

Federated Project Report

Context & Objective

Human resource management is a multi-faceted managerial task. Currently, in the host organisation all tasks are done manually, which makes it even more complex. The human resource officer has to manage the employees' files, their distribution in work groups, and the calculation of their salaries. They must also deal with the recruitment process. Indeed, managing the employees of a company is a complex task. Without a specific management tool, it becomes increasingly difficult for an organisation to carry out this task. Therefore, good HRM guarantees the company's performance. For this very reason, software and applications dedicated to this field are currently used.

It is therefore in this context of rational exploitation of information technologies that the idea of this project fits: to design a tool allowing the management of the different modules of human resources. Our future application targets the management of employees, departments, holidays and the recruitment process. It organizes the tasks of human resource management in order to make them clearer and easier..

Study of the Existing Situation

Our target audience includes organizations that still rely on manual HRM processes or those seeking to upgrade outdated systems. Manual handling of HR tasks such as salary calculation—factoring in absences, bonuses, etc.—is time-consuming and prone to errors. The traditional methods result in:

- Excessive paperwork
- Reduced productivity
- Slow data processing and information retrieval
Increased workload on HR staff
- Lack of real-time decision-support tools, such as dashboards based on centralized data

Our target users are organizations currently using manual HRM processes or companies seeking to upgrade legacy HR systems.

Problem Summary:

Issue	Impact
No centralized system	Redundant work and lost productivity
Paper-based tracking	Lack of accessibility and auditability
No reporting dashboards	Poor visibility for decision-making

Actors & Functional Roles

- **Human Resource Officer:** Manages employee records, departments, leave, and complaints.
- **Employee:** Associated with a contract, rank, and department.
- **Manager:** Oversees employees, promotions, and leave requests.
- **Recruiter:** Creates job offers, schedules interviews, and evaluates candidates.
- **Candidate:** Applies for job openings.
- **Admin:** Manages user roles, permissions, and system reports.

Functional Requirements

Authentication & Access Control

- Secure login for all users
- Multi-factor authentication (MFA)
- Role-based access management

Employee Management

- Add, update, or remove employee records
- Assign employees to teams or departments
- View employee schedules and histories
- Monitor attendance and working hours
- Calculate salaries based on predefined rules
- Manage leave requests and complaints

Recruitment Management

- Post, update, or remove job offers
- View and manage job applications
- Schedule interviews
- Accept or reject applicants

Non-Functional Requirements

- **Security:** Implement AES-256 encryption for data protection
- **Usability:** Ensure an intuitive, user-friendly interface with multilingual support
- **Performance:** Optimize database interactions for responsiveness
- **Scalability:** Support growth in employee and candidate numbers without re architecture
- **Reliability:** Guarantee 99.9% system uptime with backup and failover mechanisms

Product Backlog & Sprint Overview

Sprint	Actors Involved	Key User Stories
1	Admin, HR, Employee, Candidate	Login/logout, handle invalid credentials, reset passwords, session timeout
2	Candidate, Employee	Apply for jobs, edit profile, request leave/promotion/resignation, view contract
3	Admin, HR Officer	Create/delete HR and employee accounts, generate employee reports, manage job offers, accept/deny leave

Use Case Diagrams

Sequence Diagrams

Screenshots of Final Product