



Review on Leave Management Systems

Ms. Snehal Choudhari¹, Prof. Tarun Yengantiwar²

Student M. Tech CSE, V.M.I.T. College of Engineering, Nagpur¹

Assistant Professor, Dept of CSE, V.M.I.T. College of Engineering, Nagpur²

Abstract— Organizations face numerous problems when relying on manual leave management systems, including time-consuming processes, potential for errors, and difficulty in tracking leave. These issues can make it challenging for employees to submit leave requests, and for HR staff to manage and track leave balances. As such, it is crucial for organizations to implement a software system for leave management that can automate the process, improve accuracy, and increase efficiency. One option for organizations is to use cloud-based technology such as Salesforce, SAP, Amazon's AWS etc., which offers a range of customizable solutions for leave management. By utilizing the right technology and resources, organizations can create an effective software for leave management system that meets their specific needs. A cloud-based system can significantly reduce administrative burdens, automate leave request submissions and approvals, provide greater transparency, and reduce the workload of HR staff. This research paper aims to explore different techniques for implementing leave management systems and evaluate the efficiency of the technology employed in this regard. The ultimate goal is to provide insights for organizations seeking to improve their leave management processes through technology.

Keywords—Leave type, Leave Management, Cloud based solutions

I. INTRODUCTION

For businesses looking to optimize their operations, overcoming the difficulties presented by manual leave management systems is essential. Such methods make it difficult for employees to request leave and for HR personnel to manage and maintain leave balance since they are frequently prone to errors, time-consuming, and hard to track.

The leave management system software was created as a remedy to address these problems and cater to the actual needs of the organization. In order to minimize errors when entering data, the application software generates an error message when the input is incorrect. This software is simple to use and doesn't require any formal training. Organizations can create an error-free, secure, dependable, and quick management system by deploying a leave management system, allowing users to concentrate on other tasks rather than record-keeping. Additionally, we understand that every leave management system has different needs, thus we create customized employee management solutions that are unique.

These solutions, which include features like remote access choices for busy executives who are constantly on the go, can eventually help organizations manage their resources more effectively. There are various technologies available for developing and implementing a leave management system. The most common types of technologies used for leave management systems are web-based, cloud-based, and mobile-based technologies. Web-based systems are accessible through a web browser and are hosted on a server, allowing users to access the system from anywhere with an internet connection. Cloud-based systems use cloud computing technology to store and manage data on remote servers, allowing for easy access and collaboration from multiple devices and locations. These systems are also known for their scalability and flexibility. Mobile-based systems, on the other hand, are designed to be accessed through a mobile device, such as a smartphone or tablet, and can be either web or app-based. They provide on-the-go accessibility and allow employees to apply for leave and access their leave balances from their mobile devices. Another emerging technology for leave management systems is the use of artificial intelligence (AI) and Machine Learning (ML) algorithms. These technologies can assist in predicting leave requests and identifying patterns, allowing for more efficient leave management. Overall, the choice of technology for a leave management system depends on the specific needs and requirements of the organization and its employees.

Nowadays, cloud-based systems like Salesforce have become increasingly popular for managing a range of business processes, including employee leave management. A cloud-based leave management system operates over the internet, allowing users to access the system from anywhere with an internet connection. This system can help organizations to efficiently manage employee leave and attendance, providing real-time data to HR managers. The Salesforce platform offers a robust suite of tools for managing leave and attendance, including customizable workflows and reporting capabilities. The system can also integrate with other HR management systems, allowing for seamless data exchange.



Additionally, Salesforce provides built-in security features, ensuring that employee data is kept safe and secure. The cloud-based system can be accessed from any device with an internet connection, including smartphones and tablets, making it a flexible and convenient solution for employees and managers. The scalability of cloud-based systems like Salesforce also means that organizations can easily expand or downsize their operations without having to worry about investing in additional hardware or software.

II. LITERATURE REVIEW

[2.1] ServiceNow based Advanced and Robust Leave Management System[1].

