

LOW COST EMPLOYEE RECORD SYSTEM APPLICATION HOSTED IN LOCAL SERVER BUILT IN JAVA AND MYSQL

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Abstract - Managing records of employees is nowadays a headache for the admin of the companies as the numbers of employees are increasing day by day. So, collecting the information manually is a huge task for an admin of a company. Hence, a web application can be created which is hosted in the local servers of the company to store the huge number of information there, can be easily accessible from any point of the company by the admin and also the higher authorities. To create the web application I have used Java in the front end and MySQL in the back end for the database management purposes. This web application provides immense support to the employees' records collection as well as in the attendance of the employees. This web application can be also used to take the biometrics to make the system more efficient and secure. It will be a huge boost to the companies who cannot afford costly web applications for having their employees' records.

Key Words: Java, DBMS, MySQL, Employee Management, Web Application, Highly efficient, Low in cost.

1. INTRODUCTION

Earlier systems were manual where there was no way of properly storing information. Employee records were stored manually which lead to errors. There was no proper way of tracking employee records. It was very difficult and required a lot of paperwork which makes the application time consuming and not secured. There was no administrator which could handle the records. So there was the need to develop a system which could manage all these things and reduce the paperwork. Employee information system is easy to use application which is created to manage the employee data. It is created to record the details of the employees. This reduces the dependency on the manual system which could create errors. This system can easily help in tracking employee records. There is a search feature which allows getting records of a specific employee. There is an administrator which can add, edit, delete and save records in a database. There are two views for this application first is the administrator and the second is employee view. The employee view enables employees to view their details.

2. LITERATURE REVIEW

Before creating this low cost web application there are lots of web application which provides the same type of works, with efficiency. The project of creating the web application using the PHP and MySQL provides the same operation but

much more costly as the web application is basically the website creation [1]. Another work provides the information about the payrolls but this is really out of context for this kind of applications [2]. Another study of human resource provides the importance of this kind of application in the HRMS factors [3]. A study of Tech HRM provides the details of the study that human resource is so much important for the study of the employees [4]. Software are being created by the developers but they are costlier for the companies which cannot afford them [5]. Enterprise resource planning is another way of determine the records of the employees but still they are costlier than the proposed model [6]. Information systems development studies also show the effectiveness of this web application in the real life [7]. The main idea of this kind of web application came from the internet's "How to program" study and the idea has been implemented quite nicely here [8]. This type of applications needs both the database [9] and the applications user interface [10], so I have decided to host the database in the local server so that it would be quite secure for the low end companies who cannot afford the databases like AWS and Microsoft Azure or, even Google Cloud.

3. PROBLEM STATEMENT

The problem statement for this project is, to make a secure and automated system which will keep the Employee Records of an organization or institution secure and safe. Also it can do the following jobs automatically with the help of the Admin of the company only,

- (i) Adding new employee data
- (ii) Updating previous employee data
- (iii) Deleting employee data
- (iv) Search a particular employee record based on the employee ID and print the details.

These are the problem statements that we are solving using the code base which is implemented in JAVA.

4. SOLUTION

To overcome the above mentioned problem statements, we need to create 6 procedures.

They are,

- (i) Creating a java file which will add new employee records in the employee database, as per the admin choice.
- (ii) Creating a java file which will update the previously entered record of the employee with the help of the admin through the system by the employee ID in the employee database.
- (iii) Creating a java file which will delete the desired record of the database with the permission of the admin.

(iv) Creating java file which will search a record with respect to the employee ID of the employee.

These classes will be combined together to form the program which will help the admin to work on with the database of the employee records

5. IMPLEMENTED SYSTEM

To access this project the basic medium will be JAVA Netbeans and XAMPP control panel (any other IDEs will also work on this project). We have to set two environments for this project to successful. Firstly, we have to create a database in which we will store all the information of the employees and then we have to make it secure and compact. Secondly, we have to make the java front end for the web app which will provide the GUI of the project and also this Java files will make the queries to the database and based on that the details will be shown and hence evaluated by the admin. Now the main thing is how to connect with the Java files with the database called as Employee. For that we need JDBC driver for MySQL which will make the connection in between the Java files and the database. The conn.java is the main connection file of this project without which we cannot make any connections via the database and the programs will not be executed.

This project consists of 11 java files including the connection file. These separate files are organizing separate works and queries, with the help of those queries this project will be successful. We have the employee database which consists 11 attributes and they are, employee ID, name, father's name, age, date of birth, address, mobile no., email ID, education, job post and aadhar no.. Based on these 11 attributes we have taken the information of the employees and stored them in the database. There is also a database named as login which consists of the login credentials. In this database it has two attributes Login ID and password. For this whole project the login Id is 'admin' and the password is 'admin'. Lastly the MySQL Connector 8.0.22 is used to connect the database with the java files.

