CHAPTER 1

INTRODUCTION

In the realm of higher education, the effective management of student attendance and leave is crucial for maintaining academic standards, ensuring regulatory compliance, and fostering a conducive learning environment. A Leave and Attendance Management Application designed specifically for colleges addresses these imperatives by providing a sophisticated digital platform to automate and streamline the processes associated with tracking student attendance, managing leave requests, and facilitating communication among students, faculty, and administrative personnel.

The primary goal of developing such an application is to enhance operational efficiency and transparency in managing student attendance and leave within the college setting. Traditional methods of attendance tracking and leave management often rely on manual processes, which can be prone to errors, time-consuming, and inefficient. By harnessing the power of technology, colleges can replace these antiquated systems with a modernized approach that leverages automation, real-time data analytics, and seamless integration with existing college management systems.

At its core, the Leave and Attendance Management Application aims to provide students with a user-friendly interface to submit leave requests online, allowing them to specify the reasons for their absence and the anticipated duration. This digital transformation not only simplifies the leave application process but also enhances accessibility and responsiveness, ensuring that students receive prompt notifications and updates on the status of their requests.

For faculty members and administrative staff, the application will offer comprehensive dashboards and reports that provide instant insights into student attendance records, leave balances, and historical attendance trends. These features empower educators to monitor attendance patterns proactively, identify students at risk of academic challenges due to irregular attendance, and intervene promptly to support their academic progress.

Furthermore, the application will be designed to integrate seamlessly with existing college systems, including student information systems, academic databases, and communication platforms. This integration ensures data consistency across different systems, enhances data

security through centralized management, and facilitates efficient communication and collaboration among various departments within the college.

The significance of implementing a Leave and Attendance Management Application in colleges extends beyond administrative convenience. It promotes a culture of accountability and transparency by establishing clear policies and procedures for managing student attendance and leave. By digitizing these processes, colleges can reduce administrative burdens, mitigate errors associated with manual data entry, and allocate resources more effectively towards supporting student learning and development.

Moreover, the application aligns with the evolving expectations of students and parents for seamless digital interactions with educational institutions. It enhances student satisfaction by providing them with greater autonomy in managing their academic schedules and leave requests, while also ensuring that faculty and staff have the tools they need to enforce attendance policies fairly and consistently..

Automate Attendance Tracking: Replace traditional paper registers with digital interfaces that enable students and faculty to record their attendance electronically. This real-time data capture ensures accuracy and timeliness while providing administrators with instant visibility into attendance patterns and trends.Streamline Leave Requests: Facilitate online submission of leave applications, allowing students and faculty to specify the type of leave, duration, and reason. Automated workflows route these requests to designated approvers based on predefined criteria, ensuring consistency and transparency in decision-making.

Enhance Administrative Efficiency: Reduce the administrative burden associated with manual data entry and processing by automating routine tasks such as leave approval, leave balance calculations, and attendance reconciliation. This allows administrative staff to focus on strategic initiatives and student-centric activities.

In conclusion, the development and implementation of a Leave and Attendance Management Application represent a transformative step towards modernizing administrative practices in higher education. By embracing technological innovation, colleges can not only enhance operational efficiency but also improve the overall educational experience for students, faculty, and administrative staff alike. This project underscores the importance of leveraging technology to meet the evolving needs of a digital-native generation while upholding the academic integrity and regulatory compliance that define the higher education landscape.

1.1 PROBLEM STATEMENT

In the contemporary college environment, the management of leave and attendance remains a critical yet cumbersome task largely reliant on outdated manual processes. Current methods predominantly involve paper-based attendance registers and cumbersome leave application forms, leading to inefficiencies, inaccuracies, and administrative burdens. These traditional systems are prone to errors in data entry and retrieval, resulting in discrepancies that impact academic evaluations, compliance with regulatory standards, and overall institutional efficiency. Moreover, the lack of real-time access to attendance data complicates timely intervention and decision-making by academic and administrative stakeholders

The current manual methods of managing leave and attendance in colleges are outdated and inefficient, relying on paper-based systems that lead to errors, delays, and administrative overhead. These systems lack real-time access to attendance data, causing challenges in monitoring student and faculty attendance, processing leave requests promptly, and ensuring compliance with institutional policies and regulatory standards. The absence of a centralized digital solution hampers administrative transparency, inhibits strategic resource allocation, and undermines the overall efficiency of college operations.

Therefore, there is a pressing need for a modern Leave and Attendance Management System that automates attendance tracking, streamlines leave application procedures, enhances data accuracy, and improves accessibility for stakeholders. Such a system would not only alleviate administrative burdens but also facilitate equitable treatment of all members of the college community while supporting the institution's commitment to academic excellence and operational effectiveness in the digital age.

1.2 MOTIVATION AND OBJECTIVE

MOTIVATION

The motivation behind implementing a Leave and Attendance Management System in college lies in its ability to modernize and streamline administrative processes, thereby improving overall operational efficiency and academic effectiveness. By replacing outdated manual methods with a digital platform, colleges can automate attendance tracking, simplify leave application procedures, and ensure real-time access to accurate data for both students and faculty. This automation not only reduces administrative burdens and minimizes errors but also enhances transparency, accountability, and fairness in managing leave approvals. Moreover,

the system supports strategic decision-making by providing insights into attendance trends and resource utilization, which are crucial for optimizing institutional resources and planning educational initiatives. Ultimately, a well-implemented Leave and Attendance Management System contributes to a more efficient and supportive learning environment, benefiting students, faculty, and administrative staff alike while aligning with the institution's commitment to excellence and innovation in higher education.

OBJECTIVE

The objective of implementing a Leave and Attendance Management System in a college setting is to streamline administrative processes, enhance operational efficiency, and foster a transparent and equitable environment for students, faculty, and administrative staff. By digitizing attendance tracking, the system aims to automate the recording of student and faculty attendance, ensuring real-time data accuracy and accessibility. This automation reduces the administrative burden associated with manual attendance management and provides stakeholders with timely insights into attendance patterns and trends.

Additionally, the system facilitates the management of leave applications by offering a centralized platform for students and faculty to submit requests, track application statuses, and receive notifications. Automated workflows streamline the approval process, improving efficiency and transparency while ensuring compliance with institutional policies and regulatory requirements.

Moreover, the system supports strategic decision-making by generating comprehensive reports and analytics on attendance records, leave utilization, and resource allocation. These insights enable college administrators to optimize staffing, allocate resources effectively, and plan academic schedules to meet institutional goals and academic needs.

Overall, the objective of the Leave and Attendance Management System is to modernize administrative practices, enhance user experience, promote accountability, and support the college's mission of providing a supportive and efficient environment for academic excellence and student success.

CHAPTER 2

LITERATURE SURVEY

The literature survey provides an overview of existing research and developments related to Pharmacy Management Systems (PMS), highlighting the key advancements, methodologies, and technologies that have been employed to enhance pharmacy operations. This survey aims to identify the gaps and challenges in current systems and propose solutions to address these issues.

Efficiency and Accuracy

Automated Processes: LAMS automate tedious manual tasks such as data entry, processing leave requests, and generating reports. This automation reduces administrative workload, minimizes errors, and accelerates response times for leave approvals (Al-Ali et al., 2019).

Streamlined Workflows: By providing a centralized platform for leave management, LAMS streamline workflows from application submission to approval. Automated workflows ensure that requests are routed to the appropriate authorities efficiently, maintaining consistent communication and reducing delays (Rehman et al., 2021).

Time Savings: Faculty, administrative staff, and students benefit from time-saving features inherent in LAMS. Quick access to attendance records, leave balances, and application statuses eliminates the need for manual follow-ups and enhances productivity across all levels of the institution (Kuruvilla & Dixit, 2018).Sales Tracking and Analysis

Transparency and Accountability

Visibility of Processes: LAMS provide stakeholders, including students, faculty, and administrative staff, with clear visibility into the entire leave and attendance management processes. This includes the submission of leave requests, their current status, and historical attendance records. Such transparency ensures that all parties have access to consistent and up-to-date information (Rehman et al., 2021).Accessible Policies and Guidelines: The system makes institutional policies and guidelines regarding leave entitlements, attendance requirements, and approval procedures readily accessible. This transparency helps stakeholders understand the expectations and requirements, reducing misunderstandings and disputes (Kuruvilla & Dixit, 2018).

Improved Resource Allocation

Attendance Patterns Analysis: LAMS capture and analyze attendance data, providing insights into student and faculty attendance patterns. By identifying peak attendance times and low-demand periods, colleges can optimize resource allocation for classrooms, facilities, and support services (Kuruvilla & Dixit, 2018).

Leave Trends Identification: Tracking leave trends through LAMS allows colleges to anticipate staffing needs and plan for substitute teachers or staff members effectively. This proactive approach minimizes disruptions to academic schedules and ensures continuity in educational delivery (Wu & Li, 2020).

Optimized Staffing Levels: Based on attendance and leave data, LAMS enable colleges to adjust staffing levels according to demand. This includes assigning faculty members to classes with higher attendance rates and ensuring adequate coverage during peak periods (Al-Ali et al., 2019).