The Leave Management system is a cloud-based application The ServiceNow platform, which provides large organizations with IT service management and help desk functionality, was used to create the cloud-based Leave Management solution. By automating the procedure and emailing users to let them know if they have been granted leave, the technology makes applying for leave easier. The homepage of the system includes links to request leave and view leave approvals, and users must register and log in to access it. The suggested method seeks to decrease manual labour, offer database security, and improve job adaptability. The system is divided into a number of modules, such as Login/Signup, Homepage, and Apply for Leave, each of which includes a different set of forms and sections based on the option selected. The system also has a function that allows users to modify their work for other employees. Overall, colleges and organizations can save money by using the leave management system.

[2.1.2] Limitations

The system is built on the ServiceNow platform, which means that users must have access to ServiceNow to use this application. This could be a limitation for organizations that do not use ServiceNow, as they would not be able to use this leave management system.

Secondly, the paper mentions that the application is designed to provide security to the maintenance of the database. However, the specifics of how this is achieved are not mentioned. If the security measures are not implemented properly, it could lead to data breaches and compromise the sensitive information of employees.

[2.2] Cloud Based Employee Leave Management System[2].

The research paper describes a cloud-based system designed to automate the management of employee leaves and track different types of leaves such as casual leave, earned leave, medical leave and restricted holiday.

The system enables employees to submit leave requests, cancel previous requests, and check the status of their requests. It also allows employees to view completed leave transactions and their remaining leave balance. Higher authorities such as HR Head or HOD and Manager or Principal can view employee details and leave history. The system can generate summary and provides individual reports.

[2.2.2] Limitations

Dependence on internet connectivity: Since the system is cloud-based, it would require a stable internet connection to operate smoothly. This could be a limitation in areas with poor connectivity or in case of internet outages.

User training: Employees and higher authorities would need to be trained on how to use the system effectively, which could require additional resources and time.

Security concerns: Since the system stores sensitive employee information, it would need to have appropriate security measures in place to prevent unauthorized access or data breaches.

[2.3] HR e-leave Tour Management System at RDCIS, SAIL31]

This paper aims to provide faster employee services and online access to various information about the employees with a proper security mechanism. The HRMS system will also help in reducing cost, time saving, integrating and aligning HR efforts with the rest of the organization. Employee/Faculties will be empowered and engage with more input to maintain and control over their work-life. Our system aims to provide timely accounting of maintenance activities and the availability of online leave information.



[2.3.2] Limitations

The first limitation is that in this system, they have two login users. The second limitation is that the whole working of the system is connected to a proper mobile network.

[2.4] Cloud Based Web Application with NFC for Employee Attendance Management System [4]

This application satisfies all users in terms of navigation, organization, ease of use, design, and content. In this existing system, NFC technology is used by which each employee will be able to access this application online and can request leave as per their needs. The proposed application offers multiple company accounts each of which has its company users.

[2.4.1] Limitations

The system may not support the tracking of working hours of the field employees who often work other than office such as home service, installation technicians, home health providers, etc.

III. METHODOLOGY

To implement a Leave Management System, different techniques can be employed. This paper will specifically focus on some techniques that is commonly used.

1. ServiceNow cloud-based software platform

The ServiceNow-based leave management system provides features such as login/signup, homepage, apply for leave, my approvals, and a flow diagram. Users can sign up and access the application after receiving credentials from the administrator. The homepage includes options to apply for leave and view the user's approvals. The application form includes fields that hide or appear based on the option selected, and users can apply for leave for a specific period of time in a day. Adjusted workers are informed by email, and the request is forwarded to higher authorities for final approval. The *myapprovals* section shows the status of leave, and the flow diagram depicts the entire process.

2. Salesforce Cloud base software platform

To implement a leave management system using Salesforce CRM, the organization needs to set up a Salesforce org and create custom objects for employees and leave requests. Workflows and approval processes can then be created to automate the leave request approval process, and integration with a calendar app can be done to manage leave requests and prevent conflicts. Custom reports and dashboards can also be created to provide insights into employee leave trends and usage. Finally, user roles and permissions can be set up to control access to the system and ensure data security.

3. Using PHP, HTML, CSS, and MySQL Database

To implement a leave management system using PHP, HTML, CSS, and MySQL, first, a database must be set up to store employee and leave data. Then, PHP can be used to create web pages and process leave requests, while HTML and CSS can be used to make them visually appealing. Custom reports can also be generated to provide insights into employee leave trends. Finally, user roles and permissions can be established to ensure data security.

