I.2: Development of information systems at RRCAT

A) Revamping of RRCATInfonet with new look and feel:

RRCATInfonet – RRCAT Information Network has been revamped with new look and feel and re-organization of applications. The existing authenticated web applications, on-line Infonet services and static web pages were re-designed, tested and deployed using web techniques such as server-side includes, AJAX (Asynchronous JavaScript And XML) and cascading style sheets for interactive web applications with consistent look and feel.

Menu options have been segregated to access employee information and authenticated applications with easy navigation. Role based dynamic menu options are made available to employees for accessing applications based on their access rights. The interface for employee search has been redesigned using AJAX to render division/ section/ lab information (as per organization hierarchy) based on search criteria.

Telephone Complaint and PC Complaint modules have been designed, developed and released to the users for logging telephone and PC-AMC related complaints. In these modules automatic email is generated to the concerned authority with a copy to the person logging the complaint.

HBNI-RRCAT pages were developed and deployed for Ph.D. Programme and M.Tech. Programme on RRCATInfonet as per the information provided by RRCAT Training School.
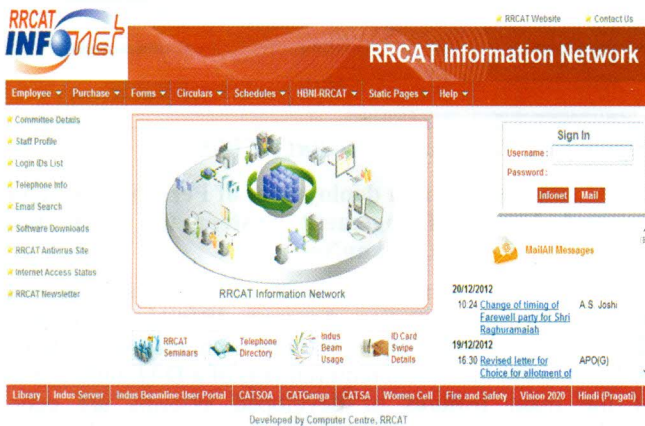

Figure I.2.1: Revamped RRCATInfonet

The on-line service provided by RRCATInfonet has been enriched by inclusion of web based module, developed and deployed for viewing financial year-wise Supplementary Payments made by Salary Section and credited into Employee's bank account. Information displayed is retrieved from on-line Allowance Processing System.

Figure I.2.2: Supplementary Payment details available on RRCATInfonet

B) Design and development of web based software 'Vivaranika' - Human Resource Management Information System:

A web based software named 'Vivaranika' has been designed and developed as Human Resource Information Search Tool to provide consolidated view of RRCAT HR data on RRCATInfonet. The information can be accessed by authorized persons for view/ query/ report/ analysis purpose. The consolidated data can serve the requirements for manpower profiling, obtaining personnel information, project planning, manpower deployment, to identify the expertise available in any particular area for composition of committees, compiling manpower related statistics for answering parliamentary questions etc. The data is retrieved from on-line RRCAT Information System and Allowance Processing System being maintained by Administration and Accounts.

This software facilitates information retrieval based on various search criteria like employee name, qualification level (Diploma/ Graduate/ Post Graduate/ Doctorate/ Post Doctorate etc.), degree, area of expertise, training school and division/ section /lab information based on organization hierarchy. Information is displayed for viewing employee qualification, past experience, career profile, expertise, membership of RRCAT Committees/ professional bodies and publication details.

Figure I.2.3: 'Vivaranika' - RRCAT Human Resource Management Information System

The software has provision for viewing staff chart and organization chart generated dynamically based on position and person based reporting. Various drill down statistical reports are also generated and information is provided in tabular form as well as graphically in the form of bar/ pie chart. Statistical counts are generated based on Grade, Classification (Scientific/ Technical/ Administrative/ Auxiliary), Group (A/ B/ C), Pay scale, Age, Gender, Appointment type (SC/ ST/ OBC/ Gen etc.), Appointment mode (Direct/Training School/Compassionate appointment/ KSKRA absorption/ Stipendiary Trainee / Transfer etc.), Qualification level, Degree, University, Training school, Division, Status (In service/ Retired/ On deputation/ Resigned/ Terminated/ Transferred/ Voluntary retired/ Expired/ Dismissed etc.), year-wise Retirement count etc. All the outputs can be exported to MS Word and MS Excel formats.
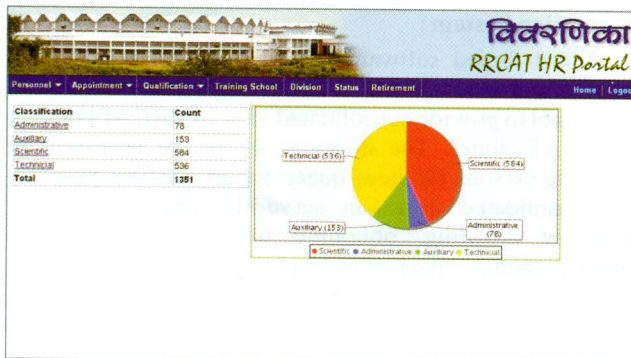

