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Specification

HRT

Human Resources Toolkit

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Abstract

In the context of the AIS Project (Advanced Information Systems for administration and management) a study has been conducted that resulted in the definition of a high level information systems model. Thirteen proposed systems were defined for detailed analysis. The Finance, Foundation, Human Resources, Logistics and Purchasing areas have been studied in detail. These studies have lead to the purchase and implementation of the ORIAC and SIRIAC packages, the Foundation database, the Oracle HR package, the Triton package and EDH and BHT.

This specification describes the Human Resources Toolkit (HRT) intended to be used for accessing data in the HR and Foundation systems. This toolkit should help the divisions carry out their Human Resource management, planning and follow-up. It will have extensive report generation capabilities and offer a variety of standard graphs. It should have an easy-to-use graphical user interface and run on the CERN standard desktop platforms.

Disclaimer:
The data shown in different examples throughout this specification does in no way correspond to real data in the CERN HR or Foundation systems.

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1. General presentation

1.1 Background

Until the arrival of the AIS project, application systems supporting CERN's administrative activities have been developed independently over the last 20 years by different groups without the benefit of a centralised development plan. As is the case in many large organisations, this process has resulted in a number of problems :

- lack of integration between applications
- duplication of data input & consequent inconsistency
- complex data access and retrieval
- inflexible data structures and functions
- high maintenance overhead

The introduction of the AIS packages have helped to solve some of these problems.

The Foundation system provides the facilities to record and maintain all reference information common to a number of Application System Areas, into a well defined, common data structure at the lowest level.

The HR system is used for centrally Human Resource Management, Payroll and Claims processing. It supports the functions of modern personnel management: recruitment of persons required by the CERN activities, registration and classification of personal and employment information; definition, implementation and monitoring of personnel procedures according to CERN policy; implementation and monitoring of the CERN employment programmes; monitoring of individual careers; planning of future requirements in Human Resources and the support for the planification of personnel budgets.

It has become clear that the data available in HR and Foundation is not easily accessible to the divisions and that the systems do not provide the functionality required by a large part of the consulted users. Many of the divisions have therefore continued to use, develop and maintain their own systems for Human Resource management. This is of course an enormous waste of resources, and duplication of effort, and the need for a central easy-to-use toolkit has become extremely critical.

This specification does not treat the direct access to the Foundations tables published on one of the central servers (CERNDB1). Currently, divisions and applications have access to CERN personnel data via the Personnel Database on CERNDB1. The structure of this database stems from the former personnel system PAYPER.

1.2 Reference documents

Detailed Area Analysis of the Human Resources Management & Payroll area. AIS/92.
Detailed Area Analysis of the Foundation Area. AIS/91/F/1.
(The above documents are available on the AS Server).

1.3 User interviews

All divisions at CERN were contacted and invited to suggest contact people who could assist with the requirements definition of a proposed HRT. As a result of suggestions from divisional representatives (Division Leaders / DPOs etc), during the information collecting stage, the following people were interviewed:

Alain Brissonnaud AC
Evelyne Delucinge AC/LHC
Jean-Claude Guiraud AS
Jean-Claude Juvet CN

Jean-Daniel Mandica DSU
Michel Benot ECP
Catherine Decosse ECP
Gottfried Kellner ECP
Claude Oberto EST
Dorothee Duret PE
Gerrit Jan Bossen PPE
Margrit Burri PPE
David Plane PPE
Bryan Allardice PS
Marcel Boutheon PS
Susan Neboux PS
Martine Truchet SL
Harry Hayes ST

Details from the above interviews are available via URL http://assuwww.cern.ch/hrt.

2. Functional Expression of Need

Ref	Function	Category	Constraints	Brief Description
2.2.1	**Log in**	System		*Connect to the Database*
2.2.2	**Change**	System		*Modify Users Password*
2.2.3	**Read News**	System		*Obtain info about HRT*
2.2.4	**Create News**	System	Authorised	*Create new news Item (HRT Managers only)*
2.2.5	**Log Out**	System		*Disconnect from database*
2.2.6	**Print**	System		*Print any retrieved information*
2.2.7	**Save**	System		*Save any retrieved information.*
2.2.8	**Preference**	System		*User Preferences*
2.2.9	**Access**	System	Authorised	*System wide security mechanism*
2.2.10	**Subscribe Listings**	System		*Batch list printing*
2.2.11	**Read/Save Queries**	System		*Ability to define, save and retrieve user groupings*
2.3.1	**All information**	Person	Some Sensitive	*Produce Report on ALL Person Information*
2.3.2	**Telephone**	Person		*Produce Telephone Report*
2.3.3	**Location**	Person		*Produce Office List*
2.3.4	**Address**	Person		*Produce Address Labels*
2.3.5	**Home**	Person	Sensitive	*Produce Home address list*
2.3.6	**Ad-hoc (e.g. 25 yrs service)**	Person		*Produce ad-hoc query*
2.3.7	**Official Travel**	Person	?Data	*Produce List of Official Travel*
2.3.8	**OvertimeDetails**	Person		*Produce details of overtime*
2.3.9	**Leave Details**	Person		*Produce details of leave*
2.3.10	**Temporary Labour**	Person		*Produce details of non-CERN staff*
2.3.11	**Skills**	Person	No Data...	*Produce skills information*
2.4.1	**Career Profile / Scattergraphs**	Career		*Report on Career Profile*
2.4.2	**Career Overviews**	Career		*Report on Career Overviews (for many people)*
2.4.3	**Promotion Overview**	Career		*Report on Promotion Overviews (for many people)*
2.4.4	**Salary Graphs**	Career		*Graph info of Ref. salary*
2.4.5	**Open**	Career		*List of open Posts*
2.4.6	**Traing Overviews**	Career	No Data...	*Training statistics*
2.4.7	**Training Details**	Career	No Data...	*Training details*
2.5.1	**Overtime Overviews**	Planning	Drill Down to Person	*Overtime statistics*
2.5.2	**Leave Overviews**	Planning	Drill Down to Person	*Leave Statstics*
2.5.3	**Arrivals**	Planning		*Arrivals list*
2.5.4	**Transfers**	Planning		*Transfers list*
2.5.5	**Departures**	Planning		*Departures list*
2.5.6	**PPA lists**	Planning		*Information of Staff PPA assignments*
2.5.7	**Workforce**	Planning		*Information for Manpower planning*
2.5.8	**Age Profiles**	Planning		*Age plotting*
2.5.9	**Simulations /**	Planning		*Staffing simulations (basic)*
2.6.1	**Person**	Info		*Info about / Search for People*
2.6.2	**Organic/Hieracrhy**	Info		*Info about / Navigate the Organic Hierarchy*
2.6.3	**Signature**	Info		*Info about signature rights*
2.6.4	**Budget**	Info		*Info about / Search for Budget Codes*
2.6.5	**Buildings**	Info		*Info / Search for buildings*
2.6.6	**Type of**	Info		*Info about the types of Leave*
2.6.7	**Country**	Info		*List of country codes*
2.6.8	**Contract Types /**	Info		*List of Contract Types*
2.6.9	**Experiments**	Info		*List of Experiments*
2.6.10	**Institutes**	Info		*List of Institutes*
2.6.11	**Teams**	Info		*List of Teams*
2.6.12	**Contractors/Enterprises**	Info		*List of Contract Firms*
2.6.13	**Official Holidays**	Info		*Official Holiday Calendar*
2.6.14	**HELP**	Info		*HyperText Help*

2.1 Overview

The above table lists the functionality determined following user interviews. The functionality has been categorised into 4 main areas, namely:

- **System Functionality**
  This is generic functionality common to the overall software (e.g. logging on, printing, saving etc.)

- **Person Functionality**
  This relates to the reporting of static information about the current personnel

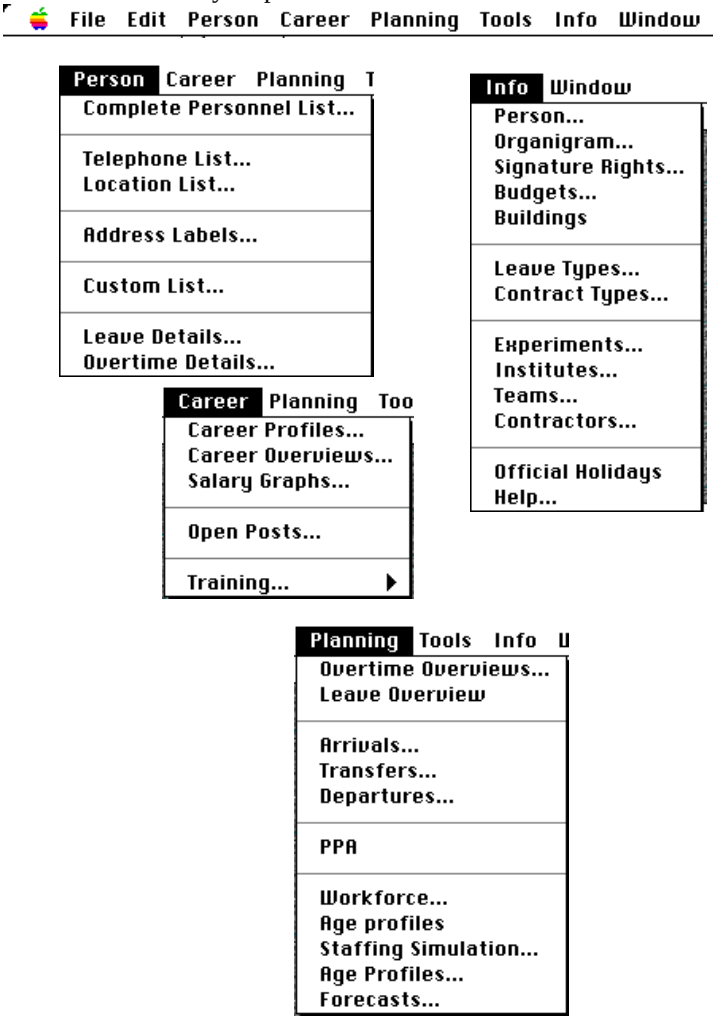
on a detailed level.

