Human Resource System Using Python with Django and Machine Learning

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ABSTRACT

Every organization has their own human resources in order to perform the internal and external human resource activities. Among the total human resource activities, managing the human capital i.e. employees is the significant task to any HR. The main function of HR is to recruit, manage and store the employee data which includes their personal information including their Job roles, job streams, projects allotted, salaries and many more which allows them to face huge workload. In order to support the HR's there are some electronic Based HR systems called HRMS human resource management system.
Keyword: HRMS

1.INTRODUCTION

Human Resource Management (HRM) is an operation in companies designed to maximize employee performance in order to meet the employer's strategic goals and objectives. More precisely, HRM focuses on management of people within companies, emphasizing on policies and systems.In short, HRM is the process of recruiting, selecting employees, providing proper orientation and induction, imparting proper training and developing skills.HRM also includes employee assessment like performance appraisal, facilitating proper compensation and benefits, encouragement, maintaining proper relations with labor and with trade unions, and taking care of employee safety, welfare and health by complying with labor laws of the state or country concerned.A human resources management system ensures everyday human resources processes are

manageable and easy to access. It merges human resources as a discipline and, in particular , its basic HR activities and processes with the information technology field, whereas the programming of data processing systems evolved into standardized routines and packages of enterprise resource planning (ERP) software. On the whole, these ERP systems have their origin from software that integrates information from different applications into one universal database. The linkage of its financial and human resource modules through one database is the most important distinction to the individually and proprietarily developed predecessors, which makes this software application both rigid and flexible.

2.SYSTEM MODELING

We have developed Human Resource System Using Python Django And MySQL. The main modules available in this project are Employee types module which manages the functionality of employee type.There is no login form from employee and other user after login admin can add the employee, admin can see the employee details,salary details and also change the password.Admin can edit and delete the details of employee and employee salary. These all things have implented inside the human resource system.
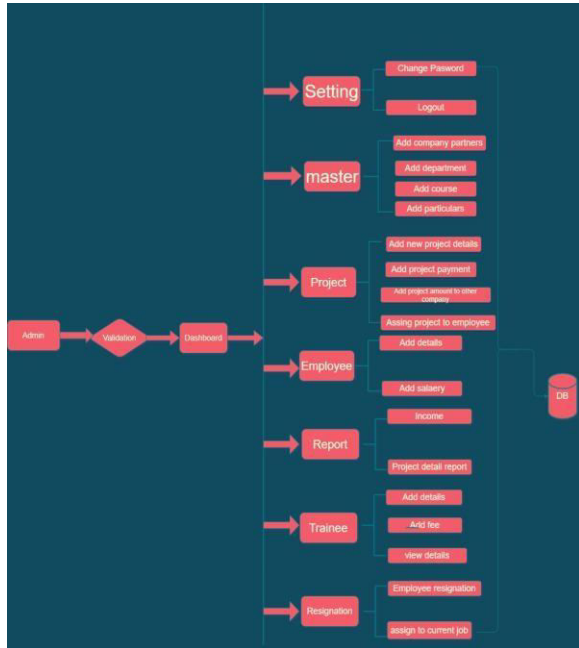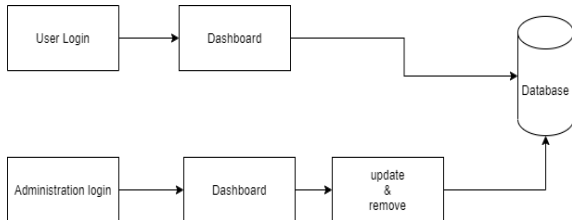
Fig- Entity-Relationship Model

3.MODELING AND ANALYSIS

(1)Process flow
 (A)USER LOGIN

User need to register into the portal with their username and password. After the process they will be directed to the dashboard into their profile.
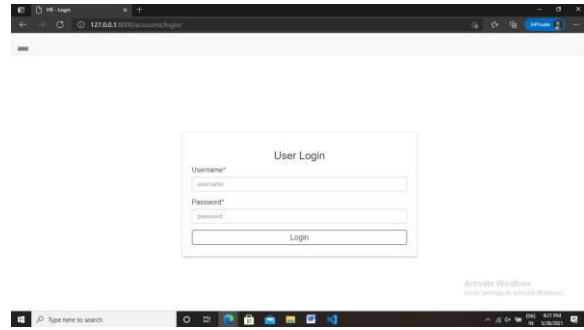

Fig. Home page

Fig. User login

(B)PROFILE PAGE

After successful login your account you are towards the user page from where you can go to either your dashboard or profile. In your profile you can apply for leave or details.
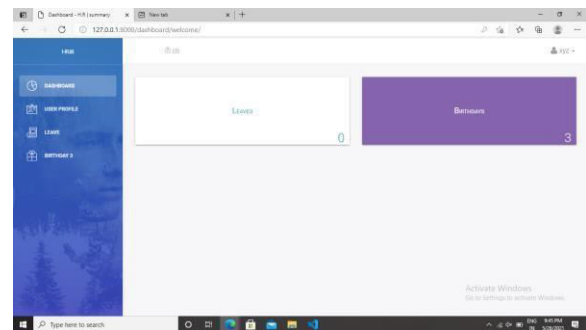

