

# **HUMAN RESOURCE MANAGEMENT**

## **1. INTRODUCTION**

Human Resource Management is the organizational function that deals with issues related to people such as compensation, hiring, performance management, organization development, safety, wellness, benefits, candidate motivation, communication, administration.. Human Resource Management (HRM) is seen by practitioners in the field as a more innovative view of workplace management than the traditional approach.

Its techniques force the managers of an enterprise to express their goals with specificity so that they can be understood and undertaken by the workforce and to provide the resources needed for them to successfully accomplish their assignments. As such, HRM techniques, when properly practiced, are expressive of the goals and operating practices of the enterprise overall. HRMS also seen by many to have a key role in risk reduction within organizations software consulting and recruiting agencies match the requirements of the client firms with the skills of their candidate and set up the interview between their candidate and set up the interview between their candidate and the client firm. Interviews are then conducted, and the candidates selected in the interview are recruited as consultants in the client's firm for the duration of the project. An effective web application can be a proper medium for bringing all the above parties together. Web-based applications are web sites with user interactivity.

The key advantage of the web-based application is its availability, as it can be accessed by anyone connected to the Internet and multiple users can access it at the same time. The web-application can be designed as a three-tier architecture, which includes a web client, network servers, and a back-end information system supported by a suite of databases. The goal of this project is to develop a user friendly web-based application that automates the activities for an IT consulting firm

## **BACKGROUND**

Human resource management is evolved from the Personnel management which was erstwhile management system which used to manage candidate. To know evolution of personnel management one needs to see the history of centuries of research by great psychologists on human behavior and their response at particular situations.. He strongly believed in work life balance for improving productivity of workers and did emphasis on human relations influence the productivity of workers and finally he has been regarded as father of Human resources management.

With large number of work opportunities the Human workforce has increased. Thus there is a need of a system which can handle the data of such a large number of Candidate. A Human Resource Management System (HRMS), refers to the systems and processes at the intersection between human resource management (HRM) and information technology. It merges HRM 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.

The main objective of this paper is to reduce the effort of Administrator to keep the daily events such as attendance, projects, works, appointments, etc. The aim of this project is to develop a web based system for human resource management. Currently, the human resource offices process data manually. This paper deals with the process of identifying the candidates, selection process and effective payable hours or days. This paper should maintain the records of each and every candidate and their time spend in to company, which can be used for performance appraisal. Based on that transfer, removal, promotion can be done. The —Candidate ID Generation| activity enables you to assign the applicant a unique alphanumeric identifier when the applicant joins the organization. The Candidate Code, Candidate Number or Candidate ID can have a prefix, if required. You are allowed to either define the candidate codes manually or request the system to automatically generate it. Additionally, you can specify the nature of employment such as Regular, Consultant, Trainee or Contract, Contract Start/End Date and Offer Status (whether the applicant has joined, offered or dropped the offer for that organization while creating the candidate file)

## OBJECTIVES

The main objective to develop the project is to make the HRP system simple, easy and increase the productivity of the Managers in taking decisions because all the information is available in the organized form. This software provides a user-friendly interface for the user and it reduces the data redundancy. Centralized information is available which can be accessed by number of users.

The other objective of software project planning is to provide a framework that enables the manager to make reasonable estimates of resources and schedule. These estimates are made within a limited time at the beginning of a software project and should be updated regularly as the project progresses. There are some other objectives to develop this system.

To develop a software application that supports Specific to the HR Automation in an intranet to a company there by allowing the interaction of all the candidates pertaining to that organization. To keep track of all the other departments related to that organization like marketing, research etc.

To allow the HR department of an organization to update the candidate details whenever there is a change in the candidate profile pertaining to that organization. To bring on to a string the candidate specification suggestions and make them sure to post their requirements to the HR.

Objectives are targets and goals. According to Yoder, following are the main objectives of recruitment policy:

- To find and candidate the best qualified person for each job.
- To retain the best and most promising ones.
- To offer promising careers and security
- To provide facilities for growth and development
- To minimize the cost of recruitment
- To reduce scope of favoritism and malpractice.

## **PURPOSE AND SCOPE**

### **Purpose**

The HR center is a powerful application designed to allow companies to streamline their human resource tasks and manage their candidates more efficiently

- Candidate and Company Information
- Candidate Shortlist, Selection , Offer Letter and Deployment Process
- HR Documentation Management (i.e. experience letter ,skill certificate etc.)

