WEB APP (HR PANEL) DEVELOPMENT USING HTML, CSS, JAVASCRIPT, jQUERY, PHP, BOOTSTRAP, AJAX, SQL AND JSON

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Preface

HPCS HR Panel (Web App) is the go to portal for the Human Resources Manager to keep statistical analysis of all the employees. This makes the daily tasks of the HR Manager easier and helps in extracting the maximum efficiency in terms of performance as well as resourcefulness. The HR Panel happens to be a very vigorous tool to have by your side because it helps in measuring the processing of the employees of the company. This tool, if present at the HR's disposal can help him in devising plans (using the data collected) which urge to benefit the company in the short as well as long term.

Salient Features in Proposed System:

➢ Secure Login Panel

➢ Cookies Used to Keep User Logged In

➢ Secure Pages Which Can Only Be Accessed After Logging In

➢ Works as an Online Portal

➢ Add New/Old Employees

➢ View Employees

➢ Update Employee Profiles

➢ Analysis of Employee Attendance

➢ Checklist Kept Track of per Employee Separately

➢ Idiot Proof Code

➢ Passwords Protected in Hashed Format

➢ Planned Events and Schedules Imposed on Databases

HPCS HR Panel is developed using HTML, CSS, JavaScript, jQuery and Bootstrap as frontend and SQL, AJAX and PHP as Backend. The peculiarities of the project are elucidated upon in the further upcoming chapters.

Organization Introduction

HPC Sphere was established to cater to the huge gap found in the services side of high processing data from the domains of Computational Finance, Weather Modeling, and Image Processing, Web Development, Software Development, etcetera.

HPC Sphere has been in business of niche technology of supercomputing/ high performance computing since its inception. The team possesses specialization in computer architecture, parallel computing and GPU computing.

Some of the latest technological tools for web based application developments which have been adopted by our team are – HTML5, CSS, JSON, XML, Flash, SOAP, REST, JavaScript, Angular.JS, Node.JS, MVC framework, JQuery, WCF services, SOA, PHP, .NET, C#, MySQL, SQL server administration, UI design, Photoshop, Dreamweaver etcetera.

HPC Sphere provides services to quite a range of class of industries for their varied application needs – Web Application Development, Outsource Website Development, Software Development Outsourcing, Custom Application Development, Outsourced Product Development, Web and Enterprise Portal Development, Business and Community Portal, PHP Web Development, .NET Development, E-Commerce Solutions, B2B and B2C Portal development and much more to help in your business growth.

HPC Sphere also provides Cloud based integrated service for the Web applications for the visionary clients.

List of Tables

TABLE NAME	TABLE SNAPSHOT
ATTENDANCE_TABLE	<table><tr><th>EmpId</th><th>AttendanceDate</th><th>AttendanceDay</th><th>EntryTime</th><th>ExitTime</th></tr><tr><td>HPCS17001</td><td>2017-04-19</td><td>Wednesday</td><td>09:03</td><td>18:41</td></tr><tr><td>HPCS17001</td><td>2017-04-20</td><td>Thursday</td><td>09:07</td><td>18:35</td></tr><tr><td>HPCS17001</td><td>2017-04-21</td><td>Friday</td><td>08:59</td><td>19:11</td></tr><tr><td>HPCS17001</td><td>2017-04-24</td><td>Monday</td><td>09:02</td><td>18:54</td></tr><tr><td>HPCS17001</td><td>2017-04-25</td><td>Tuesday</td><td>09:04</td><td>18:44</td></tr><tr><td>HPCS17001</td><td>2017-04-26</td><td>Wednesday</td><td>09:12</td><td>18:40</td></tr><tr><td>HPCS17001</td><td>2017-04-27</td><td>Thursday</td><td>09:26</td><td>19:30</td></tr><tr><td>HPCS17001</td><td>2017-04-28</td><td>Friday</td><td>09:10</td><td>18:43</td></tr><tr><td>HPCS17001</td><td>2017-05-01</td><td>Monday</td><td>09:10</td><td>18:40</td></tr><tr><td>HPCS17001</td><td>2017-05-02</td><td>Tuesday</td><td>09:13</td><td>18:35</td></tr><tr><td>HPCS17001</td><td>2017-05-03</td><td>Wednesday</td><td>09:11</td><td>18:45</td></tr></table>
CHECKLIST	<table><tr><th>serialNo</th><th>EmployeeID</th><th>name</th><th>hpcs_email_ID</th><th>prepare_laptop</th><th>email_social</th><th>email_instructions</th><th>em</th></tr><tr><td>5</td><td>HPCS17001</td><td>Yash</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>7</td><td>HPCS17002</td><td>abcabcabc</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table>
EMPLOYEES	<table><tr><th>serialNo</th><th>imgPath</th><th>name</th><th>modeOfEmployment</th><th>Post</th><th>EmployeeID</th><th>DOJ</th><th>confirmDate</th><th>DOR</th></tr><tr><td>356</td><td>../uploads/chuck.jpg</td><td>Yashh</td><td>Full Time</td><td>Software Engineer</td><td>HPCS17001</td><td>2017-04-10</td><td>0000-00-00</td><td>0000-0(</td></tr><tr><td>358</td><td>../uploads/</td><td>abcabcabc</td><td>-</td><td>Software Engineer</td><td>HPCS17002</td><td>2017-12-31</td><td>0000-00-00</td><td>0000-0(</td></tr></table>
LOGIN	<table><tr><th>loginId</th><th>loginPassword</th><th>Name</th><th>EmpId</th></tr><tr><td>user</td><td>pass</td><td>tester</td><td>0</td></tr><tr><td>yash@hpcsphere.com</td><td>yash1234</td><td>Yash</td><td></td></tr></table>

