

SOFTWARE REQUIREMENT SPECIFICATIONS

*OrangeHRM Installation, Deployment and
Modification of Source Code*

Revision History

VERSION	DATE	AUTHORS	DESCRIPTION
V1.0	OCTOBER 28, 2011	ABHRA BASAK, SHIV SANKAR, SHOUBHIK DEBNATH	Initial Version

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1. Introduction

1.1 Purpose

This document details the functionality required for the world's most popular Open Source Human Resource Management Software (HRMS) – OrangeHRM, currently operating under the version 2.6.10 on which our current deployment is based on. OrangeHRM is an Open Source HRM system. It provides an ideal solution for small and medium sized enterprises looking for an inexpensive way to effectively manage and develop their human resources.

Deployment of OrangeHRM is intended initially to replace existing manual management of employee details by an organization's administrators, with a new, integrated web-based system having the features detailed in this document. It provides a foundation that facilitates orderly growth of future enhancements.

1.2 Intended Audience and Reading Suggestions

Different types of readers:

- Developers : *PHP Web Developers*
- Project Managers : *Organization Administrators*
- Users : *Employees (ESS Users) and their supervisors*
- Testers : *Deployment Technology Experts and Apache Server Administrators*
- Documentation Writers : *The Project/Development Team*

1.3 Project Scope

- Software : *OrangeHRM*
- Benefits : *Small and medium scale enterprises are the perspective customers*
- Objectives : *Further automate the process of human resource management using OrangeHRM*
- Goals : *Version refinements in leave module advancement*

1.4 References

Websites:

- OrangeHRM official website (www.orangehrm.com)
- Apache Software Foundation (www.apache.org)
- PHP (www.php.net)
- Symfony (www.symfony-project.org)

License:

- GNU General Public License v3.0 (www.gnu.org/copyleft/gpl.html)
- GNU Lesser General Public License v3.0 (www.gnu.org/copyleft/lgpl.html)

Contracts:

- OrangeHRM Privacy Policy
(www.orangehrm.com/privacy%20policy/OrangeHRM_Privacy_Policy_RV_0.1-1-1.pdf)

2 Overall Description

2.1 Product Perspective

This product is a derivative of the original OrangeHRM application developed by OrangeHRM Inc. It is also intended as a replacement to the original application in terms of additional functionalities in the Leave Management module.

2.2 Product Features

OrangeHRM offers a flexible and easy to use HRIS (Human Resource Information System) solution for small and medium sized companies free of charge. By providing modules for personnel information management, employee self-service, leave, time & attendance, benefits and recruitment companies are able to manage the crucial organization asset - people. The combination of these modules into one application assures the perfect platform for re-engineering and aligning your HR processes along with the organizational goals.

Major Features:

Administration Module

The part of the system where the HR Manager or other appointed personnel perform all system administration tasks. This include defining company structure, pay grades and other information that serves as the backbone for the rest of the system. Security issues are taken care of through this module as well by defining user rights.

Personal Information Management

This core module maintains all relevant employee related information, including different types of personal information, detailed qualifications and work experience, job related information etc. Picture of employee is included as well. Information captured in this module is utilized by all other modules, thus eliminating data redundancy.

Leave Module

A comprehensive leave management module, with extensive possibilities of defining leave types and more. It caters for all application and approval processes and is able to display information on leave entitlement, balance, history etc. Thanks to the web-enabled and self-service concepts, it significantly streamlines all leave related procedures, eliminates paperwork and saves costs.

Time Module

The module automates time tracking related processes. The offered functionality enhances the organization's performance by eliminating paperwork and manual processes associated with time and attendance needs. The sophisticated module helps to efficiently organize labor data, improve the workforce management and minimize errors in enforcement of company's attendance policies.

ESS Module

Employee self-service is a powerful tool providing employees of the company with the ability to view relevant information such as personal information, updating personal information with web-enabled PC without having to hassle the HR staff.

Benefits Module

Integrated platform to manage benefit-related tasks. Covers medical and welfare benefits, with possibilities to define new benefits, by type, provider and several other areas. Assigning benefits to employees happens in a variety of ways, individually, designation-wise or other. Benefits history and other information can be displayed through rich reporting capabilities.

Recruitment Module

This feature produces customized reports according to your needs. Any number of reports can be defined by selecting from a range of search criteria and report fields. Report definitions can be saved to avoid repeating this task. Once the report definition is saved, the report can be generated by providing the required criteria data.

Performance Module

Another natural attachment to OrangeHRM. While simplifying the performance review process you can communicate the key performance indicators for each job title allowing the employees to understand and achieve your expectations.

Reports Module

This feature produces customized reports according to your needs. Any number of reports can be defined by selecting from a range of search criteria and report fields. Report definitions can be saved to avoid repeating this task. Once the report definition is saved, the report can be generated by providing the required criteria data.

