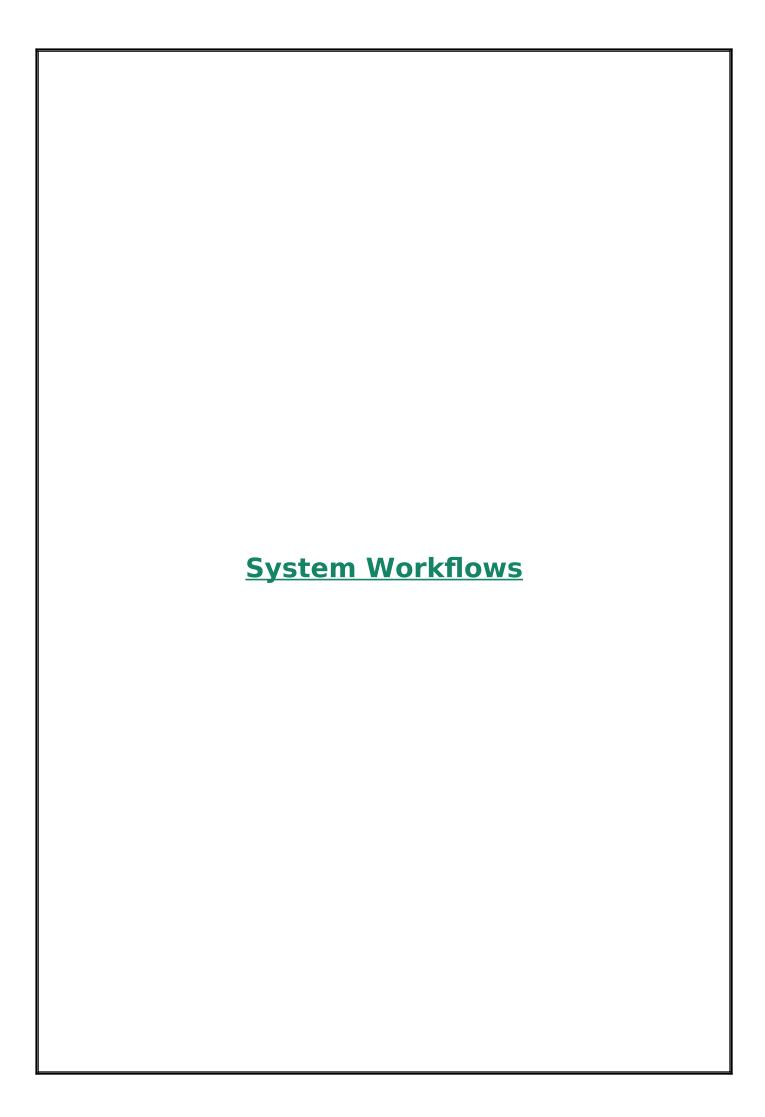
- Staff → Courses, Schedules, Logsheets, Uploads (One-to-Many)
- Course → Modules, Schedules (One-to-Many)
- Module → Schedules (One-to-Many)
- **Schedule** → **Logsheets** (One-to-Many)

5.3 Key Points

- Referential Integrity: Enforced using foreign keys.
- On Delete / Update: CASCADE or SET NULL used appropriately.
- Unique Constraints: email and username are unique in the staff table.

Image: ER Diagram for Staff, Courses, Modules, Schedules, Logsheets





6. System Workflows

This section describes the workflows for authentication, staff, and coordinator interactions within the system.

6.1 Authentication Workflow

1. Signup (Registration)

- User provides name, email, password, and selects a role (Coordinator or Staff).
- · Account is created in the system.

2. Login

- User enters email and password.
- Credentials are validated by the system.

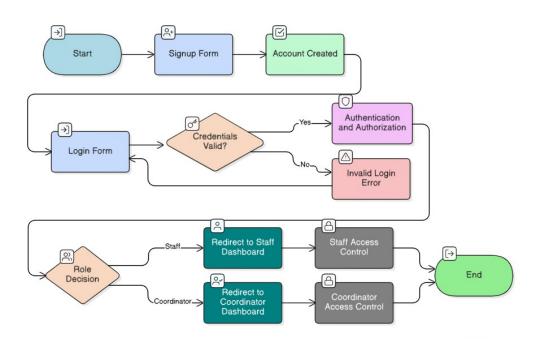
3. Authentication & Authorization

- If valid, a secure JWT token is generated.
- Based on role:
 - **Staff** → Redirected to Staff Dashboard.
 - **Coordinator** → Redirected to Coordinator Dashboard.

