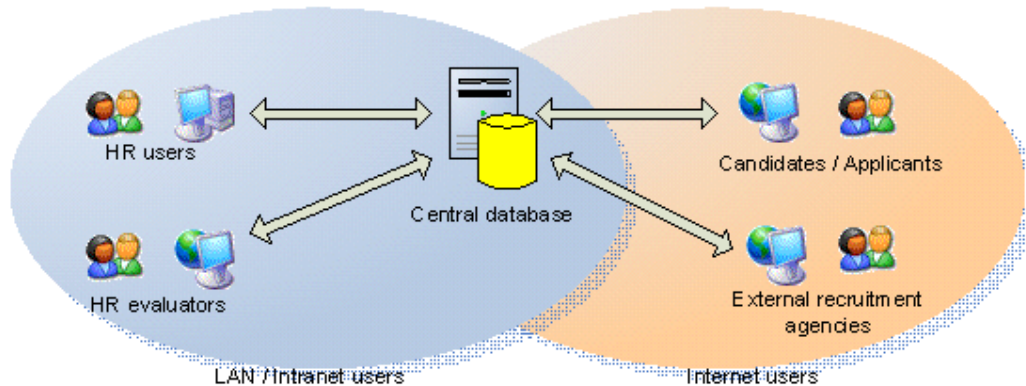


A general overview of HRRS

by Alberto Venditti

Architecture

HRRS (Human Resources Recruitment System) is a recruitment system developed to support the internal recruitment activities for a small/medium company. It is a client-server application supporting multiple concurrent users (HR people), developed using Microsoft Access for the frontend GUI and Microsoft SQL Server for the database backend.



HRRS also exposes:

- a simple web user interface named "CV submission form" (targeted to applicants) for web-based Curriculum Vitae submission, to be exposed on the company's website;
- another simple (and similar) web user interface named "CV submission form for agencies" for web-based Curriculum Vitae submission by recruitment agencies interoperating with HR department in finding candidates;
- a small web user interface named "HRRS gateway" (targeted to evaluators) for supporting the CV evaluation process by the evaluators' population, that typically needs a limited access to the only evaluation functionalities and that is normally larger than the HR set of users (actually using the complete and "rich" GUI represented by the Microsoft Access client).

The three web user interfaces above are "extensions" of the system: HRRS can be installed and used also without them.

Data entities managed by HRRS

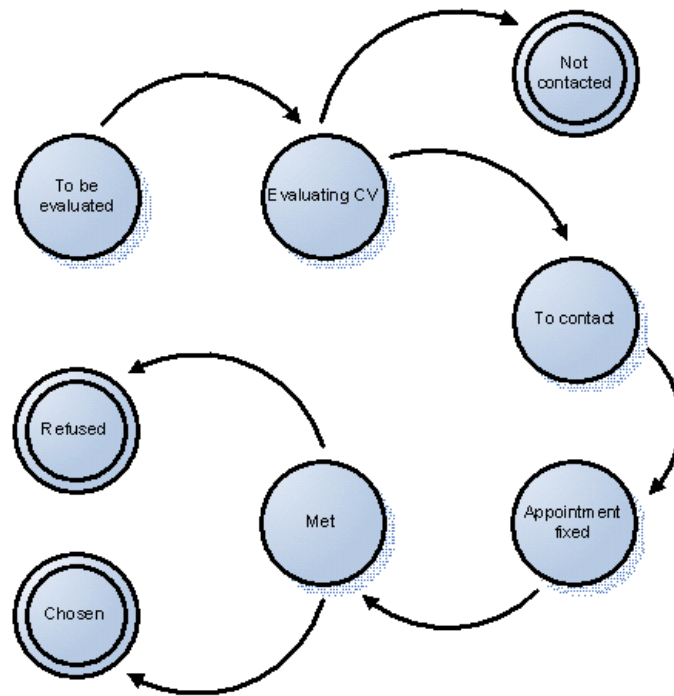
- **Job profiles.** Job roles / job profiles / job descriptions managed by HRRS are used basically with two related purposes:
 - publishing a job description to the company website (hosting the "CV submission form");
 - associating a candidate with a specific role / job description.

