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INTRANET SYSTEM FOR COMPANY

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Abstract: Organizations increasingly rely on intranet systems to improve communication efficiency, enhance productivity, and optimize resource management. This paper provides a comprehensive survey of an intranet system designed specifically for corporate use, incorporating features like asset management, leave request management, employee feedback, timecard tracking, daily service reports, internal chatting, role-based access control (RBAC), announcements, and user dashboards. By examining the architecture, hardware, and software requirements, and related literature, this paper highlights the potential benefits, and challenges of implementing such a system. Additionally, we propose future improvements that could further enhance the system's capabilities. This paper is particularly relevant for companies seeking to optimize internal processes, and enhance employee engagement through technological solutions.

Keywords: Intranet systems, Communication efficiency, Productivity, Resource management, Corporate use, Asset management, Leave request management, Employee feedback, Timecard tracking, Daily service reports, Internal chatting, Role-based access control (RBAC), Hardware requirements, Software requirements, Benefits, Challenges, Employee engagement.

I INTRODUCTION

With the growing reliance on digital tools in the corporate world, internal communication systems play a pivotal role in ensuring smooth operations. Intranet systems offer a secure, and centralized platform where employees can access resources, communicate, and perform essential tasks. Additionally, the purpose of this intranet system is to address various business needs like managing company assets, handling leave requests, facilitating employee feedback, tracking timecards, generating daily service reports, and enabling role-based communication.[2]

In today's business environment, fragmented systems lead to inefficiencies, such as employees needing to access multiple applications for routine tasks. By consolidating all necessary tools into one intranet platform, organizations can reduce operational overhead, improve productivity, and ensure seamless communication between departments. This paper discusses an intranet system designed with modularity, scalability, and security in mind, particularly in relation to its features such as role-based access control, and secure internal chatting.[5]

II LITERATURE SURVEY

Several researchers have investigated the impact of intranet systems on company performance, and employee satisfaction. This section surveys relevant literature, examining how features like asset management, leave management, and

internal communications have been addressed in existing systems.

1. **Asset Management**
According to a study by Johnson (2019), asset management systems help companies track, monitor, and manage physical, and digital assets effectively. This improves resource allocation, and minimizes wastage, leading to cost savings. Our proposed system will include an asset management feature that allows employees to request assets, track their usage, and provide updates about their status.[3]
2. **Leave Request, and Management**
Anderson, and Lee (2017) explored the automation of leave management processes within intranets. Additionally, they found that automated leave requests, and approval workflows significantly reduce administrative burdens while providing transparency for employees. This system streamlines the leave request process by enabling employees to submit leave applications through a user-friendly interface, which is then processed by the concerned department.[4]
3. **Internal Communication**
A study by White, and Davies (2021) emphasized that real-time internal communication tools, such as chat systems, foster better collaboration between

employees. Modern intranet systems have evolved to include messaging platforms that reduce the need for emails, and make interactions more spontaneous. Additionally, the system's secure chat feature lets employees communicate quickly, and safely.[6]

4. **Role-Based Access Control (RBAC)**
 RBAC is crucial for security, and privacy, as noted by Brown, and Davis (2020). Additionally, they highlight that using RBAC ensures users have access only to information pertinent to their role, reducing the risk of unauthorized access. This system incorporates RBAC to manage user permissions effectively, ensuring that sensitive information is only accessible to authorized personnel.[7]