4. Access Control

- Staff can only access staff features (logs, hours, verify logs).
- Coordinators can access management and approval features (modules, schedules, reports).

Image: Authentication Workflow Diagram

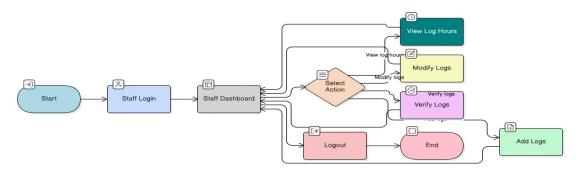


6.2 Staff Workflow

The staff workflow explains how staff members interact with the system to log and manage their teaching or training sessions.

- 1. **Login** Staff logs into the system.
- 2. **Dashboard** Displays today's schedule, including module name, timings, and options to add or view logs.
- 3. Add Logs Staff enters session details:
 - Date
 - Time
 - Course
 - Module
 - · Topics taught
 - Assignments given
 - Student progress
- 4. **View Log Hours** Staff can review all submitted logs along with total hours and session type (Lecture/Lab).
- 5. **Modify Logs** Pending logsheets can be updated or deleted by staff.
- 6. **Verify Logs** Shows the approval status of each logsheet (Pending, Approved, Rejected) after coordinator review.

Image: Staff Workflow Diagram

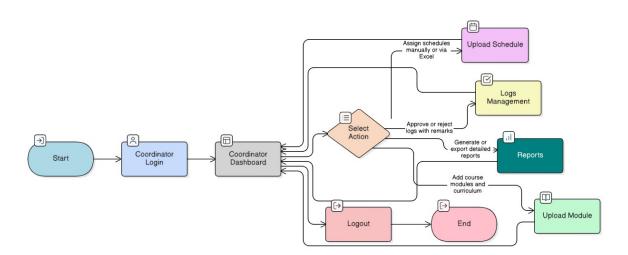


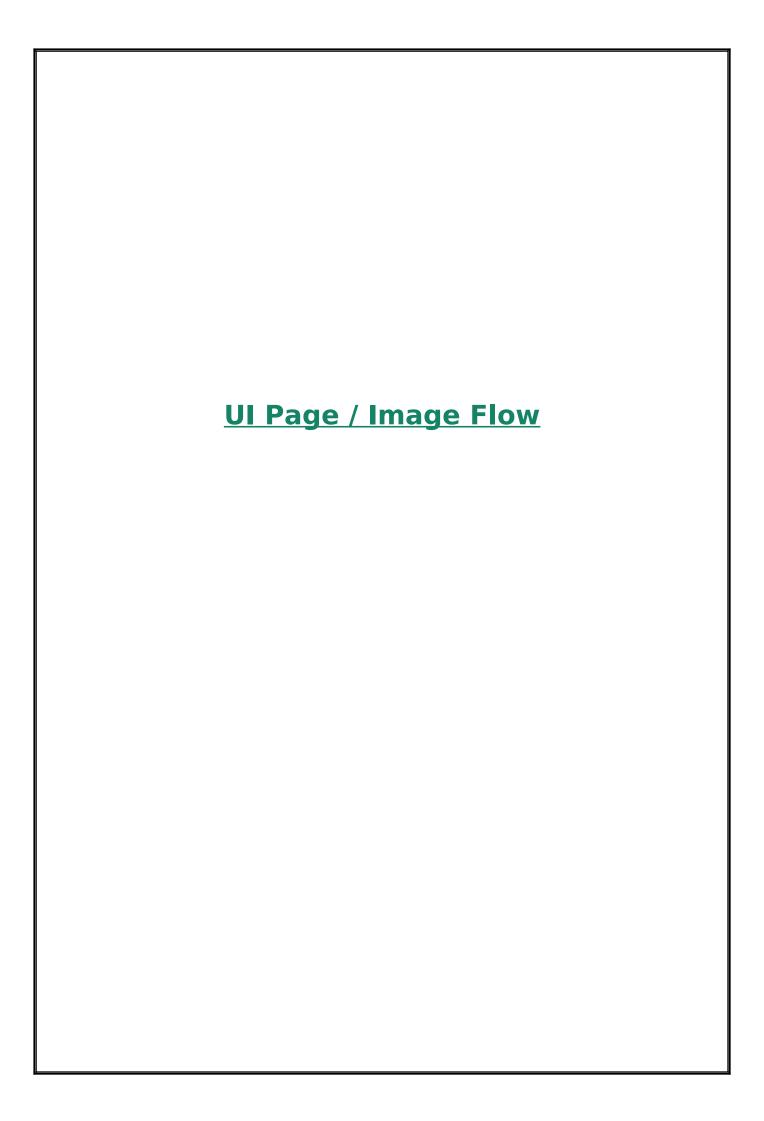
6.3 Coordinator Workflow

The coordinator workflow describes how a course coordinator manages staff, courses, modules, schedules, and logsheets.

- 1. **Login** Coordinator logs in securely.
- 2. **Dashboard** Displays:
 - · Pending logsheets awaiting approval
 - Recent uploads (modules, schedules, curriculum)
 - Quick navigation to Reports, Uploads, and Logs
- 3. **Upload Module** Coordinator can upload modules linked to courses with optional curriculum files.
- 4. **Upload Schedule** Coordinator assigns schedules individually or via bulk Excel uploads (course, module, faculty, date, and time).
- 5. **Logs Management** Coordinator reviews staff logsheets:
 - Categorized as Pending, Approved, or Rejected
 - Can approve or reject with remarks
- 6. **Reports** Generate detailed reports by course, module, and date range:
 - · Includes faculty activity, teaching hours, and module coverage
 - Reports can be exported or printed
- 7. Logout Coordinator securely logs out after completing tasks