Flexible Resource Management: With real-time visibility into leave balances and scheduling conflicts, LAMS empower administrators to allocate resources flexibly. This may involve reallocating teaching assignments, adjusting office hours, or deploying support staff efficiently across departments (Rehman et al., 2021).

Enhanced Compliance

Policy Enforcement: LAMS automate the enforcement of institutional policies related to attendance requirements, leave entitlements, and approval procedures. By defining rules and criteria within the system, colleges ensure consistency in policy application and minimize deviations that may lead to compliance issues (Kuruvilla & Dixit, 2018).

Transparent Processes: The transparency provided by LAMS allows stakeholders to access and review policies governing leave and attendance management. This visibility promotes understanding and compliance among students, faculty, and administrative staff, fostering a culture of accountability and adherence to institutional norms (Al-Ali et al., 2019).

Technological Integration and User Experience

Attendance Insights: LAMS provide real-time data on student attendance patterns, enabling colleges to optimize classroom usage. By analyzing attendance trends, administrators can

schedule classes more efficiently, reduce idle classroom hours, and maximize the utilization of educational facilities (Kuruvilla & Dixit, 2018).

Space Allocation: Understanding peak attendance times and low-demand periods allows colleges to allocate space effectively. LAMS help in managing room bookings, ensuring that classrooms, laboratories, and other facilities are utilized optimally throughout the academic term (Wu & Li, 2020).

Faculty Deployment: LAMS assist in allocating faculty members based on attendance data and teaching requirements. By matching faculty availability with course schedules, colleges can optimize teaching assignments, minimize workload discrepancies, and enhance instructional quality (Al-Ali et al., 2019).

Leave Planning: Tracking leave patterns through LAMS enables colleges to plan for substitute teachers or staff effectively. This proactive approach ensures continuity in educational delivery and minimizes disruptions caused by unplanned absences (Rehman et al., 2021).

CHAPTER 3

SYSTEM ANALYSIS

3.1 EXISTING SYSTEMS

here are some existing systems for leave and attendance management that are widely used across various industries: These systems typically involve:

1. Fedena: Fedena is a comprehensive school management software that includes modules for attendance management, leave management, timetable scheduling, and more. It is widely used in educational institutions globally.

2. Campus Management Systems (CMS): Many colleges use campus-wide management systems that include features for attendance tracking and leave management. Examples include Ellucian's Banner and Colleague systems, which are popular in higher education.

3. Moodle: While primarily known as a learning management system (LMS), Moodle can integrate with plugins and extensions that allow for attendance tracking and leave management functionalities. It's often used in universities for managing both academic and administrative tasks.

4. Infinite Campus: Infinite Campus is a student information system that also includes modules for attendance and leave management. It provides tools for tracking student attendance, managing leave requests, and generating reports.

5. iClassPro: iClassPro is a specialized software designed for class-based businesses, including dance studios and gymnastics centers, but it can also be adapted for use in colleges and universities for managing attendance and leave.

6.QuickSchools: QuickSchools is a cloud-based school management system that includes modules for attendance management, leave tracking, grading, and parent communication. It's suitable for both K-12 schools and colleges.

These systems vary in terms of features, usability, and scalability. Colleges often choose systems that integrate well with their existing infrastructure and provide comprehensive tools for managing student attendance, faculty leave, and administrative tasks efficiently.

3.2 PROPOSED SYSTEM

The Leave and attendance application aims to address the limitations of existing systems by providing a user-friendly interface and essential functionalities tailored to the needs of faculty, staff, and students.Key features and improvements include:

1.Employee Self-Service Portal: A web-based portal where employees can log in to request leaves, view their leave balances, and check attendance records.

2.Manager Dashboard: A dashboard for managers to approve or reject leave requests, view team calendars, and manage attendance exceptions.

3.Automated Leave Accrual: System should automatically calculate leave accrual based on company policies and employee tenure.

4.Integration with Payroll: Seamless integration with the payroll system to ensure accurate salary calculations based on attendance records.

5.Attendance Tracking: Utilization of biometric systems, RFID cards, or mobile apps for employees to clock in and out, with real-time attendance tracking.

6.Leave Types: Support for different types of leaves such as annual leave, sick leave, maternity/paternity leave, and special leave.

7.Leave Approval Workflow: Defined workflows for leave approval, ensuring that requests are routed to the appropriate managers based on organizational hierarchy.

8.Notifications and Reminders: Automated notifications and reminders for pending leave requests, upcoming leave expirations, and attendance anomalies.

9.Compliance and Reporting: Generate reports on employee attendance trends, leave utilization, and compliance with labor laws and company policies.

10.Security and Access Control: Implement strong security measures to protect sensitive employee data and ensure access control based on roles and responsibilities.

11.Mobile Accessibility: Mobile-friendly interfaces or dedicated mobile apps to allow employees and managers to manage leave and attendance on the go.

12.Analytics and Insights: Utilize data analytics to provide insights into workforce management, helping to optimize staffing levels and identify trends.

13.Customization and Scalability: Ability to customize the system to fit specific organizational needs and scalable to accommodate growth.

14.Audit Trail: Maintain an audit trail of all transactions and changes made within the system for accountability and compliance purposes.

15.User Training and Support: Provide training sessions and ongoing support to ensure employees and managers can effectively use the system.

3.3 BENEFITS OF THE PROPOSED SYSTEM

Efficiency and Time Savings: Automating leave requests, approvals, and attendance tracking reduces manual effort and paperwork. This saves time for both employees and HR personnel, allowing them to focus on more strategic tasks.

Accurate Leave Tracking: The system ensures accurate calculation of leave balances, accruals, and usage, reducing errors and discrepancies. This helps in maintaining fairness and transparency in leave policies.

Improved Compliance: By automating leave policies and integrating with payroll, the system helps ensure compliance with labor laws, company policies, and collective agreements. This reduces risks related to non-compliance.

Enhanced Employee Satisfaction: Employees benefit from easier access to leave information, transparency in leave approval processes, and timely notifications. This improves overall employee satisfaction and morale.

Better Decision Making: Managers gain access to real-time attendance data and leave analytics, allowing them to make informed decisions related to staffing, scheduling, and resource allocation. In summary, the proposed Pharmacy Management System aims to modernize and integrate pharmacy operations, addressing the limitations of existing systems and delivering a more efficient, accurate, and customer-focused solution.

Overall, a well-implemented leave and attendance management system contributes to organizational productivity, efficiency, compliance, and employee satisfaction, making it a valuable investment for businesses of all sizes.

CHAPTER 4

SYSTEM DESIGN

4.1 ARCHITECTURAL DIAGRAM

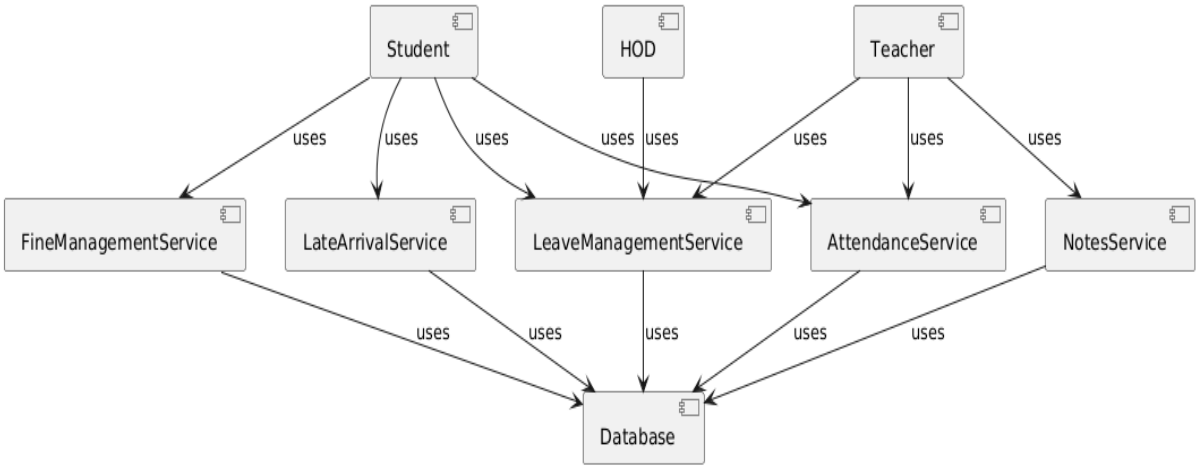


Fig 4.1 Architectural Diagram

The figure is a UML Component Diagram for a leave and attendance management System, illustrating the relationships between different components and actors involved in the system. Here's a breakdown of the diagram:

Components:

1. Student: Represents the students in the system who interact with various services to manage fines, late arrivals, and leave requests.

2. HOD: Represents the Head of Department who oversees and manages services related to fines, leave requests, and can directly access the database.

3. Teacher: Represents teachers who interact with services related to attendance, leave management, and notes.

4. Fine Management Service: Manages fines imposed on students, including tracking, calculation, and reporting.

5. Late Arrival Service: Manages records of late arrivals by students, providing logs and statistics.

6. Leave Management Service: Handles leave requests and approvals for students and teachers, ensuring proper documentation and processing.

7. Attendance Service: Manages attendance records for students, tracking daily presence and absences.

8. Notes Service**:** Facilitates the sharing and management of notes and educational materials between teachers and students.

