



International Journal of Research Publication and Reviews

Journal Homepage: www.ijrpr.com ISSN 2582-7421

Faculty Leave Desk

Arun Karthik V, Naveen S, Nithish S

Department of Software Systems and AIML, Sri Krishna Arts and Science College, Coimbatore - 641008, India

ABSTRACT

The Faculty Leave Management System is a web-based application developed to automate and simplify the faculty leave management process in educational institutions. The system enables faculty members to submit leave requests, check leave balances, track application status, and view leave history. Administrators can efficiently review, approve, or reject requests through a centralized platform. The proposed system reduces paperwork, minimizes manual errors, and improves transparency in leave processing. It also provides accurate records and faster communication between faculty and management. By integrating automated workflows and centralized data management, the system enhances administrative efficiency, saves time, and provides a reliable and user-friendly solution for effective faculty leave management.

Keywords: Faculty Leave, Leave Management, Web Application, Leave Approval, Automation, Educational Institution.

1. Introduction

Faculty leave management is an important administrative process in educational institutions. Traditional paper-based methods can be time-consuming, difficult to track, and prone to errors. The proposed Faculty Leave Management System provides a simple web-based solution for submitting, reviewing, approving, and tracking faculty leave requests. It maintains centralized leave records and provides quick access to leave status and balances. The system reduces paperwork, improves transparency, and minimizes manual effort. Overall, it offers an efficient and user-friendly approach to managing faculty leave.

Nomenclature

F	Faculty
LR	Leave Request
LH	Leave History
FLMS	Faculty Leave Management System

2. Literature review

Several studies have focused on developing digital systems to improve leave management in organizations. Traditional leave systems mainly depend on manual records, which can lead to delays, data duplication, and errors. Web-based leave management systems have addressed these issues by providing online leave applications, approval workflows, and centralized record management. Recent approaches also emphasize automation, user-friendly interfaces, and secure database management. However, many existing systems are designed for general employees and may not fully address the specific requirements of educational institutions. Therefore, the proposed Faculty Leave Management System focuses on providing a simple, efficient, and centralized solution specifically for managing faculty leave requests and approvals.

2.1. Faculty Leave Management

Traditional faculty leave management often relies on paper applications and manual record keeping. These methods can result in delays, misplaced records, and difficulty in tracking leave history. Digital leave management systems provide a centralized approach for recording and monitoring leave requests, improving accessibility and reducing administrative effort.

2.2. Leave Application and Approval

Online leave systems allow faculty members to submit leave requests electronically and enable administrators to review and approve them. An organized approval workflow reduces processing time and provides clear visibility of the application status. This approach also ensures that leave records are updated consistently.

2.3. Leave Records and Tracking

Maintaining accurate leave balances and historical records is important for effective faculty administration. A centralized database can store leave applications, approval status, leave types, and remaining balances. This reduces duplication and makes retrieving faculty leave information easier.

2.4. Web-Based Management Systems

Web-based management systems provide users with access to administrative services through a common platform. For faculty leave management, such a system can integrate application, approval, tracking, notifications, and reporting functions. This provides a simple and efficient alternative to manual leave management.

3. Problem statement and objectives

The problem addressed is the lack of a centralized and efficient system for managing faculty leave applications, approvals, leave balances, and records. Manual leave processes can cause delays, paperwork, and difficulties in maintaining accurate information. The absence of a centralized platform also makes it difficult to monitor leave history and application status. Administrators may spend considerable time verifying requests and updating records manually. Faculty members may also face delays in receiving approval decisions and leave balance information. Therefore, an automated system is required to simplify the leave process, improve accuracy, and support effective administrative management. The specific objectives of the work are:

- to maintain a central record of faculty members with their department, designation, leave type and available balance;
- to support a leave workflow in which applications are submitted, reviewed and approved or rejected by authorized administrators;
- to calculate available leave balances and maintain accurate leave history;
- to notify faculty members automatically about application submission, approval and rejection;
- to provide dashboards and reports for monitoring faculty leave records and application status; and
- to provide a simple, secure and centralized system that reduces manual effort and improves the efficiency of faculty leave administration.