Image: Coordinator Workflow Diagram

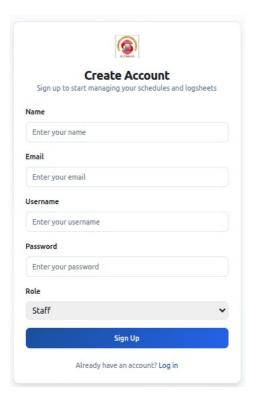




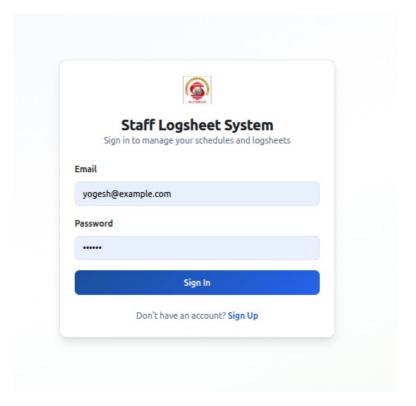
7. UI Page / Image Flow

7.1 Authentication

signup.png

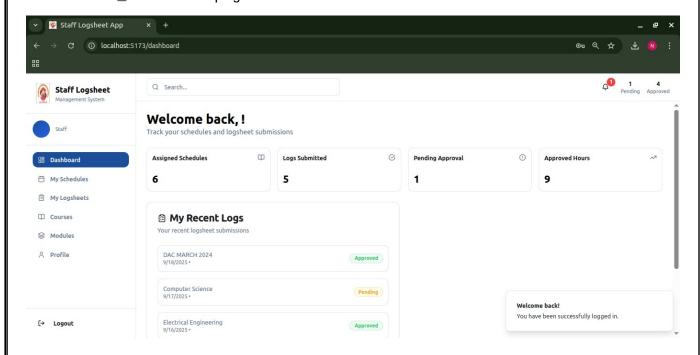


2. login.png

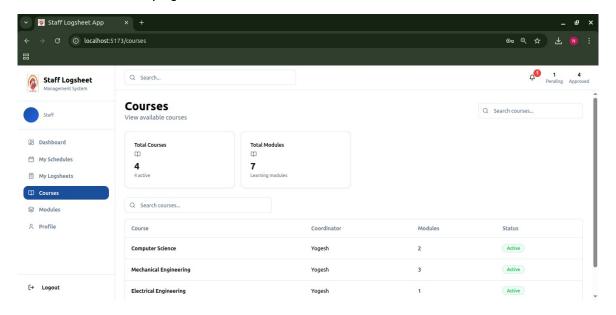


7.2 Staff UI Pages

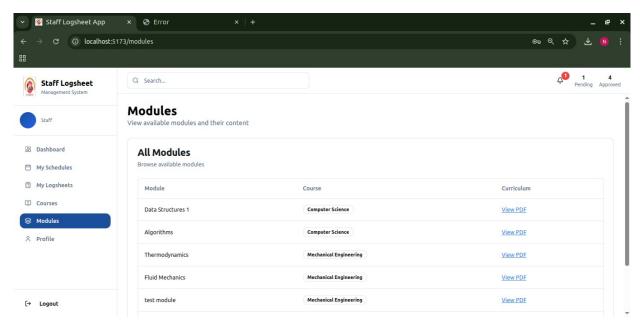