6. RESULT ANALYSIS

Employee record system using Java and Database Management System is one of the major automations from the hand written registers. Now let's check how the project looks like after running all the files properly.



Fig -1: Home Page of the application

This is the front page or the welcome page (Fig -1) of the system. After that a login (Fig -2) window will pop up and it will require the login credentials for the login purposes.

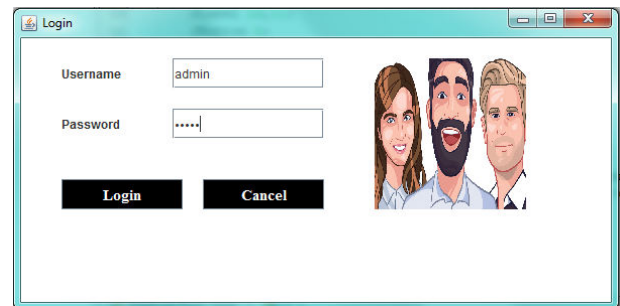


Fig -2: Log-in page for the application

After providing all the credentials properly it will take the user to the dashboard of the system. Now let's check the dashboard and also what it offers.

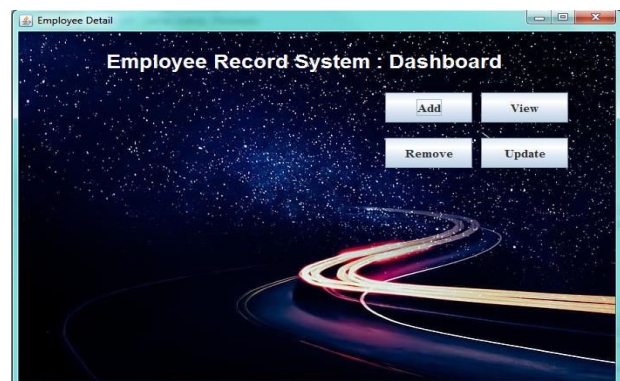


Fig -3: Dashboard of the application

The dashboard (Fig -3) offers the user to add employee data, update, search and remove employee data from the database. Now if we choose the 'Add' option then the add data window will open and the system will require the data (Fig -4).

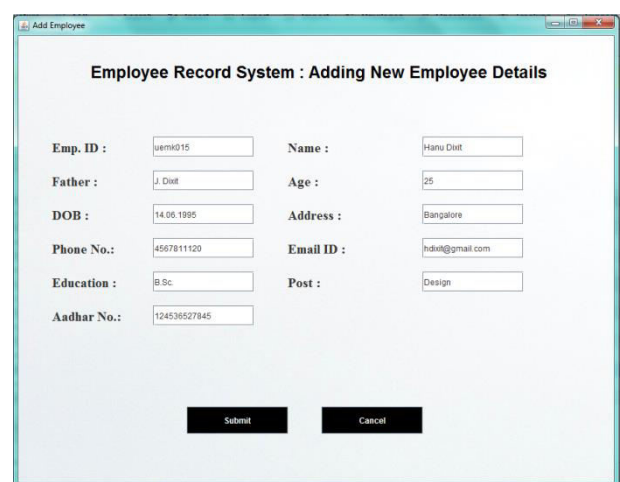


Fig -4 : Adding new records

After entering the data in the system click on the 'Submit' and the data will add in the database. As the data added successful it will show a pop-up as 'Data Added Successfully' (Fig -5).



Employee Record System : Adding New Employee Details

Emp. ID : uemk015 Name : Hanu Dixit

Father : J. Dixit Age : 25

DOB : 14.09.1995 Address : Bangalore

Phone No.: 456781120 Email ID : hdixit@gmail.com

Education : B.Sc. Post : Design


Aadhar No.: 124536527845

Message: Details Successfully Inserted

Submit Cancel

Fig -5: Successful Data Insertion in the database

Now again from the dashboard let's search and view an employee' (Fig -6) record.