4. System architecture and methodology

The Faculty Leave Management System follows a three-layer architecture, as shown in Fig. 1. The presentation layer provides a web-based interface through which faculty members can apply for leave, view leave balances, track application status, and access leave history. Administrators can manage faculty details, leave requests, approvals, and reports. The system was developed using an iterative approach. Each module was designed, implemented, tested, and refined to ensure reliable leave processing. Role-based access is used to provide appropriate functions to faculty members and administrators. This architecture provides a simple, centralized, and efficient solution for faculty leave management.

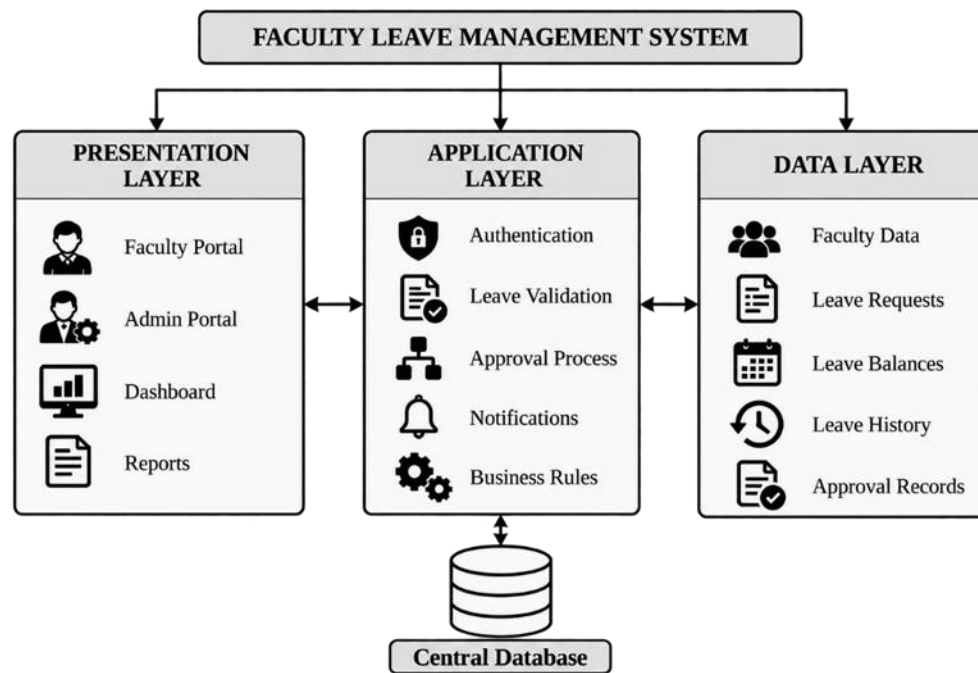


Fig. 1 - Overall architecture of the Faculty Leave Management System.

The application layer manages authentication, role-based access, leave validation, application processing, and approval workflows. When a faculty member submits a leave request, the system validates the details and forwards the request to the appropriate administrator for approval or rejection. Notifications are generated to inform users about changes in leave status.

The data layer stores faculty information, leave types, leave applications, leave balances, approval details, and leave history in a centralized database. Role-based access ensures that faculty members and administrators can access only the information relevant to their responsibilities.