Of course, for CVs incoming from the web CV submission form, these two purposes overlap. But possibly some job descriptions managed by the system can be used only internally (i.e. can remain unpublished on the web), depending on the availability of job vacancies on the specific role. The system allows a candidate to apply also for a generic "area" and not for a specific open job vacancy.

HRRS supports up to two roles "proposed by the candidate" and up to two roles "assigned by the company": they could not match, for example, if during an interview the candidate appears to have another "bias".

- **Candidate's personal data.** For each candidate, the system stores the following data: Lastname, Firstname, Gender, Date of birth, Nationality, Social Security Number, Home address (with city, postal code, province, nation), Home phone number, Mobile phone number, Second mobile phone number, Email address, Second email address, Passport picture, Spoken mother tongue, Current study degree, The roles / job descriptions requested by the candidate while applying, The roles / job descriptions the candidate has been evaluated as suitable for, The CV file submitted by the candidate (with a timestamp indication of its last update), The URL of the personal website possibly owned by the candidate, Free notes about the candidate, The most current status of the candidate (about statuses, see below) , Global evaluation (summarized in a "vote", useful for fast search). Additional, optional data that go beyond the scope of the recruitment process are: Day when the candidate has been hired, Date of end of the trial period, Contract expiration date.
- **Competencies.** The system is able to hold the competencies of the candidates, which are typically (manually) extracted from his CV or historical records. A "competency" is an unstructured (freetext) record made of a "skill" and a corresponding "level" on that skill reached by the candidate. Even if both skills and level are freetext, the UI suggests the user with previously inserted values, allowing a high degree of "collision on similar values", useful to group and search candidates by Competency later.
- **Candidate's status progression.** At a specific point in time, the candidate is associated to a specific status, depicting his/her progression in the recruitment process workflow. Examples of statuses for a candidate are:
 - To Be Valuated
 - Evaluating CV
 - Not Contacted
 - To Contact
 - Appointment fixed
 - Met
 - Met; Refused
 - Met; Chosen

These statuses allow to fully track the recruitment workflow, that can be depicted as in the following (simplified) graph:



The system not only keeps track of the "current" status of the candidate, but also of the history of his/her recruitment path, through the events-based history mechanism. In fact, also the events pertaining to the candidate's history do have a status, that is intended to signify the "target status" the candidate will acquire as a consequence of that event (about events, see below). The statuses list could be different in different instances and implementations of HRRS, depending on the exact recruitment process actually implemented by the people using that specific HRRS instance.

- **Candidate's history (Events).** The system keeps memory of all the relationship contacts had with the single candidate through an historical track of "events". In the HRRS terminology, an "event" is a track of any interaction occurred with the candidate, being it a phone call, an email, a fax, a meeting. Sometimes, also internal communication related to the candidate (but not involving him/her directly), such as internal feedback exchanges about him/her, are tracked as "events" in the candidate's history, by properly categorizing such kind of events (see below). The chronological sequence of events in a candidate history has a crucial importance in tracking the full history. Also, some special events could trigger a status change for a candidate (for example: an incoming feedback on a CV could trigger a status change from "Evaluating CV" to "To contact", or a recruitment interview typically triggers a status change from "Appointment fixed" to "Met"). Being the workflow of status changes very different for each candidate, it is up to the user to decide the new status for the candidate by setting a status of the (most recent) event being inserted.
- **Events categorization.** A "category" for an event is the "type of event" or - better - a summarized title about the main content of the event itself. Examples of event categories are: Receiving CV; Sending CV internally for evaluation; Receiving internal feedback by evaluators; Scheduling technical interview; Technical interview execution; Scheduling HR interview; HR interview execution; Communicating selection outcome. Any event recorded in the HRRS system (in the candidate's history) has to be categorized (through one or more categories) in order to make it easily searchable by main content.

- **Event's participants.** The system is able to keep track, for each event in the candidate's history, of the set of "users" (=company people, not necessarily real "users" of HRRS) who were involved in the event itself (typically, they are recruitment-process related people, evaluators, HR people, etc.). In this way, events become later searchable by people participating in them.
- **CV sources.** Each candidate (and CV) stored in the system could come from:
 1. a candidate submission through the "CV submission form" web interface;
 2. an agency submission through the "CV submission form for agencies" web interface;
 3. a manual insertion done by an HRRS user.