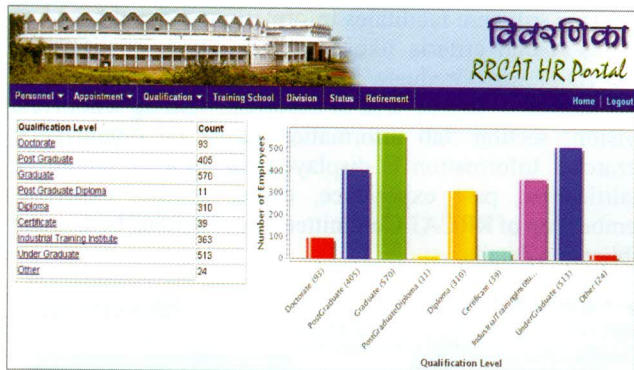*Figure I.2.4: Classification (Scientific/ Technical/ Administrative/ Auxiliary) wise count*

Figure I.2.5: Qualification level wise count

C) Design and development of Public Tender uploading module for Purchase Information Management Software:

The web-based software being used for uploading information related to IRPU tenders on RRCAT website had some inherent limitations.

A new system has been designed, developed and deployed to overcome the difficulties related to repetitive data entry required to be done by IRPU staff, limitation on number of documents which can be uploaded per tender etc. *Two modules - one for purchase end-user and other for APO/ PO as administrator for tender uploading on RRCAT website have been developed.* Synchronization scripts have been modified for transferring the tender documents to RRCAT web site.
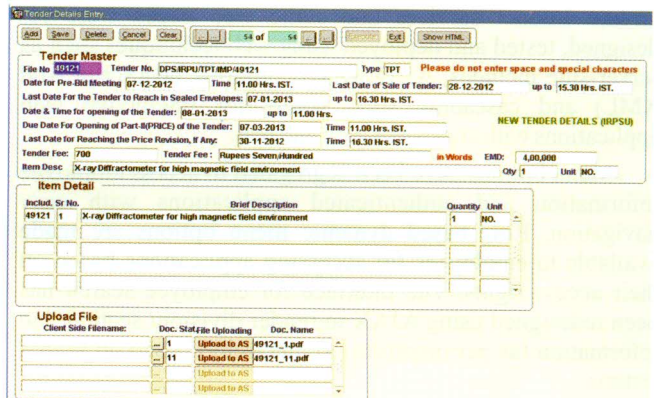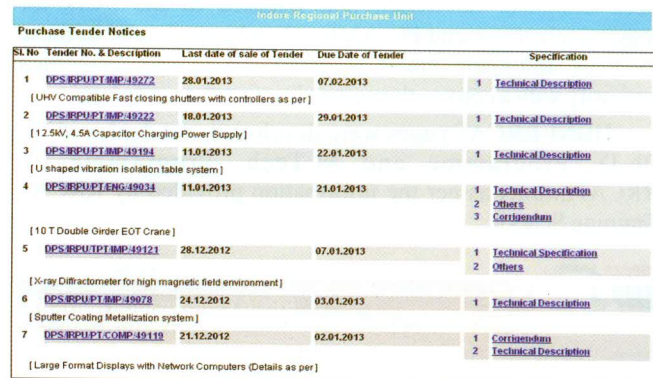

Figure I.2.6: Entry of Public Tender details at IRPU

Figure I.2.7: Tender details on RRCAT Website

D) Customization and deployment of Personnel System and Leave Management System for DAE-HO, Mumbai over DAE AnuNet:

Information management software packages developed in-house for Administration, Accounts, IRPSU and Medical Centre, RRCAT are comprehensively computerized systems addressing the functional requirements of a DAE unit. Some of the main features of developed systems are code standardization, user configurability for adapting to changing requirements & rules, web deployable etc. Computer Centre, RRCAT has extended support to DAE-HO, Mumbai for commissioning of software platform and HR application over AnuNet. The servers are physically located at DAE-HO Mumbai and connectivity is provided through DAE AnuNet. Scaled down and customised version of Personnel System & Leave Management System of RRCAT was deployed on this setup for DAE-HO and both the systems are functional now.

