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Employee HR Connect Portal

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Abstract

Employee HR Connect Portal is essential in order to track employee time, project time. This portal can be hosted on any java based web server or application server and will be accessible via web-browsers. This portal is very user-friendly. Employee HR Connect Portal will be a useful tool to identify supply and demand of human resources. We have three main modules to maintain records of employee, department and project. Employee HR Connect Portal is very helpful for auditing. Through this portal we can judge the potentiality of the employee.
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1 Project Description

1.1 Competitive Information
This project will be useful for midsize IT and consulting companies with less than 200 employees. This has the potential to compete against others in the market with addition of further enhancements like generating performance reports and emailing them to the higher management.

1.2 Future Enhancements
This project can be extended to generate the reports of performance evaluation and emailing them and also to manage the leaves of the employees to decide their pay.

2 Technical Description

The purpose of Employee HR Portal is to provide:

- Maintenance of profile details of the employees and retrievals as and when required.
- Overall & detailed view of the organization hierarchy, which is essential in effective decision making.
- Judging the number of hours an employee is working for a project.
- Analyzing the number of resources required for a project.
- Accessing the employee skill set to assign for a project.
- Entering the timesheet and approving the timesheet.
- Very useful for auditing.
- Judging the potentiality of employees.
- Future planning issues based on current information.

Scope: An Employee HR Portal is essential in order to track employee time, project time and also employee performance reviews. This portal can be hosted on any java based web server or application server and will be accessible via web-browsers. Employee HR Connect Portal will be a useful tool to identify supply and demand of human resources. There are three main modules to maintain records of employee, department and project. Employee HR Connect Portal will also have capability to generate various kinds of reports for employee time tracking and project time tracking.
2.1 Project/Application Architecture

Client Tier
Web Browser, Web Pages (HTML)

Application Tier
JSP Pages, Servlets, Presentation Layer Logic

Business Logic Tier/JDBC Dao
Java EE

Database Tier
SQL Server 2012
2.2 Project/Application Information flows
2.3 Capabilities

Software Requirements:

➢ Front End:
  - Operating System: Windows7 (64-bit) and above, Ubuntu 14.0.9
  - Web-Browsers: IE9, IE10, Mozilla Firefox and Google Chrome.

➢ Back End:
  - JDK 1.7, Apache-Tomcat 7.0.55, Microsoft SQL Server 2012.

➢ Technologies Used:
  - HTML5, CSS, JSP2.2, JSTL1.2, Servlet 3.0, JavaScript.

Hardware Requirements:

- 4GB RAM,
- 500GB hard disk space,
- 2.20 GHz Intel® Core™ 2 Duos CPU,
- Personal computer with higher processor.

3 Project Requirements

3.1 Identification of Requirements

➢ <EHCP-P11-1.0 Admin-“R001”>
  Admin can create a new employee with the necessary details.
  Implementation: Mandatory

➢ <EHCP-P11-1.0 Admin-“R002”>
  Admin can list of employees and can update employee.
  Implementation: Mandatory

➢ <EHCP-P11-1.0 Admin-“R003”>
  Admin can also create a new admin user.
  Implementation: Mandatory

➢ <EHCP-P11-1.0 Admin-“R004”>
  Admin can create a new department.
  Implementation: Mandatory

➢ <EHCP-P11-1.0 Admin-“R005”>
  Admin can view list of departments and list of employees by department.
  Implementation: Mandatory

➢ <EHCP-P11-1.0 Admin-“R006”>
  Admin can assign project manager to a project.
  Implementation: Mandatory
- **<EHCP-P11-1.0 Employee “R007”>**
  Employee can submit weekly timesheets and view hours that have been approved and those which are pending for approval.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R008”>**
  Manager can approve or reject the timesheets submitted by the employees.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R009”>**
  Manager can submit weekly timesheets.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R010”>**
  Manager can create a new project.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R011”>**
  Manager can view list of departments and list of employees by department.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R012”>**
  Manager can assign a project to department.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R013”>**
  Manager can assign employee to project.
  Implementation: Mandatory

- **<EHCP-P11-1.0 Manager “R014”>**
  Manager can view list of projects and list of employees by project.
  Implementation: Mandatory

### 3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)
A default admin user has to be created before starting the use of this application. Admin creates the new employee when the admin gets an email regarding the details of the employee.

### 3.3 Security and Fraud Prevention
Website can be accessed over [https://employeehrportal.cloudapp.net/EmployeeHRPortal](https://employeehrportal.cloudapp.net/EmployeeHRPortal). All functionality can be accessed only after login. There are 3 different roles admin, manager and employee. This way we can ensure employee will not be able approve their own timesheet.
* We still need to install Verisign security certificates.
3.4 Release and Transition Plan

Setting up Ubuntu 14 and bitnami tomcat 8.0.

i. Sign into Microsoft Azure and go to portal. Go to Home.

ii. In the search box type ‘tomcat bitnami’ and search. You will find the list as below.

