

Smart Human Resource Information System

¹S.B.Awati, ²C.S.Kale, ³J.S.Awati

Abstract—Traditional office administration work is headache for office employee. Smart HRIS will provide user friendly working environment, the system can also be used in LAN that multiple desks operate on same data. Traditional system is not secure as any other than office employee can access the secure information. HRIS will provide security that the system user must go through the proper authentication process. This paper provides a method by which any Organization maintains analyses and reports information of Employees. This paper serves as a guide to recruiters, trainers, career planners, development, management & other human resource development activity.

Index Terms— Software, Reports, System, DBMS, Tools.

I. Introduction:

In everyday life big organizations maintain employee data such as joining records, Salary Calculations, Increment records, Leave records in traditional paper base system. Traditional paper base system may cause errors in calculation such as increments or leave because Human mind is Error Prone as compared to machines. On other hand employee data is maintained on papers that paper may get lost or get damaged because of environmental things. To protect such data loss and to minimize human error in system, HRIS (Human Resource Information System) will make their lives easy to handle this process. It provides mechanism to maintain Employee data from joining. Regular paper base information is now stored in the machine such as When Employee Joined Organization, in which department, on which pay scale, date of joining, date of interview and everything that joining report of employee includes. To find such details administrator can only take the joining report of that employee and all joining information for that employee will get within a minute. This just about the joining report but the HRIS has maintained all other things such as Departments, Pay scales, Posts, Employee Joining Report, Advertisements, Leave records such as CL, ML, EL, Summer/Winter Vacation, Monthly Salary Transactions, Yearly Awards, Consultancy Records, On Duty Record. Human Resource Planning is concerned with the controlled utilization of human resources to achieve pre-set objectives, both short-term and long-term. The information contained in the HRIS serves as a guide to recruiters, trainers, career planners and other human resource development.

II. Objectives:

The main objective to develop the project is to make the HRIS simple, easy and increase the security, minimize data

loss, to minimize human errors. Very effective examine the significance of information in human resource management, to reduce the office paper work that may produce wastage of time and papers.

III. Scope:

The scope is concerned with manpower working, data security, data life, planning, recruitment, selection, transfer, promotion, training and development, layoff and retrenchment, remuneration, incentives, Health security & safety, feedback from staff & students, easy to maintain financial records very effectively & efficient manner, maintenance etc.

IV. Functional Requirements:

The following list describes the most important functional requirements that evolved during the system development:

- a. A HRIS performs different functions such as Employee Recruitment, Employee Selection, Employee Joining, Training and so on.
- b. The goal of the analysis phase is to identify user's requirements in the proposed system like HRIS planning i.e. the process of determining the human resource needs of an organization and ensuring that the organization has right no. of qualified people in the right jobs at the right time.
- c. A Human Resources Information System is a system that lets you keep track of all your employees and information about them.
- d. Here we analyze organization competitive situation, develops its strategic goals and mission, its external opportunities and threats, and its internal strength and weaknesses to generate alternatives.
- e. Also a plan of actions and deployment of resources is determined to achieve the pre-specified goals.

V. User Interface Required:

There are three ways for external interaction with the online auction system:

1. VB.NET which runs inside the SQL Server 2005 while the user participates in the HRIS.
2. Operating system is must be windows based like **Windows 2000/2003/Windows XP/ Windows Vista.**

VI. Modular/Component Requirement:

1. Advertisement Module:

For recruitment of employee the advertisement must be placed in news paper. The advertisement information such as paper in which ad published paper name, page number, date of advertise, bill amount, bill date, cheque / DD number is stored in HRIS database.

2. Interview Call Letter Module:

After advertisement the institute will collect all applications and send call letter for interview after screening. The call letter information is stored in HRIS database and call letter generated in .doc format.

3. Selection Letter Module:

After interviewing the candidate will be selected. After that the selections letter will be sent to his permanent address. The selection letter information is stored in HRIS database and selection letter generated in .doc format.