2.3 User Classes and Characteristics

User Classes:

1. *Faculty (Professors & Assistant Professors)*
2. *Non-teaching Staff*
3. *Head of the Department*
4. *Research Scholars*
5. *Teaching Assistants*
6. *Deployment and Maintenance Technicians*
7. *Information Technology Analysts*

Technical Expertise:

A minimum knowledge of operation of Computers and the Internet is assumed for the use of this application by the organization's administrators.

Deployment technicians are required to have a good knowledge of Server Configurations in order to install the application successfully.

Experience Levels:

Users are expected to know or learn from this manual about their concerned modules of OrangeHRM.

2.4 Operating Environment

The software operates on the Unix, Linux, Mac OS and Microsoft Windows operating systems running an Apache HTTP Server (v1.3 or later), scripted with PHP (v5.1.0 or later) and using integrated MySQL (v5.0 or later) database management system. Moreover, it is an operating system independent Web-based application.

2.5 Design and Implementation Constraints

Limitations:

This product is limited to small and medium scale enterprises. The point is with the semi-automated database system. Though scripting might help but foreign keys introduction is not dynamic.

2.6 User Documentation

Documentation Sources:

- *OrangeHRM Users Forum (www.orangehrm.com/forum)*
- *OrangeHRM Users and Developers Blog (www.orangehrm.com/blog)*
- *OrangeHRM Wiki (wiki.orangehrm.com)*
- *OrangeHRM User Guide (www.orangehrm.com/quickstart)*

3. System Features

This section displays the various features of our product and what the users can expect from them. Our product is divided into number of modules, each module having its own significance.

3.1 Admin Module:

The part of the system where the HR Manager or/and other appointed personnel perform all the system administration tasks. This includes defining company structure, pay grades and other information that serves as the backbone for the system. Security issues are taken care of through this module as well by defining user rights.

To broadly explain this module, it is divided into number of categories, which includes:

- *Company Info: It gives a detailed description of the company, its location, structure and property.*
- *Job: This Category deals with job titles, job specifications, pay structures and employment status of various employees in the company. It also provides qualifications, skills, memberships and nationality of the employees in a company.*
- *Users: This category creates HR admin user(s), employees and gives rights to each of them.*
- *Email Notifications: Alerts (as e-mails) are sent to required user(s) in case necessary.*

This module therefore allows entering the various fields for employee(s), his/her rights and the overall structure of the company.

3.2 Personal Information Module (PIM):

This core module maintains all relevant employee related information, including different types of personal information, work experience, job related information etc. Picture of employee is included as well. We can also add or remove employee in this module. Information captured in this module is utilized by all other modules, thus eliminating data redundancy.

3.3 Leave Module:

A comprehensive leave management module with extensive possibilities of defining leave types and more. It caters for all application and approval processes and is able to display information on leave entitlement, balance, history etc. Thanks to the web-enabled and self-service concepts, it significantly streamlines all leave related procedures, eliminates paperwork and saves costs.

The unique features in this module are listed below:

- *Leave Period, Working days, Holidays and the types of leave can be explicitly defined.*
- ***Leave approval mechanism:*** *The leave which an employee has applied for, firstly is notified to the supervisor via email. Now the supervisor i.e the head of the employee can grant leave or reject it. It may so happen that an employee has multiple supervisors. In that case, his/her leave needs to be approved by all of them. In all other cases, his leave stands to be cancelled. An advanced option involves, that an employee has multiple supervisors and the position/hierarchy of the supervisors are different. In that case, the approval of the leave starts from the supervisor bottom-most in the hierarchy. If he approves the leave, it passes to the next higher-level supervisor and continues to the supervisors as per the hierarchy. However, the leave gets cancelled, if it is rejected at any level.*
- *This module also keeps track of the leave summary of various employees in the company. In case, some leave which were not used during the leave period but are transferrable as per rules, are added to the next leave period.*
- *Accumulation of other leaves might also result in allowances depending upon the number of leaves applicable.*

Giving a summary of the various activities the admin user and the ESS user can do are listed below:

✓ *The HR Admin can do the following things in the leave module:*

- *View Leave Summary for each employee and entitle leave days of each available type*
- *Define Days Off – Weekends and Specific Holidays*
- *Define Leave Types*
- *Assign Leave for any employee*
- *Scheduled Leave for any employee*
- *List of Taken Leave for any employee*

✓ *The ESS User can:*

- *View the Personal Leave Summary*
- *View the detailed leave information*
- *Apply for Leave (including hourly based leave)*

✓ The ESS User – Supervisor can:

- View the Personal or Employee (subordinate) Leave Summary
- View the Leave List – the detailed leave information
- Apply for Leave (including hourly based leave)
- Assign Leave for his/her subordinates (including hourly based leave)
- Approve/Reject leave

3.4 Time module:

The Time module automates time tracking procedure. It allows employees to register and submit their timesheets and punch in/out times, supervisors can review / edit / approve or reject employee timesheets and monitor the employee activities through the help of employee and project reports.

