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Human Resource Management System Using Artificial intelligence and Machine Learning

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ABSTRACT: It is revealed and used for the administration of human resources: a human resource management system. The modules that make up the Human Resource Management System include modules for managing organizations, people, work attendance and the system itself. There is communication between the modules and they are connected. With the system, an executive can arrange and manage basic HR information across several enterprise modules. Large HR functions are primarily covered, turning the system into a management platform that can actually support the day-to-day operations of the HR department in a compressive manner. As a result, HRM has a better function of cooperation and communication than other systems. The employee archives are kept safe by the human resource management system, which can manage human resource information more consistently, accurately, and efficiently. This essay addresses how to identify staff members, keep track of their attendance, and determine pay. For the purpose of performance reviews, this document keeps track of every employee's time spent with the organization. One can transfer, remove, or promote someone based on that

KEYWORDS: Human resource management system, employee module, advance attendance, dataset training

I. INTRODUCTION

I. The 1950s marked the start of the HRMS journey, from outdated manual techniques to sophisticated software of today. This increase was fuelled by the idea that computers could make HR duties simpler. In essence, HRMS links different HR processes including data entry, tracking, and managing information related to HR, like accounting and payroll. HR specialists can benefit from using HRIS. They support bosses as well as employees. HR professionals' handling of employee data is being altered by HRMS systems. This simplifies duties. But, even with HRIS in place, businesses still require robust FR measures. A productive HRMS provides complete views of employee data. It enables employees to manage their own benefits and data. This enables HR staff to work on more ambitious goals. Additionally, HRMS aids in monitoring important data for equity, career advancement, and worker progress.

II. Human resource management systems, or HRMS, are now necessary tools for companies trying to enhance and optimize their HR operations. Organizations must innovate their management procedures, organizational structure, customer care offerings, and marketing standards to thrive in this cutthroat market. Since the success of any enterprise is mostly determined by its people, it is measured by their success. HRM is therefore strategically crucial to any project's success. To make the organization effective, innovation in human resource management must be implemented by monitoring employment development, recruitment techniques, job design, environmental structure, and managing key competences amongst personnel.

III. We give main focus on taking attendance of employee because we found attendance is also the important in companies as employee may lost whole one-day salary if he or she was unsuccessful to fill manual attendance.

III. RELATED WORK

The success and efficiency of any project is dependent on many factors like cost, completion date and quality of the product. In past, project managers mainly focused on the technical systems rather than its behavior and little attention was paid to the human resource management which did not fulfilled the customer expectation. Later on, an official institute Project Management Body of Knowledge (P.M.B.K.) provide ways to improve HR management for successful projects.[3]

Effective human resource management is commonly considered a vital element for the prosperity of any given firm. In truth, a robust HR strategy is essential for the growth of the company's culture as well as for the productivity and employee loyalty of an organization. In companies that focus on projects, strategic HRM is important. Project

management, the use of projects and programs for the implementation of complex procedures, and the administration of a project portfolio consisting of a variety of internal and external project types are some of the prerequisites for HR management that are critical to these sorts of enterprises. Managing human resources in a company that oversees multiple projects raises two key questions: how many resources should be allocated to each project and how percent of the overall budget should go toward each resource depending on their capacity? The overall project schedule is affected by the resources assigned. Agile project management employs agile HRM in place of traditional HRM to enhance project quality, reduce expenses, and streamline operations.

In this paper, we have discussed the realignment of resources specifically human resources for the fabrication of New Product Development (NPD). In an organization, several initiatives are underway at once, resulting in competition amongst them for scarce resources. In order to ensure optimal resource utilization, the organization and project manager should promptly take action. The allocation of resources should be based on the preference criteria, which determines which projects require more resources to complete in comparison to other ongoing initiatives. Triple constraints and project quality are taken into consideration to improve software project performance. The HR manager's responsibility is to appropriately teach new employees about the project and organization's particular knowledge, as well as the skills and abilities that they must develop to ensure the project's success, and to effectively monitor their performance. Strategic HRM empowers employees collectively rather than individually. An effective work environment and job design enable employees to share their knowledge throughout the organization.