The "CV sources" feature is designed to keep track of the source agency from which the CV is originated (case 2), but also to collect information about the "source from which the candidate heard about the job vacancy he/she is applying for", in case 1 and 3. In fact, a configurable subset of these "sources" can be elected to appear in the web CV submission form as a "CV source" selectable by the candidate.

- **Users.** Beyond the list of the user strictly using the system, HRRS maintains also the list of all the company people typically involved in the recruitment process. Not only the actual users of the system have to be listed here, but also any CV evaluator, interviewer, colleague you want to have the ability to track as a participant in any candidate's event (see the description of events above). Users' activity is tracked by a basic logging feature in HRRS (accessible through the UI to the users having the proper permissions). The basic logging facility simply keeps track of when and by whom a given data record has been modified (=inserted, updated, deleted).

Different HRRS users can have different privileges and different access to some features, based on the presence/absence of a specific permission for that user in configurable table. The "reserved" features, protected by permissions, are the most "dangerous" (and they are typically revoked to brand new users).

Available permissions are:

- ability to delete a candidate and all related data
- ability to delete an event and all related data
- ability to delete a job description and all related data
- ability to delete a CV source and all related data
- ability to process and import incoming CVs
- ability to modify a job description
- ability to modify a CV source
- ability to republish all job descriptions to the website hosting the CV submission form
- ability to view the modifications log for candidates
- ability to view the modifications log for events

Main features

As stated in the preceding paragraph, the main features of HRRS are all about keeping track of the data related to a candidate and maintaining control of its recruitment process workflow history. The main screen of HRRS gives you access to the entry point features (briefly described in the following paragraphs) such as:

- the standard search for a candidate ("Ricerca Standard")
- the job roles / profiles management ("Gestione Profili")
- the search for events ("Filtro Eventi")

- the printing and reporting functions ("Stampa e Report")

The main screen also shows a summary of the overall situation in terms of:

- number of incoming CV still to be processed
- total number of candidates in the database
- number of candidates to be evaluated
- number of CV currently under evaluation
- number of candidates to be contacted
- number of candidates waiting for an answer
- number of chosen candidates

HRRS 1.26

Human Resources Recruitment System

13 Gennaio 2013
Domenica, 08.14

Strumenti

Ricerca Standard

Gestione Profili

Filtro Eventi

Stampe e Report

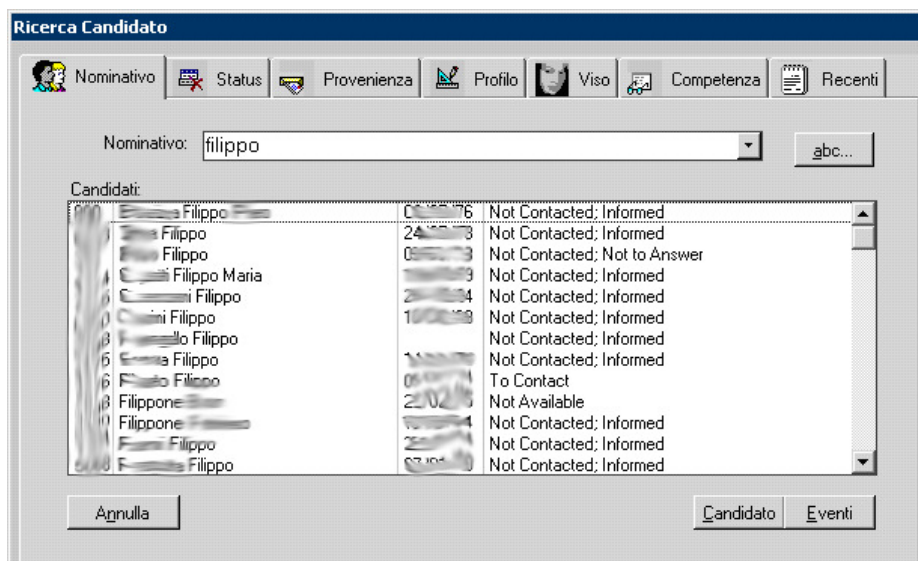
Situazione

CV pervenuti in coda:	742
Candidati in archivio:	7973
Candidati da valutare:	37
CV in valutazione:	35
Candidati da contattare:	210
Candidati a cui rispondere:	27
Candidati acquisiti:	450

Exit

Searching for a candidate

The search feature is quite rich:



It allows you to search for a candidate in a number of ways. You can locate a candidate by specifying: any part of his/her name/surname (also with imperfect spelling), his/her numeric code, the status he/she is expected to be, the CV source (if coming from other agencies), the role he/she applied or was considered suitable for, some of his/her competency. The system keeps track also about your recent search terms and of the recently accessed candidates, and you can reselect them easily.