9. Database: Central repository for storing all the data related to fines, late arrivals, leave requests, attendance, and notes.

Interfaces:

1. Student: Students interact with this service to check attendance and manage their fines.

2. HOD: Oversees fines, leave requests, and accesses the database.

3. Teacher: Manages attendance, leave, and notes interactions.

4. Fine Management Service: Tracks and reports student fines.

5. Late Arrival Service: Logs and manages student late arrivals.

6. Leave Management Service: Processes and tracks leave requests.

7. Attendance Service: Manages student attendance records.

8. Notes Service: Facilitates note-sharing between teachers and students.

9. Database: Central repository for all related data.

Data Flows:

Students interact with the Fine Management Service to handle fines, the Late Arrival Service to log late arrivals, and the Leave Management Service to apply for leave. The HOD (Head of Department) uses the Fine Management Service to manage fines, the Leave Management Service to approve leave requests, and accesses the Database directly for data management. Teachers interact with the Attendance Service to manage attendance records, the Leave Management Service to handle their leave requests, and the Notes Service to share educational materials. All these services store and retrieve their respective data from the central Database.

4.2 ER DIAGRAM

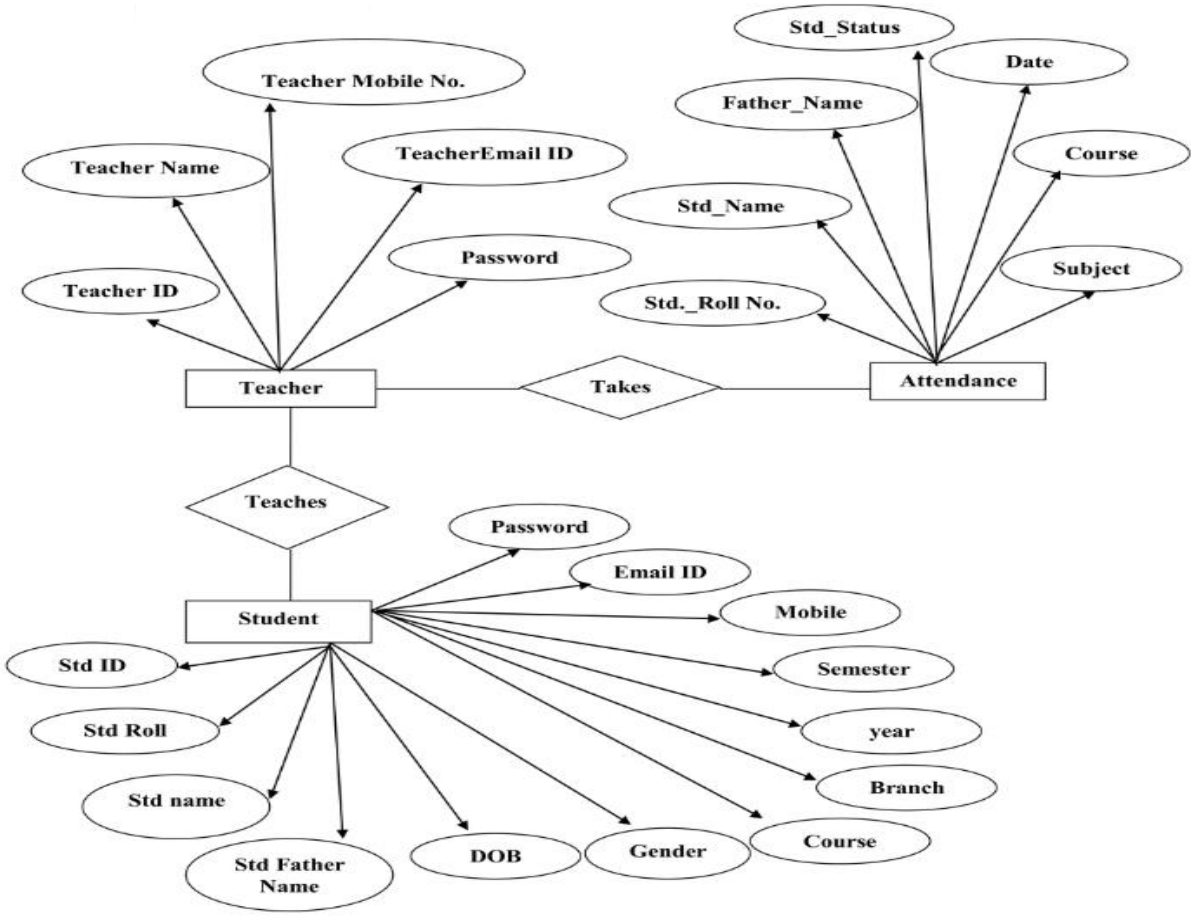


Fig 4.2 ER Diagram

4.3 USECASE DIAGRAM

The Use Case Diagram helps in identifying the interactions between users (actors) and the system.

Actors:

- **HOD(Admin)**
- **Teacher**
- **Student**

Use Cases:

- Approve/Reject Leave Request (HOD)
- View Attendance Reports
- Manage Fines

- Mark Attendance
- Upload Notes
- View Student Attendance
- Submit Leave Request
- View Leave Status
- View Attendance
- Pay Fine

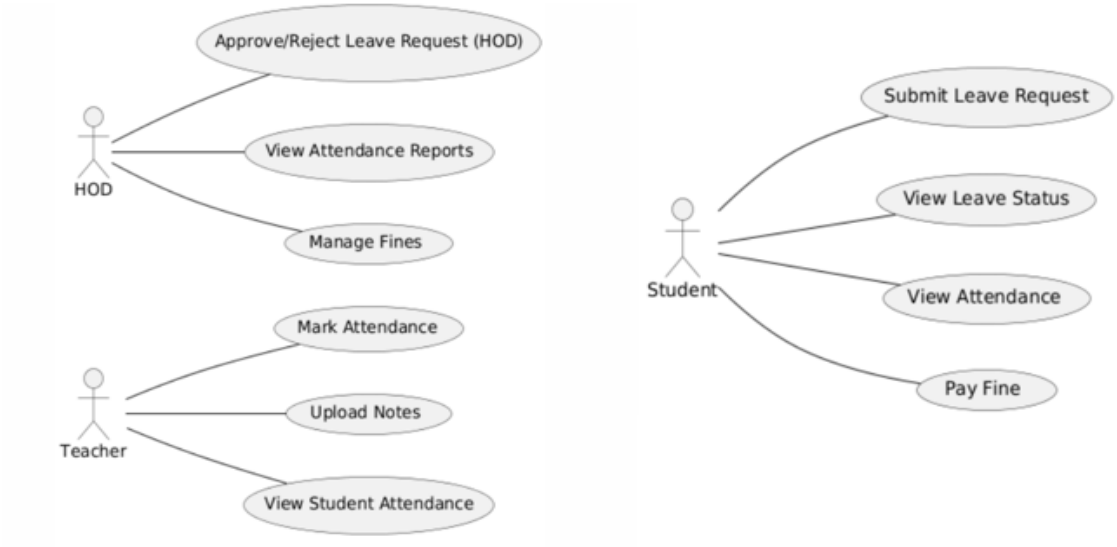


Fig 4.3 Usecase Diagram

The Use Case Diagram provides a visual representation of the interactions between the users (actors) and the Leave and attendance Management System. Here's a detailed explanation of the components and their roles:

Use Cases:

HOD (Head of Department):

1. **Approve/Reject Leave Request (HOD)**: The HOD has the authority to approve or reject leave requests submitted by students.

2. **View Attendance Reports**: The HOD can view attendance reports, which likely include attendance data for all students within the department.
3. **Manage Fines**: The HOD is responsible for managing fines, which could be imposed for various reasons like attendance issues or library fines.

Teacher

1. **Mark Attendance**: Teachers can mark the attendance of students in their classes.
2. **Upload Notes**: Teachers can upload notes for students to access, which can include lecture notes, assignments, and other study materials.
3. **View Student Attendance**: Teachers can view the attendance records of their students to monitor their attendance patterns and identify any issues.

Student

1. **Submit Leave Request**: Students can submit leave requests, which will be reviewed by the HOD for approval or rejection.
2. **View Leave Status**: Students can check the status of their leave requests to see if they have been approved or rejected.
3. **View Attendance**: Students can view their own attendance records to keep track of their attendance and identify any discrepancies.
4. **Pay Fine**: Students can pay fines that have been imposed on them, which could be for reasons like overdue library books or disciplinary actions.