Installation and configuration of complete Oracle 10g platform including setup for Forms10g/ Reports10g on J2EE environment for Development and Production on middle tier (Oracle Enterprise Linux Release 4.8) was carried out on AnuNet. Installation and configuration of Oracle 10g database as backend was done on separate server. The complete set of server farm with enterprise manager as administrative console was commissioned and released for production to DAE-HO, Mumbai.
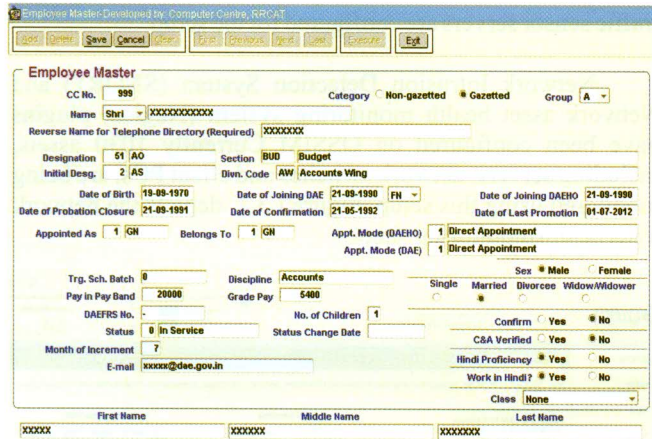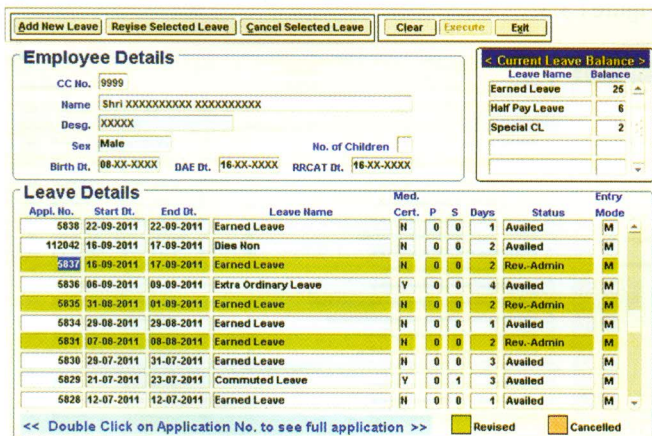

Figure I.2.8: Employee Master details entry form in Personnel System

Data files, table spaces, schema, tables and views were created and modifications in forms and reports were carried out as per the requirement at DAE-HO. Coding for master tables like section/ division/ group, designation has been done as per organization structure of DAE-HO. Other master tables like appointment category/ mode, status, subject, degree, university, state, scale, leave master etc. are being used similar to RRCAT Personnel System and Leave Management System.

Figure I.2.9: Leave detail entry form in Leave Management System

D) Enhancements to various Information Management Software Systems:

(i) *Allowance Processing System:*

Promotion arrears module was modified for considering PRIS-G arrears and for calculation of arrears due to re-fixation of pay on grant of one additional increment to employees whose increment was due between January to June 2006. Provision was made for identification of MACP (Modified Assured Career Progression) cases in respective modules of Administration Software and Payroll Software. Arrear calculation program was developed for calculation of arrears to be paid to employees getting promotion under MACP.

Software module was developed in Payroll software for generation of Statement of Earnings and Deductions (Pay Bill supporting document) after processing of monthly salary. Another program was developed for calculation of Leave recovery for Transport Allowance in case of employees who are on leave for full calendar month.

PF module has been enhanced with provision for generation of eight reports including broadsheet in prescribed formats for New Pension Scheme.

(i) *Purchase Accounts Software module :*

The software has been enhanced and provision is made for managing information related to commercial settlement terms for Local and Foreign purchase orders, Warranty clause, Pre Dispatch Inspection, Performance Bank Guarantee, Security Deposit (SD) clause etc. Programs have been developed for generation of PBG acceptance letter, e-mail alert for due date of SD amount to be deposited by supplier and outstanding consolidated report for PBG/ SD. Income Tax report in prescribed format for Local/ Foreign POs is developed for quarterly submission of Income Tax (to Income Tax Department.) deducted from suppliers/ contractors. New module for Custom Duty payment with acquittance generation has also been developed and added to Purchase Accounts module.

F) Deployment of software packages for on-line submission of applications for RRCAT-Ph.D. Programme and Recruitment at RRCAT:

Web based software for on-line submission of applications on Internet was fine tuned as per the revised application format for RRCAT PhD Programme – 2013 and deployed on Internet.

Software for on-line submission of applications for Recruitment at RRCAT has been deployed for two more advertisements for regular recruitment - Advertisement No. 'RRCAT-4/2012' and 'RRCAT-6/2012'.

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