- **Career Functionality**
  This relates to the reporting of career progression and history on a detailed level.

- **Planning Functionality**
  This relates to the overview of statistical information about people and their activities required for planning.

- **Help / Info functionality**
  This should be a set of screens which provide support for searching for particular people, experiments, institutes etc. Full hypertext context-sensitive help should also be available.

The above table may be put into a menu structure as illustrated below.

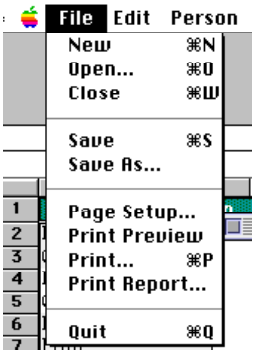


Each of the functions listed in the above table will be described in detail in the proceeding sections of the specification.

2.2 Category : System

The system function category describes those functions related to connecting and disconnecting from HRT as well as general features.

Except for the log-in function, the system functions should be distributed amongst the File and Edit menus along with the other standard OS system functions (open, copy, paste etc.) as illustrated below:



2.2.1 Function : Log In

Connection to the HRT database should be by the means of a unique username and password.

2.2.2 Function : Change Password

The HRT user should have the possibility to modify their own password.

2.2.3 Function : Read News

A simple News system should be available to provide the user with HRT related news information.

2.2.4 Function : Create news

Privileged HRT users (e.g. user SYSTEM) should be able to Modify and Create news items.

2.2.5 Function : Log out

Exiting from the system should disconnect from the database in a clean fashion.

2.2.6 Function : Print

The user should be able to print any information retrieved from the system in a convivial and user-friendly format,

2.2.7 Function : Save

The user should be able to save any information retrieved from the system in a format which may be read by standard applications (Excel, word etc.).

2.2.8 Function : Preferences

The user should be able to modify and customise his/her local setup of HRT.

2.2.9 Function : Access Rights

The **privileged** user should be able to modify and interrogate HRT access rights for users in their division.[1]

2.2.10 Function : Subscribe to Listing

The **occasional** user should be able to specify to receive listings/reports periodically and in batch mode.

2.2.11 Function : Read/Save Queries

It should be possible for the user to define user-defined groups of people, e.g. "The EDH Team" which contains all the members of AS-SU-EDH and some members of AS-SU-SI. One way of achieving such user-defined groupings is by allowing read/save of all queries. User defineable groups should be made possible on multiple criteria.

2.3 Category : Person

The Person category groups together all those functions which detail ***static personal information*** (name, address, telephone number etc.) about a particular person without going into details of career history and planning. Note that persons at CERN include staff members, fellows, contractors, regie etc. User defineable groups would allow the users to specify groupings such as (staff in AS-SU, or all "regie" working in AS etc).

2.3.1 Function : All information (Complete Personnel List).

This function would be a KEY function in HRT providing information and power equivalent to a "SUPERSCREEN".

[1] Personnel division should automatically be informed of any access right modification, e.g. the server could send a mail. Personnel division should have the right to browse and modify all access rights of all users.

2.3.1.1 Data Provided to the user

The information provided would be dependent on the access rights of the user.

The following table details the information which can be provided to the user.
Note that we have made a primitive categorisation of access levels, namely:

- Public — All users at CERN
- General — HRT user with password access. Data visible inside group/section only
- Privileged — Required approval from personnel division.

Please see section 3.5 for further information.

Heading	Example	Field	Formula	Access Level
CernId	31873	IDNCFPER		Privileged
Title	Mr.	QUACFPER		Public
FirstName	Donald	FRNCFPER		Public
SurName	Duck	NAMCFPER		Public
Division	AS	DIVCFPER		Public
Group	SU	GRPCFPER		Public
Section	SI	SCTCFPER		Public
OrgaUnit	AS-SU-SI	ORGCFPER		Public
Office1	5/R-014	derived	bldcfpel||'/'||flrcfpel||'-'||loccfpel,	Public
Office2		derived		Public
Telephone 1	3216	TL1CFPER		Public
Telephone 2		TL2CFPER		Public
Telephone 3		TL3CFPER		Public
Natel		?		Public
BEEP	13+5623	BEECFPER		Public
Email	dduck@mail.cern.ch	EMACFPER		Public
Nationality	GB	NATCFPER		General
Language	EN	LANCFPER		General
Job Code	208	JBTCFPER		General
Job Type	Systems/Scient. Prog. Engineer	ELGCFJBT		General
Brithdate	19680821	BTHCFPER		General
Age	27		today - birthdate	General
Sex	M	SEXCFPER		General
Class	STAF	PCLCFPER		General
Class Desc	Staff Member	ELGCFPCL		General
Contract	Fixed Term Contract	ELGCFCOT		General
Career Path	7	PTHCFCON		Privileged
Grade	8	GRACFCON		Privileged
Step	5	STPCFCON		Privileged
Hours	40	HPWCFCON		Privileged
Percentage	100%		hours / 40	Privileged
Contract Start	Aug-94		CF_CONTRACT_HISTO	Privileged
Contract End	Aug-97		CF_CONTRACT_HISTO	Privileged
Holiday Entitlement	35		CF_LEAVE_ENTITLEMENT	Privileged
Days Taken	15		CF_LEAVE_HIST0	Privileged
Days Remaining	20		ENTITLEMENT - HISTO	Privileged
Overtime	0	?		Privileged
Supevisor	Mats Moller	SUPCFPER	name of	Privileged
Institute	Brunel	NAMCFINS		General
Experiment	CP-Lear	NAMCFEXP		General
Address	17 Res Les Canard	AD3CFADR		Privileged
Town	St. Genis	PLACFADR		Privileged
Country	France	COUCFADR		Privileged
Telephone	50421691	TL1CFADR		Privileged
Home Station	Derby	?		Privileged

2.3.1.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person,
- An organic group (e.g. AS-SU) of people
- A PPA
- A project
- A team
- An experiment
- An institute (whereby the people are at CERN)

- A user defined group of people (e.g. The EDH team, The basketball team etc., People with 25 yrs of service, Retired people , Technical students etc. etc.)[2].

2.3.1.3 Output to the User

Three different output forms may be useful for the user. These are :

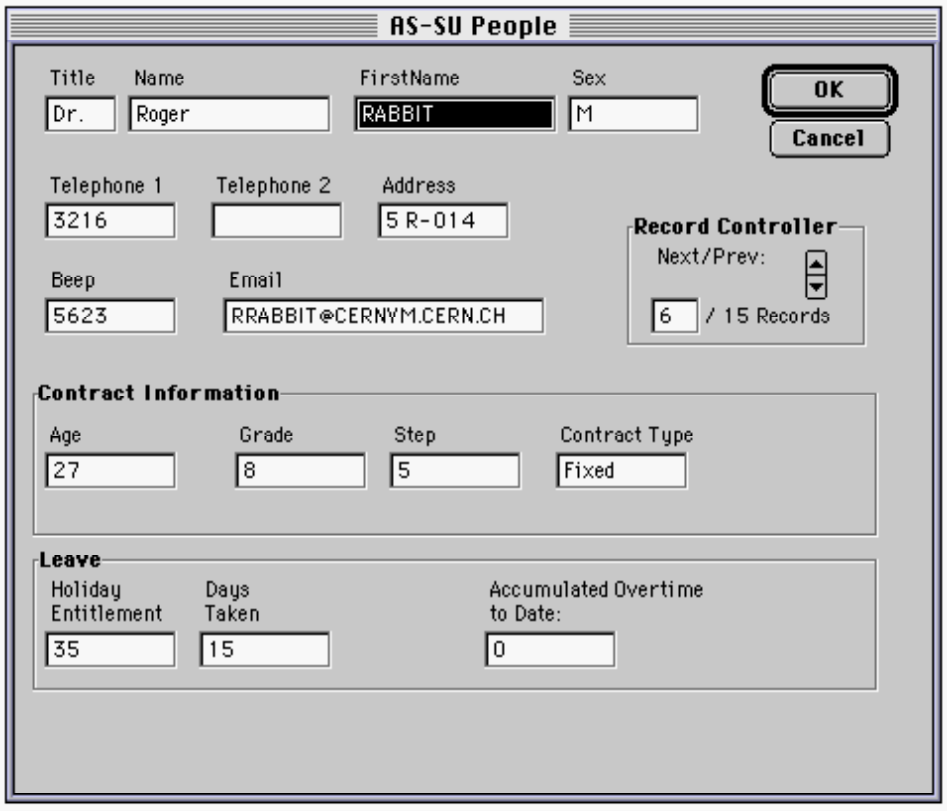
- **Listings**
  These are useful for printing detailed lists of people in a group
  A sample is shown below.