4. Employee Joining Module:

After acceptance of selection letter by candidate he will join the institute at specified date. This joining information is collected in HRIS database and joining report is generated.

5. Leave Management Module:-

In leave management all types of leaves wise Casual Leave, Medical Leave, Earned Leave, Winter Vacation and Summer Vacation and on duty record is maintained. System will check whether specified type leave is available for employee or not then system will grant leave. This leave information is get stored in HRIS database. Report will be generated for taking current leave status of employee.

6. Salary Module:-

The salary module is useful for calculating employee salary. The system will find the current basic for employee and calculates salary. Total salary is Calculated according to the summation current Basic, DP, DA, HRA, TRA. Total deductions are calculated by summation of PF, PT, IT, LIC, GIC, CRSOC, SWF, Other deduction. After this system will minus total deduction from total salary and generated Net pay. This all information is stored in HRIS database which is used for generating monthly salary sheet.

7. Consultancy Module:

Consultancy module is useful for storing employee consultancy information year wise. All information related to consultancy such as Organization name, project name, revenue generated is stored in HRIS database that will useful for generating yearly consultancy report.

8. Award Module:-

Yearly award information is stored in database such as Employee Name, reason of award and year. This information is useful for generating yearly award report.

9. Self Appraisal Module:

This module is useful for generating self appraisal report of employee such as number of lectures taken as compared to available, number of practicals taken as compared to available, student feedback, other staff feedback

and HOD remark. This is used for generating self appraisal report.

10. Increment Module:

Increment module is useful when increment given to employee. This increment is done after self appraisal reference number is entered. This module stores year/month of increment old and new basic. This information is useful for generating employee increment report.

VII. System Requirement:

1 Hardware Requirements:

Minimum: 600MHz Pentium Processor,
Minimum: 500 MB, Hard Disk: 10GB.

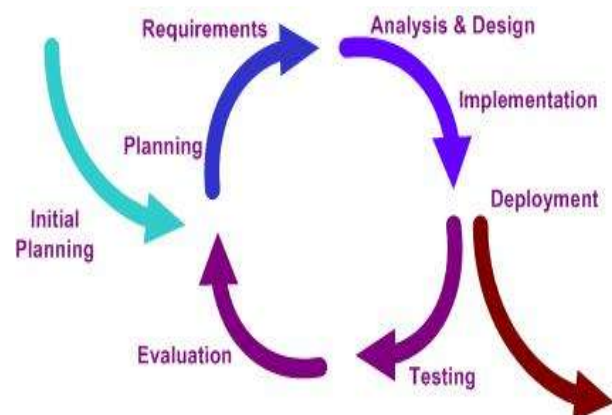
2. **Operating System Requirement:** Windows 2000/2003/Windows XP/ Windows Vista.

3. **Database Server:** SQL Express 2005/SQL Server 2005

4. **Tools & Technology:** VB.NET, ADO.NET (ActiveX Data objects),SQL queries

VIII. System Design:

Fig. No.1



1. Software Development Cycle

The proposed project will be developed, keeping it in the context of the Iterative Enhancement Model. The basic idea behind iterative enhancement is to develop a software system incrementally, allowing the developer to take advantage of what was being learned during the development of earlier, incremental, deliverable versions of the system. Learning comes from both the development and use of the system. Key steps in the process are to start with a simple implementation of a subset of the software requirements (overall problem) and iteratively enhance the evolving sequence of versions until the full system is implemented.

For each iteration, design modifications are made and new functional capabilities are added. Incremental development is a scheduling and staging strategy in which the various parts of the system are developed at different times or rates, and integrated as they are completed.

2. Algorithm Description:**Steps for Recruitment:**

1. Start.
2. Identify vacancy for job in the company.
3. Prepare job description and person specification.
4. Advertising the vacancy on company web site.
5. Managing the response from Applicants.
6. Collect Applicants resumes.
7. Short listing.
8. Arrange interviews.
9. Conduct the interview.
10. Decision making for selection.
11. Convey the decision to all applicants.
12. Send Appointment letters to selected applicants.
13. End.