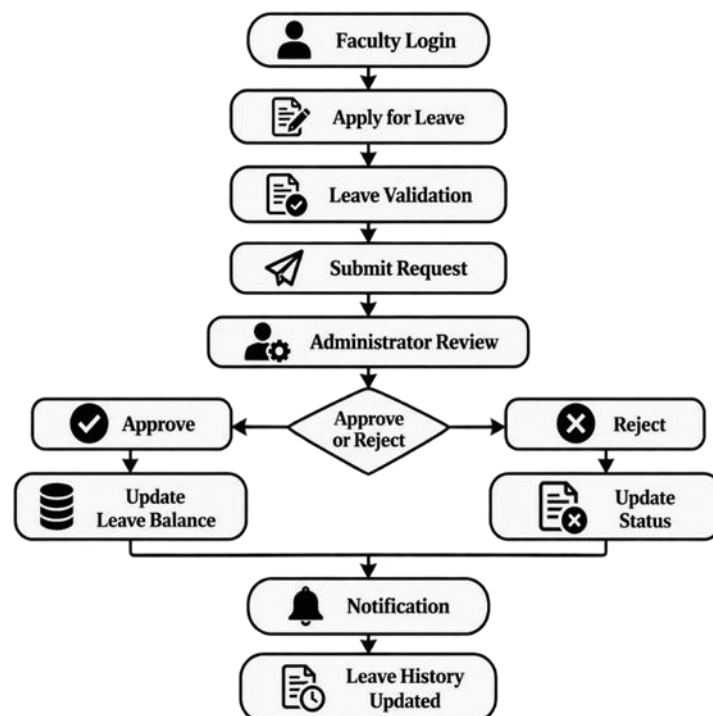


Fig. 2 - Leave application and approval workflow.

Development followed an iterative approach in which individual modules were developed, tested, reviewed, and refined. The major modules include faculty management, leave application, leave approval, leave balance tracking, notifications, and reporting. This methodology helps provide a reliable, simple, and efficient system for managing faculty leave.

5. Implementation of the modules

5.1 Faculty Leave Registry and Lifecycle

The faculty leave registry stores each leave application with a unique identifier, faculty details, leave type, duration, reason, application date, approval status and leave balance. The stages of a leave request are shown in Fig. 3. After submission, the application is validated and forwarded to the administrator for review. The request is then approved or rejected. For approved leave, the available leave balance and leave history are updated. For rejected requests, the status is recorded and the faculty member is notified. Maintaining these events in a single record provides a complete history of each faculty leave application

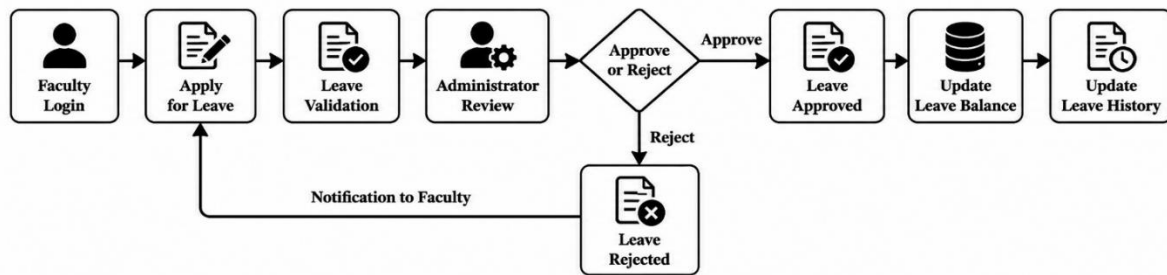


Fig. 3 - Leave application and approval lifecycle in the Faculty Leave Management System.

5.2 Leave Workflow and Approvals

Leave applications are submitted by faculty members through the online system and are first checked for required details and available leave balance. A valid application is forwarded to the responsible administrator for review. The administrator can approve or reject the request based on the submitted information and institutional leave rules. Once approved, the system updates the faculty member's leave balance and records the approved leave in the leave history. Rejected applications are recorded with their status, and the faculty member is notified of the decision. This workflow ensures that every leave request has a clear and traceable approval record.

5.3 Leave Balance and Record Management

The system maintains the leave balance of each faculty member based on the allocated leave types and approved leave requests. When a leave application is approved, the corresponding number of leave days is deducted from the available balance. The system also records leave type, duration, application status and approval details for future reference. If the available balance is insufficient, the system can prevent invalid leave requests. This centralized approach helps administrators maintain accurate leave records and enables faculty members to view their remaining leave balance and application history.

5.4 Reports and dashboard

The dashboard provides a clear overview of faculty leave activities, including total applications, pending requests, approved leave and rejected applications. Administrators can monitor leave records and application status from a centralized interface. The system also provides reports based on faculty, department, leave type and date. These reports help administrators analyze leave usage, maintain accurate records and support effective decision-making.

6. Results and discussion

The Faculty Leave Management System was implemented to provide a centralized platform for managing faculty leave applications, approvals, balances, notifications, and reports. Table 1 summarizes the implemented modules and their main features.