4.4 CLASS DIAGRAM

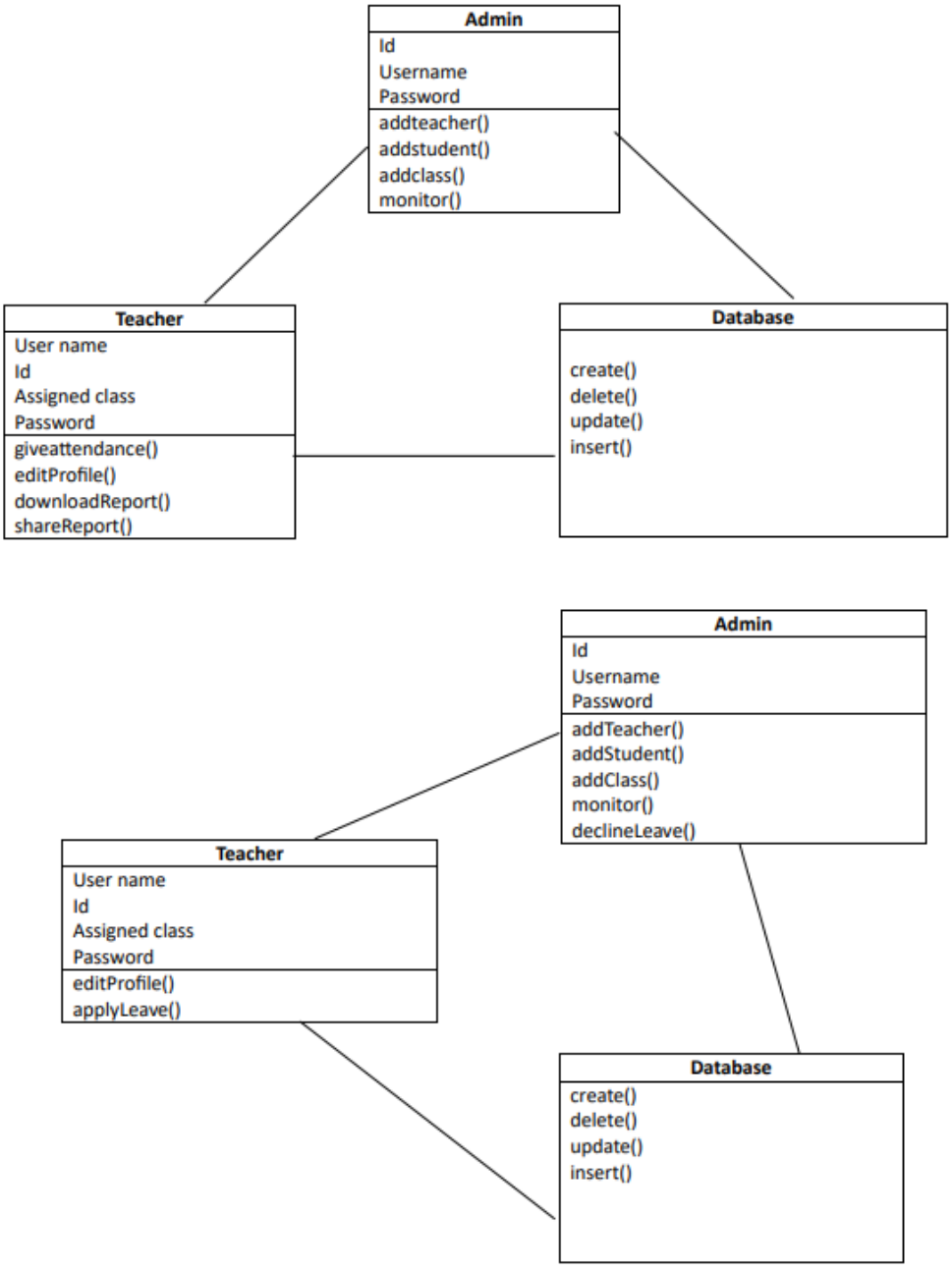


Fig 4.4 Class Diagram

The Class Diagram illustrates the static structure of the Leave Management System, showing the system's classes, their attributes, methods, and the relationships between them. Here's a detailed explanation of each class and their interactions:

Classes:

Admin:

- **Attributes:**
  - Id: Unique identifier for the admin.
  - Username: Admin's username.
  - Password: Admin's password.
- **Methods:**
  - addTeacher(): Method to add a new teacher to the system.
  - addStudent(): Method to add a new student to the system.
  - addClass(): Method to add a new class to the system.
  - monitor(): Method to monitor the activities within the system.
  - acceptLeave(): Method to accept leave requests (present in the lower Admin class).
  - declineLeave(): Method to decline leave requests (present in the lower Admin class).

Teacher:

- **Attributes:**
  - Username: Teacher's username.
  - Id: Unique identifier for the teacher.
  - Assigned Class: The class assigned to the teacher.
  - Password: Teacher's password.
- **Methods:**
  - giveAttendance(): Method for teachers to mark attendance.
  - editProfile(): Method for teachers to edit their profile information.
  - downloadReport(): Method for teachers to download reports.
  - shareReport(): Method for teachers to share reports.
  - applyLeave(): Method for teachers to apply for leave (present in the lower Teacher class).

Database:

- **Methods:**
  - create(): Method to create new entries in the database.
  - delete(): Method to delete entries from the database.
  - update(): Method to update existing entries in the database.
  - insert(): Method to insert new records into the database.

4.5 ACTIVITY DIAGRAM

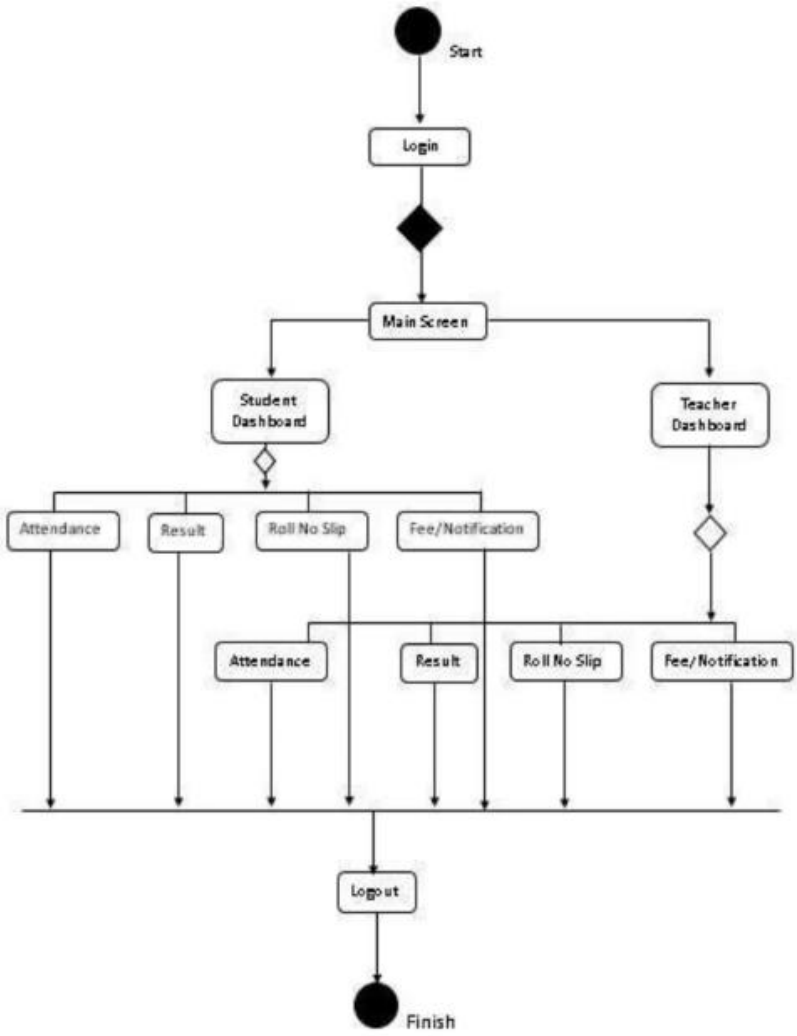


Fig 4.4 Activity Diagram

1. **Start**: The process begins.

2. **Login**: User logs in.

3. **Main Screen**: Decision: Is the user a student?

    - **Yes**: Proceed to Student Dashboard.
    - **No**: Proceed to Teacher Dashboard.

4. **Student Dashboard**: Decision: Select an option (Attendance, Result, Roll No Slip, Fee/Notification).

- **Attendance**: Access attendance information.
- **Result**: Access result information.
- **Roll No Slip**: Access roll no slip.
- **Fee/Notification**: Access fee/notification information.

5.**Teacher Dashboard**: Decision: Select an option (Attendance, Result, Roll No Slip, Fee/Notification).

- **Attendance**: Access attendance information.
- **Result**: Access result information.
- **Roll No Slip**: Access roll no slip.
- **Fee/Notification**: Access fee/notification information.

6. **Logout**: User logs out.