HRT
Person Query

AS-SU
All Information
Access Level : Full

Title	Full Name	Name	Surname	Sex	Birthdate	Language	Status	OrgaUnit	Tel1	Tel2	Beep	Email	Holiday Entitlement	Days Taken	Holiday Balance	Type of Contract	Career Path	Grade	Step
Mr.	Donald Duck	Donald	DUCK	M	19470617	FR	STAF	AS-SU-SO	3510	3528	6109	DDUCK@mail.cern.ch	36	9	27	I	4	7	7
Mr.	Mickey Mouse	Mickey	MOUSE	M	19390715	FR	STAF	AS-SU-SO	3510	3528	6109	MMOUSE@mail.cern.ch	35	3	32	I	3	7	8
Mr.	Winne The Pooh	Winne the	POOH	M	19630905	EN	STAF	AS-SU-ET	8197		0	WPOOH@mail.cern.ch	41	4	37	I	7	9	6
Mrs.	Mary Poppins	Mary	POPPINS	F	19590724	EN	STAF	AS-SU	5766		0	MPOPPINS@mail.cern.ch	39	7	32	I	7	10	2
Mr.	Robin Hood	Robin	HOOD	M	19630624	EN	STAF	AS-SU-ET	9426		0	RHOOD@mail.cern.ch	38	7	31	D	7	8	6
Mr.	Roger Rabbit	Roger	RABBIT	M	19680916	EN	STAF	AS-SU-SO	3562		0	RRABBIT@mail.cern.ch	35	16	19	F	7	8	5
Mr.	Lion King	Lion	KING	M	19560420	EN	STAF	AS-SU-SO	3562	5455		LKING@mail.cern.ch	42	11	31	I	7	10	4
Mr.	Snow White	Snow	WHITE	F	19451221	EN	PDAS	AS-SU	9536			SWHITE@mail.cern.ch	13	14	-1	F		10	6
Mr.	Peter Pan	Peter	PAN	M	19680821	EN	STAF	AS-SU-ET	3216		5623	PPAN@mail.cern.ch	35	12	24	F	7	8	5
Mr.	Goofy Dog	Goofy	DOG	M	19680228	EN	FELL	AS-SU	9426		0	GDOG@mail.cern.ch	37	9	28	F		7	3
Mr.	Oswald Rabbit	Oswald	RABBIT	M	19630626	EN	STAF	AS-SU	4428		0	ORABBIT@mail.cern.ch	26	4	22	I	7	9	4

- **Form / Browsers**
  These are useful for viewing all the information in an easy to read format on the screen.
  Example layouts are shown below:



- **Overview**
  This is useful for seeing a summary of key information for a particular group of people.
  An example is shown below.

[2] The mechanism to define "User Defined Groups" must be flexible, powerful, simple to use and accessible from all functions.

HRT

Person Query

AS-SU
All Information
Access Level : Full

Type of Contract	(All)
Language	(All)
Sex	(All)
Full Name	(All)

		Step						
Career Path	Grade	2	3	4	5	6	7	8
3	7	0	0	0	0	0	0	1
3 Total		0	0	0	0	0	0	1
4	7	0	0	0	0	0	1	0
4 Total		0	0	0	0	0	1	0
7	8	0	0	0	2	1	0	0
	9	0	0	1	0	1	0	0
	10	1	0	1	0	0	0	0
7 Total		1	0	2	2	2	0	0
(blank)	7	0	1	0	0	0	0	0
	10	0	0	0	0	1	0	0
(blank) Total		0	1	0	0	1	0	0
Grand Total		1	1	2	2	3	1	1

2.3.1.4 Security and Constraints

Certain fields would only be accessible by certain users. See section 3.5.

2.3.2 Function : Telephone List

This function would provide a subset of the information available in function 2.3.1.1, namely all information which is publicly available.

2.3.2.1 Data Provided to the user

Heading	Example	Field	Formula	Access Level
Title	Mr.	QUACFPER		Public
FirstName	Donald	FRNCFPER		Public
SurName	Duck	NAMCFPER		Public
Division	AS	DIVCFPER		Public
Group	SU	GRPCFPER		Public
Section	SI	SCTCFPER		Public
OrgaUnit	AS-SU-SI	ORGCFPER		Public
Office1	5/R-014	derived	bldcfpel||'/'||flrcfpel||'-'||loccfpel,	Public
Office2		derived		Public
Telephone 1		3216 TL1CFPER		Public
Telephone 2		TL2CFPER		Public
Telephone 3		TL3CFPER		Public
Natel		?		Public
BEEP	13+5623	BEECFPER		Public
Email	dduck@mail.cern.ch	EMACFPER		Public

2.3.2.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person,
- An organic group (e.g. AS-SU) of people
- A PPA
- A project
- A team
- An experiment
- An institute (whereby the people are at CERN)
- A user defined group of people (e.g. The EDH team, The basketball team etc., People with 25 yrs of service, Retired people , Technical students etc. etc).

2.3.2.3 Output to the User

Three different output forms may be useful for the user. These are :

- **Listings**
  These are useful for printing detailed lists of people in a group

Perhaps various report formats / templates should be proposed.
Filters should be available on the listings for immediate access to the correct person

HRT
Person Query

Telephone List
AS - SU
Access Rights : Public
Date : 6th June 1996

Title	FirstName	Surname	OrgaUnit	Division	Group	Section	Address	Tel1	Tel2	Tel3	Natel	Beep	email	Institute	Experiment
Mr.	Donald	DUCK	AS SU SI	AS	SU	SI	5/R-027	3510	3528			13+6109	donald.duck@cern.ch		
Mr.	Mickey	MOUSE	AS SU SI	AS	SU	SI	5/R-027	3510	3528			13+6109	mickey.mouse@cern.ch		
Mrs.	Winne the	POOH	AS SU	AS	SU		5/R-023	5766					winne the.pooh@cern.ch	Sheffield Polytecl	
Mr.	Mary	POPPINS	AS SU EDH	AS	SU	EDH	5/R-024	8197					mary.poppins@cern.ch	Catholic Universit	
Mr.	Robin	HOOD	AS SU	AS	SU		5/R-015	4428					robin.hood@cern.ch		
Mr.	Roger	RABBIT	AS SU SI	AS	SU	SI	5/R-016	9536					roger.rabbit@cern.ch	Glamorgan Unive	
Mr.	Lion	KING	AS SU EDH	AS	SU	EDH	5/R-010	9426					lion.king@cern.ch	Institute Unlisted	
Mr.	Snow	WHITE	AS SU SI	AS	SU	SI	5/R-014	3216				13+5623	snow.white@cern.ch	Brunel University	
Mr.	Peter	PAN	AS SU SI	AS	SU	SI	5/R-014	3562	5455		16+0204		peter.pan@cern.ch		
Mr.	Goofy	DOG	AS SU SI	AS	SU	SI	5/R-019	5781					goofy.dog@cern.ch	University of Glas	
Mr.	Oswald	RABBIT	AS SU EDH	AS	SU	EDH	5/R-019	5781					oswald.rabbit@cern.ch	Ecole Nat. Sup. d	
Mr.	Friar	TUCK	AS SU EDH	AS	SU	EDH	5/R-010	9426					friar.tuck@cern.ch		
Mr.	Arthur	KING	AS SU EDH	AS	SU	EDH	5/R-024	8141					arthur.king@cern.ch	University of Stra	

- **Form / Browsers**
  These are useful for viewing all the information in an easy to read format on the screen.:

- **Exportable Information**
  A simple enhancement would allow the email addresses to be importable into Netscape, QuickMail and Microsoft mail. This would be a useful facility for producing an electronic address book.

2.3.2.4 Security and Constraints

All fields are publicly available from a GUEST account. See section 3.5.

2.3.3 Function : Location List

The Location list will list buildings, offices, meeting rooms and all known Cern locations (occupied or not). If occupied, then occupancy details will be provided.

2.3.3.1 Data Provided to the user

The following data could be given to the user.
Access right details need to be discussed.

Building number
Floor number
Room number
Access level R(estricted), P(ublic)
Location purpose (utilisation)
Number of doors
Number of telephones
Number of persons
Number of months rented to other division
Number of weekly journals (bulletins)
Risk (gas, radiation, ...)
Responsible person
Responsible division (current user)
Owning organization unit
Mailbox present?
Comments
Can be used as office (Y/N)?
Surface
Destination
Underground (Y/N) (puits)
Experiment
Theoretical number of persons
Acronym (bld-flr-loc)
Title
FirstName
SurName
Division
Group
Section
OrgaUnit
Telephone 1
Telephone 2
Telephone 3
Natel
BEEP
Email

2.3.3.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people (e.g. The EDH team, The basketball team etc., People with 25 yrs of service, Retired people , Technical students etc. etc.)
- Any building, floor room etc.
- Any 'office owning group', e.g. what offices does AS-SU own?

2.3.3.3 Output to the User

Three different output forms may be useful for the user. These are :

- **Listings**
  These are useful for printing detailed lists of people in a group
  Perhaps various report formats / templates should be proposed.
  Filters should be available on the listings for immediate access to the correct person.