Through the time module employees can specify the time events related to the particular projects, they are working on and administrators of the projects can manage the projects easily through the functionality offered by the project reports menu items.

3.5 Benefits module:

This module illustrates on the company's Health Saving Plan policies. This allows the administrator of the system to define the suitable health savings plan policy for the organization, ESS users to make requests on health savings, administrator to approve or reject the requests and the systematic monitoring of the user accounts on health savings.

The following types accounts have been configured in the OrangeHRM benefit module and the operation of the accounts differ as follows:

• Health Savings Account (HSA)

The Employer offers a Health Savings Account or an HSA. Both the Employer and Employee can contribute money to this account. It is not mandatory for either one to do so. The money in the account belongs to the employee. When the employee leaves the company, he takes the money with him.

• Health Reimbursement Account (HRA)

The Employer offers a Health Reimbursement Account or an HRA. Only the employer can contribute money to this account. The employee can use the money and roll it over, but when the employee leaves, any money left in the account reverts back to the employer.

• Flexible Spending Account (FSA)

The Employer established a Flexible Spending Account or an FSA. Only the employee contributes to this account. The money in the account MUST be spent within that calendar year. If the employee leaves, he can make claims against whatever is in the account, but only for that calendar year.

3.6 Recruitment module:

This module acts as a substitute to long, boring manual recruitment processes that generally take place. It maintains job applications corresponding to various posts. The vacancy sub-module also lists the vacancies corresponding to particular post and then processes the job application related to that post.

4. External Interface Requirements

4.1 Software Interfaces

The application operates by connecting to a MySQL Database that is to be set up during its installation. Database administrators can also make changes to the database using the web-application phpMyAdmin as and when required. The application uses the underlying PHP-based Symfony Web development framework libraries and classes. The application can also be used on a local network server running on an Apache platform. The entire database required by the application to function is then shared by the workstations connected to the network.

4.2 Communications Interfaces

Any suitable standard web browser with JavaScript support. Mozilla Firefox 7.0 or later is recommended for best experience. Opera, Microsoft Internet Explorer, Apple Safari and Google Chrome are also supported. The application operates via the standard HTTP, and also on a local host. It also provides options for email configuration by the organization's administrators, so that they can receive various notifications regarding its employees via email.

5. Non-Functional Requirements

5.1 Performance Requirements

The application is meant for extensive use by the organization and aims at 99% uptime. Availability may be negatively impacted by a variety of events including, but not limited to, user error, hardware failure, external system events, unavailability of support personnel, etc.

The system is compatible with all workstations that fulfill the minimum system requirements. It is able to fulfill requirements simultaneously using duplicated rather than shared resources. The cost of ownership of the system is reasonably low, as it is based on a strong open-source platform. This costs only amount to the net cost of system installation and maintenance, and provision of training to its users.

5.2 Safety Requirements

A regular backup of all databases associated with the system must be performed in order to prevent loss of information. A weekly backup is recommended. Please contact the Server administrator for more details regarding backup procedures.

5.3 Security Requirements

All privacy matters are determined according to the OrangeHRM Privacy Policy which contains clauses regarding User Identity Authentication.

Administrator	<ul style="list-style-type: none"> ➤ Is a "super-user" who manages the application ➤ Has a privilege to submit, edit, disable, and query all types of data in the system. ➤ Approves and manages user registration process. ➤ Has a privilege to see all the identified data.
Supervisor	<ul style="list-style-type: none"> ➤ Is similar to Administrator but does not have access to administrative functions. ➤ Has a privilege to submit, edit and disable participant and module data in the system. ➤ Has read only privilege to administrative data.
Technician	<ul style="list-style-type: none"> ➤ User role assigned to an individual who is in-charge of entering data into the system. ➤ Handles duration, storage and distribution of information. ➤ Has access to only de-identified data.
ESS User	<ul style="list-style-type: none"> ➤ Has read-only access to aggregate data

Role\Data	Administrative Data	Participant Data
Administrator	Add / Edit / View	Add / Edit / View
Supervisor	Identified View	Add / Edit / View
Technician	De-identified View	De-identified View

5.4 Software Quality Attributes

The application can flexibly operate under any kind of organization structure and employee hierarchy. In spite of the possibility of certain bugs, the application is quite robust in nature and allows the users to detect and solve most problems by themselves. From the point of view of the organization's administrators, the application is quite easy to install, deploy, operate and maintain.

The system is also able to audit each and every user action that results in database access (read or write). Examples include: add/edit administrative data, user login, query, distribution, and so forth. Besides, it can be ported to different platforms with several available customizations and plug-ins. The system is capable of scalability to increasing numbers of users, transactions, etc. Yet, the use of the system in a different context other than what it is meant for is not recommended.

6. Epilogue

Version 1.0 statement

With OrangeHRM and its features plus our deployment version 1.0, we expect better software to real world simulation of the Human Resource Management, viz. the leave management system.