7. Finish: The process ends.

4.6 SEQUENCE DIAGRAM

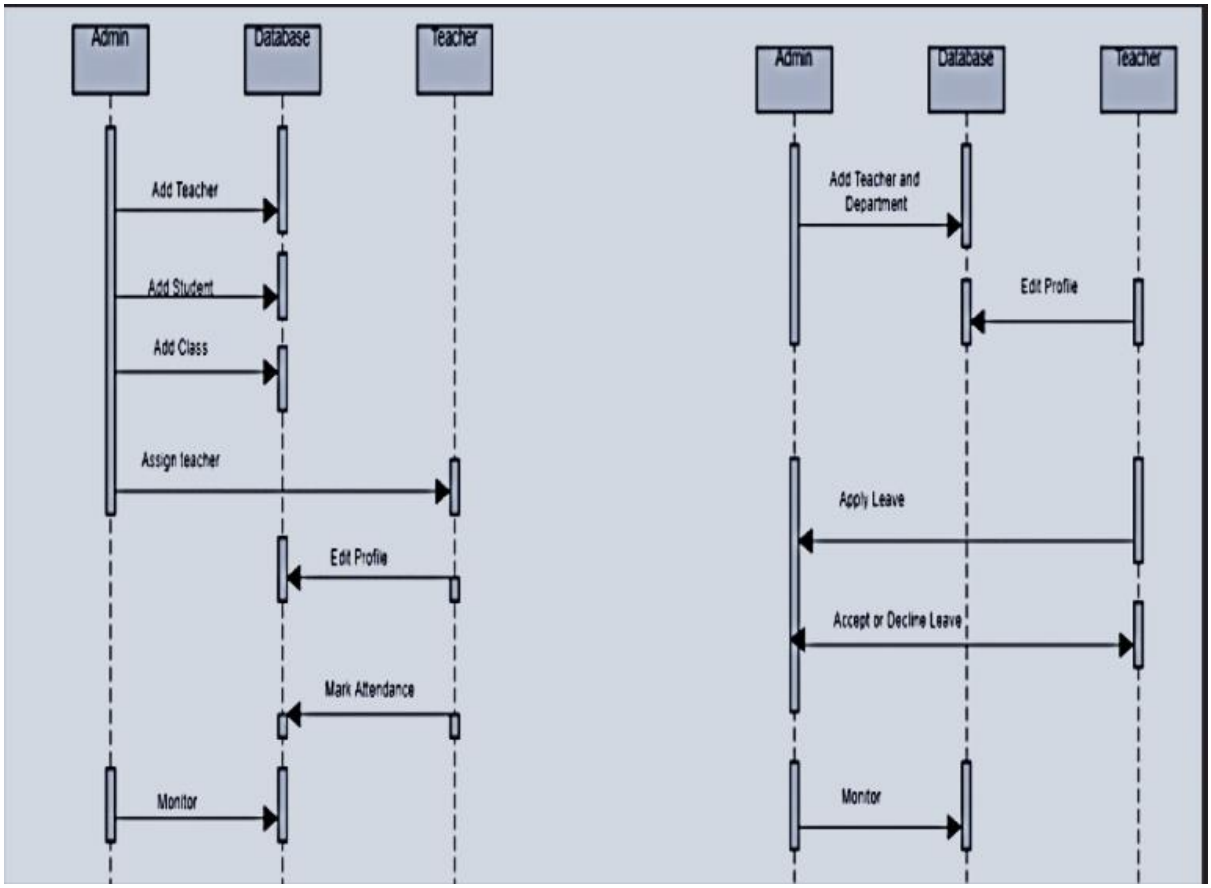


Fig 4.6 Sequence Diagram

1. Student logs attendance:

- Student -> Attendance Service: Log attendance
- Attendance Service -> Database: Store attendance record
- Database -> Attendance Service: Return success
- Attendance Service -> Student: Attendance logged

2. Teacher records attendance:

- Teacher -> Attendance Service: Record attendance
- Attendance Service -> Database: Update attendance record
- Database -> Attendance Service: Return success
- Attendance Service -> Teacher: Attendance recorded

3. Student submits leave request:

- Student -> Leave Management Service: Submit leave request
- Leave Management Service -> Database: Store leave request
- Database -> Leave Management Service: Return success
- Leave Management Service -> Student: Leave request submitted

4. Teacher reviews leave request:

- Teacher -> Leave Management Service: Review leave request
- Leave Management Service -> Database: Update leave request status
- Database -> Leave Management Service: Return success
- Leave Management Service -> Teacher: Leave request reviewed

CHAPTER 5

IMPLEMENTATION

5.1 REGISTRATION FORM

```
import 'package:flutter/material.dart';
import 'package:leave_management_app/services/api_service.dart';
import 'package:leave_management_app/widgets/my_button.dart';
import 'package:leave_management_app/widgets/my_text_field.dart';


class RegisterPage extends StatefulWidget {
  const RegisterPage({super.key});


  @override
  _RegisterPageState createState() => _RegisterPageState();
}


class _RegisterPageState extends State<RegisterPage> {
  final TextEditingController fullNameController = TextEditingController();
  final TextEditingController usernameController = TextEditingController();
  final TextEditingController passwordController = TextEditingController();
  final TextEditingController emailController = TextEditingController();
  final ApiService apiService = ApiService();
  String selectedRole = 'student'; // Default selected role


  void registerUser(BuildContext context) async {
```

```
String fullName = fullNameController.text;
String username = usernameController.text;
String password = passwordController.text;
String email = emailController.text;
String role = selectedRole;

if (fullName.isNotEmpty &&
    username.isNotEmpty &&
    password.isNotEmpty &&
    email.isNotEmpty &&
    role.isNotEmpty) {
  try {
    final success = await apiService.register(
        fullName, username, password, email, role);
    if (success) {
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(
          content: Text('Registration successful.'),
          duration: Duration(seconds: 2),
        ),
      );
      Navigator.pop(context); // Go back to login page
    } else {
      ScaffoldMessenger.of(context).showSnackBar(
```

```
          SnackBar(
            content: Text('Registration failed.'),
            duration: Duration(seconds: 2),
          ),
        );
      }
    } catch (e) {
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(
          content: Text('Error: $e'),
          duration: Duration(seconds: 2),
        ),
      );
    }
  } else {
    ScaffoldMessenger.of(context).showSnackBar(
      SnackBar(
        content: Text('Please fill in all fields.'),
        duration: Duration(seconds: 2),
      ),
    );
  }
}
```

```
@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.grey[300],
    body: SafeArea(
      child: Center(
        child: SingleChildScrollView(
          padding: EdgeInsets.symmetric(horizontal: 25.0),
          child: Column(
            mainAxisSize: MainAxisSize.min,
            mainAxisAlignment: MainAxisAlignment.center,
            children: [
              const SizedBox(height: 50),
              Image.asset(
                'assets/images/college_logo.png',
                height: 250,
              ),
              const SizedBox(height: 50),
              Text(
                'Create a new account',
                style: TextStyle(
                  color: Colors.grey[700],
                  fontSize: 16,
                ),
```

```
  textAlign: TextAlign.center,
),
const SizedBox(height: 25),
MyTextField(
  controller: fullNameController,
  hintText: 'Full Name',
  obscureText: false,
),
const SizedBox(height: 10),
MyTextField(
  controller: usernameController,
  hintText: 'Username',
  obscureText: false,
),
const SizedBox(height: 10),
MyTextField(
  controller: passwordController,
  hintText: 'Password',
  obscureText: true,
),
const SizedBox(height: 10),
MyTextField(
  controller: emailController,
  hintText: 'Email',
```

```
  obscureText: false,
),
const SizedBox(height: 10),
// Dropdown for role selection
DropdownButtonFormField<String>(
  value: selectedRole,
  onChanged: (String? newValue) {
    setState(() {
      selectedRole = newValue!;
    });
  },
  items: <String>['student', 'faculty', 'hod']
      .map<DropdownMenuItem<String>>((String value) {
    return DropdownMenuItem<String>(
      value: value,
      child: Text(value),
    );
  }).toList(),
  decoration: InputDecoration(
    border: OutlineInputBorder(),
    contentPadding: EdgeInsets.symmetric(horizontal: 10),
    labelText: 'Role',
  ),
),
```

```
            const SizedBox(height: 20),
            MyButton(
              onTap: () => registerUser(context),
              label: 'Register',
            ),
            const SizedBox(height: 50),
          ],
        ),
      ),
    ),
  );
 }
}
```