Contents

HPC Sphere HR Panel

The HPC Sphere HR Panel is a specialized web engine that incorporates a handful of essential aspects to the working of an HR Manager. Part of the HR Manager's job is to evaluate the workers and develop methodologies to differentiate between them when it comes to their performance reviews. Keeping the same in mind, the HPC Sphere HR Panel provides the HR Manager with extensive and statistical tool in the form of an online engine.

The web engine incorporates a number of features which have been discussed in the following sections of this document. The website also uses MD5 hashing to secure the passwords that are hence checked every time by converting the user's password input to MD5 version and henceforth checking against the original password's MD5. A lot of other security features such as timeout as well as securing of access of webpages through bare links by an infiltrator have been taken care of.

Salient Features of the HPC Sphere HR Panel

- Secure Login Panel
- Cookies Used to Keep User Logged In
- Secure Pages Which Can Only Be Accessed After Logging In
- Works as an Online Portal
- Add New/Old Employees
- View Employees
- Update Employee Profiles
- Analysis of Employee Attendance
- Checklist Kept Track of per Employee Separately
- Idiot Proof Code
- Passwords Protected in Hashed Format
- Planned Events and Schedules Imposed on Databases
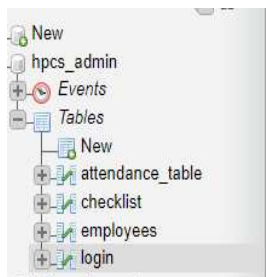
We shall explore each of the topics in detail further.

Chapter 1 – The Login Panel
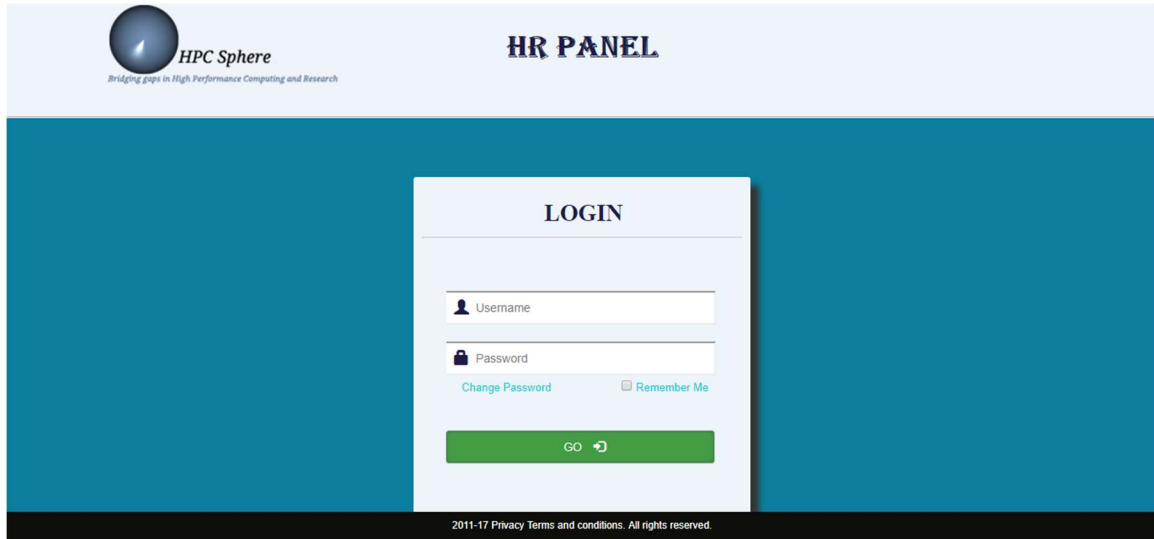
The Login Panel

Above, is a picture of the login panel. Simplicity is the key to the interfacing here. The username and the password of the HR Manager is to be entered in here. These username and password pairs are stored in the Database named 'hpcs_admin'. Inside this database, a table exists with the name 'login' which contains the data for this login verification. A simple username = "user" and password = "pass" has been inserted into the table so that the project can be tested. Following is a picture which shows the structure and the data in the login table. (Note that MD5 hashing of the password has not been incorporated here since it would render the project unusable if a user fails to remember his password or login credentials in the crude sense, unless of course the user has knowledge of PHP and SQL).