4. Using a pre-built HR software

There are several HR software applications available in the market that offer leave management functionality. These applications are pre-built and can be customized as per the organization's needs. They come with features like leave requests, approvals, employee self-service, custom reporting, and analytics.

5. Using a workflow automation tool

A workflow automation tool can be used to automate the leave request and approval process. These tools allow organizations to create custom workflows that automate the entire leave management process. They offer features like notifications, approvals, reminders, and custom reports.

6. Using a cloud-based HR management system:

Cloud-based HR management systems offer a range of features, including leave management. They are accessible from any device and location and can be customized as per the organization's needs. They come with features like employee self-service, leave requests, approvals, custom reporting, and analytics.



IV. ANALYSIS

1. Salesforce CRM offers advanced customization features, enabling the creation of custom objects, workflows, and approval processes, which can automate the entire leave management process.
2. Salesforce CRM's integration with other applications, such as calendar apps, allows for better leave management and prevents conflicts.
3. Salesforce CRM's user roles and permissions feature ensures data security is maintained.
4. Other techniques, such as using a pre-built HR software or a workflow automation tool, may not offer the same level of customization and integration as Salesforce CRM.

However, the choice of technique ultimately depends on the specific needs and requirements of the organization.

V. CONCLUSION

In conclusion, after analyzing the various techniques for implementing a leave management system, it is evident that Salesforce CRM stands out as a highly effective and comprehensive solution. The Salesforce Cloud-based software platform offers advanced customization features, robust workflows, and approval processes that automate the leave request approval process. Integration with calendar apps ensures efficient management of leave requests and avoids conflicts.

Moreover, Salesforce's ability to create custom reports and dashboards provides valuable insights into employee leave trends and usage, enabling organizations to make data-driven decisions. The implementation of user roles and permissions ensures data security and controls access to the system.

While other techniques, such as ServiceNow, PHP, HTML, CSS, and MySQL, pre-built HR software, workflow automation tools, and cloud-based HR management systems, also offer benefits, Salesforce CRM stands out due to its extensive features, flexibility, and scalability. It provides organizations with a comprehensive solution that addresses their leave management needs effectively.

Therefore, considering its advanced capabilities and wide range of functionalities, Salesforce CRM emerges as the preferred choice for organizations seeking to implement a leave management system that is efficient, customizable, and user-friendly.

VI. REFERENCES

- [1] "Servicenow based Advanced and Robust Leave Management System", by CMAK Zeelan Basha, Tahaseen Rabab, Y.Sravanthi, Y.Anila, International Journal of Innovative Technology and Exploring Engineering (IJITEE).
- [2] "Cloud Based Employee Leave Management System" by Sowjna.K.Shetty, Pruthvi.R.Raju, Garima Jha, Sai Sagar.K.R, International Journal of Innovative Science and Research Technology.
- [3] "HR e-Leave Tour Management System at RDCIS, SAIL" by S. Selvi, Manas Rath, N.K. Sinha, S.P. Singh, N.N.J. Hemrom, A. Bhattacharya, A.K. Biswal, Institute of Electrical and Electronics Engineers (IEEE).
- [4] "Cloud-based web application with NFC for employee attendance management system" by Sai Ba Oo, Nang Hlaing Myat Oo, Suparat Chainan, Arpha Thongniam, Waralak Chongdarakul, Institute of Electrical and Electronics Engineers (IEEE).
- [5] SalesforceURL <http://www.salesforce.com/>
- [6] "Extremely effective CRM Solution Using Salesforce" by Rakesh Kumar, Yougeshwary Sharma, Sonu Agarwal, Pragyaa, Bhanu Bhushan Parashar Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org.
- [7] "College Management System using Salesforce" by Mohini D. Thawre, Monika S. Pande, Khushbu R. Shende, Jaykrushna D. Ahirkar, Kartik K. Bhagat journal of International Journal of Computer Science and Mobile Computing
- [8] . "Open Source CRM Systems for SMES" by Marco Tereso and Jorge Bernardino Polytechnic of Coimbra – ISEC, Coimbra, Portugal a21190968@alunos.isec.pt, jorge@isec.pt
- [9] Salesforce website <http://www.salesforce.com/in/platform/services/what-you-build> on/?d=70130000000lzio&internal=true
- [10] http://www.developerforce.com/media/Forcedotcom_Whitepaper/WP_Forcedotcom-InDepth_040709_WEB.pdf