![Search results for tomcat bitnami in Microsoft Azure]

iii. Select any version of tomcat. I selected Tomcat 8.0.9-0-dev (Ubuntu 14.04).
iv. Click on create virtual machine

v. To create virtual machine set the Pricing tier as A1; Optional Config, select EndPoints Configuration and set the default port numbers of SSH as 22, https as 443 and http as 80.
vi. Virtual machine is created.

vii. Click on the link corresponding to the virtual machine, you will be redirected to access bitnami tomcat stack where you can deploy your application.
Connect to apache from git bash.

Creating sql database.
After creating database. We need access to it from our ip address. So we need to add our ip address to ‘allowed ip addresses’. To add allowed ip addresses we click on configure.
Testing connection to sql server
l9je6yyylp.database.windows.net

To connect to database server
4 Project Design Description

- **Project Module:**
  a) User can create a new project.
  b) User can assign project to department.
  c) User can assign employee to project.
  d) User can view list of projects and by selecting a project user will be able to view the list of employees assigned for that project.
  e) User can view current projects assigned to him and can approve employee timesheets submitted to manager.

- **Department Module:**
  a) User can create a new department.
  b) User can view list of departments and by selecting a particular department user can view the employees assigned to that department.

- **Timesheet Module:**
  a) User can submit the timesheet and can view whether they are approved or not.
  b) User can approve the timesheets.

5 Project Internal/external Interface Impacts and Specification

**USE CASE DIAGRAM:**

![Use Case Diagram](image-url)
Introduction to ER-Diagrams

- **admin**
  
  - Username and password for Admin are stored in this table.

- **role**
  
  - Roles related to an user are stored in this table. Ex: Employee, Manager.
- Department details are stored in this table.

- Employee details are stored in this table, dept_id, role_id are foreign keys.

- Project details are stored in this table.
- **Project department map**

  ![Project department map diagram]

  - Projects and departments are mapped in this table.

- **Timesheet**

  ![Timesheet diagram]

  - When timesheet is submitted, values are populated in this table.

- **Employee project map**

  ![Employee project map diagram]

  - Projects and employees are mapped in this table.

- **Project manager map**

  ![Project manager map diagram]

  - Projects and managers are mapped in this table.
6. Testing

6.1 Unit testing

In order to assure that the tool achieves its objectives, the proponents conducted the testing per functionalities. The test scripts assure that the tool that will be implemented is parallel to its desired outcome. Unit testing is a software testing method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use. Intuitively, one can view a unit as the smallest testable part of an application. In procedural programming, a unit could be an entire module, but it is more commonly an individual function or procedure.

6.2 Functionality testing

Functionality testing is performed to verify that a software application performs and functions correctly according to design specifications. During functionality testing we check the core application functions, text input, menu functions and installation and setup on localized machines, etc.
6.3 Testing – Screens

Login

Create New Employee
List of Employees

<table>
<thead>
<tr>
<th>Employee Id</th>
<th>Employee First Name</th>
<th>Employee Middle Name</th>
<th>Employee Last Name</th>
<th>Email Id</th>
<th>Phone Number</th>
<th>Department</th>
<th>Employee Designation</th>
<th>Employee Experience</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aishwarya</td>
<td>Aparna</td>
<td></td>
<td>Aparna</td>
<td><a href="mailto:aishwarya@gmail.com">aishwarya@gmail.com</a></td>
<td>9714366579</td>
<td>Oracle Apps</td>
<td>Developer</td>
<td>5</td>
<td>employee</td>
</tr>
<tr>
<td>Omadurari</td>
<td>Divakar</td>
<td></td>
<td>Mudunuri</td>
<td><a href="mailto:divakar@gmail.com">divakar@gmail.com</a></td>
<td>4034800856</td>
<td>Java</td>
<td>Team Lead</td>
<td>10</td>
<td>manager</td>
</tr>
<tr>
<td>Dhondeti</td>
<td>Deepika</td>
<td></td>
<td>R sandeep</td>
<td><a href="mailto:dhondeti@gmail.com">dhondeti@gmail.com</a></td>
<td>2547934056</td>
<td>Informatica</td>
<td>Tester</td>
<td>7</td>
<td>employee</td>
</tr>
<tr>
<td>Maniaroli</td>
<td>Moudica</td>
<td></td>
<td>Banjara</td>
<td><a href="mailto:moudica@gmail.com">moudica@gmail.com</a></td>
<td>7896391234</td>
<td>TIBCO</td>
<td>developer</td>
<td>4</td>
<td>employee</td>
</tr>
<tr>
<td>Srinivas</td>
<td>Srinivas</td>
<td></td>
<td>Randeep</td>
<td><a href="mailto:srinivas@gmail.com">srinivas@gmail.com</a></td>
<td>5212367895</td>
<td>Informatica</td>
<td>Project Manager</td>
<td>10</td>
<td>manager</td>
</tr>
<tr>
<td>Smudunuri</td>
<td>Sri Vidyra</td>
<td></td>
<td>Madunuri</td>
<td><a href="mailto:smudunuri@gmail.com">smudunuri@gmail.com</a></td>
<td>2305455612</td>
<td>Oracle Apps</td>
<td>Project Manager</td>
<td>9</td>
<td>manager</td>
</tr>
<tr>
<td>Tweqaplay</td>
<td>Tejaswini</td>
<td></td>
<td>Vostaplay</td>
<td><a href="mailto:tejaswini@gmail.com">tejaswini@gmail.com</a></td>
<td>6843298090</td>
<td>SQL</td>
<td>DBA</td>
<td>3</td>
<td>employee</td>
</tr>
</tbody>
</table>