Structure of Table `login`

Data in Table `login`

These pictures clearly show the structure as well as the currently present data which can be used by the tester to log into the website and access other features.

Some other features such as Change Password and Remember me have also been incorporated. These can be seen as shown under:

Change Password Implementation

Here, the password of the user is updated through the panel into the `login` table in the `hpcs_admin` database. Users can easily access this to change their current passwords.

Remember Me Implementation

Here, on checking of this option, the user's login credentials are saved into the local machine in the form of cookies through which the user doesn't get logged out (or he doesn't need to enter the credentials to log in, specifically every time he visits the website, the credentials will be present there in the respective fields). The user will have to re login once he logs out and then again tried to log in. The user will also have to re login if the session times out.

Chapter 2 – Inside The HR Panel

The HR Panel

Inside the HR Panel, the user is redirected to the Dashboard. Here, the Header makes its first appearance. We can see the header says HR Panel along with a simple logo of HPC Sphere on the top left. Next, the user is identified and is Welcomed on the top right with his name. Also, a Log Out button can be seen on the bottom right of the header.

Next, we note that a Navbar has been provided to the HR Manager so that he can easily browse through the website without searching for a website map at each step. The navbar is adjustable and can be hidden by clicking on the left arrow glyphicon that can be seen on the mid right portion of the navbar. Once hidden, it can again be resuscitated by clicking on the right arrow arrow button which shows as soon as the user places his mouse to the left most part of the screen. The Navbar incorporated several Menus and Sub Menus, each of which we will see in the upcoming chapters. The following pictures show the hiding property of the Navbar.
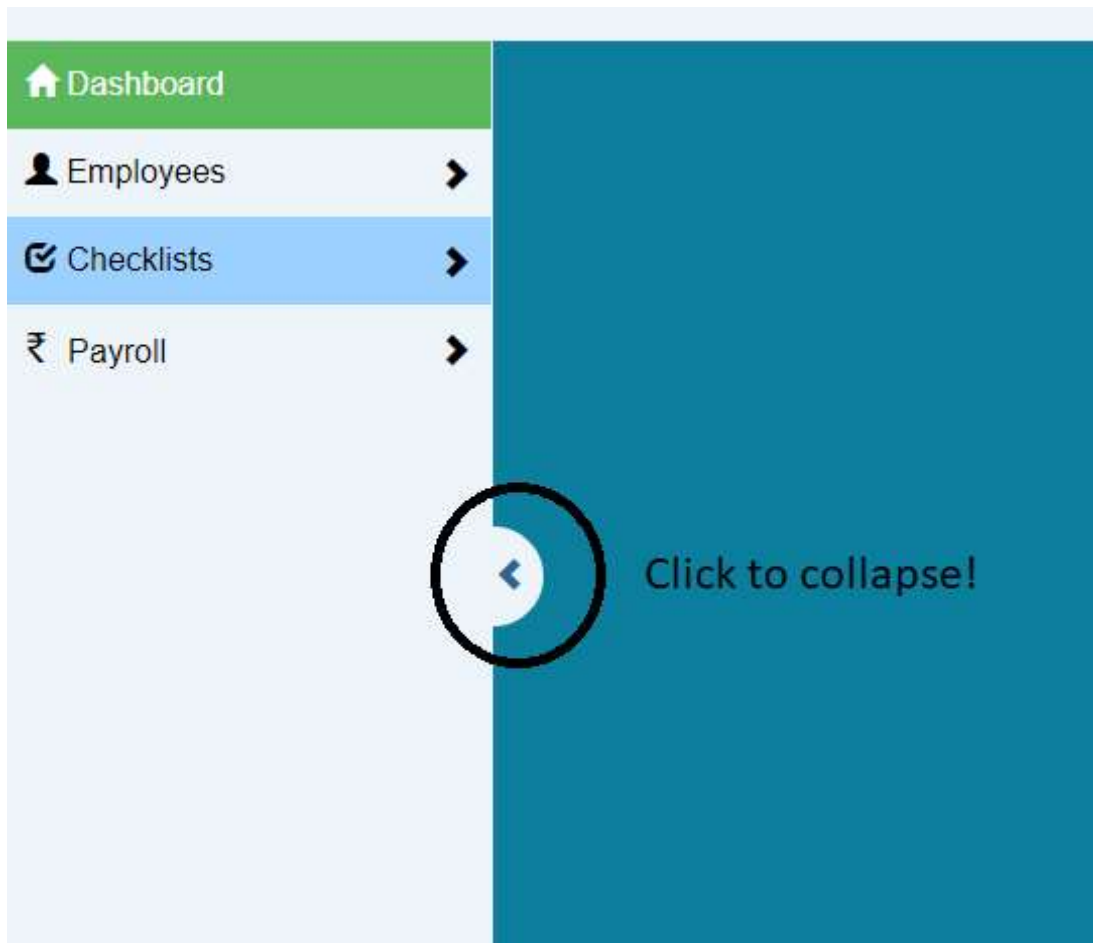
Collapsibility feature

The next stage is shown in the next picture.