The HR Center includes a comprehensive candidate information database, work information, beneficiary information, and more for each candidate. It comes standard with candidate self-service access allowing candidates to update their personal information, request time off or input their daily timesheet entries. It also has role –based access level control that is functionally based on whether a user is a candidate, an admin, or an HR administrator. With HR center managers and HR administrators can manage an track.

### **Scope**

- Entry of Applications received against advertisement.
- Short-listing of the candidates on the basis of criteria.
- Printing of admit card / interview letters of the short listed candidates.
- Facility of shorting the personal details of the selected candidates.
- This software can run either on standalone machine or on network so a number of users can access the data simultaneously.
- Facility of recording the previous job experience, qualification dependent information and job history in the current organization.
- Assessment, Enrollment, Interview , Selection ,Offer Letter , Medical process in the selection of the candidate.
- Hard copy of various reports paper can be generated.
- Security features are implemented. Only administrator and HR Manager can view change the performance data of the candidate and access top management queries Applicability.

# 1. SURVEY OF TECHNOLOGY

**Front End** : The front end is designed using of HTML, PHP, CSS, Java script , Laravel

## HTML

HTML- HTML or Hyper Text Mark-up Language is the main mark-up language for creating web pages and other information that can be displayed in a web browser. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like < >), within the web page content.

The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

## CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a mark-up language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL.

CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colours, and fonts.

This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design).

## JavaScript

JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop & mobile applications.

JavaScript is a prototype-based scripting language with dynamic typing and has first- class functions. Its syntax was influenced by C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and have very different semantics. The key design principles within JavaScript are taken from the self and Scheme programming languages.

## PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million

websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, PHP is now produced by The PHP Group.

While PHP originally stood for Personal Home Page, it now stands for PHP: Hypertext Pre-processor, a recursive backronym . PHP code is interpreted by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications.

PHP is free software released under the PHP License. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

### **Features of PHP :**

The main features of PHP is; it is open source scripting language so you can free download this and use. PHP is a server site scripting language. It is open source scripting language. It is widely used all over the world. It is faster than other scripting language. Some important features of PHP are given below;

It is most popular and frequently used worldwide scripting language, the main reason of popularity is; It is open source and very simple.

- Simple : It is very simple and easy to use, compare to other scripting language it is very simple and easy, this is widely used all over the world.
- Interpreted : It is an interpreted language, i.e. there is no need for compilation.
- Faster : It is faster than other scripting language e.g. asp and jsp.
- Open Source : Open source means you no need to pay for use php, you can free download and use.
- Platform Independent : PHP code will be run on every platform, Linux, Unix, Mac OS X, Windows.
- Case Sensitive: PHP is case sensitive scripting language at time of variable declaration. In PHP, all keywords (e.g. if, else, while, echo, etc.), classes, functions, and user-defined functions are NOT case-sensitive.

## **Laravel**

Laravel is an open-source PHP framework, which is robust and easy to understand. It follows a model-view-controller design pattern. Laravel reuses the existing components of different frameworks which helps in creating a web application. The web application thus designed is more structured and pragmatic.

Laravel offers a rich set of functionalities which incorporates the basic features of PHP frameworks like CodeIgniter, Yii and other programming languages like Ruby on Rails. Laravel has a very rich set of features which will boost the speed of web development.

If you are familiar with Core PHP and Advanced PHP, Laravel will make your task easier. It saves a lot time if you are planning to develop a website from scratch. Moreover, a website built in Laravel is secure and prevents several web attacks.

## **Advantages of Laravel :**

Laravel offers you the following advantages, when you are designing a web application based on it –

- The web application becomes more scalable, owing to the Laravel framework.
- Considerable time is saved in designing the web application, since Laravel reuses the components from other framework in developing web application.
- It includes namespaces and interfaces, thus helps to organize and manage resources.

## **Back End**

The back end is designed using database technologies. In our system, the back end is designed using MySQL which is used to design the databases. There are a variety of database technologies that can be used for the underlying database that will hold all the core data. The three database technologies that will be evaluated are; Microsoft Access, MySQL.

### **MS Access**

MS Access is a popular relational database management system that is part of the Microsoft Office software package which is usually running on most PC's with a Windows operating system. An important feature that MS Access provides as well as a database is a graphical user interface.

MS Access would be beneficial as it is suitable to small scale projects which have a limited number of tables and a database size of less than 2GB. One of its main assets is its compatibility as it has the ability to import data from a spreadsheet file such as MS Excel.