HRT
Person Query

Location List
Building 5 - Ground Floor
Access Rights : Standard
Date : 6th June 1996

Building	Floor	Office	Access Level	Type	Doors	Telephones	People	Bulletins	Owner	Mailbox		Percentage	Hours	Start	End	Surname	Name	Telephone
5	R	1		BUREAU	1	1	2	2	AS-DB	Y	1	100		1-Aug-93		LARSSON	ULF	8423
5	R	1		BUREAU	1	1	2	2	AS-DB	Y	1	100		1-Jan-95		DOUBLET	JEAN-LUC	6196
5	R	2		BUREAU	0	1	0	0	AS-DB	N								
5	R	3		BUREAU	2	0	1	2	AS-DB	Y	3	100		1-Aug-93		MARTENS	REINOUD	5457
5	R	4		BUREAU	2	0	4	3	AS-DB	Y	4	100		16-Jan-95	11-Feb-96	GUARISCO	DOREEN	5455
5	R	4		BUREAU	2	0	4	3	AS-DB	Y	4			16-Apr-96	30-Jun-96	KINDSTRAND	MARIA	9283
5	R	4		BUREAU	2	0	4	3	AS-DB	Y	4	100		5-May-95	31-Mar-97	MARCO-GIMENO	MARIA AFRICA	2956
5	R	4		BUREAU	2	0	4	3	AS-DB	Y	4				31-Dec-96	GUARISCO	DOREEN	5455
5	R	26		SALLE REUNION	1		0	0	AS-DB	N								
5	R	32		SALLE REUNION	1		4	2	AS-DB	Y								
5	R	101		SANITAIRE	1	0	0	0		N								
5	R	301		ASCENSEUR / MONTE-CHARGE	0	0	0	0		N								

- **Form / Browsers**
  These are useful for viewing all the information in an easy to read format on the screen.

2.3.4 Function : Address Labels

This functions would produce a printable format of address labels (CERN office addresses) for a group of people. The office coding scheme would be used to assist the mailing office. A mechanism for tracing the originator of an Address Labels List should be implemented.

2.3.4.1 Data Provided to the user

Non-confidential data from the Telephone list (2.3.2).

2.3.4.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

2.3.4.3 Output to the User

Various address label formats, or an interface to a Word or Filemaker template which would perform the printing function correctly.

2.3.5 Function : Home Addresses

(This function does not appear on the menu-screenshot).
This function would be restricted to certain users only (see the section on access privileges). It would print the home addresses for the set of people on a "one address per screen" format.

2.3.6 Function : Custom List

This functions would produce the data (or an accessible subset of) provided in 2.3.1 and would be customisable in the following way:

- The fields retrieved
  e.g. It would be possible to ask for only name, telephone number and grade (grade if access permissions allow).

- The query performed
  e.g. It would be possible to ask for all people with 25 years of service, working at less than 80% but having two offices. This is ambitious, but the idea is that criteria could be put on the various fields (age, yrs of service, number of offices etc.).

2.3.6.1 Data Provided to the user

A user-defined subset of the accessible data in 2.3.1

2.3.6.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

together with

- A user defined set of criteria

2.3.6.3 Output to the User

As with 2.1 the output would be lists and forms. No summary would be provided.

2.3.7 Function : Official Travel

(This function does not appear on the menu-screenshot, and currently it is not clear on the availability of this data.)
This function would produce lists/statistics of all official voyages taken by the members of a group.

2.3.8 Function : Leave Details

This function would provide Leave details on different levels:
On a **simple-list** level, this functions would produce the subset of data of 2.1 related to Leave, namely:

- Leave Entitlement (including carryover)
- Leave Taken
- Days Remaining

On a **detailed** level, for any particular Leave query or person, the entire history should be producible detailing:

- Dates
- Type of Leave
- Percentage of Absence

For an overview the person should use Planning/Leave Overview, though summary functionality could also be made accessible here (to summarise the details) simply by providing a pivottable. A graphical overview should also be available.

2.3.8.1 Data Provided to the user

As defined above.

2.3.8.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

2.3.8.3 Output to the User

The output data is on 3-levels.
1. Overview
This would be a pivottable/graphical summary of the leave for the given group of people.
2. Status List
This would simply be a list of people with the current entitlement and days-taken
3. Details
This would be each individual holiday, type of holiday etc. for each person and leave

The listings would be viewable either in standard printable format, and via a forms panel.

2.3.9 Function : Overtime Details

This function would only deal with data from EDH. The functionality and output provided would be as in 2.3.6 above (Leave Details)

2.3.10 Function : Temporary Labour

(This function does not appear on the menu-screenshot)
This function would produce personnel details / information solely on the following groups of people :

- "Regie"
- Prestation de Services
- Consultants

2.3.11 Function : Skills

(This function does not appear on the menu-screenshot, and currently it is not clear on the availability of this data.)
This function would produce information / lists of the skills of people

2.4 Category : Career

The Career category groups together all those functions which detail ***personal career & contract information***.

2.4.1 Function : Career Profiles

This function would provide the current career status and the career history for a given group of people.

2.4.1.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name, Title etc.
- JobType, Contract Status & Contract Type
- Path, Grade, Step
- Position (e.g. group leader etc.)
- Start / End date for contract
- Percentage of standard week

2.4.1.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

2.4.1.3 Output to the User

Several output formats should be possible. These are :

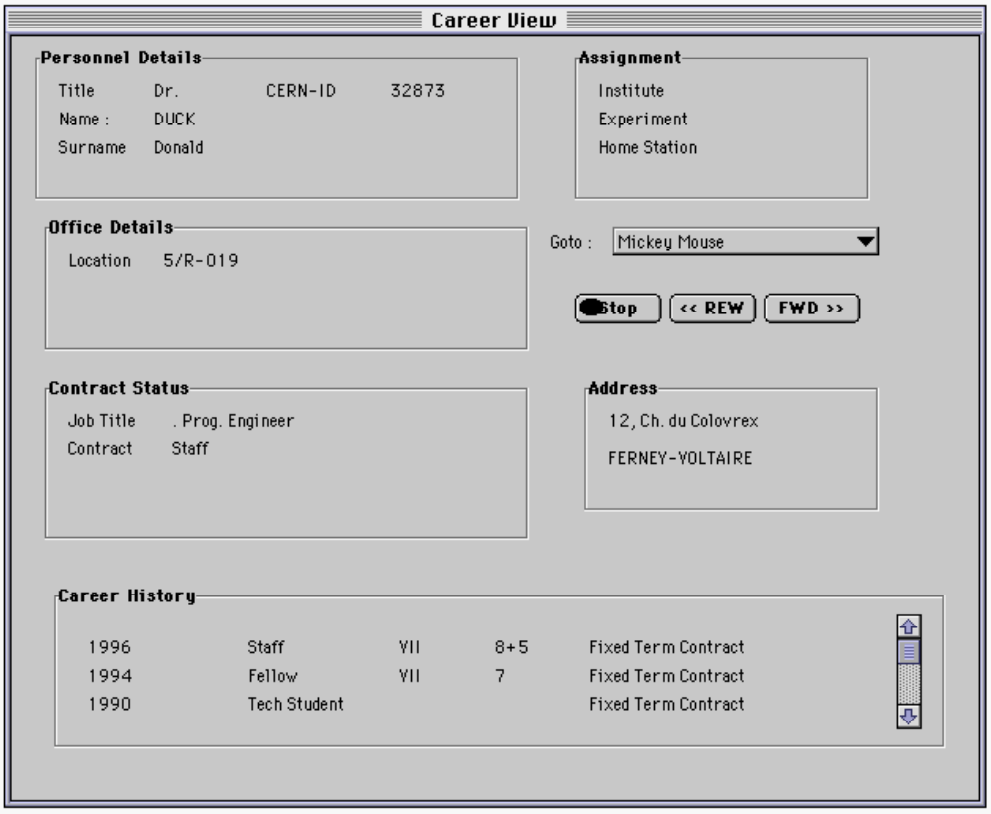
- **Listings**
  The output would be in the form of a browseable / printable listing as illustrated below. Filters would be available to select certain contract types.

HRT
Career Query

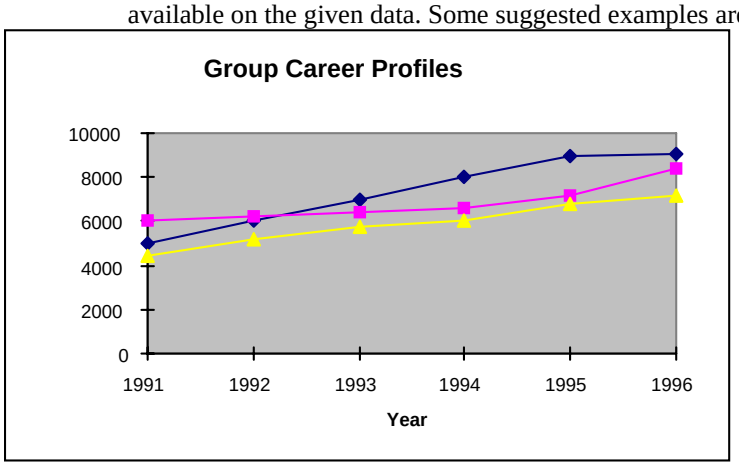
Person Query
AS - SU
Access Rights : Full
Date : 6th June 1996