Table 1 - Implemented modules and their main features

Module	Main features
Faculty Management	Faculty records, department, designation and profile details
Leave Application	Online leave request, leave type, dates and reason

Module	Main features
Leave Approval	Administrator review, approval and rejection
Leave Balance	Leave allocation, deduction and remaining balance
Notifications	Application, approval and rejection notifications
Dashboard	Pending, approved and rejected leave overview
Reports	Faculty leave records, leave status and leave usage

Table 2 - Comparison with manual leave management

Aspect	Manual system	Proposed Faculty Leave Management System
Leave application	Paper-based	Online submission
Leave approval	Informal or manual communication	Recorded approval workflow
Leave records	Spread across files and registers	Centralized database
Leave balance	Manually calculated	Automatically updated
Status tracking	Difficult to monitor	Available through dashboard
User notifications	Manual communication	Automated notifications
Reports	Prepared by hand	On-screen and generated on demand
Data access	Time-consuming	Quick and centralized

Two observations from the implementation are worth discussing. First, the notification mechanism was designed to inform faculty members about leave application status changes. The system sends notifications when a leave request is submitted, approved or rejected. This reduces repeated manual communication and ensures that faculty members receive timely updates about their applications. This shows the importance of designing notifications around important leave events rather than generating unnecessary repeated messages.

Second, the accuracy of leave reports depends on the completeness of the underlying faculty and leave records. Leave balances, application status and leave history are calculated from the recorded leave applications and approvals. If leave allocations or approval details are incomplete, the generated reports may not accurately represent the actual leave status. Therefore, maintaining complete and consistent records is important for reliable leave management and reporting.

Other practical lessons included keeping the leave rules consistent across the application, dashboard and reports, and designing the interface so that leave balances, application status and records remain clear and easy to access. Overall, these observations demonstrate the importance of accurate data, consistent workflows and clear user interfaces in an effective Faculty Leave Management System.

7. Conclusion and future scope

The Faculty Leave Management System provides a centralized and efficient approach for managing faculty leave applications, approvals, leave balances, notifications and records. The system reduces paperwork, minimizes manual errors and provides faculty members with quick access to their leave status and history. Administrators can review applications, maintain accurate records and generate reports through a single platform. Overall, the proposed system improves transparency, reduces administrative effort and simplifies the faculty leave management process.

Future enhancements can include integration with institutional attendance and payroll systems, mobile application support, advanced leave analytics, email and SMS notifications, and automated leave policy validation. The system can also be extended with multi-level approval workflows and additional reporting features to support the changing requirements of educational institutions.

Acknowledgements

The authors thank [Guide Name], [Department, College Name], for their valuable guidance and support throughout this work, and [Organization / College Name] for providing the opportunity and necessary resources to develop the Faculty Leave Management System.

References

- Alade, S. M., Adejumo, S., & Alade, T. J. (2022). Design and implementation of a web-based leave management system. *International Journal of Computer Applications Technology and Research*, 11(4), 123–144. <https://doi.org/10.7753/IJCATR1104.1006>
- Gupta, S., & Gupta, K. (2026). A smart faculty leave management web application for academic institutions. *International Journal for Multidisciplinary Research*, 8(2). <https://doi.org/10.36948/ijfmr.2026.v08i02.75280>
- Jansen, W. (1998). *A revised model for role-based access control* (NIST Interagency/Internal Report 6192). National Institute of Standards and Technology. <https://doi.org/10.6028/NIST.IR.6192>
- Munawir, A., Pratama, G. U., Auliana, S., Rohman, A., & Rizki, M. (2024). Enhancing leave management through an online employee leave application system. *ARRUS Journal of Engineering and Technology*, 4(1), 26–36. <https://doi.org/10.35877/jetech2711>
- Sandhu, R., Ferraiolo, D. F., & Kuhn, D. R. (2000). The NIST model for role-based access control: Towards a unified standard. In *Proceedings of the Fifth ACM Workshop on Role-Based Access Control*. <https://doi.org/10.1145/344287.344301>
- Yulita, U., Arkan, F., & Kurniawan, R. (2026). Design and development of an Android-based application for employee leave and absence management at the Faculty of Science and Engineering, Bangka Belitung University. *Jurnal Ecotipe*, 13(1), 150–160. <https://doi.org/10.33019/jumalecotipe.v13i1.4604>