5.2 LOGIN

```
import 'package:flutter/material.dart';
import 'package:leave_management_app/screens/faculty/faculty home.dart';
import 'package:leave_management_app/screens/hod/hod_home.dart';
import 'package:leave_management_app/screens/student/student_home.dart';
import 'package:leave_management_app/screens/register_page.dart';
import 'package:leave_management_app/services/api_service.dart';
import 'package:leave_management_app/widgets/my_button.dart';
import 'package:leave_management_app/widgets/my_text_field.dart';
```

```
class LoginPage extends StatelessWidget {
  LoginPage({super.key});

  final TextEditingController usernameController = TextEditingController();
  final TextEditingController passwordController = TextEditingController();
  final ApiService apiService = ApiService();

  void signUserIn(BuildContext context) async {
    String username = usernameController.text;
    String password = passwordController.text;

    if (username.isNotEmpty && password.isNotEmpty) {
      try {
        final data = await apiService.login(username, password);

        // Debugging output
        print('Login API response: $data');

        if (data.containsKey('role')) {
          String role = data['role'];

          if (role == "student") {
            Navigator.pushReplacement(
```

```
      context,
      MaterialPageRoute(
        builder: (context) => StudentHomePage(),
      ),
    );
  } else if (role == "faculty") {
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(
        builder: (context) => FacultyHomePage(),
      ),
    );
  } else if (role == "hod") {
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(
        builder: (context) => HodHomePage(),
      ),
    );
  } else {
    ScaffoldMessenger.of(context).showSnackBar(
      SnackBar(
        content: Text('Invalid role.'),
        duration: Duration(seconds: 2),
```

```
          ),
        );
      }
    } else if (data.containsKey('message')) {
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(
          content: Text(data['message']),
          duration: Duration(seconds: 2),
        ),
      );
    } else {
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(
          content: Text('Invalid response from server.'),
          duration: Duration(seconds: 2),
        ),
      );
    }
  } catch (e) {
    // Enhanced error handling
    print('Error during login: $e');
    ScaffoldMessenger.of(context).showSnackBar(
      SnackBar(
        content: Text('Error: $e'),
```

```
          duration: Duration(seconds: 2),
        ),
      );
    }
  } else {
    ScaffoldMessenger.of(context).showSnackBar(
      SnackBar(
        content: Text('Please enter both username and password.'),
        duration: Duration(seconds: 2),
      ),
    );
  }
}
void navigateToRegisterPage(BuildContext context) {
  Navigator.push(
    context,
    MaterialPageRoute(builder: (context) => RegisterPage()),
  );
}
@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.grey[300],
    body: SafeArea(
```

```
child: Center(
  child: SingleChildScrollView(
    padding: EdgeInsets.symmetric(horizontal: 25.0),
    child: Column(
      mainAxisSize: MainAxisSize.min,
      mainAxisAlignment: MainAxisAlignment.center,
      children: [
        const SizedBox(height: 50),
        Image.asset(
          'assets/images/college_logo.png',
          height: 250,
        ),
        const SizedBox(height: 50),
        Text(
          'Welcome back, you\'ve been missed!',
          style: TextStyle(
            color: Colors.grey[700],
            fontSize: 16,
          ),
          textAlign: TextAlign.center,
        ),
        const SizedBox(height: 25),
        MyTextField(
          controller: usernameController,
```

```
            hintText: 'USN',
            obscureText: false,
          ),
          const SizedBox(height: 10),
          MyTextField(
            controller: passwordController,
            hintText: 'Password',
            obscureText: true,
          ),
          const SizedBox(height: 20),
          MyButton(
            onTap: () => signUserIn(context),
            label: 'Sign In',
          ),
          const SizedBox(height: 20),
          TextButton(
            onPressed: () => navigateToRegisterPage(context),
            child: Text('Don\'t have an account? Register here'),
          ),
          const SizedBox(height: 50),
        ],
      ),
    ),
  ),
```

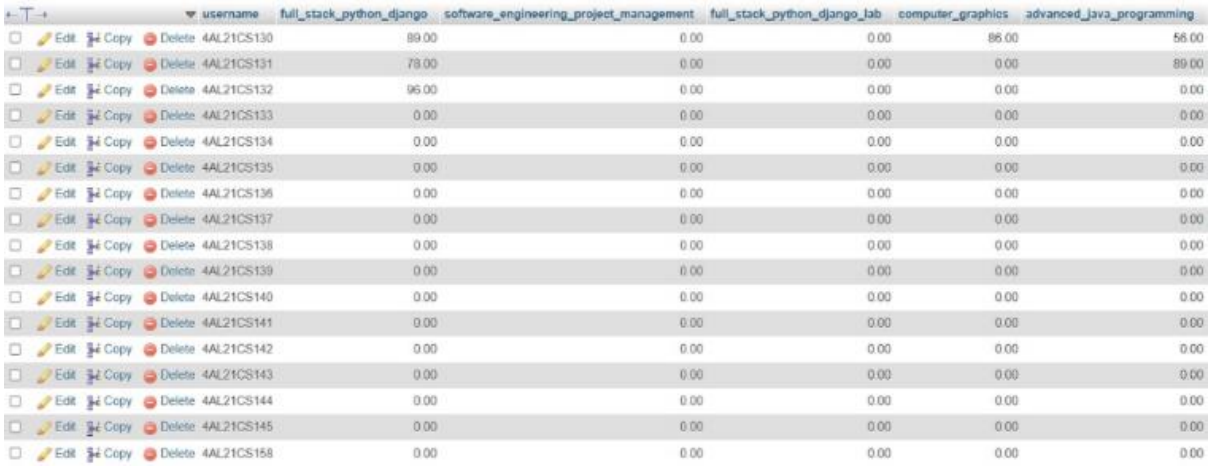
```
      ),
    );
  }
}
```

5.3 DATABASES

	id	faculty_id	subject	file_path	uploaded_at
Edit Copy Delete	25	1	Full Stack Development (Python Django)	uploads/full-stack.pdf	2024-07-16 16:45:59

Check all With selected: Edit Copy Delete Export

Fig 5.1 Notes



	username	full_stack_python_django	software_engineering_project_management	full_stack_python_django_lab	computer_graphics	advanced_java_programming
Edit Copy Delete	4AL21CS130	89.00	0.00	0.00	86.00	56.00
Edit Copy Delete	4AL21CS131	78.00	0.00	0.00	0.00	89.00
Edit Copy Delete	4AL21CS132	96.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS133	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS134	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS135	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS136	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS137	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS138	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS139	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS140	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS141	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS142	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS143	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS144	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS145	0.00	0.00	0.00	0.00	0.00
Edit Copy Delete	4AL21CS158	0.00	0.00	0.00	0.00	0.00

Fig 5.2 Attendance

	id	username	start_date	end_date	reason	status	created_at
Edit Copy Delete	21	4AL21CS134	2024-07-26	2024-07-27	going to temple	pending	2024-07-24 03:38:32

Check all With selected: Edit Copy Delete Export

Fig 5.3 Leave Application

	id	username	fine_amount	created_at
Edit Copy Delete	1	4AL21CS134	800.00	2024-07-13 20:36:00
Edit Copy Delete	2	4AL21CS135	600.00	2024-07-13 20:36:31
Edit Copy Delete	4	4AL21CS158	5000.00	2024-07-16 23:26:22
Edit Copy Delete	5	4AL21CS134	900.00	2024-07-23 16:02:08

Fig 5.3 Fines List

	id	leave_id	username	start_date	end_date	reason	rejected_at
Edit Copy Delete	13	NULL	4AL21CS134	2024-07-16	2024-07-19	tample	2024-07-16 22:51:56
Edit Copy Delete	14	NULL	4AL21CS134	2024-07-20	2024-07-23	hospital	2024-07-16 23:01:26

Check all *With selected* Edit Copy Delete Export

Fig 5.4 Rejected List

	id	leave_id	username	start_date	end_date	reason	approved_at
Edit Copy Delete	22	NULL	4AL21CS134	2024-07-16	2024-07-19	home	2024-07-16 22:48:12
Edit Copy Delete	23	NULL	4AL21CS135	2024-07-16	2024-07-19	marriage	2024-07-16 23:01:30
Edit Copy Delete	24	NULL	4AL21CS134	2024-07-23	2024-07-26	GOING HOME	2024-07-23 15:59:42

Fig 5.5 Approved List

	id	username	password	role	email	full_name
Edit Copy Delete	196	4AL21CS134	$2y$10$dyKroWr7pi5cJxoiyuh73.m2VtgsYak3TbMMaGp1wMy...	student	alsharath66@gmail.com	Sharath A L
Edit Copy Delete	197	4AL21CS135	$2y$10$3721vbIfMxiQVybK19fixeV6Gy5IrT77wkkOJEwA0Fr	student	sharathal001@gmail.com	sharvari roa
Edit Copy Delete	199	HOD001	$2y$10$tY0Wh0KjpCleJopbNekqJOH0WGdtmJKjt79wcnizFL9...	hod	hod@gmail.com	Manjunath Kotari
Edit Copy Delete	200	CSE001	$2y$10$OTrPvgqHL5APlUIR9PRTDOVRgC2RNbbEJm1QFZti5x...	faculty	deeksha@gmail.com	Deeksha
Edit Copy Delete	201	4AL21CS132	$2y$10$LboJA2JzaMsclaCgYFJr6eMedpMxboFZ21UxoNKEpwX...	student	4al21cs132@gmail.com	Seethalakshmi
Edit Copy Delete	202	4AL21CS136	$2y$10$i1uDbj1SgGnucKGVQh0ZOORSmFjqqMniQwe4lUgjxAG...	student	shasha@gmail.com	SHASHIKIRAN
Edit Copy Delete	203	4AL21CS137	$2y$10$3V6auBb0RjoZgSG49CZKSO0haPCSMncgG8EInbmoTWE...	student	deepthi@gmail.com	DEEPTHI BALIJA SETTY
Edit Copy Delete	204	4AL21CS175	$2y$10$sDoDCoWTI0bH9Ti2NNaOFUFhWjlXvjEbPX/BGcbRov...	student	veeresh@gmail.com	VEERESH AKKI
Edit Copy Delete	205	4AL21CS158	$2y$10$au160MQaQ5fF/jw4KrSyyNxX73F0Fwl4pmXG0BuQ/...	student	subbu@gmail.com	SUBRAHMANYA GANIGA