3. staff_dashboard.png



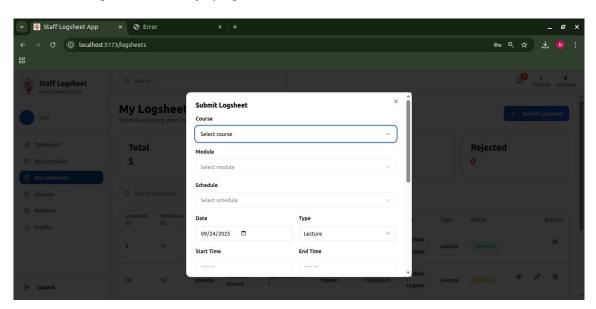
4. staff_courses.png



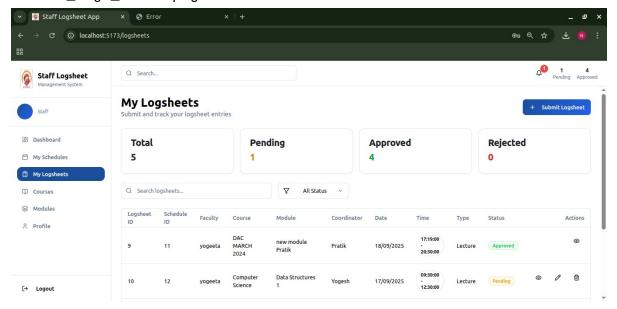
5. staff_module_detail.png



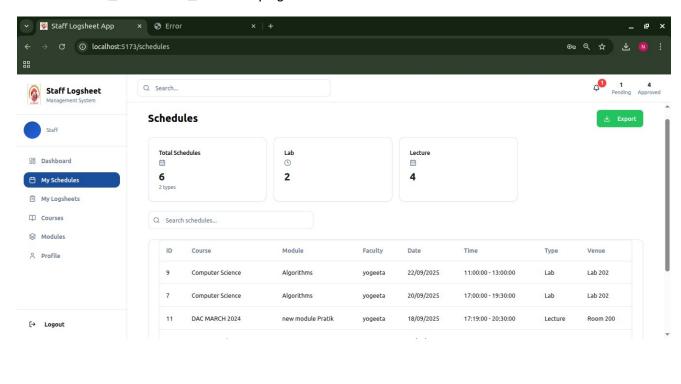
 $6.\ {\tt staff_logsheet_entry.png}$



7. staff_logs_table.png

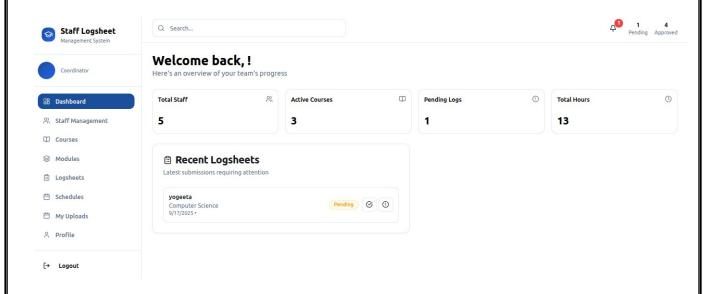


8. staff_schedule_detail.png