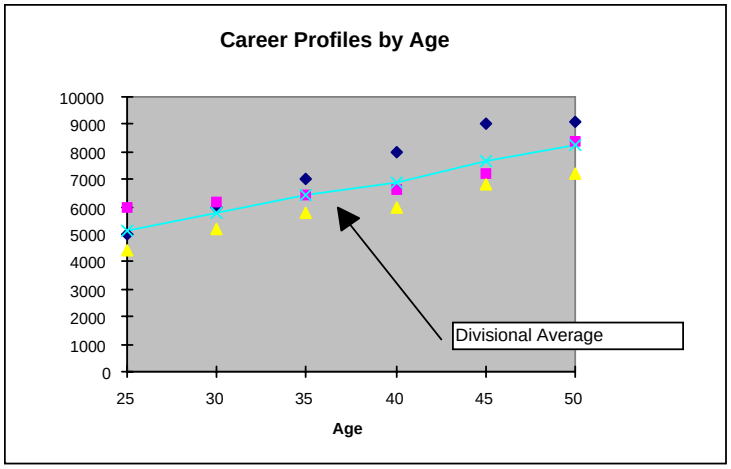
Name	SurName	Age	Job Type	Position	Category	Contract	Career Path	Grade	Step	Start	End	Pcnt
Mickey	**MOUSE**	35	Computer Operator	Deputy Section Leader	Staff Member	Indefinite Contract	3	7	8	1-Jul-94		100
					Staff Member	Indefinite Contract	3	7	7	1-Jul-92	30-Jun-94	100
					Staff Member	Indefinite Contract		6	13	1-Jul-87	30-Jun-92	100
					Staff Member	Indefinite Contract		6	12	1-Jul-86	30-Jun-87	100
					Staff Member	Indefinite Contract		6	11	1-Jul-85	30-Jun-86	100
					Staff Member	Indefinite Contract	7	8	5	25-Aug-69	30-Jun-85	100
Donal	**DUCK**	28	Systems/Scient. Prog. Engineer		Staff Member	Fixed Term Contract	7	8	4	1-Jul-95		100
					Staff Member	Fixed Term Contract	7	8	2	1-Jul-94	30-Jun-95	100
					Staff Member	Fixed Term Contract	7	8	0	1-Jul-93	30-Jun-94	100
					Fellow	Fixed Term Contract		7	1	1-Sep-92	30-Jun-93	100
					Fellow	Fixed Term Contract		7	0	1-Aug-91	31-Aug-92	100
					Fellow	Fixed Term Contract				1-Aug-90	31-Jul-91	100
					Technical Student	Fixed Term Contract				1-Apr-89	30-Sep-89	100

- **Forms / Browsers**
  The above data would also be visible in a type of “SuperScreen”. This would be one panel of information per person at a time.



- **Graphs / Profiles**
  A selection of graphs illustrating profiles and distributions would be available on the given data. Some suggested examples are shown below





2.4.2 Function : Career Overviews

This function would provide the current career status without the career history for a given group of people. This would typically be used to examine a larger group of people than in the previous function (e.g. to see a divisional situation).

2.4.2.1 Data Provided to the user

The following data would be provided to the user for the current period:

- Name, Title etc.
- JobType, Contract Status & Contract Type
- Path, Grade, Step
- Position (e.g. group leader etc.)
- Start / End date for contract
- Percentage

2.4.2.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

2.4.2.3 Output to the User

Several output formats should be possible. These are :

- **Listings**
  The output would be in the form of a browsable / printable listing as illustrated below. Filters would be available to select certain contract types.

HRT
Person Query

Person Query
AS - SU
Access Rights : Full
Date : 6th June 1996

Division	Group	Section	ID	Title	FirstName	Surname	OrgaUnit	Job Type	Position	Nationality	Language	Age	Contract Class	Contract	Path	Grade	Step	Hours	Percentage	Contract Start	Contract End
AS	SU		23780	Mrs.	Mary	POPPINS	AS SU	Systems/Scient. Prog. Engineer	Group Leader	GB	EN	37	Staff Member	Indefinite Contract	7	10	2	36	90.00%		
AS	SU		29266	Mr.	Donald	DUCK	AS SU	Systems/Scient. Prog. Engineer		GR	EN	33	Staff Member	Indefinite Contract	7	9	4	40	100.00%		
AS	SU	EDH	27779	Mr.	Mickey	MOUSE	AS SU EDH	Systems/Scient. Prog. Engineer	Section Leader	BE	EN	33	Staff Member	Indefinite Contract	7	9	6	40	100.00%		
AS	SU	EDH	40501	Mr.	Winne the	POOH	AS SU EDH	Systems/Scient. Prog. Engineer		GB	EN	28	Fellow	Fixed Term Contract		7	3	40	100.00%		
AS	SU	EDH	41481	Mr.	Robin	HOOD	AS SU EDH	Systems/Scient. Prog. Engineer		FR	FR	24	National Service Volunteer	Fixed Term Contract				40	100.00%		
AS	SU	EDH	40524	Mr.	Roger	RABBIT	AS SU EDH	Systems/Scient. Prog. Engineer		SE	EN	33	Staff Member	Definite Contract	7	8	6	40	100.00%		
AS	SU	EDH	32012	Mr.	Lion	KING	AS SU EDH	Systems/Scient. Prog. Engineer		GB	EN	28	Staff Member	Fixed Term Contract	7	8	5	40	100.00%		
AS	SU	SI	4055	Mr.	Snow	WHITE	AS SU SI	Computer Operator		FR	FR	57	Staff Member	Indefinite Contract	3	7	8	40	100.00%		
AS	SU	SI	4394	Mr.	Peter	PAN	AS SU SI	Admin. Data Processing Assistant		FR	FR	49	Staff Member	Indefinite Contract	4	7	7	40	100.00%		
AS	SU	SI	33950	Mr.	Goofy	DOG	AS SU SI	Systems/Scient. Prog. Engineer		GB	EN	31	Unpaid Scientific Associate	Fixed Term Contract				40	100.00%		
AS	SU	SI	31873	Mr.	Oswald	RABBIT	AS SU SI	Systems/Scient. Prog. Engineer		GB	EN	28	Staff Member	Fixed Term Contract	7	8	5	40	100.00%		
AS	SU	SI	25904	Mr.	Arthur	KING	AS SU SI	Systems/Scient. Prog. Engineer	Section Leader & Deputy Group Leader	SE	EN	40	Staff Member	Indefinite Contract	7	10	4	40	100.00%		
AS	SU	SI	41319	Mr.	Elizabeth	QUEEN	AS SU SI	Systems/Scient. Prog. Engineer		GB	EN	51	Paid Associate	Fixed Term Contract		10	7	40	100.00%		

- **PivotTables**
  Some simple examples are shown below. More comprehensive tables will be available. These tables will be fully user-definable.

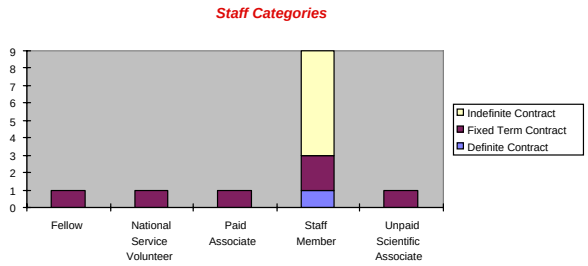
Position	(All)
Age	(All)
Section	(All)
Division	(All)
Group	(All)

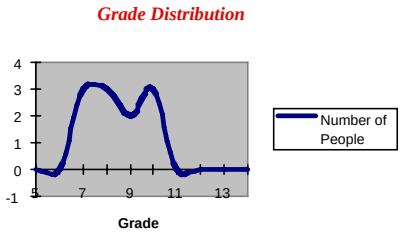
Count of ID			Job Type			
Path	Grade	Step	Admin. Data Processing Assistant	Computer Operator	Systems/Scient. Prog. Engineer	Grand Total
3	7	8	0	1	0	1
4	7	7	1	0	0	1
7	8	5	0	0	2	2
		6	0	0	1	1
	9	4	0	0	1	1
		6	0	0	1	1
	10	2	0	0	1	1
		4	0	0	1	1
(blank)	7	3	0	0	1	1
	10	7	0	0	1	1
	(blank)	(blank)	0	0	2	2
Grand Total			1	1	11	13

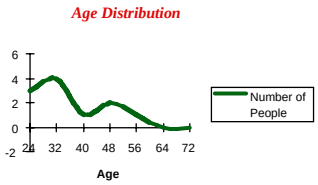
Position	(All)
Section	(All)
Division	(All)
Group	(All)
Job Type	(All)

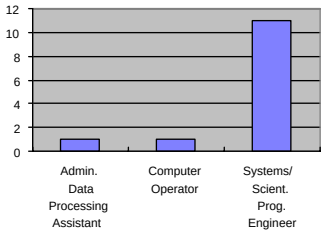
Count of ID			Age								
Path	Grade	Step	24	28	31	33	37	40	49	51	57	Grand Total
3	7	8	0	0	0	0	0	0	0	0	1	1
4	7	7	0	0	0	0	0	0	1	0	0	1
7	8	5	0	2	0	0	0	0	0	0	0	2
		6	0	0	0	1	0	0	0	0	0	1
	9	4	0	0	0	1	0	0	0	0	0	1
		6	0	0	0	1	0	0	0	0	0	1
	10	2	0	0	0	0	1	0	0	0	0	1
		4	0	0	0	0	0	1	0	0	0	1
(blank)	7	3	0	1	0	0	0	0	0	0	0	1
	10	7	0	0	0	0	0	0	0	1	0	1
	(blank)	(blank)	1	0	1	0	0	0	0	0	0	2
Grand Total			1	3	1	3	1	1	1	1	1	13

- **Scattergraphs**
  Scattergraphs will be available based on the summary data. The following illustrates some basic examples.