Steps for Training:

1. Organize the Training
2. Send training letter to each employee
3. Join the training programme
4. Check the performance of each employee
5. Complete the training and organize Online test
6. Prepare result
7. Depending on result Determine whether employee is selected or rejected

Steps for Payroll:

1. Prepare list of all employee
2. Determine their basic salary
3. Check attendance and overtime record
4. Calculate addition and deduction
5. Calculate total salary

3. Database Table Description:

1. Employee Advertisement: The table is used to store the advertisements posted by organization.

2. Employee Call Letter: The table is used to store information related to call letters and generate call letters.

3. Employee Joining: The table is used to store information of employee joining report.

4. Employee Leave Transaction: The table is used to store employee leave information.

5. Employee Salary: This table is used to store employee salary information such as total pay, total deduction and net pay.

Table - dbo.Salary	Table - dbo.NTSalaryTran	Table - dbo.I
Column Name	Data Type	Allow Nulls
TID	int	<input type="checkbox"/>
Month	int	<input type="checkbox"/>
Year	int	<input type="checkbox"/>
Dept	int	<input type="checkbox"/>
staff	int	<input type="checkbox"/>
post	int	<input type="checkbox"/>
Basic	float	<input type="checkbox"/>
DP	float	<input type="checkbox"/>
DA	float	<input type="checkbox"/>
HRA	float	<input type="checkbox"/>
TRA	float	<input type="checkbox"/>
Total	float	<input type="checkbox"/>
PF	float	<input type="checkbox"/>
PT	float	<input type="checkbox"/>
IT	float	<input type="checkbox"/>
LIC	float	<input type="checkbox"/>
GIC	float	<input type="checkbox"/>
CRSOC	float	<input type="checkbox"/>
swf	float	<input type="checkbox"/>
OTDed	float	<input type="checkbox"/>
Totded	float	<input type="checkbox"/>
NetPay	float	<input type="checkbox"/>

Table No.1

6. Employee Awards: This table is used to store employee award information.

Table - dbo.Award	Summary	
Column Name	Data Type	Allow Nulls
ID	int	<input type="checkbox"/>
Reason	nvarchar(50)	<input type="checkbox"/>
		<input type="checkbox"/>

Table No. 2

7. Employee Bank Details: The table is used to store information of employee bank account, pan card number, PF number.

Table - dbo.TBankDetails		
Column Name	Data Type	Allow Nulls
ID	int	<input type="checkbox"/>
EID	int	<input type="checkbox"/>
BName	nvarchar(50)	<input type="checkbox"/>
Account	int	<input type="checkbox"/>
PanNo	nchar(10)	<input type="checkbox"/>
PfNo	nchar(10)	<input type="checkbox"/>
		<input type="checkbox"/>

Table No. 3

8. Employee Self Appraisal: The table is used to store employee self performance such as number of lectures/practicals available as compared to taken, feedbacks from students, staff and HOD.

Table - dbo.TEmpSelf	Table - dbo.TEMPOD	Table - dbo.T
Column Name	Data Type	Allow Nulls
tid	int	<input type="checkbox"/>
id	int	<input type="checkbox"/>
dept	int	<input type="checkbox"/>
desig	int	<input type="checkbox"/>
month	int	<input type="checkbox"/>
year	int	<input type="checkbox"/>
lectavail	int	<input type="checkbox"/>
lecttaken	int	<input type="checkbox"/>
lectperc	float	<input type="checkbox"/>
prctavail	int	<input type="checkbox"/>
prcttaken	int	<input type="checkbox"/>
prctperc	float	<input type="checkbox"/>
overall	float	<input type="checkbox"/>
subjects	nvarchar(MAX)	<input type="checkbox"/>
studfeed	nvarchar(50)	<input type="checkbox"/>
stafffeed	nvarchar(50)	<input type="checkbox"/>
hodrem	nvarchar(MAX)	<input type="checkbox"/>

Table No. 4

9. Employee Increment: The table is used to store employee increment information such as old basic, new basic and month/year of increment.