### **MySQL**

MySQL is an open source database management system that allows a number of programming languages (including Java) to access it. It can work on many different platforms including Windows, Linux and Mac.

Using MySQL would be advantageous as it has a good technical support (has forums and mailing lists), is free, and provides security through user authorization and access privileges. The disadvantage is that it is more difficult to import data from a MS Excel spreadsheet.

After evaluating the above three database technologies, MySQL was decided as best technology to use as the underlying database to Java. MS SQL server was first discounted as the owner would need to purchase it and it is out of his budget.

There is also no need to purchase it as MySQL provides similar functionality for this project at no cost to the business.

MySQL is more appropriate than Ms Access as it has an additional layer of security. In MS Access, data is stored in a local machine which could allow a foreigner to steal data by copying it onto disk. This means that personal information for a member that is the owner's responsibility can be stolen.

MySQL is also the preferred database technology as it is platform independent, which would allow the owner to be able to use the system if he switches operating systems.

### **3. REQUIREMENT AND ANALYSIS**

#### **PROBLEM DEFINITION**

The software should remove all the problems generally faced in manual HR system. Some of the problems are categorized as follows:-

- At present the system is not computerized, the whole procedure is very time consuming.
- All work including data entry to report generation is done manually.
- A fair amount of errors are encountered during computation and maintaining detail of candidate.
- For viewing even minute data one has to search a huge archival of data.
- For generating report based on candidates, various information related to individual is to be considered which is very difficult in manual system.
- The main problem is with security of data and redundancy.
- Company's strength is increasing day by day so there is need of some system which is capable to keep large databases, security of data, multi-user support.
- The different ERP systems offer many different subsystems under the HR umbrella. Listed below are some of most common subsystems.
- The idea is not to be comprehensive but to give an idea about the options available.
- The various subsystems under the HR module are:
  - i. Dashboard
  - ii. Company Details
  - iii. Enquiry Details
  - iv. Job Details
  - v. Candidate Details
  - vi. Interview List
  - vii. Advertise Details
  - viii. Master Details
  - ix. Candidate Selection Process
  - x. Report List



## REQUIREMENT SPECIFICATION

Requirements Specification involves the basic requirements that the system to be developed should possess. These can be broadly classified into three types.

- 1) Performance Requirements.
- 2) Functional Requirements.
- 3) Non-Functional Requirements.

Understanding the requirements specification is critical for the project's success otherwise the system does not get developed according to the user's wishes.

### 1) Performance Requirements:

- The system should be built in a way such that it is independent of the type of database used.
- Response should be fast.
- High throughput.
- Security should be high such that no intruder can tamper with data.

### 2) Functional Requirements :

- The Login box should appear when the system is invoked.
- The screen available for browsing should be based on the login condition.  
HRM(Complete HR Solution)
- Administrator can create the user of the system.
- The Administrator can allocate the task of approval of Candidate.
- Administrator sends Feedback regarding the CVs.
- Administrator can see all activities requested by the Candidate and other sources.
- Administrator has the right to conduct Exam for Recruitment.

### 3) Non-Functional Requirements :

- Usability

The UI of the Crest HRMS should be user friendly so that users can navigate easily through it.

- Accuracy

As we were developing the application, we must make the system that is very accurate in its functions. All the data should keep working properly, keep getting perfect input, process accurately

and produce the perfect output. Accuracy is the most important non-functional characteristic or requirement of the system.

➤ Reliability

Error handling mechanism must be robust to avoid failure of operation and in case of failure the app reports it to the user without any due harm

## **SYSTEM ANALYSIS**

### **EXISTING SYSTEM**

The HR Administration falls short of controlling the candidates activities in analyzing his/her strengths and weakness. The decision for appraisal of assigning next project to the candidate or to train him/her to enhance the skills – where lies with proper projection. He is not provided with the detailed project information done or to be assigned based on Application / Verticals.

#### **DRAWBACKS IN EXISTING SYSTEM :**

- Need of extra manual effort.
- It used to take much time to find any candidate.
- Not very much accurate.
- Danger of losing the files in some cases.

### **PROPOSED SYSTEM**

Decision in assigning proper skillful hands for the project is an important issue in HR Module. The HR Administrator should report with the personal holding the necessary skills required for the project assignment. The decision in making analysis about the candidate`s skills is a prime important before booting in. The proposed system of HR Module is the right software to be incorporated into the Automation of HR Software for helping the organization needs with respect to skillful Human Resource.