III SYSTEM ARCHITECTURE

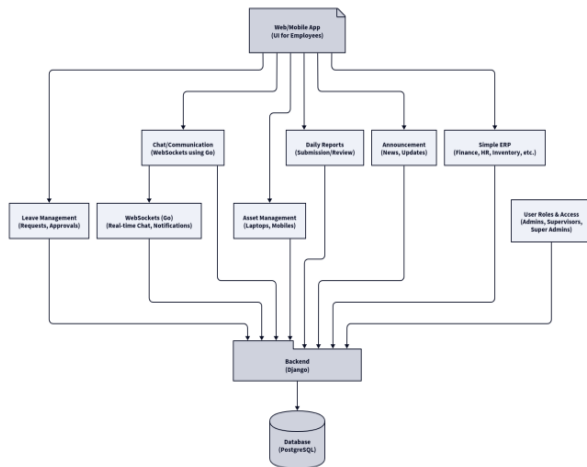


Figure 1: System Architecture

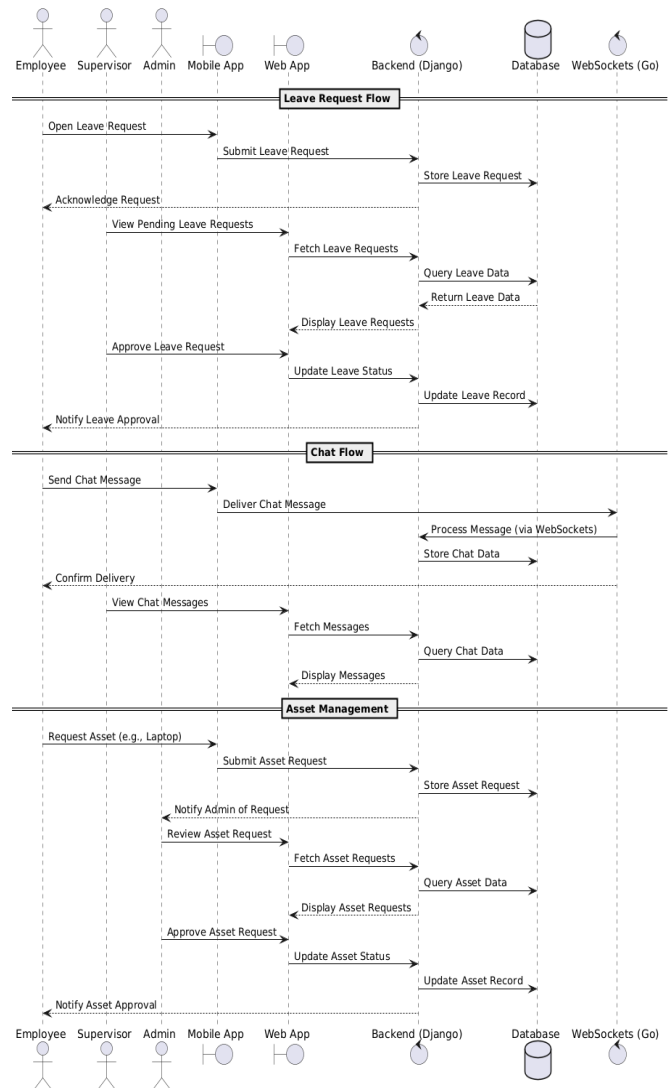


Figure 3: Sequential Diagram

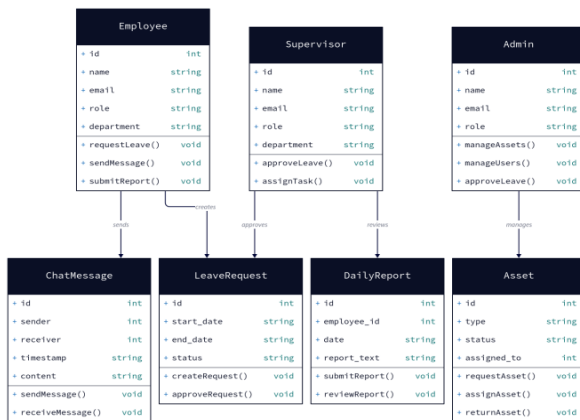


Figure 2: Class Diagram

IV HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirements

- **Server Hardware:** The intranet system will be hosted on a server equipped with the following minimum specifications:
 - o Intel Xeon Processor with 8+ cores.
 - o 16 GB of RAM.
 - o 1 TB of SSD storage for faster data access.
 - o Backup storage for disaster recovery.
 - o Network infrastructure to support fast LAN connections within the company.

Software Requirements

1. **Operating System:** The system will run on either Windows Server or Linux (Ubuntu preferred) to provide stability, scalability, and flexibility.

2. **Web Server:**
Apache or Nginx will serve as the web server, managing incoming HTTP requests, and serving the intranet's web pages.[8]
3. **Database:**
MySQL or PostgreSQL will be used to store user data, asset information, and timecards. Both databases offer robust performance, security features, and scalability.
4. **Backend Development:**
The backend logic will be built using PHP, Python, or Java, depending on company requirements. Each of these languages offers strong frameworks for building scalable, maintainable systems (e.g., Laravel for PHP, Django for Python, and Spring for Java).[9]
5. **Frontend Development:**
The front end will be developed using modern web technologies such as HTML5, CSS3, JavaScript, and libraries like React.js or Angular.js for dynamic user interfaces.
6. **Security Protocols:**
SSL/TLS encryption will be used to secure data transmitted between the client, and the server, while OAuth 2.0 will be implemented for user authentication.

V CONCLUSION

The proposed intranet system provides an integrated solution to various organizational challenges, enhancing internal communication, resource management, and employee engagement.[10] By centralizing asset management, leave requests, time tracking, and communication tools in one platform, companies can streamline their operations, reduce administrative burden, and improve overall efficiency. Additionally, the modular architecture of the system allows for future scalability, and the integration of additional functionalities as the company's needs evolve.[15]

VI FUTURE SCOPE

Several potential future enhancements can be applied to the system to improve functionality, and ensure it stays aligned with modern technological trends:

1. **Artificial Intelligence (AI) Integration:**
AI-powered features, such as predictive analytics for asset management or automatic leave approval, can be integrated into the system to improve decision-making, and automate routine tasks.[6]
2. **Mobile Application Development:**
Developing mobile applications for Android, and iOS platforms will allow employees to access the intranet on the go, ensuring that they remain productive even when away from their workstations.
3. **Blockchain for Enhanced Security:**
Incorporating blockchain technology could further enhance the system's security, ensuring tamper-

- proof records for sensitive data such as timecards, and leave requests.[11]
4. **Cloud Hosting:**
Moving the intranet system to the cloud will improve its accessibility, and scalability, allowing companies to handle more data, and users without hardware limitations.[12]

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