Print Data

Employee Details

Employee Id: uemk001

Name: Abhishek Sharma

Father's Name: G. Sharma

Address: Kolkata

Mobile No: 9330555020

Email Id: abhi@gmail.com

Education: B.Tech

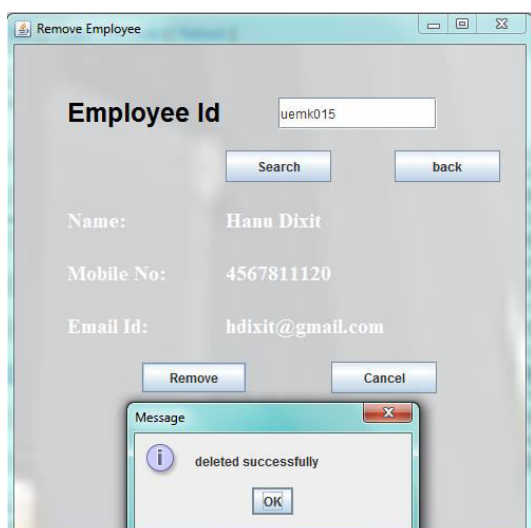
Job Post: ML Engineer

Print cancel

Fig -6 : View a record

This is how the data will be shown in the interface.

Now if we want to delete or, remove an employee' data from the database then what we have to do? We have to head towards the 'Remove' section and from that we have to search the particular ID and then after confirming the details we have to click on the remove button and the data will be removed from the database. Here's the interface of the remove (Fig -7) data option.



Remove Employee

Employee Id: uemk015

Search back

Name: Hanu Dixit

Mobile No: 456781120

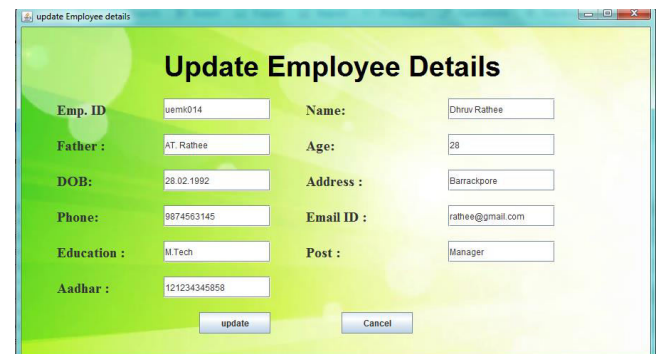
Email Id: hdixit@gmail.com

Remove Cancel

Message: deleted successfully

Fig -7: Remove a record

Now let's update a previously added data using the update button (Fig -8).



Update Employee Details

Emp. ID: uemk014 Name: Dhruv Rathee

Father: AT Rathee Age: 28

DOB: 28.02.1992 Address: Barrackpore

Phone: 9874563145 Email ID: rathee@gmail.com

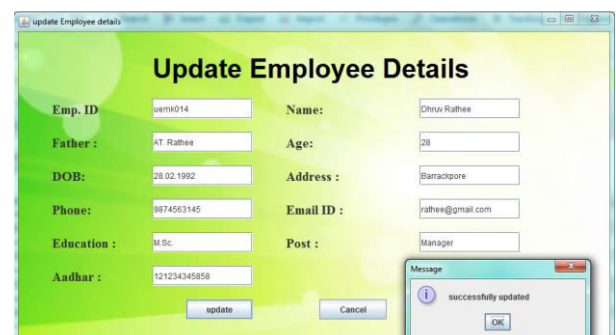
Education: M.Tech Post: Manager

Aadhar: 121234345858

update Cancel

Fig -8 : Update employees record

Let's change the education from 'M.Tech' to 'M.Sc.' and then update the data of this employee (Fig -9).



Update Employee Details

Emp. ID: uemk014 Name: Dhruv Rathee

Father: AT Rathee Age: 28

DOB: 28.02.1992 Address: Barrackpore

Phone: 9874563145 Email ID: rathee@gmail.com

Education: M.Sc. Post: Manager

Aadhar: 121234345858

update Cancel

Message: successfully updated

Fig -9 : Successfully updated the records

And the data is successfully updated.

This is how the system will work after proper configuration and the whole system is successfully deployed using the required conditions and methods of Java and Database Management Systems.

7. CONCLUSIONS

By this project work the data keeping procedure for the admin of the company will be more accurate and more efficient. All the procedures have been working correctly.

The code base is accurately,

- (i) Adding the data in the database
- (ii) Updating the desired column
- (iii) Deleting the desired data
- (iv) Searching the desired the employee's record

Hence, we can conclude that the project has been done correctly and implemented properly to do the aforementioned procedures.

8. FUTURE SCOPE OF WORK

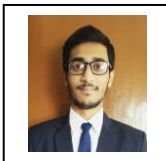
This code base is the back bone of this project. Now this project can be modified using other attributes like salary, job attendance and lot more attributes are there to measure the scale of the employees. Anyone can create a website which will provide the employees to check their attendances and

their records which are in the system are right or, not. Like the Indian Railway has implemented this system as HRMS or, Human resources management systems where every employee can check their manager, salary, details and everything related to their jobs.

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