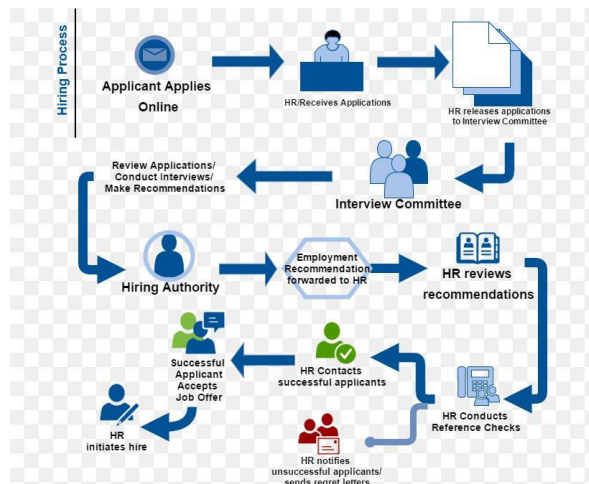


Case Study: Human Resource Management in Conflict group of hotels in Sri Lanka.

IV. METHODOLOGY

Identify the organization's specific HR management requirements and objectives. This includes assessing current HR procedures, identifying areas for improvement, and determining the HRMS's intended features. Obtain precise requirements from stakeholders such as HR professionals, managers, and employees. This includes conducting interviews, questionnaires, and seminars to learn about the organization's HR processes, data management needs, reporting requirements, and user preferences. Evaluate various HRMS systems on the market or decide whether to develop a custom system. Consider features, scalability, integration capabilities, vendor reputation, pricing, and support services. Choose the best HRMS solution depending on the organization's needs and financial limits. Create a complete HRMS design based on the criteria gathered. This include developing a complete system architecture, database structure, user interface design, and flow diagrams. Define the data models, user roles, access restrictions, and business rules that will guide the system's behaviour.

The HRMS may go into production after undergoing extensive testing and receiving approval from relevant parties. This includes installing software, establishing system settings, transferring data from legacy systems, and teaching people how to utilize the new system successfully. Provide ongoing maintenance and support to the HRMS to ensure its sustained operation and usability. This includes monitoring system performance, installing software updates and patches, responding to user input, and providing technical support as needed.



V. PROPOSED METHODOLOGY

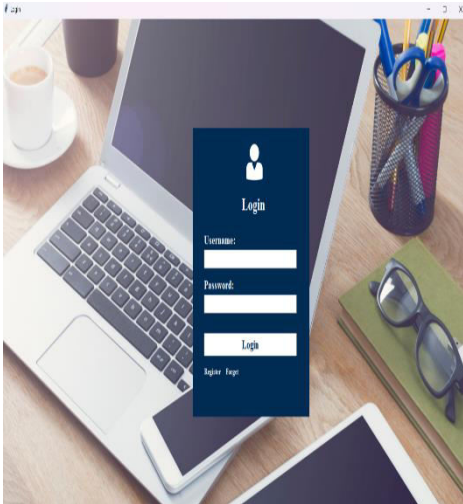
This section describes the complete proposed methodology for developing and implementing a Human Resource Management System (HRMS):

1. Preliminary Analysis
2. Requirement Gathering
3. System Selection
4. System Design
5. Development
6. Testing
7. Deployment
8. Maintenance and Support

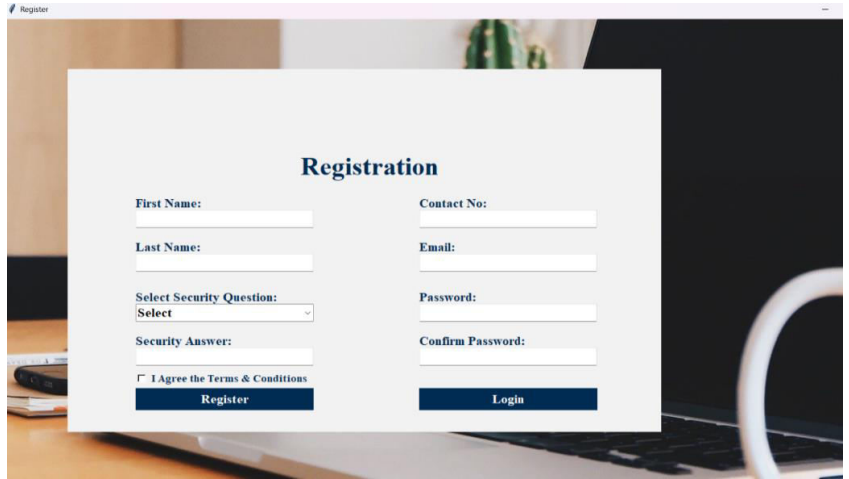
VI. SIMULATION RESULTS

The implementation of the HRMS has resulted in some notable enhancements for the organization. The HR procedures have been streamlined, which has improved productivity and decreased administrative load, among other noteworthy results. HR specialists can now spend more time on strategic projects and staff development by automating processes like payroll processing, attendance monitoring, and performance reviews. Additionally, the HRMS's features—like self-service portals and real-time information access—have improved cooperation and communication inside the company. This has increased employee satisfaction and retention rates by fostering a more open and involved workforce. In addition, we give main focus on taking attendance of employee because we found attendance is also the important in companies as employee may lost whole one-day salary if he or she was unsuccessful to fill manual

attendance.