Table - dbo.TIncrement	Table - dbo.TEmpSelf	Table - d
Column Name	Data Type	Allow Nulls
TID	int	<input type="checkbox"/>
ID	int	<input type="checkbox"/>
dept	int	<input type="checkbox"/>
desig	int	<input type="checkbox"/>
month	int	<input type="checkbox"/>
year	int	<input type="checkbox"/>
oldbasic	int	<input type="checkbox"/>
basic	int	<input type="checkbox"/>
self	int	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

Table No. 5

10. Department Master: This is a department master table used to department id, department name from organization.

Table - dbo.Departments	Table - dbo.Award	Summary
Column Name	Data Type	Allow Nulls
ID	int	<input type="checkbox"/>
DName	nvarchar(50)	<input type="checkbox"/>
		<input type="checkbox"/>

Table No. 6

11. Payscale Master: The is a payscale master table used to store the available payscales.

Table - dbo.NTPayscale	Table - dbo.NTLeaveYear	
Column Name	Data Type	Allow Nulls
ID	int	<input type="checkbox"/>
Payscale	nvarchar(50)	<input type="checkbox"/>
		<input type="checkbox"/>

Table No. 7

12. Post Master: The table is used to store the post id, post name.

Table - dbo.NTechPost		Table - dbo.NTConsultancy	
Column Name	Data Type	Allow Nulls	
ID	int	<input type="checkbox"/>	
Post	nvarchar(50)	<input type="checkbox"/>	
		<input type="checkbox"/>	

Table No. 8

13. On Duty : The is an on duty table used to store employee id, name, department, post, OD reason, OD place, number of days.

14. Consultancy: The is a consultancy table used to store consultancy information of employee such as company name, project name and revenue earned.

Table - dbo.TConsultancy		Table - dbo.TBankDetails	
Column Name	Data Type	Allow Nulls	
TID	int	<input type="checkbox"/>	
ID	int	<input type="checkbox"/>	
Name	nvarchar(50)	<input type="checkbox"/>	
Desig	int	<input type="checkbox"/>	
dept	int	<input type="checkbox"/>	
Dfrom	datetime	<input type="checkbox"/>	
Dto	datetime	<input type="checkbox"/>	
Days	int	<input type="checkbox"/>	
Company	nvarchar(MAX)	<input type="checkbox"/>	
Consultancy	nvarchar(MAX)	<input type="checkbox"/>	
Amount	float	<input type="checkbox"/>	
Dated	datetime	<input type="checkbox"/>	
Bank	nvarchar(50)	<input type="checkbox"/>	
Cheque	bit	<input type="checkbox"/>	
DD	bit	<input type="checkbox"/>	
Number	int	<input type="checkbox"/>	

Table No. 9

IX. Environmental settings for running the project:

1. IIS:

We use IIS to run our project on multiple computers for this in IIS at default website we create virtual directory in that we make a folder in which all our project is stored & then gives all permissions like read, write, execute etc. then we execute our project on any computer like this

Start → Internet Explorer → http://localhost/login.asp.

2. Visual Studio:

Visual Studio provides the tools you need to design. Develop& deploy web application, XML web services & Traditional Client Application.