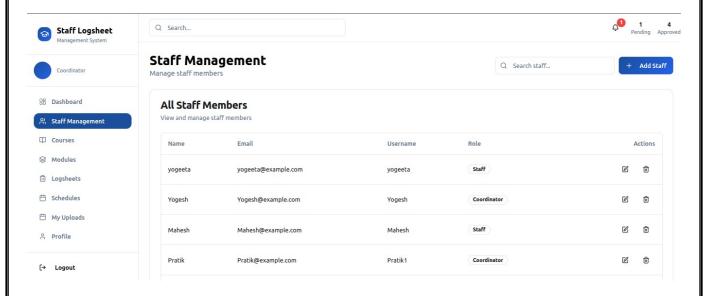


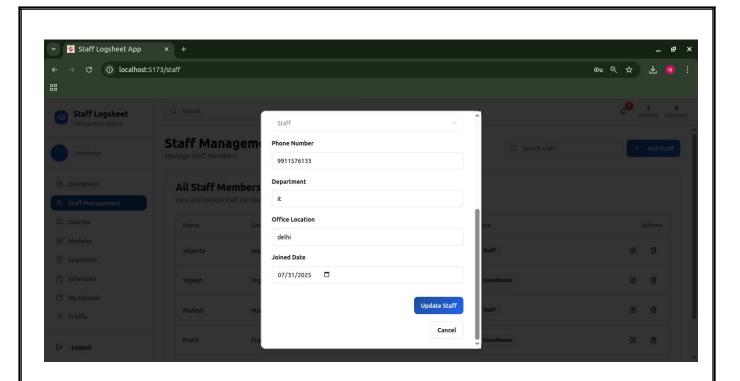
7.3 Coordinator UI Pages

1. coordinator_dashboard.png

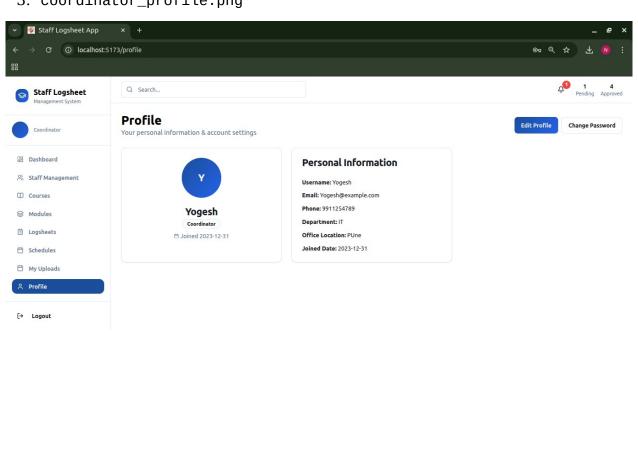


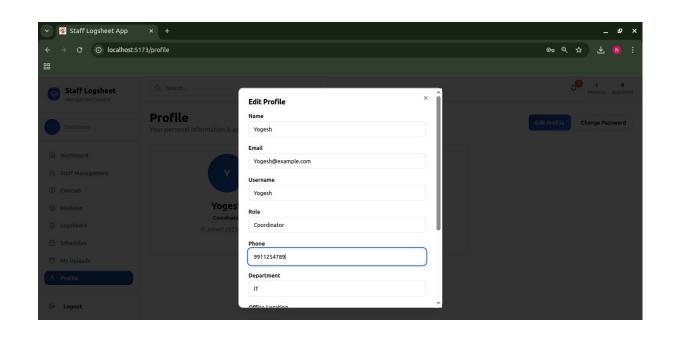
2. coordinator_staff_management.png

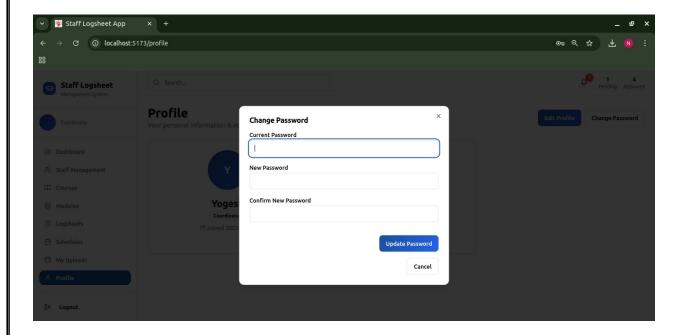




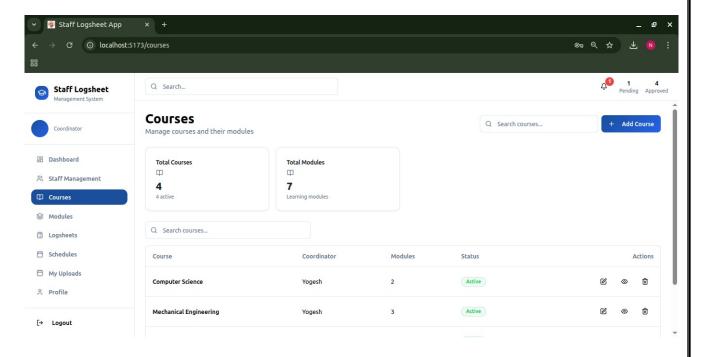