Restore Navbar Button

The navbar can be restored by clicking the right arrow glyphicon.

Chapter 3 – Adding New & Old Employees
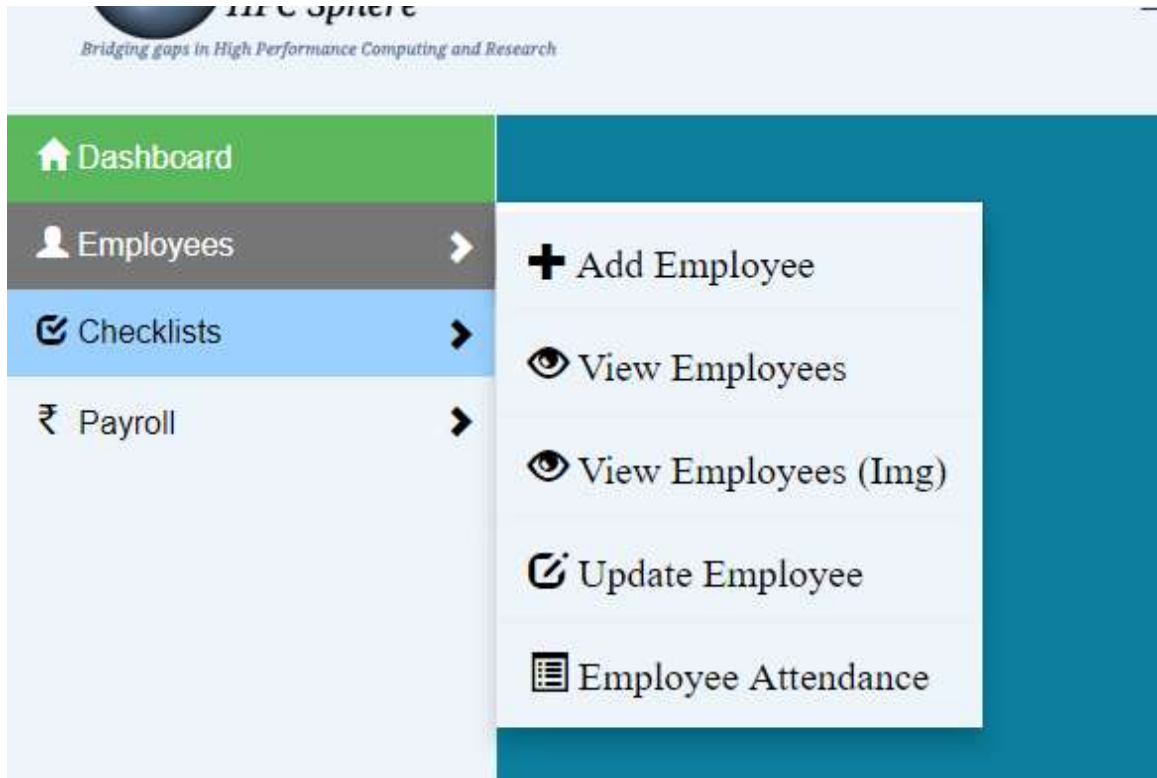
The Employees Menu

On hovering over the `Employees` section on the Navbar, the submenu items show up. The first item in this menu is Add Employee. On clicking on this menu, the following menu shows up.

The menu consists of several sections of scroll down menus. These can be opened up by clicking on them. The following happens on clicking on `Basic Details`.

Basic Details (Enlarged)

The red asterisk denotes that the fields must be filled for an employee to be added to the database. In other words, these fields are mandatory fields. We will see each of the subsections enlarged after taking a short detour to the `Copy to Clipboard` button.

This button copies the credentials in a string for further use by the HR Manager. A sample can be seen below:

These credentials are now copied to clipboard. We shall paste the output below:
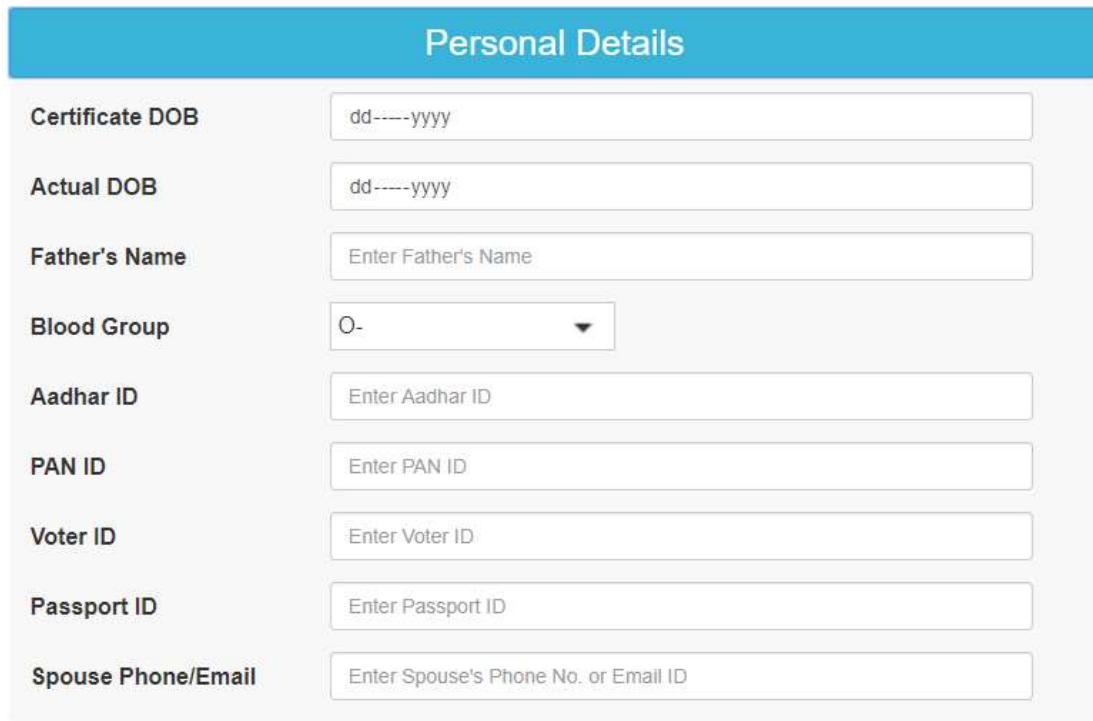
> Employee ID: HPCS17003 |Official Email ID: NewEmail@kdd.com | Official Email Password: passswiei | Skype ID: SkypeId123 | Skype Password: password | Date of Joining: 2017-09-29

Next, all of the other subsections have been pictured as below:

This is the general details section (expanded). The general details as seen above can be entered in the pertinent fields here. Also, a picture can be uploaded here.

<u>Personal Details Section</u>

Important Dates

Confirm Date	dd-----yyyy
Date of Registration	dd-----yyyy
Training Start Date	dd-----yyyy
Training Completion Date	dd-----yyyy

Important Dates (Expanded)

Contact Details

Primary Contact No.	Enter Primary Contact Number
Emergency Contact No.	Enter Emergency Contact Number
Present Address	Enter Present Local Address
	Enter City Name
	Enter Country Name
Permanent Address	Enter Permanent Address
	Enter City Name
☐ Same as above	Enter Country Name
Personal Email	Enter Personal Email ID

Contact Details (Expanded)

Banking Details

Bank Account Number   Enter Bank Account Number

Account Type   ● Savings   ○ Checking   ○ Interest-Bearing

IFSC Code   Enter IFSC Code

Bank Name   Enter Bank Name

Bank Address   Enter Bank Address

Education Details

Salary Details

Register

Banking Details (Expanded)

Education Details

10th Marks   Enter Tenth Percentage

12th Marks   Enter Twelfth Percentage

Degree Name   Enter Degree Name

Degree Marks   Enter Degree Percentage

Passing Year   Enter Passing Year

Salary Details

Register

Education Details (Expanded)

Salary Details (Expanded)

This concludes our overview to adding a new employee. Note that the employee ID is auto generated depending upon the employee's year of adding and the number of employees already added in that year.

Thus, to add an old employee to the database, select the 'Old Employee' bullet on top of the form. This gives us an additional option of selecting the year of addition of an employee through which an algorithm calculates the proper Employee ID for the employee. This can be shown as follows:

Note that changing the year will automatically auto generate a new Employee ID as per that year and the number of employees from that year.

Chapter 4 – Viewing Employees

Two different methodologies to view the employee have been implemented. The first one shows the employees in a jQuery Datatable without the employee image.

The second one shows the employee details in the jQuery data table with the images of the employees. This can be very crucial at times when bulk number of employees are kept track of and at times viewing their photos falls out of context or purpose.
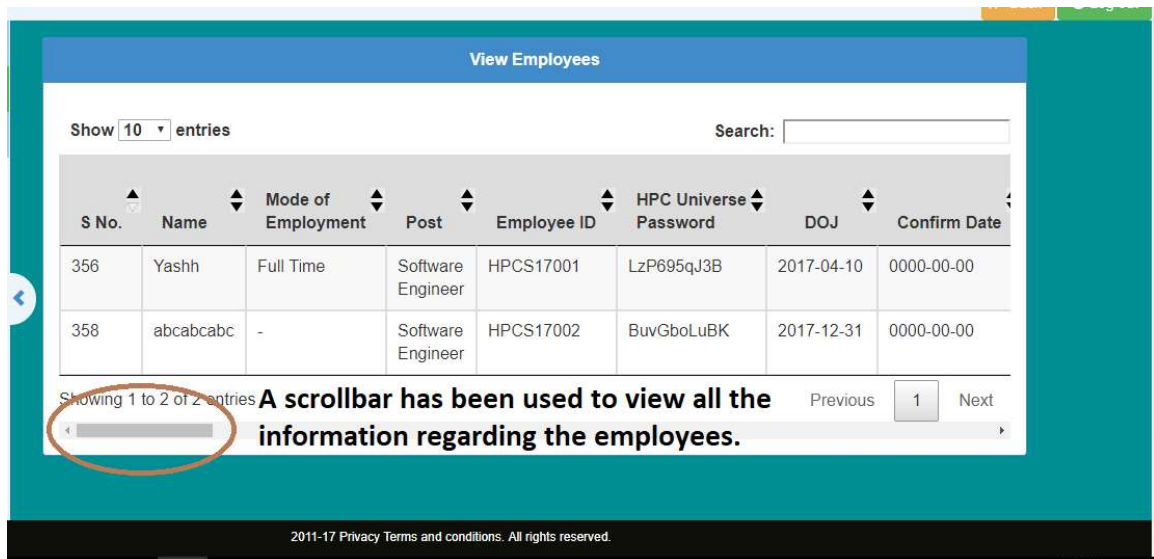
View Employees (Without Image)