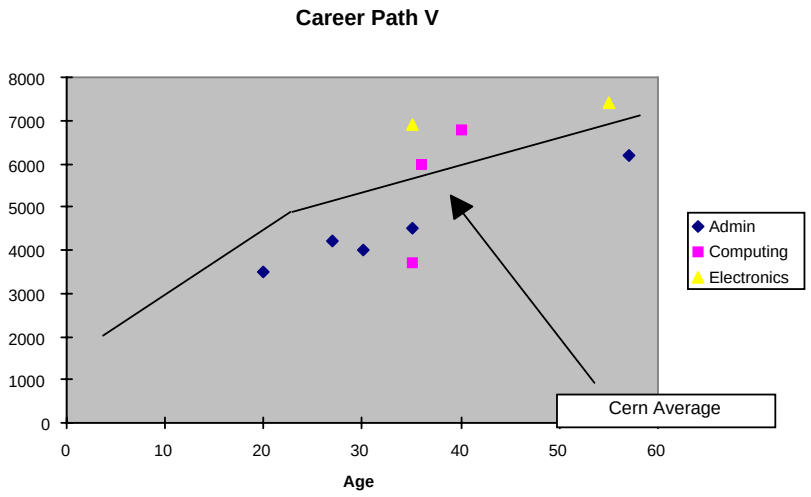


2.4.3 Function : Promotion Overviews

This function would be as above, but focused particularly on promotions.

2.4.4 Function : Salary Graphs

This function would provide a series of scatter graphs based upon a mapping between career path/grade/step AND reference salary.
A sample graph is illustrated below:



2.4.5 Function : Open Posts

This function will provide the user with a list of open posts available for a specific organisational unit.

2.4.5.1 Data Provided to the user

The following data would be provided to the user for the current period:

- Reference
- Organisational Unit
- Date
- Type of Post
- Details of Post

2.4.5.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people

2.4.5.3 Output to the User

The output will be in the form of a list.

2.4.6 Function : Training / Overview[3]

This function would provide the user with the possibility of making statistics and graphs for training of a given set of people.

2.4.6.1 Data Provided to the user

The following data would be provided to the user for the current period:

- Generic personnel details (no names), staff category, path, grade, job type etc.
- Course Types (Management, Language, Technical)
- Organisational Unit
- Course Provider (Internal, External)
- Name of Course (for Drill-down capabilities)

[3] Note - no data is yet available in Foundation for this function

2.4.6.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people
- A time period

2.4.6.3 Output to the User

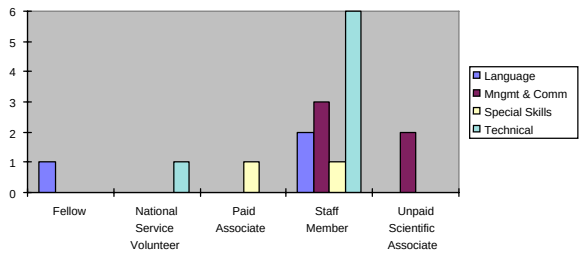
The output will be in the form of a pivot-table. Some examples are illustrated below:

Job Type	(All)
Nationality	(All)
Age	(All)
Hours	(All)
Contract Type	(All)
Path	(All)
Step	(All)
Grade	(All)

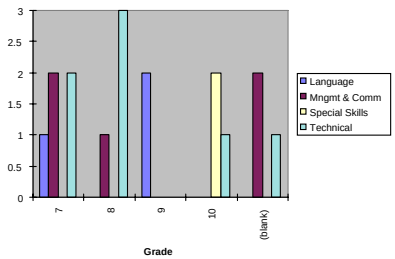
Count of Course		Contract					
Provider	Training Type	Fellow	National Service Volunteer	Paid Associate	Staff Member	Unpaid Scientific Associate	Grand Total
CERN	Language	1	0	0	1	0	2
	Mngmt & Comm	0	0	0	2	0	2
	Special Skills	0	0	0	1	0	1
	Technical	0	1	0	5	0	6
CERN Total		1	1	0	9	0	11
Divisional	Technical	0	0	0	1	0	1
Divisional Total		0	0	0	1	0	1
External	Language	0	0	0	1	0	1
	Mngmt & Comm	0	0	0	1	2	3
	Special Skills	0	0	1	0	0	1
External Total		0	0	1	2	2	5
Grand Total		1	1	1	12	2	17

Count of Course	Provider			
Training Type	CERN	Divisional	External	Grand Total
Language	2	0	1	3
Mngmt & Comm	2	0	3	5
Special Skills	1	0	1	2
Technical	6	1	0	7
Grand Total	11	1	5	17

A selection of standard graphs would be available with this data, some examples are illustrated



Training Type <-> Grade



2.4.7 Function : Training / Details[4]

This function would provide the user with the details / history of training for a particular group of people.

2.4.7.1 Data Provided to the user

The following data would be provided to the user for the current period:

- Personnel details (names, tels etc.),
- Staff category, job type etc.
- Career Path, grade (access rights permitting)
- Name of Course / Title
- Course Dates / Duration
- Course Types (Management, Language, Technical)
- Organisational Unit
- Course Provider (Internal, External)
- Name of Course (for Drill-down capabilities)

2.4.7.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people
- A time period

2.4.7.3 Output to the User

The output will be in the form of a list/report.

[4] Note - no data is yet available in Foundation for this function

2.5 Category : Planning

The Planning category groups together all those functions with statistical and costing information about activities required for planning..

2.5.1 Function : Overtime Overview

This function would provide the a graphical and statistical overview of the overtime for a group of people. If detailed information is required, then the user would be able to drill-down to the overtime details (see 2.7)

2.5.1.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Time Period
- Sum of Overtime worked per day/week/month
- Type of Overtime

2.5.1.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people
- The granularity (e.g. by quarter, by month, by day)

2.5.1.3 Output to the User

Two output formats should be possible. These are :

Listings

The output would be in the form of an overtime statistics summary detailing the people, time periods and sum of overtime worked.

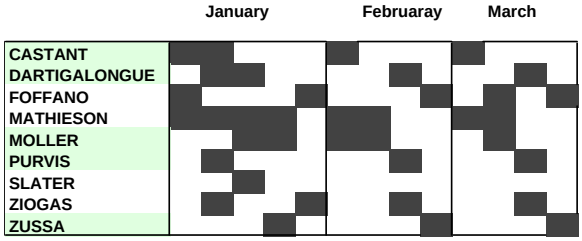
Division	(All)
Group	(All)
Grade	(All)
Contract Class	(All)

Sum of Hours2		Month			
Job Type	Surname	January	February	March	Grand Total
Admin. Data Processing Assistant	CASTANT	2	2	2	6
Computer Operator	DARTIGALONGUE	16	2	4	22
Systems/Scient. Prog. Engineer	FOFFANO	10	10	10	30
	MATHIESON	16	16	16	48
	MOLLER	0	0	0	0
	PURVIS	2	2	2	6
	SLATER	2	2	20	24
	ZIOGAS	4	8	4	16
	ZUSSA	8	8	8	24
Grand Total		60	50	66	176

- **Chart**

  The overtime overview should be available in the form of a GANNT chart,

together with a key or legend indicating which types of overtime have been taken.



2.5.2 Function : Leave Overview

This function would provide the a graphical and statistical overview of the leave for a group of people. If detailed information is required, then the user would be able to drill-down to the overtime details (see 2.7)

2.5.2.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Time Period
- Sum of Leave worked per day/week/month
- Type of Leave

2.5.2.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A single person, group, team, experiment, institute
- A user defined group of people
- The granularity (e.g. by quarter, by month, by day)

2.5.2.3 Output to the User

Two output formats should be possible. These are :

Listings

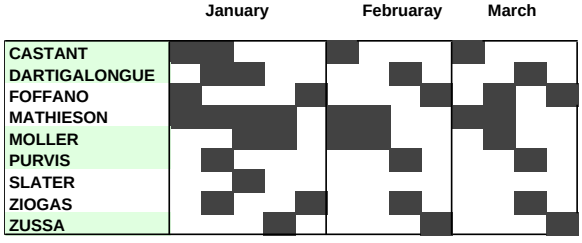
The output would be in the form of leave statistics summary detailing the people, time periods and sum of overtime worked.

Division	(All)
Group	(All)
Grade	(All)
Contract Class	(All)

Sum of Hours2		Month			
Job Type	Surname	January	February	March	Grand Total
Admin. Data Processing Assistant	CASTANT	2	2	2	6
Computer Operator	DARTIGALONGUE	16	2	4	22
Systems/Scient. Prog. Engineer	FOFFANO	10	10	10	30
	MATHIESON	16	16	16	48
	MOLLER	0	0	0	0
	PURVIS	2	2	2	6
	SLATER	2	2	20	24
	ZIOGAS	4	8	4	16
	ZUSSA	8	8	8	24
Grand Total		60	50	66	176

- **Chart**

  The leave overview should be available in the form of a GANNT chart, together with a key or legend indicating which types of leave have been taken.



2.5.3 Function : Arrivals

This function would provide a list of the future arrivals for a given organic unit.

2.5.3.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Contract Start Date

2.5.3.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- An organic Unit

2.5.3.3 Output to the User

Two output should be in the form of a listing.

2.5.4 Function : Transfers

This function would provide a list of the transfers[5] for a given organic unit.

2.5.4.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Previous Post details (group, job code, etc.)
- New Post (group job code, etc.)

2.5.4.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- An organic Unit

2.5.4.3 Output to the User

Two output should be in the form of a listing.

2.5.5 Function : Departures

This function would provide a list of the departures for a given organic unit.

2.5.5.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Contract end date
- Reason for departure

2.5.5.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- An organic Unit

[5] Future transfers will be available if the data is entered in HR *before* the transfer occurs rather than after!

2.5.5.3 Output to the User

The output should be in the form of a listing.

2.5.6 Function : PPA

This function would provide a lists and statistics of the affectation of people per PPA for a particular group, set of groups , division and./or projects..