Create New Admin

<table>
<thead>
<tr>
<th>Admin Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin User Name</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
<tr>
<td>Re-enter Password</td>
<td></td>
</tr>
</tbody>
</table>

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Create New Department

List of Departments
List Employee by Department

Assign Project Manager
Current Projects

<table>
<thead>
<tr>
<th>Project Id</th>
<th>Project Name</th>
<th>Project Status</th>
<th>Manager</th>
<th>Description</th>
<th>Total Cost</th>
<th>Approve Time Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Baoter</td>
<td>development in progress</td>
<td>Smundadi</td>
<td>Retail related</td>
<td>200000</td>
<td>Approve Time Sheet</td>
</tr>
<tr>
<td>2003</td>
<td>FastRibs</td>
<td>development in progress</td>
<td>Smundadi</td>
<td>Experts related</td>
<td>200000</td>
<td>Approve Time Sheet</td>
</tr>
<tr>
<td>2004</td>
<td>Pregos</td>
<td>development in progress</td>
<td>Smundadi</td>
<td>Parking &amp; Materials related</td>
<td>400000</td>
<td>Approve Time Sheet</td>
</tr>
</tbody>
</table>

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Time Sheet – Pending Approval

<table>
<thead>
<tr>
<th>Project Id</th>
<th>Employee Full Name</th>
<th>Employee id</th>
<th>Date</th>
<th>Total Work Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Apana Bhoomi Akoswala</td>
<td>Aikooswala</td>
<td>2015-11-10</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>Deepika R Sandadi</td>
<td>Dsnandi</td>
<td>2015-11-10</td>
<td>5</td>
</tr>
<tr>
<td>2001</td>
<td>Deepika R Sandadi</td>
<td>Dsnandi</td>
<td>2015-11-11</td>
<td>8</td>
</tr>
<tr>
<td>2001</td>
<td>Apana Bhoomi Akoswala</td>
<td>Aikooswala</td>
<td>2015-11-12</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>Apana Bhoomi Akoswala</td>
<td>Aikooswala</td>
<td>2015-11-13</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>Apana Bhoomi Akoswala</td>
<td>Aikooswala</td>
<td>2015-11-14</td>
<td>7</td>
</tr>
<tr>
<td>2001</td>
<td>Deepika R Sandadi</td>
<td>Dsnandi</td>
<td>2015-11-14</td>
<td>8</td>
</tr>
</tbody>
</table>

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Create New Project

Assign Project to Department
Assign Employee to Project

List of Projects
List Employees by Project

Enter Timesheet
7. Link to access EmployeeHRPortal

http://employeehrportal.cloudapp.net/EmployeeHRPortal

8. Conclusion

Employee HR Portal is deployed successfully in Microsoft azure and will be available to everyone through web browsers. We chose Ubuntu virtual machine as it uses minimum space, supports more two or more workspaces, better security as it comes with Linux Security Modules installed by default. Employee HR Portal is helpful for midsize IT consulting companies with less than 200 employees. Employee HR Portal will be helpful for employees to update timesheet of one complete week within one single sheet and view hours that have been approved and those which are pending to be approved. Manager will be able to evaluate employee timesheet and approve their work hours. Admin has rights to create new employees and assign them to various departments and create new admin users. Manager can judge the number of hours an employee is working for a project. Manager can analyze the number of resources required for a project. Manager can access the employee skill set to assign for a project.
9. References

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