S No.	Photo	Name	Mode of Employment	Post	Employee ID	HPC Universe Password	DOJ	Confirm Da
356		Yashh	Full Time	Software Engineer	HPCS17001	LzP695qJ3B	2017-04-10	0000-00-00
358	No image uploaded for this employee	abcabcabc	-	Software Engineer	HPCS17002	BuvGboLuBK	2017-12-31	0000-00-00

Showing 1 to 2 of 2 entries   Previous 1 Next

View Employees (With Image)

Here, mainly, the data has been fetched from the database and all the employees with their data have been arranged into rows, which the HR Manager can access without procuring the knowledge of any kind of DBMS or SQL.

Chapter 5 – Updating Employee Details
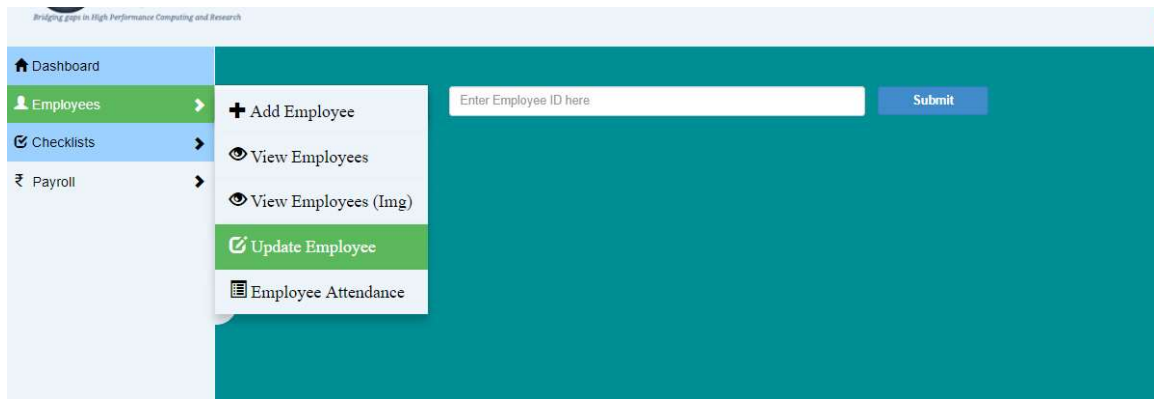
Update Employee Portal

Here, the HR Manager can update any employee's details. The employee ID is entered which is bound to be shown up using AutoSuggest functionality that has been implemented here.
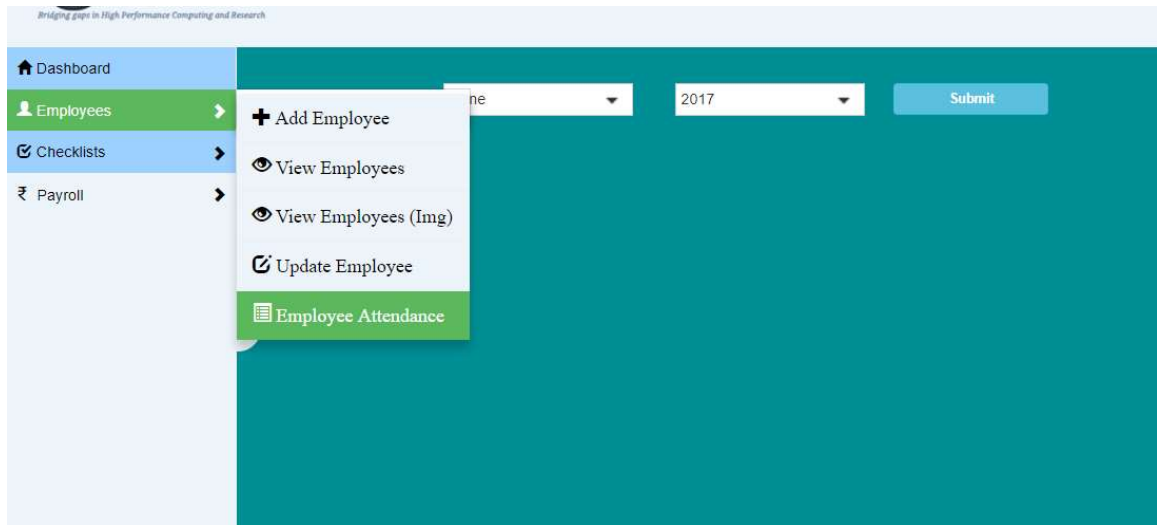