Fig. User panel

(C)ADMINISTRATION LOGIN
In administration login admin can also require userid or password. admin can update or remove tha data.
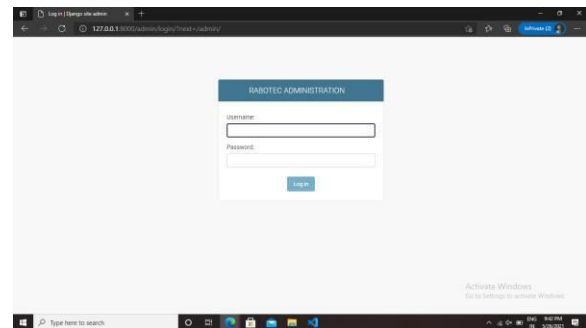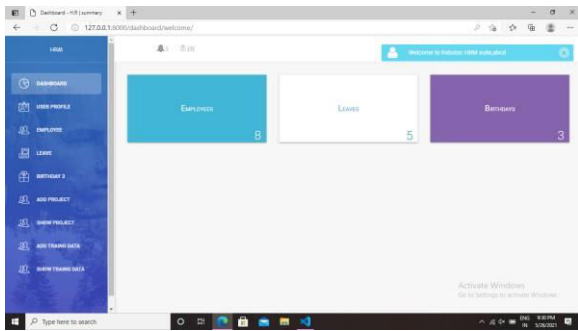

Fig. Administration login

Fig.admin panel

2.hardware requirement

Hardware Requirement

A desktop/laptop with minimum configuration

- Processor-pentium(R) 1.74GHz
- RAM- 1GB
- Hard disk 256GB

3.software requirement

- Browser(chrome/ Microsoft edge)
- Operating system(windows10 and above)
- IDE – VS code

4.Technology Used

1. Backend

- Python-Presence of Third Party Modules. It has extensive support libraries. It is open source and community development. Learning Ease and Support Available. User-friendly Data Structures. Productivity and Speed. Python offers compatibility with various platforms. Python supports procedure-oriented and object-oriented programming. Python puts emphasis on code simplicity and readability instead of flexibility, the language still has it.

- DJANGO- Django is written in Python. The Python language is truly simple to learn. It is easy to set up and run. It provides a simple to use interface for various administrative activities. It allows end-to-end application testing. Allows us to document our API with an HTML output. Offers built-in authentication system. Data modelled with Python classes. It helps us to define

patterns for the URLs in your application.

2.Database

- SQLITE3- SQLite is ultra- lightweight in setup, administration, and required resources. It is an "embedded" database which means it's server- less and can run within our app. The SQLite library is less than 500kb. It stores the database in a single ordinary disk file that can be located anywhere in the directory. The file format used is additionally cross-platform, so can easily be copied and moved. It is very fast because of its minimal design and simple operations. Installing and running an SQLite DB is pretty easy even for the most novice users. SQLite is a smaller amount of bugs prone instead of custom written file I/O codes.

3.Frontend

HTML/CSS & Java Script:

- **HTML** is supported by all browsers. It can integrate easily with other languages.It displays changes instantly just by saving it and reloading the previous HTML page.

- **CSS** has a Greater consistency in design. It is easier to maintain and update. It uses less coding which will increase page efficiency and decrease the loading time. JavaScript is extremely fast because it are often run immediately within the client-side browser. It plays nicely with other languages and may be utilized in an enormous sort of applications.

4.CONCLUSION

As organizations have gone global in their operations, the impact of cultural differences as well as workforce issues have caught the attention of the HR managers. As the

world becomes boundary less, the ability to work in a cross cultural environment becomes a valuable asset for any executive. Understanding, managing, and even exploiting these cultural differences could well spell the difference between success and failure in several business situations.

6.REFERENCES

1. Analoui, F. (2007). Strategic Human Resource Management. Thomson, Australia.

2. Armstrong, M. (2003). A Handbook of Human Resource Management Practice. Kogan Page, London, UK.

3. Armstrong, M. (2006). Strategic Human Resource Management, A Guide to Action. Kogan Page, London, UK.

4. Armstrong, M and Baron, A. (2010), Handbook of Strategic HRM, Jaico Publishing House, Mumbai, India.

5. Baird, L. and Meshoulam I. (1988). Managing Two Fits of Strategic Human Resource Management, Academy of Management Review, 14:1308-332.

6. Beardwell, J. and Clark, I. (2007). An Introduction to Human Resource Management, In Beardwell J. and

Claydon, T., Human Resource Management: A Contemporary Approach. 1 - 33. Prentice Hall, UK.