Start → Visual Studio → File → Open Web Sites HRMS → Project

X. Performance Analysis:

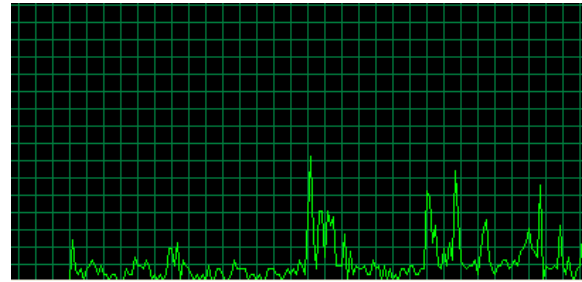


Fig. No. 2

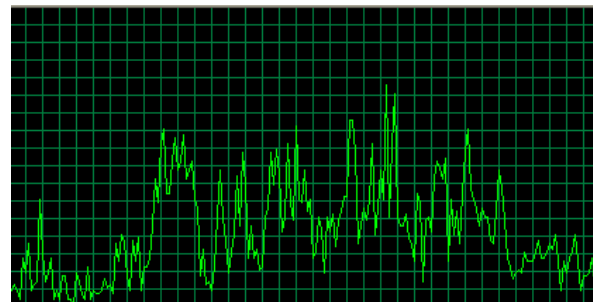


Fig. No. 3

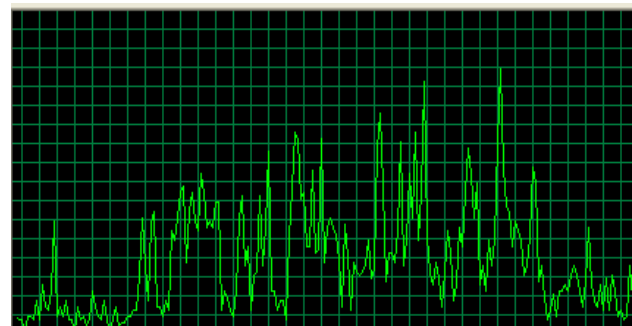


Fig. No. 4

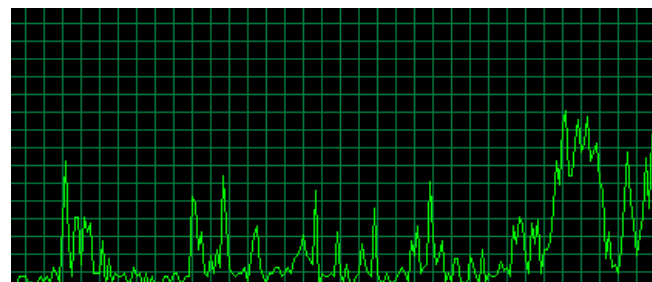


Fig. No.5

XI. Application:

- Vacancy Management in the organization
- Recruitment module used in TPO Office
- For the creation of web sites like naukari.com, monster.com.

XII. Conclusion:

Smart HRIS provides security with proper authentication process. This system provides recruitment, training, awards, increments, employee bank detail, pay scale, self appraisal method by which any Organization collects, maintains, analyses and save reports of information employees. The Smart HRIS serve as a guide to recruiters, trainers, career planners, development, management & other human resource development activity.

Future scope: - To retrieve human resource information system very fast, accurate & reliable, server & terminals must be high configuration to achieve greater effectiveness.

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¹**Mr. Sudhir Bhupal Awati** working as a System Operator in D.K.T.E's Textile & Engg. Institute, Ichalkaranji. His educational qualification is Master of Computer Management (MCM) , Master of Computer Application (MCA), MBA(HR) , DIM, PGDIM, PGDHRM , PhD (persuing from J.J.T. University, Zhunzunu , Rajasthan). He has 18 Years experience.



²**Dr. C.S. Kale working as a** Assistant Professor in Chh. Shahu Institute of Business Education and Research, Kolhapur. His educational qualification is B.Tech., MBA , M.Phil, M.Com.,NET,Ph.D.He is a Member Institute AICTE Committee. He has 9 years experience.



³**Mrs.. Jayashree Sudhir Awati** working as a Assistant Prof. in Rajaram Bapu Institute of Technology , Sakharale. Her education qualification is Master of Electronics Engineering (ME), Ph.D (Persuing from J.J.T. University, Zhunzunu , Rajasthan). She has 9 Years teaching experience.