If no such user exists
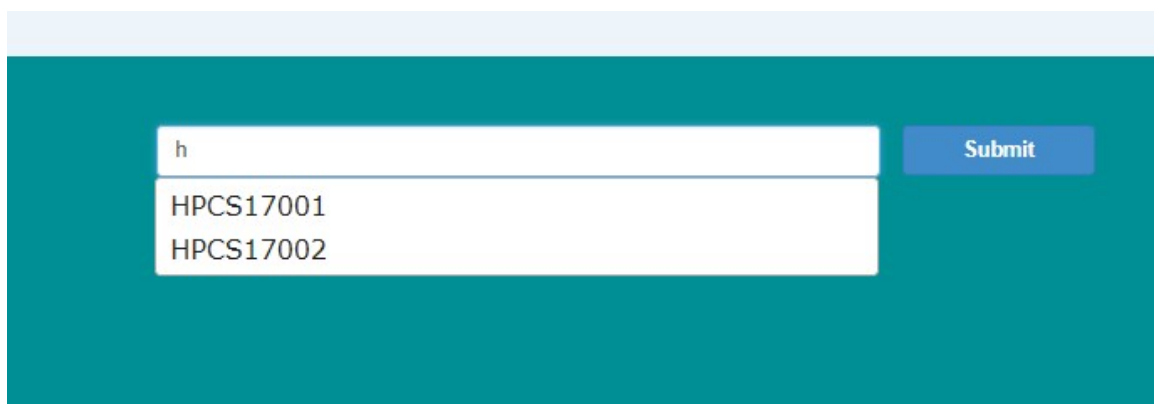
Auto Suggest

Update Employee Portal

The details of the employee are already present in the respective fields. The employee's profile can be updated by changing these fields and clicking update at the bottom of the panel.

Chapter 6 – Viewing Employee Attendance

The employee attendance can be checked for any month by checking the employee attendance option in the Employees sub-menu. A drop down appears in which the year and the month needs to be selected for viewing the employee attendances.

Employee Attendance Table

In this table, all of the employees with their attendance can be seen accordingly. All of this data is to be stored in the database through the attendance portal every day when the employee arrives at work.

Chapter 7 – Employee Checklists
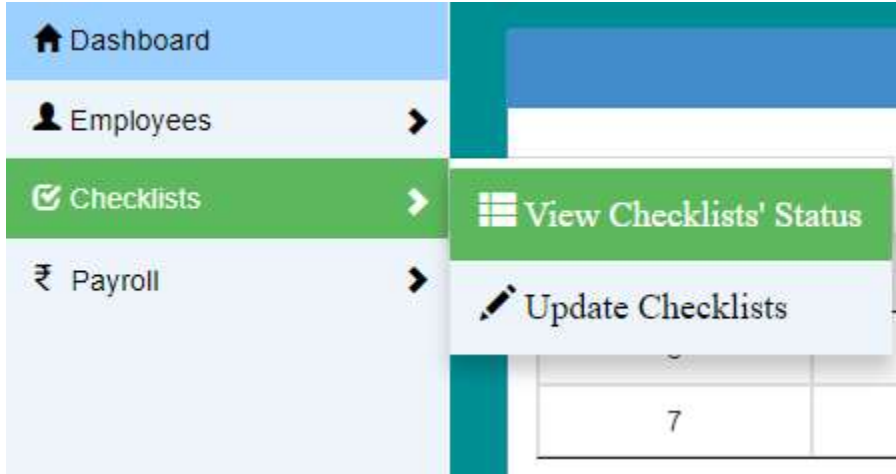
Employee Checklist is essentially a list of things that the company needs to attend to for every employee. For instance, providing the employee with a laptop, a notebook, a pen, adding him to the skype group, etcetera. This is also kept track of by the HR Manager through the HPC Sphere HR Panel. First, each and every employee's checklist is automatically accounted for every time an employee is added to the database. His checklist needs to be completed to change the overall checklist status to 'Complete' from 'Pending'. This is done using MSQL Events. If the checklist has all of the statuses completed, the overall status of the checklist is set to 'Complete'. This overall status can be seen in the Checklists menu > View Checklist's Status.

The following depicts the same:

View Employee Checklist's Status

Finally, the checklists will be updated through the update checklists page. This can be reached from the Checklists Menu > Update Checklists option.

