

Employee Leave Management System

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Abstract

The Employee Leave Management System (ELMS) is a fully functional, web-based application designed to automate and streamline the process of managing employee leave requests within an organisation. Developed using PHP, MySQL, HTML, CSS, and JavaScript, the system provides secure leave management functionality through employee and administrator interfaces. The project follows a structured Software Development Life Cycle (SDLC) methodology and demonstrates how open-source web technologies can be used to build an efficient HR management module.

I. INTRODUCTION

The Employee Leave Management System (ELMS) is a web-based application developed to automate leave processing operations within organisations. Traditional leave systems based on paper forms and spreadsheets create delays, errors, and poor transparency. The system provides employees with facilities to apply for leave and track status while administrators can approve or reject requests through a centralised dashboard.

II. LITERATURE SURVEY

Existing leave management systems include manual paper-based systems, spreadsheet systems, and commercial HRMS platforms. Manual systems suffer from delays and record loss, while commercial HRMS solutions are costly and complex. The proposed system offers a lightweight and cost-effective alternative using open-source technologies.

III. SYSTEM ANALYSIS

The system supports secure login, leave application submission, leave approval workflows, leave balance management, and report generation. Non-functional requirements include security, scalability, maintainability, and compatibility with modern browsers.

IV. SYSTEM DESIGN

The system follows a three-tier architecture consisting of presentation, application, and database layers. The database contains tables including employees, leave_types, leave_applications, and leave_balance. The workflow follows Pending, Approved, and Rejected states.

V. SYSTEM IMPLEMENTATION

The project was implemented using PHP, MySQL, Apache Server, HTML5, CSS3, JavaScript, and XAMPP. The development followed the Waterfall SDLC model including requirement analysis, design, implementation, testing, and documentation phases.

VI. SYSTEM FEATURES

Key features include secure authentication, real-time leave tracking, leave balance calculation, employee self-service portal, admin dashboard, SQL injection prevention, and password encryption using hashing algorithms.

VII. TESTING AND RESULTS

The system was tested using Black-Box and White-Box testing methodologies. All functional modules including login, leave application, approval workflow, and security validation passed successfully.

VIII. ADVANTAGES AND LIMITATIONS

The system eliminates paper-based workflows, improves transparency, and automates leave calculations. Current limitations include lack of email notifications, payroll integration, and multi-level approval workflows.

IX. FUTURE ENHANCEMENTS

Future enhancements include mobile application support, email/SMS notifications, payroll integration, holiday calendar support, analytics dashboards, and ERP integration.

X. CONCLUSION

The Employee Leave Management System successfully automates organisational leave processing using secure and scalable web technologies. The project demonstrates practical implementation of software engineering, database management, and web development concepts.

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