coordinator_profile.png



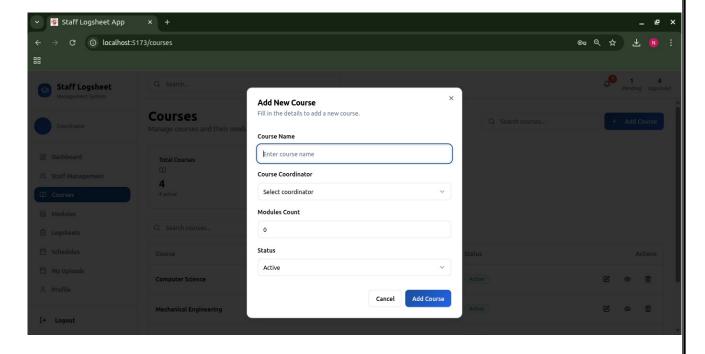




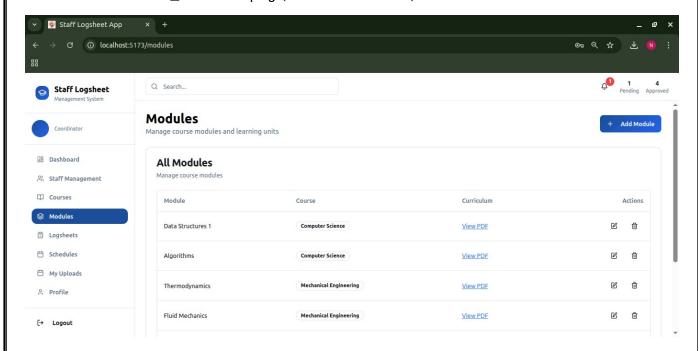
4. coordinator_courses.png (view all courses)



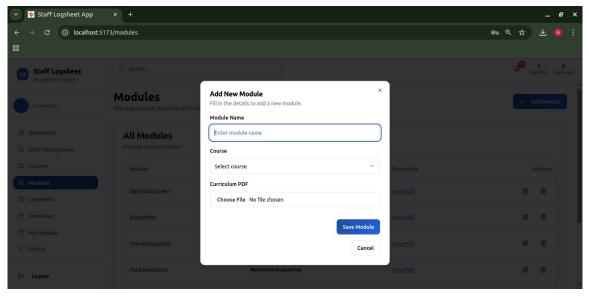
5. coordinator_add_course.png



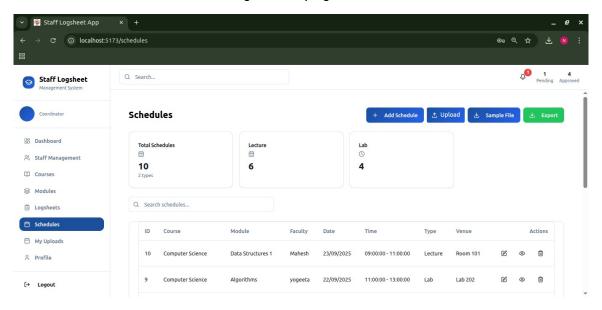
6. coordinator_modules.png (view all modules)