When you find a candidate, basically you can choose to see his anagraphical sheet (by selecting the "Candidato" button) or his histoical sheet (by selecting the "Eventi" button).

Looking at (and editing) candidate's data

The "Candidato" sheet looks like the following:

Nato il [redacted], Cittadinanza Italiana.

Residenza: Via [redacted] 3.

Tel: [redacted]

Cell1: [redacted] Email1: [redacted]@gmail.com

Cell2: [redacted] Email2: [redacted]

Lingua madre: Italiano

Titolo di studio: Laurea Triennale

Profili richiesti: Operations

Profili assegnati: Operations

CV: Provenienza: Self-candidate Aggiornato al: 22/01/2018 18.02

File: R:\CV\ [redacted].pdf

Sito Web: [redacted]

Ultimo status: Chosen

Competenze:

.NET	Esperto
C#	Esperto
C++	Esperto
Inglese	Buono
Microsoft Solution Dev .NET	Certificazione
SQL Server	Esperto

Note generali:

CV submission form reference [redacted]

Canale informativo da cui è scaturita la candidatura [redacted]

Area professionale indicata dal candidato [redacted]

Valutazione complessiva (A=max, D=min): [redacted]

Assunz.: [redacted] Periodo prova: [redacted] Scad. contr.: [redacted]

Candidato Eventi Modifica Candidato Ricerca Chiudi

The candidate's data are shown: personal data, language, study degree, job profiles interested in / suitable for, CV data (CV source, date, attached CV file, candidate status), competencies, notes.

The editing form for candidate's data (also used for inserting a new candidate if the CV is not coming from the CV submission form) looks like the following picture:

Nuovo Candidato

Codice: 8086 Nome: John Cognome: Smith

Sesso: ☐ Data nascita: [redacted] Cittadinanza: [redacted] C.F.: [redacted]

Residenza:

Indirizzo: [redacted]

Comune: [redacted] Prov: [redacted] CAP: [redacted]

Nazione: [redacted] Tel: [redacted] / [redacted]

Email1: [redacted]

Email2: [redacted]

Cell1: [redacted] / [redacted]

Cell2: [redacted] / [redacted]

Lingua madre: [redacted]

Titolo di studio: [redacted]

Profili richiesti: [redacted] [redacted]

Profili assegnati: [redacted] [redacted]

CV: Provenienza: [redacted] Aggiornato al: [redacted]

File: [redacted]

Sito Web: [redacted]

Ultimo status: [redacted]

Competenze:

Note generali:

Valutazione complessiva (A=max, D=min): [redacted]

Data di assunzione o inizio collaborazione: [redacted]

Data di scadenza del periodo di prova: [redacted]

Data di scadenza del contratto a termine: [redacted]

Annulla Ok

When looking at a candidate's data, you are always able to switch to his event history by clicking on the "Eventi" button.

The "Eventi" sheet looks like the following:

Candidate Profile:

Nato il: [redacted] Cittadinanza Italiana.

Residenza: [redacted]

Tel: [redacted]

Cell1: [redacted] Email1: [redacted]@gmail.com

Cell2: [redacted] Email2: [redacted]

Storia Eventi:

giorno	data
gio	15 lug 2010
ven	09 lug 2010
mar	29 giu 2010
mar	29 giu 2010
lun	21 giu 2010
mar	15 giu 2010
ven	28 mag 2010
lun	24 mag 2010
lun	24 mag 2010
mer	18 lug 2007
mar	17 lug 2007
mar	12 giu 2007
ven	08 giu 2007
gio	31 mag 2007
mer	30 mag 2007

Event Detail (21/06/10 18:12):

Categoria: Effettuaz. colloquio tecnico

Tipo: Appuntamento in Sede

Annotazione: Lavoro che prod... tool di...
impiega... ask e il tes... anche.
sistemistica...
I test che esige... nel funzional...
bach... e L...
major...
sull'...
basate sull'analisi funzionali degli sviluppatori.
E...
l'applicazione... dati nel DB
ris...
ac...
Prima dell'ultima esperienza ha lavorato...
Accompagnato test sulle varie build.