2.5.6.1 Data Provided to the user

The following data would be provided to the user : :

- Name
- Job Category & Type
- Grade
- Contract end date
- PPA, PPA parent organisations & Percentages

2.5.6.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A group, division, project,
- A user defined group of people

2.5.6.3 Output to the User

- **PivotTables**
  The most flexible way of providing user definable lists for this type of information is in the form of pivottables. A small sample taken from a standard data set are illustrated below:

Stat	(All)
Nom	(All)

Sum of Pcnt		PPA						
Grp	C	FAL	FIP	FL1	FL2	FPP	FRH	Grand Total
VAC	2	0	0	0.5	0.3	0	3.2	4
	3	0.3	0.2	0	0	0.5	0	1
	4	0	0	0	1	0	0	1
VAC Total		0.3	0.2	0.5	1.3	0.5	3.2	6
Grand Total		0.3	0.2	0.5	1.3	0.5	3.2	6

Sum of Pcnt		PPA						
Grp	Nom	FAL	FIP	FL1	FL2	FPP	FRH	Grand Total
VAC	D. Duck	0	0	0	2	0	0	2
	M. Mouse	0.9	0.6	0	0	1.5	0	3
	Goofy	0	0	0	0	0	3	3
	S. White	0	0	0	0	0	3	3
	R. Hood	0	0	1.5	0.9	0	0.6	3
VAC Total		0.9	0.6	1.5	2.9	1.5	6.6	14
Grand Total		0.9	0.6	1.5	2.9	1.5	6.6	14

Stat	STAF
C	(All)

Sum of Pcnt			Yr			
Grp	Nom	PPA	96	97	98	Grand Total
VAC	D. Duck	FL2	1	1	0	2
	M. Mouse	FAL	0.3	0.3	0.3	0.9
		FIP	0.2	0.2	0.2	0.6
		FPP	0.5	0.5	0.5	1.5
	Goofy	FRH	1	1	1	3
	S. White	FRH	1	1	1	3
	R. Hood	FL1	0.5	0.5	0.5	1.5
		FL2	0.3	0.3	0.3	0.9
		FRH	0.2	0.2	0.2	0.6
VAC Total			5	5	4	14
Grand Total			5	5	4	14

2.5.7 Function : Workforce

This function would provide a lists and statistics of the affectation of people per PPA for a particular group, set of groups, division and/or projects..

2.5.7.1 Data Provided to the user

The following data would be provided to the user :

- Name
- Job Category & Type
- Grade
- PPA, PPA parent organisations & Percentages

2.5.7.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A group, division, project,
- A user defined group of people

2.5.7.3 Output to the User

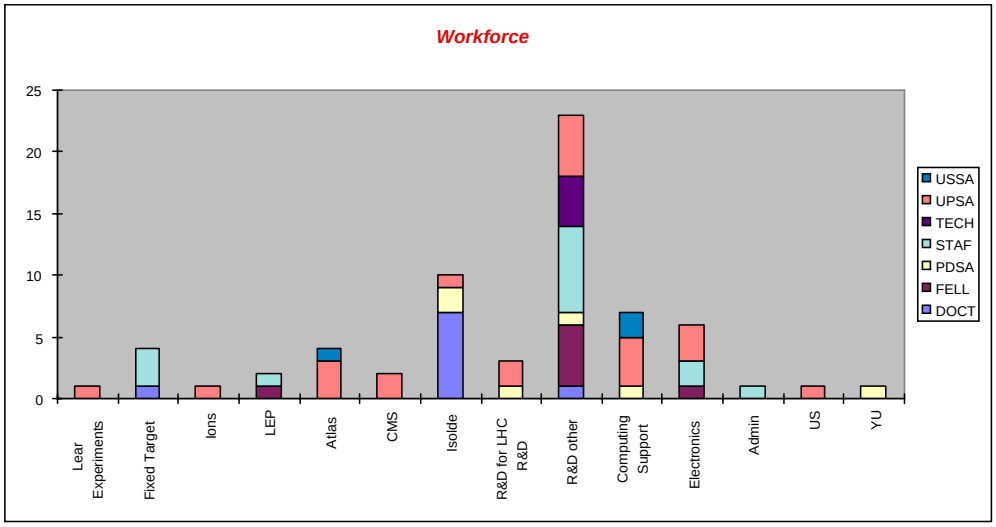
- **PivotTables**
  The most flexible way of providing user definable lists for this type of information is in the form of pivottables. A small sample taken from a standard data set are illustrated below:

Count of ID	PCLCFPER								
JOBDESC	DOCT	FELL	PDSA	SNAT	STAF	TECH	UPSA	USSA	Grand Total
applied physicist	5	6	7	0	9	0	10	1	38
electricity engineer	1	0	0	0	0	0	3	0	4
electronics engineer	4	5	4	0	7	4	11	2	37
experiments physicist	1	4	0	0	0	0	14	3	22
non specialised engineer	3	0	0	2	0	0	11	1	17
systems/scient. prog. engineer	6	3	0	0	6	7	5	1	28
systems/scient. prog. physicist	0	1	0	0	18	0	10	0	29
Grand Total	20	19	11	2	40	11	64	8	175

- **User grouping according to experiment/PPA**
  Using PivotTables, PPA parents the user should be able to perform their own grouping of the data.

Count of ID		PCLCFPER							
NA1CFPER2	NA1CFPER	DOCT	FELL	PDSA	STAF	TECH	UPSA	USSA	Grand Total
Experiments	Lear	0	0	0	0	0	1	0	1
	Fixed Target	1	0	0	3	0	0	0	4
	Ions	0	0	0	0	0	1	0	1
	LEP	0	1	0	1	0	0	0	2
	Atlas	0	0	0	0	0	3	1	4
	CMS	0	0	0	0	0	2	0	2
	Isolde	7	0	2	0	0	1	0	10
Experiments Total		8	1	2	4	0	8	1	24
R&D	R&D for LHC	0	0	1	0	0	2	0	3
	R&D other	1	5	1	7	4	5	0	23
R&D Total		1	5	2	7	4	7	0	26
Support	Computing	0	0	1	0	0	4	2	7
	Electronics	0	1	0	2	0	3	0	6
	Admin	0	0	0	1	0	0	0	1
	US	0	0	0	0	0	1	0	1
	YU	0	0	1	0	0	0	0	1
Support Total		0	1	2	3	0	8	2	16
Grand Total		9	7	6	14	4	23	3	66

- **Graphs**
  Graphics most easily illustrate the Workforce distribution across various activities.



2.5.8 Function : Age Profiles

This function would provide the a graphical and statistical overview of the age for a group of people.

2.5.8.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Job Category & Type
- Age
- Grade (access permitting)

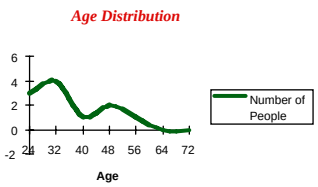
2.5.8.2 Input Required from the User

The user should be able to obtain this information for any of the following:

- A group, division, project,
- A user defined group of people

2.5.8.3 Output to the User

- **Graphs**



2.5.9 Function : Staffing Simulation

This function would provide the a graphical and statistical overview of the profiles for groups, sections, projects and divisions based on a combination of known facts and simulated data (e.g. early retirements).

2.5.9.1 Data Provided to the user

The following data would be provided to the user for the current period and the history :

- Name
- Contract End Dates
- Age
- Grade (access permitting)

- Number of years in pension fund

2.5.9.2 Input Required from the User

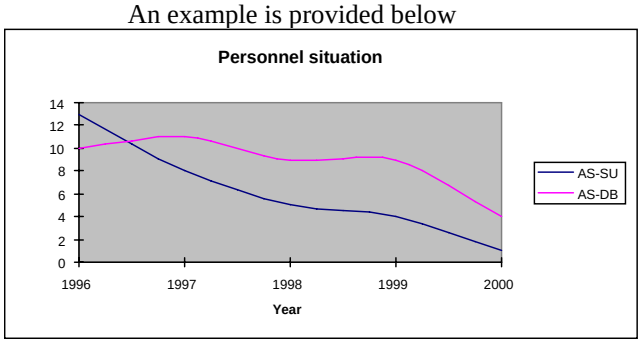
The user would need to specify the following:

- Organic group, project, group of people etc.
- Simulation parameters, e.g.
- - Departure at age of 60 + 35 yrs in pension fund
- - X% departure at age of 60 (usually X = 80)

2.5.9.3 Output to the User

- **Lists / PivotTables**
- **Graphs**

  An example is provided below



2.6 Category : Info

The Info category provides all the support menus which are used by the other functions. These information screens may be called directly from the Info menu, or as assistance from within any particular HRT function.

2.6.1 Function : Person

This function would provide the Help screen to allow user to search for a particular person. This screen would be similar to a simple electronic phone book.

2.6.1.1 Data Provided to the user

The user would be provided with a help screen which would show the resulting person and some simple non-confidential details which help uniquely identity the person.

2.6.1.2 Input Required from the User

The user could search on any one of the following:

- Surname, Name,
- Address
- CernId (depends on access rights)
- Group / Project etc.