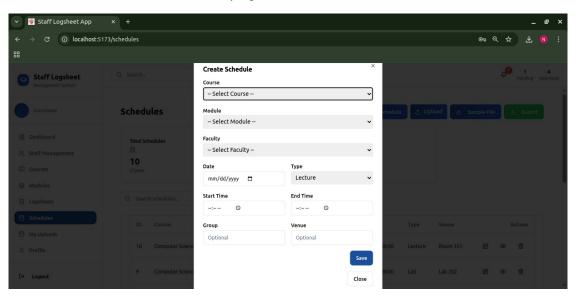
7. coordinator_add_module.png



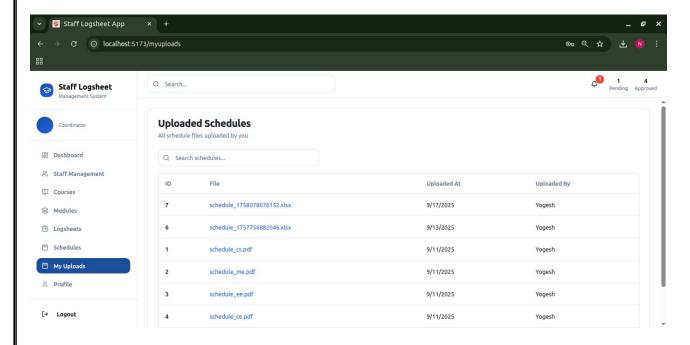
8. coordinator_schedule_management.png



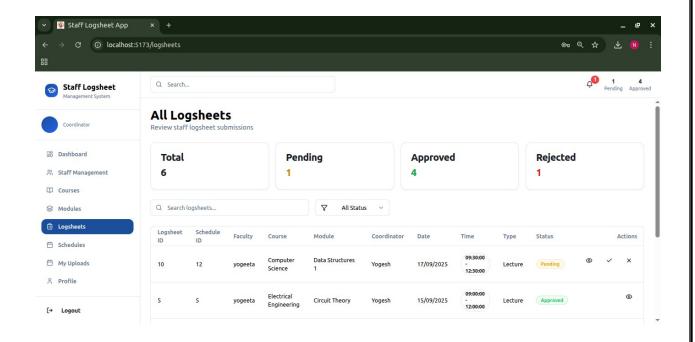
9. coordinator_add_schedule.png

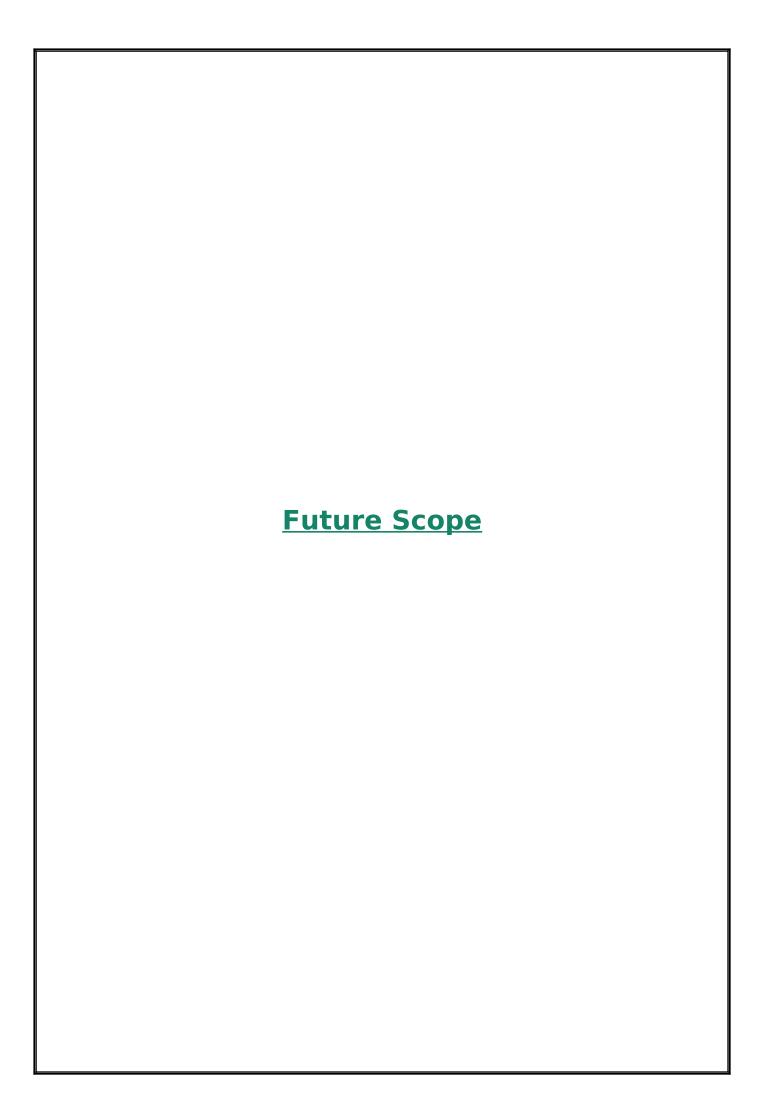


10.coordinator_View uploads.png



11.coordinator_logsheet_detail.png





8. Future Scope

- Mobile apps with offline support
- Advanced analytics and interactive dashboards
- Real-time notifications and alerts
- AI-driven log suggestions and workload predictions
- Enhanced document and curriculum management
- Intelligent scheduling with calendar integration
- Improved security with 2FA and audit logs
- Cloud deployment for scalability and backups