The proposed system provides detail general information about the candidate along with Educational, Certification, Skill and Project details. It enhances the HR Management in adding, viewing and updating candidates details and generates various reports regarding candidate`s skill and experience. Suggestions and Grievances posted by the candidates are up held for taking care of the necessary steps in forwarding company`s obligation.

#### **ADVANTAGES OF PROPOSED SYSTEM :**

- Very fast and accurate.
- No need of any extra manual effort.
- No fever of data loss.
- Just need a little knowledge to operate the system.
- Doesn't require any extra hardware device.
- At last very easy to find the candidate.

# FEASIBILITY STUDY

Feasibility is the determination of whether or not a project is worth doing. The process followed in making this determination is called feasibility study. This type of study determines if a project can and should be taken. Once it has been determined that a project is feasible, the analyst can go ahead and prepare the project specifications which finalizes project requirements.

Generally feasibility studies are undertaken within tight time constraints and normally culminate in a written and oral feasibility report. The contents and recommendations of such a study will be used as a sound basis for deciding whether to proceed, postpone, or cancel the project. Since feasibility study may lead to the commitment of large resources, it becomes necessary that it should be conducted competently and that no fundamental errors of judgment are made

- Technical Feasibility
- Economical Feasibility
- Operational Feasibility
- Political Feasibility

## ➤ TECHNICAL FEASIBILITY

Following tools/ languages used for development of this site.

**Presentation layer :** HTML, Java script, Photo Shop, Front page

**Business logics :** PHP 8

**Back end :** Mysql 4.0.12 on Linux or Windows

**Operating System :** Windows/Linux

**Web server :** Apache/IIS with PHP support

**User Interface :** Standard browsers

The system is technically feasible because this is platform independent. I can run on Linux as well as on windows platform. I used PHP 4.1 as a scripting language which is very fast scripting language. I have used HTML, JavaScript for user interface design which are very common. End users are also familiar with the GUI standards of HTML page. So they are more comfortable using it.

The system is developed using MySQL as database server which can be either on Linux or windows platform. MySQL is very fast and ACID compliant database. MySQL is very much compatible with PHP. MySQL is free. The implementation cost of other database servers is also high.

#### ➤ ECONOMICAL FEASIBILITY

The system is financially feasible. Development was completed at very low cost. Client can easily afford the cost of development and implementation. Running cost of project is very low. Also the softwares used to develop this project are free of cost and cross platform.

This is major benefit of this project. That's why I used these tool/languages to develop this software. Client need not to purchase any license to run this project. He has to register only a domain to host this site with a web hosting company. That is very cheap nowadays.

#### ➤ OPERATION FEASIBILITY

Operationally this site is very much feasible. User can run this site in internet explorer or Netscape navigator by typing the URL of this site. This site can run on Apache or IIS web server with PHP support. This site can easily run on LINUX or windows platform without making any change in coding. This site is platform independent.

#### ➤ POLITICAL FEASIBILITY

Political feasibility is a measure of how well a solution to a policy problem, will be accepted by a set of decision makers and the general public. For a policy to be enacted and implemented, it must be politically acceptable, or feasible. So our system to be developed is not conflict with any government directives, because it gives services for the people in the organization (candidate) effectively and efficiently, all the stakeholders also agreed before the system developed. So the organization is profitable and the system will be politically feasible.

## **HARDWARE AND SOFTWARE REQUIREMENTS**

The software is designed to be light-weighted so that it doesn't be a burden on the machine running it. This system is being build keeping in mind the generally available hardware and software compatibility. Here are the minimum hardware and software requirement for human resource management.

### **Hardware:**

Hardware configuration used during development :

- Operating system-windows
- RAM-512MB
- HDD-40 GB or above
- Processor-Pentium 4 or above
- Keyboard
- Mouse
- Color monitor

### **Software :**

#### **Operating Environment:**

Following technology/tool will be required to run this application.

- Database Server: Mysql 4.9 on Linux or Windows
- Operating System: Windows/Linux
- Web server: Apache/IIS with PHP support

#### **Tool /Languages used for development:**

Following tools/ languages were used for development of this site.

- Presentation layer : HTML, Java script, CSS , Ajax
- Business logics : PHP 8.0 as scripting language
- Back end : Mysql 4.9
- Web server: Apache with PHP support