Fig 5.6 Users

CHAPTER 6

RESULTS

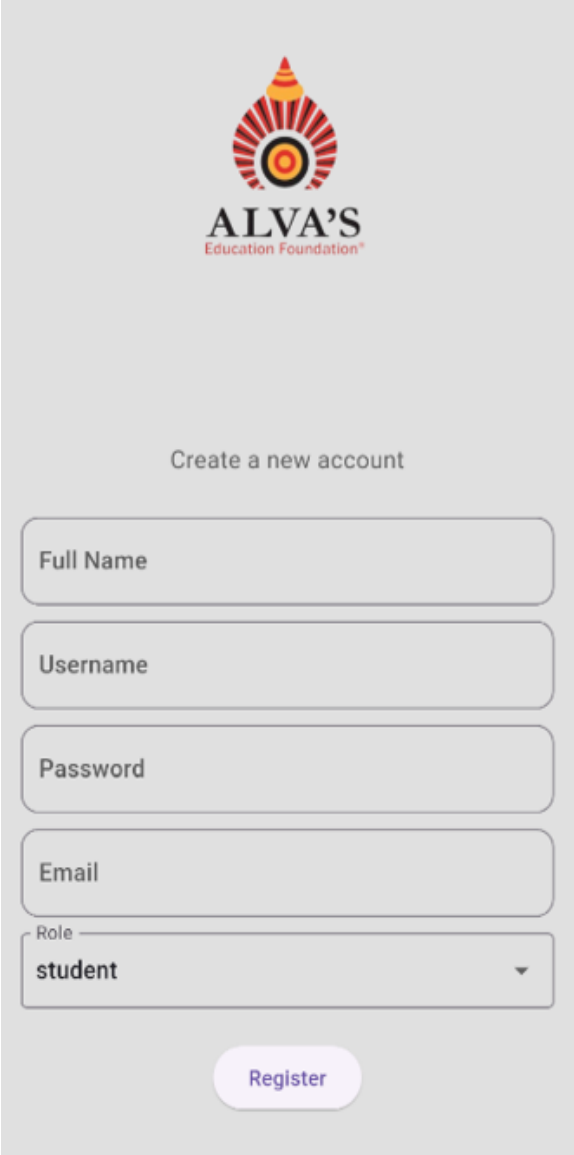


Fig 6.1 Registration Form

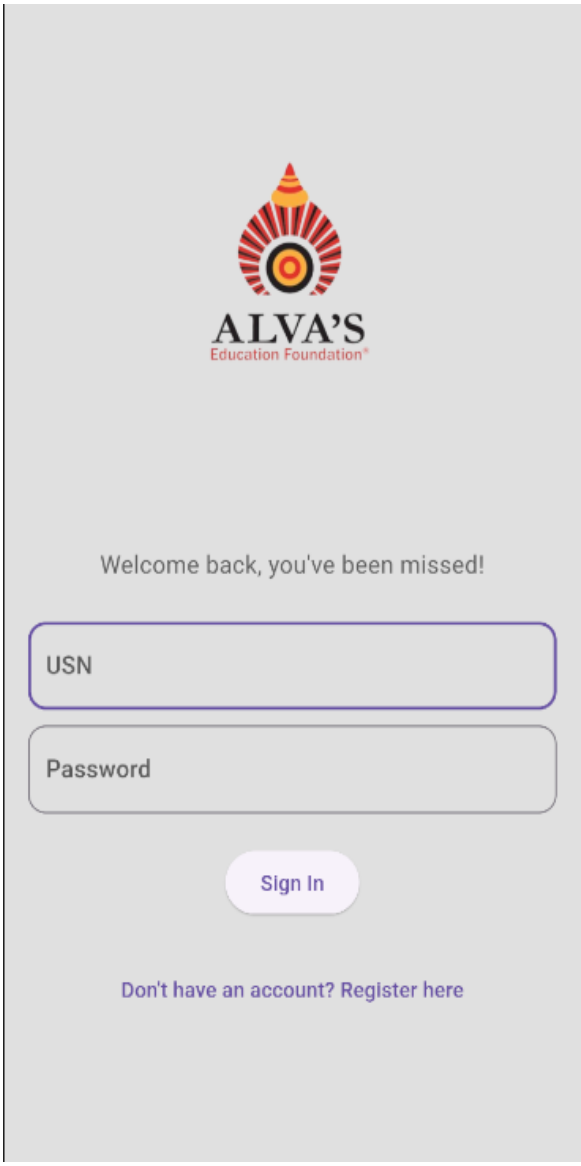


Fig 6.2 Login Page

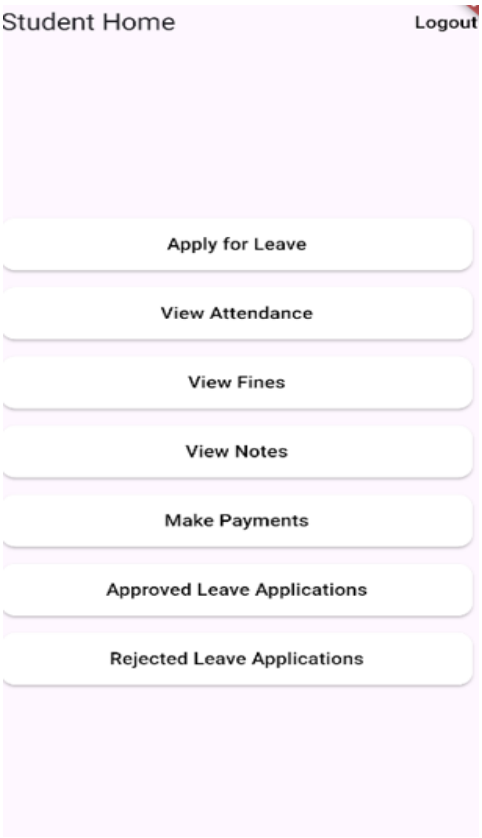


Fig 6.3 Student home page

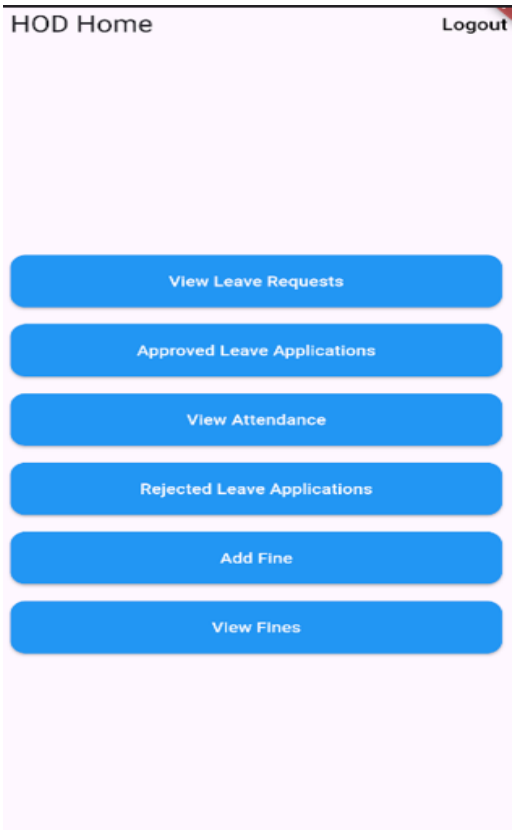


Fig 6.4 HOD homepage

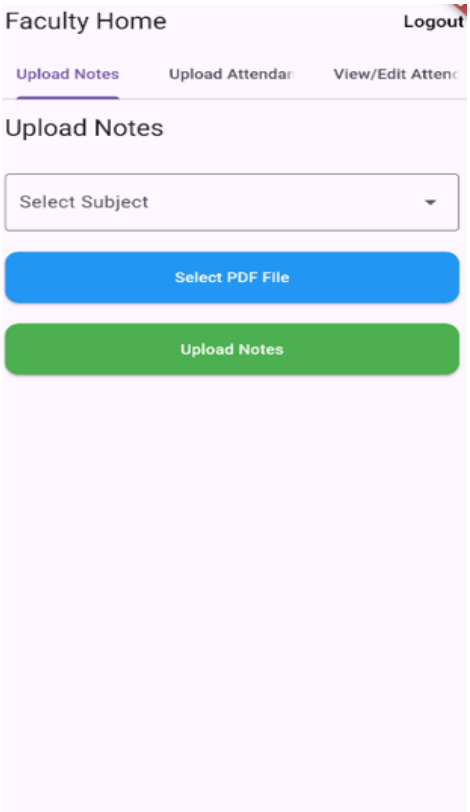


Fig 6.5 Upload notes

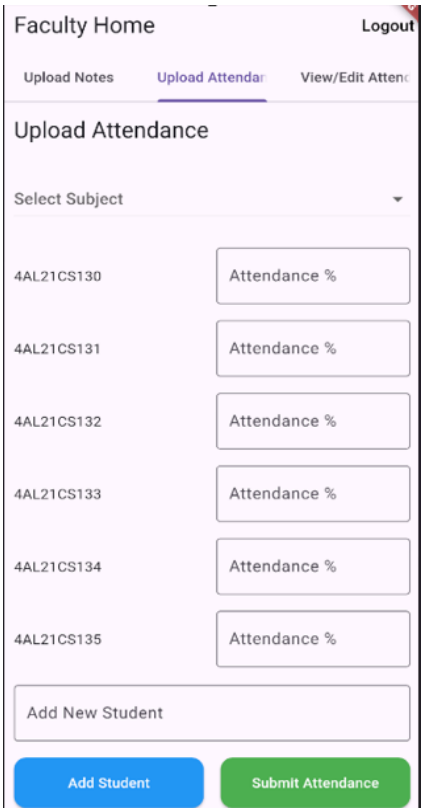


Fig 6.6 Upload attendance

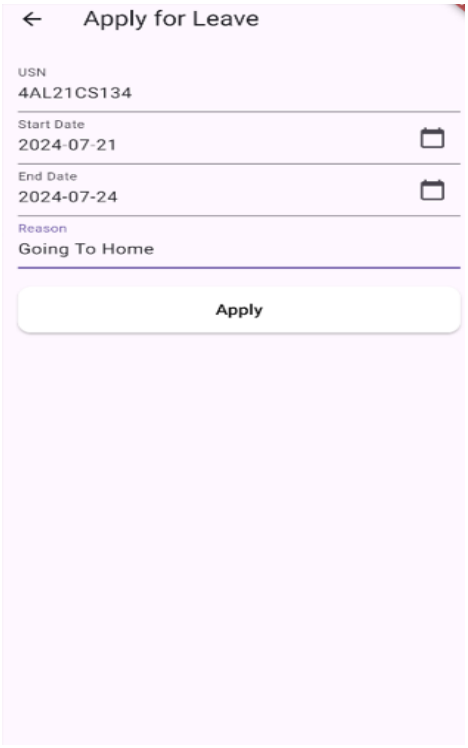


Fig 6.7 Apply for leave

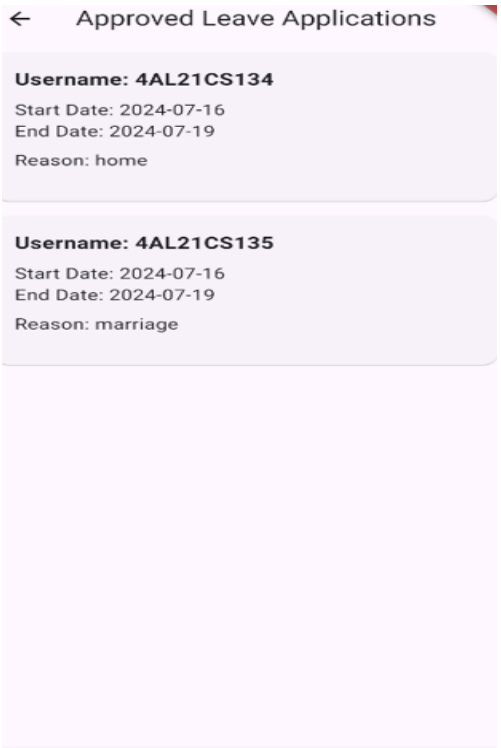


Fig 6.8 Approved Leave application

Fig 6.9 Rejected leave application

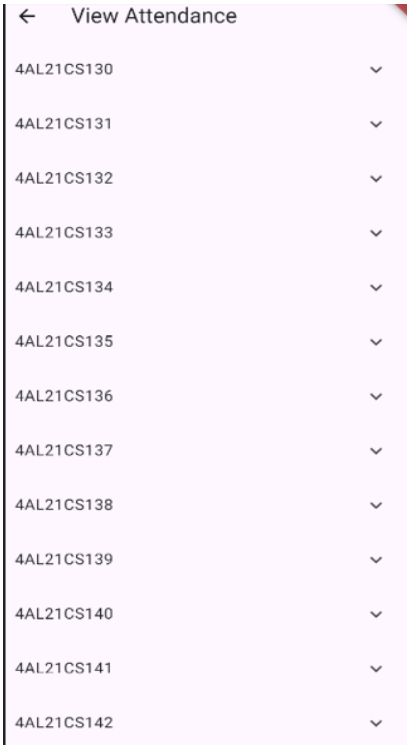


Fig 6.10 View attendance

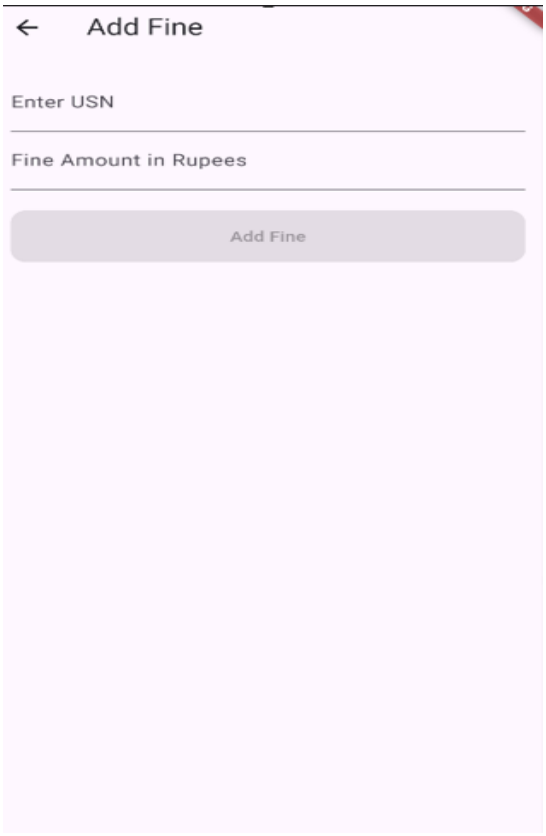


Fig 6.11 Adding of fines

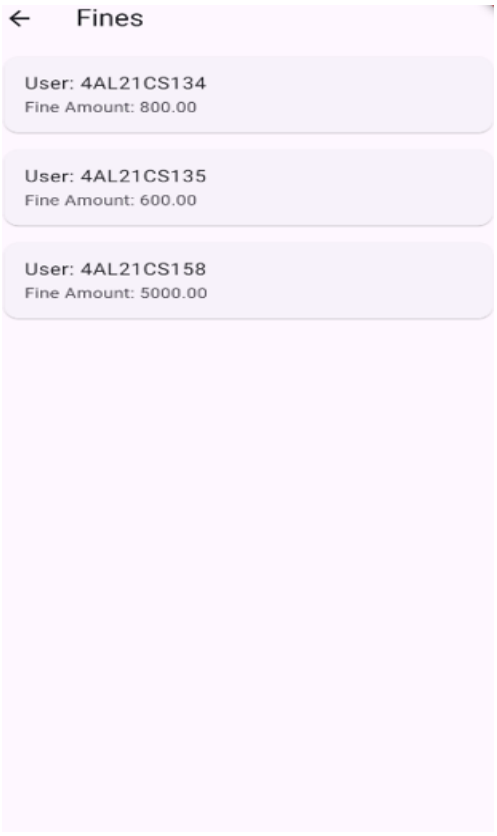


Fig 6.12 Viewing of fines

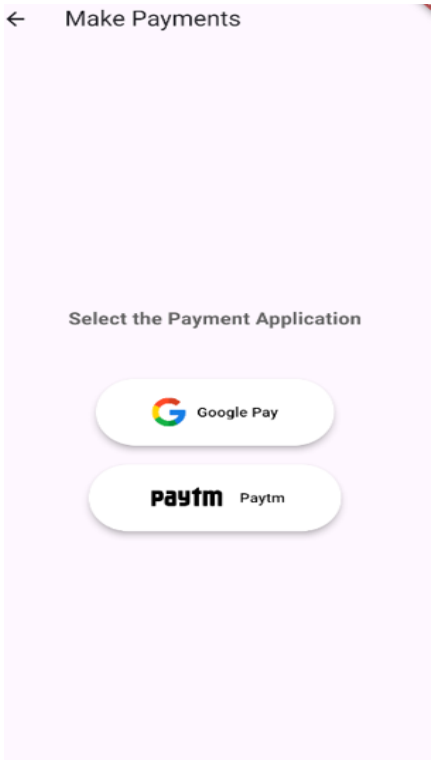


Fig 6.13 Payment

CHAPTER 7

CONCLUSION

In conclusion, implementing a comprehensive leave and attendance management system in colleges brings numerous benefits that enhance administrative efficiency, student engagement, and overall academic performance. By digitizing and automating processes related to leave applications and attendance tracking, colleges can streamline operations, reduce administrative burdens, and ensure accurate record-keeping.

Such systems provide students with convenient tools to apply for leaves, check their attendance records, and receive timely notifications, thereby promoting transparency and accountability. This fosters a more organized learning environment where students can manage their academic schedules effectively.

For faculty and administrative staff, these systems offer real-time insights into attendance trends, leave patterns, and overall student attendance rates. This data-driven approach enables informed decision-making regarding student support services, class scheduling, and resource allocation.

Moreover, integrating leave and attendance management with other institutional systems such as student information systems and payroll ensures seamless data flow and consistency across various departments. This integration enhances overall operational efficiency and reduces the likelihood of errors in payroll processing and compliance reporting.

By investing in a robust leave and attendance management system, colleges can not only improve administrative efficiency but also enhance student satisfaction, faculty productivity, and institutional effectiveness. Ultimately, these systems contribute to creating a conducive learning environment that supports academic success and student well-being.

Therefore, embracing technology to manage leave and attendance in colleges is not just a matter of modernization but a strategic investment in optimizing educational processes and fostering a positive educational experience for all stakeholders involved.

REFERENCES

1. Employee Attendance Management: A Step-by-Step Guide" by Mariusz Soltanifar

2. "HR Systems: Leave and Attendance Management" by Robert W. Mathis and John H. Jackson

3. "Automated Leave Management System: A Case Study"