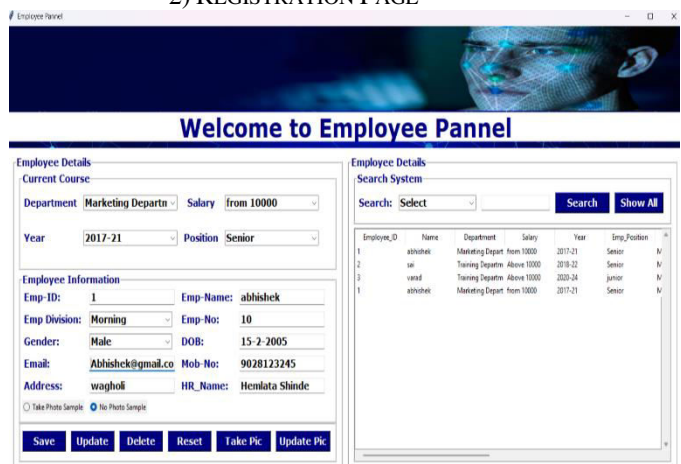
1) LOGIN PAGE



2) REGISTRATION PAGE



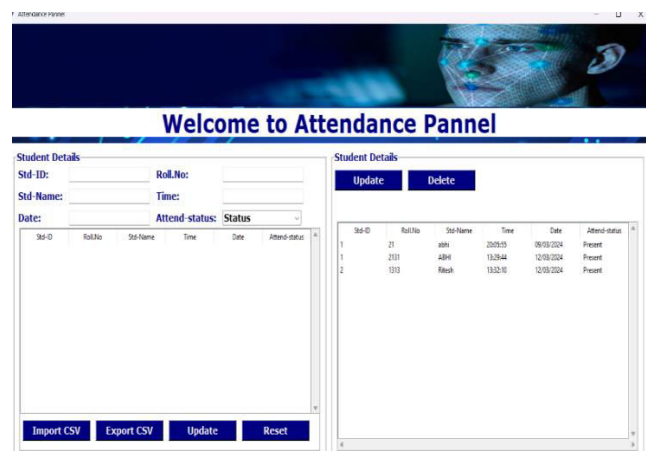
3) HOME PAGE



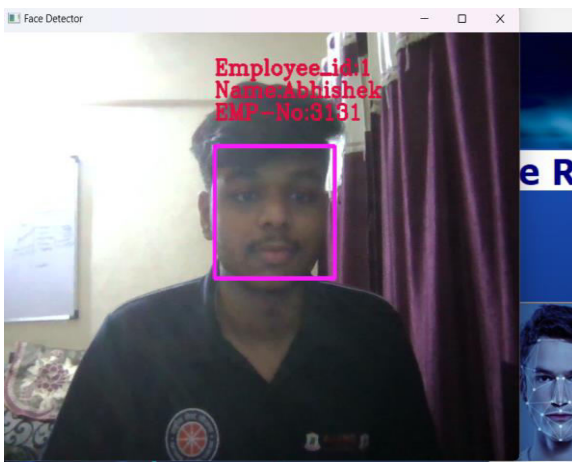
4) EMPLOYEE PANEL



4) DATASET TRAINING FOR FACE RECOGNIZATION IN ATTENDANCE FUNCTIONALITY



5) AUTOMATIC ATTENDENCE USING FACE RECOGNIZATION



6) LIVE EXAMPLE 1



7) LIVE EXAMPLE 2

VII. CONCLUSION AND FUTURE WORK

Since the success of projects and HR management are closely related. The success of the project is largely dependent on HR management, which makes it a significant task for the firm to effectively manage all project resources, particularly human resources. To ensure the project's success, the company must update and innovate its HR policies and processes. By enhancing HR recruiting and training initiatives, the company chooses the best workers who can help it accomplish its strategic objectives. We've also talked about several strategies that HR managers may use to get beyond some of the biggest obstacles they confront when managing human resources. The case study has demonstrated how the hotels use sound HR procedures. Both the staff and the visitors who stay there provide honest feedback, which helps the business raise its profile, create more demand in the marketplace, and elevate itself to new heights.

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