The following is a sample from the same page:

	HPCS17001		Submit

Update Checklist

1	Create HPCS Email id	☑
2	Prepare Laptop (Use Checklist NSSC)	☐
3	Send email for joining hpcsphere on social media	☐
4	Send email for general instructions	☐
5	Send email mql4 book (chm and links) to docs/book on the mql4 & mql5 and slides	☐
6	Send email for team's skype id and email id	☐
7	Send email for Joining process (Docs+Details)	☐
8	Create google drive account using hpcs email id and email	☐
9	Fill new joinee credentials details sheet	☐
10	Collect documents (using JDC) (10,12, MArks sheet + pass certificate)(8 sem mark sheet) (Btech Provisional)(PAN,permanent address proof)	☐
11	Initial verification by Anand. If All docs are not available then Send employee back home	☐
12	Give Original docs to satyam	☐
13	Give him laptop, laptop id and pwd, outlook, webmail access	☐
14	Give Note Book and Pen to new employee	☐
15	Welcome greeting card to new employee, get signed by team	☐
16	Prepare training schedule and email	☐
17	Welcome meeting	☐
18	Send welcome email	☐
19	Create Skpye id	☐
20	Ping his skype id and email in hpcs skype group	☐
21	Add him in hpcs skype group	☐
22	Give all the joining docs to employee (From Google Drive folder)	☐
23	Sign on each and every page of every docs	☐
24	Check entry in performa sheet	☐
25	Verify personal contact no	☐
26	Create a new file for employee	☐
27	Keep signed docs in the document file	☐
28	Add bank account details in kotak	☐
29	Add employee attandence sheet	☐
30	Fill up employee details sheet	☐
31	Add in employee salary sheet	☐
32	Add Birthday in Gmail Calander	☐
33	Add Marriage anniversary in gmail calander	☐
34	Add year completion in gmail calendar	☐
35	Add 1.5 Year completion in gmail calendar	☐
36	Add probation completion in gmail calendar	☐
37	Add in hpcsphere whatsapp group	☐
38	Verify original docs by Satyam	☐
39	Return Docs to employee on same day	☐
40	Update google map with new team member's address	☐
41	Create wordpress account and email to employee	☐
42	Create OCL sheet and share OCL sheet with employee	☐
43	Salary review after one month add in gmail calendar	☐

Update

Chapter 8 – Employee Payroll

View Payroll

Finally, the HR Manager can view the Employees' payroll through this page. Again, the Employee ID can be put in using auto suggest, and the pertinent employee payroll details will show up using AJAX.
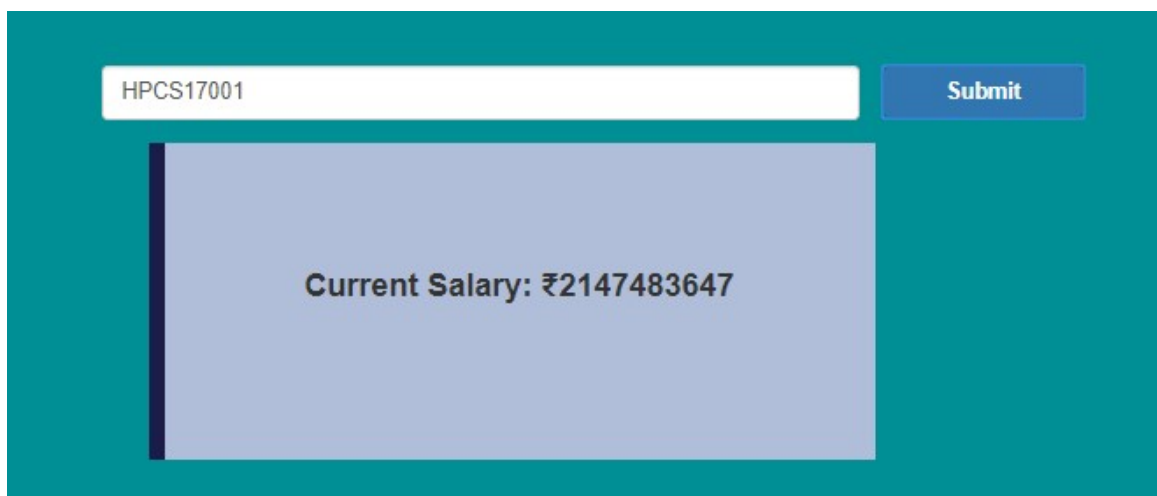

Auto Suggest

If Employee doesn't exist

Payroll Details of Employee

Conclusion

To sum up, the HPC Sphere HR Panel can be an indespensable part of any company by helping out the HR Manager in uncountable ways. It helps the manager analyze the workers to a much better extent through which he can decide which employee has been the most valuable to the company, and on the contrary, which employee has been of negligible or derogratory influence to the company. Through these records, the HR Manager can also keep track of all the information that is to be kept about any employee rather than making notes or storing the same in a file processing structure. The HR Panel forms a very crucial part of any organisation and I believe, it can help boost the organisation's objectives as well as encourage the employees to work harder at the same time.

References/Bibliography

The following websites were referred during the study and development of this project:

- www.tutorialspoint.com
- www.stackoverflow.com
- www.w3schools.com