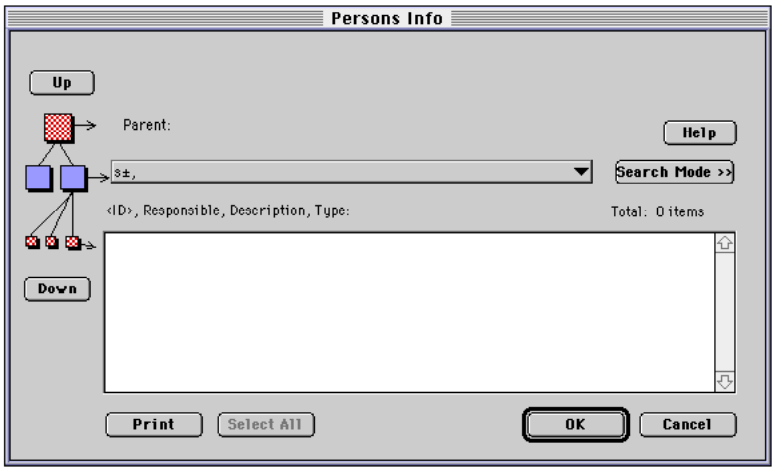
The standard wildcard characters would be accepted.

2.6.2 Function : Organigram

This function would provide the Help screen to allow user to browse through which people are working for which organic groups. A method of seeing people attached to institutes and experiments should also be provided.

2.6.2.1 Data Provided to the user

The user would be provided with a help screen which would show the resulting people for an organic unit. It should be possible to print an organigram from this screen.



2.6.2.2 Input Required from the User

The user would navigate this screen, or move directly to an

- organic unit,
- experiment or
- institute

2.6.3 Function : Signature Rights

This function would provide the Help screen to allow user to browse through which people have what signature rights. This would show which people may sign on which budget code, for which amount.

2.6.4 Function : Budgets

This function would show the budget codes (and the PPA) to which an individual person is attached. Note that this is an entirely different issue from which budget codes a person has signature rights (5.3 above).

2.6.5 Function : Buildings

This function would allow the user to navigate the CERN buildings and find which locations are valid offices etc.[6]

2.6.6 Function : Leave Types

This function would list the valid leave types and their abbreviations.

[6] Ideally a map would be provided too!

2.6.7 Function : Country Codes

This function would list the valid country codes and indicate if they were member states or not.

2.6.8 Function : Contract Types

This function would list the valid contract types (e.g. STAF, FELL etc.) and their abbreviations (did you know there were 63?)

2.6.9 Function : Experiments

This function would list the valid experiments going on at CERN. From here you would be able to see which people are registered as working on which experiment.

2.6.10 Function : Institutes

This function would list the valid institutes known to CERN. From here you would be able to see which people are registered as from which institutes.

2.6.11 Function : Teams

This function would list the valid Teams known to CERN. From here you would be able to see which people are attached to which Teams, and also which Teams are valid in EDH.

2.6.12 Function : Contractors

This function would list the valid Suppliers of people known to CERN. From here you would be able to see which people are attached to which Suppliers.

2.6.13 Function : Official Holidays

A calendar of the official CERN holidays.

2.6.14 Function : Help...

This would provide access to the complete on-line hypertext documentation.

3. Framework of answers

3.1 General

As we have a very tight development plan, and limited manpower resources, we have to re-use, as far as possible, experience gained from the development of the BHT system. Future efforts for extensions of functionality and, very important, maintenance and operation costs can be reduced if we adopt similar concepts as in BHT. Parts of the technical solutions can more or less directly be used in HRT. This is true for parts of the access system, the automatic distribution of listings, many of the "Info" functions, etc.

We propose a classic client/server approach with dynamically created SQL-queries solely defined in the client.

3.2 Database

We will avoid building in application specific functionality into the database engine, it should solely be used as a data repository.

3.2.1 Structure

For the implementation we have two possible solutions and it is at this stage too early to make a definite choice:

a) All specific HRT requirements are integrated into the Foundation database. This would mean that a number of accounts, views, synonyms, etc would have to be added.
b) A separate HRT database is created. It should only keep complementary data required to support the HRT functionality and the rest of the data is, at execution time, selected through database links from the Foundation database.

For performance and presentation reasons we might have to precalculate and preselect parts of the data in the Foundation structure.

3.2.2 Propagation Delays

Changes made in HR, EDH and other related databases should be propagated and visible in HRT within 24 hours.

3.2.3 Data Volumes

The expected data volumes are relatively small and we do not foresee any problems in keeping all historical data on-line.

3.2.4 Data Quality

It is important to understand that the data shown in HRT will originate from HR. As HR is an application available to all divisions in CERN, it will be the responsibility of the divisions concerned in collaboration with PE where necessary for ensuring that the data stored in HR (and subsequently visible via HRT) is correct.

It is expected that as with the introduction of BHT (whereby many discrepancies in Oriac were noted), with the introduction of HRT there will be some teething problems with the data and many initial modifications to the data in HR will be necessary. This situation should stabilise after six to eight weeks of production.

3.3 Client Interface

For the client part of HRT we propose an interface built in Visual Basic for Application (VBA) based on Excel 5. For access with the database we propose the use of SecondWind from Anju Technologies.

Main reasons for these choices:

- Many of the interviews indicate that the divisions already heavily are using Excel for processing and presentation of similar data.
- We have already large experience of these products from the development of BHT.
- We have to support the two recommended desktop systems at CERN.

3.3.1 Hardware requirements

Machine capable of comfortably running Excel 5.

Macintosh
68040 or PowerPC with 16M of memory.

PC
486 or Pentium with 16M of memory.

3.3.2 HRT-light

A WWW based version of HRT, mainly to be used for accessing public data, could be developed and based on the Oracle WEB server. It should only have a limited subset of the functionality available in HRT. We would get multiplatform support for free and the users could use any web browser to access the data (Netscape or similar).

3.4 Performance

For the usability and user-friendliness of the toolkit it is very important that the response times are minimised. The overall response[7] time is composed of the server and the client execution times (the network is considered to have a limited influence).

The design goal is to have an overall response time of maximum **10 seconds** for standard queries and up to **20 seconds** for specialised queries.

The server execution time can be reduced via extensive use of indexes combined with detailed tracing and optimisation of all queries. We might also have to preselect and/or precalculate a certain number of data in the Foundation database.

3.5 Security & Access rights

Parts of the personnel information is considered as confidential and a strict system of access privileges has to be implemented.

The data accessible to a specific user will be determined on the combination of the **User Class**, the **Information Category** and the **Hierarchical Access Privilege**. This means that we can base the whole access mechanism on the combination of static and dynamic views. The users will therefore be able to access the data from a very limited number of Oracle accounts (i.e. we will not need to create and maintain individual accounts).

From security point of view this has the very important consequence that the account will be “empty” if someone manages to “break in” to the account via SqlPlus or SqlNet.

3.5.1 User Classes

The users have been classified as follows:

Public User	Can log on to the system without identification and have access only to the Information Category 1 (Public Data).

[7] The time between hitting Return and the first results shown on the screen.

General User	Will be identified at log in time and the stored Information Category and the Hierarchical Access Privilege will be used to determine the access.
Privileged User	Will be identified at log in time and in addition to the access given to the General User this user will also have a certain number of system privileges like: create/modify an account, change password of other accounts, modify user profiles, etc.

3.5.2 Information Categories

The data has been categorised as follows:

1. Public Data
2. Leave and overtime data
3. Career Data
4. Costing Data (PPA)
5. All Data

Any combination of the Information Categories can directly be implemented via **Static Views** on the data. Category no 1 (Public Data) will always be a subset of any of these combinations.
This means that the following eight views will be created and each view will be linked to a specific Oracle account.

Static View	Information Category
A	1
B	1+2
C	1+3
D	1+4
E	1+2+3
F	1+2+4
G	1+3+4
H	5

It is too early at this stage to exactly map the data into the defined categories. Also, the categories themselves might have to be modified. This will be done later in collaboration with the concerned divisions (PE and FI).

3.5.3 Hierarchical Access Privileges

Each user has a defined access privilege mapped to an organic unit within the CERN structure. This could be a sector, a division, a team, a group, etc. and all the lower levels in the hierarchy.
Example, a user having access to a division will automatically have access to all groups and all sections within that division.

3.5.4 Access mechanism

A **Dynamic View** is created at the moment the user logs on to the system and its composition is defined by the combination of the **User Class** and the user's **Hierarchical Access Privilege**.
This view is linked to the session-id and is therefore automatically removed when the user exits the system (or loses the connection).

The **Dynamic View** will work on top of the **Static View** and the desired filtering of the data required for a specific user will take place.

3.6 Resources and planning

3.6.1 Development and Implementation

Throughout the development and implementation phases it is very important that we get continuos feedback from the future users. Close contacts will therefore be kept with the User Committee during the whole period.

The following main activities have been identified[8]. Some of them can be carried out in parallel.

Activity	Effort (fte[9] months)
Identification and classification of available data versus user requirements. Find possible solutions for missing data.	0.25
Analysis of structure of the Foundation database and possible implementation of precalculations and preselections tables and views.	0.25
Rapid development of first generation prototype with limited functionality.	1.5
Key User testing and implementation of feedback.	0.25
Implementation of access system.	0.5
Development of fully functional betaversion.	6.0
Optimisation and tuning of all generated database queries.	1.0
Implementation of results from betatesting.	0.25
Development of web based limited functionality version (HRT-light)	2.0
Prepare User Documentation	1.5
Prepare and give User Training	0.5
Total	**14.0**

3.6.2 Resource requirements

With the planned date for production set towards end of 1996 we can make the following table of available resources.

Who	Availability	Fte months
M Moller	50%	2.5
J Purvis	80%	4.0
Total		**6.5**

We can see that if we want to develop the full version containing all the proposed functionality, and the WEB based HRT-light version, we are missing 7.5 fte months of manpower. In order to respect the dates we have to count on external resources, technical students, etc.

[8] Areas such as “skills” and “training”have been ommitted from this estimate since no data is currently available

[9] Full Time Equivalent.