Personale coinvolto:

Status: Met

Buttons: Feedback, Nuovo, Evaluation, Modifica, Elimina

Navigation: Candidato, Eventi, Ricerca, Chiudi

It basically shows the candidate's history in a chronological list of events (most recent on top). When clicking on an event on the list, its detail is shown: date/time of event, event type, event categories, notes about the event, HR people involved in the event, candidate's status at that point in time. Scrolling the events list and visiting the candidate's history is very simple. The editing form for events looks like the following picture:

CV ingestion from the web-based submission form

Incoming CVs come from the web-based CV submission form, a four steps data collection wizard publicly available to candidates/applicants. You see the 4 filling steps in the following pictures:

The image displays four sequential screenshots of a web-based CV submission form, labeled Step 1 through Step 4. Each screenshot includes a title bar 'CV submission' with flags for the UK and Italy, and navigation buttons 'Go back' and 'Go on'.

- Step 1 of 4: main info**: Fields for First name*, Last name*, Gender (M/F), Date of birth* (dd/mm/yyyy), Mother tongue*, Nationality*, and Job vacancy OR competency area you are interested in (select only one)*. The latter has two dropdown options: Job vacancy and Competency area.
- Step 2 of 4: personal info**: Fields for 'Codice fiscale' (if you have it), Address*, City*, Province, Postal code, Country*, Phone, Mobile (with a note to specify at least one number), Email address*, and Personal website.
- Step 3 of 4: CV and photo upload**: Fields for Study degree*, Passport photo (Max size: 100Kb), and CV file* (Max size: 500Kb), each with a 'Browse...' button. It also includes a dropdown for 'I heard about this job vacancy from*' and a note: '(it is important for us to understand what are the most effective sources for employment applications)'. The step is labeled 'Step 3 of 4: CV and photo upload'.
- Step 4 of 4: final confirmation**: A section titled 'BRIEFING AND REQUEST FOR CONSENT' containing a 'Dear Sir/s,' followed by several lines of blurred text. At the bottom, there is a checkbox for 'I have read the briefing above and I authorize...' to process personal data for the purposes indicated in the disclosure. The step is labeled 'Step 4 of 4: final confirmation'.

As stated before, incoming CVs are not automatically imported in the main Candidates table; they are instead stored in a dedicated table that acts as a sort of "buffer" of incoming CVs to be processed. This allow a subsequent import operation that is designed to be operator-driven, in order to allow checks about existence of the candidate in the system, to avoid duplicates and so on. In the following picture you can see the HRRS user interface for checking incoming CVs (the system automatically highlight similar names found into the database):

HRRS gateway for the evaluators

HRRS exposes a simplified web user interface for evaluator people. In the process, evaluators typically need to access the candidate's CV file and other few data in order to provide a first evaluation about the suitability of the candidate to a particular role and the need of inviting him/her or not to a first interview. In this scenario, it's important that only the elected evaluators have the ability to see the specific CV; then, the usage of the full featured rich client is not recommended. They should only provide an opinion and view other evaluators' notes on the specific candidate. The HRRS gateway for evaluators does simply that, in a sort of chat/commenting application that populates the evaluation event for the candidate, avoiding to expose candidate's personal data or non evaluation-related events' content to evaluators.

HRRS - Human Resources Recruitment System - Windows Internet Explorer

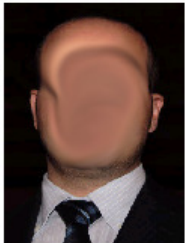
https://sgateway/

File Edit View Favorites Tools Help

HRRS - Human Resources Recruitment System

Dati del candidato:

Nominativo:	[REDACTED]
Codice candidato:	[REDACTED]
Status candidato:	Suspended
Data di nascita:	[REDACTED]
Indirizzo:	[REDACTED] Italia
Titolo di studio:	Ingegneria [REDACTED]
Profili richiesti:	BeV [REDACTED]
Profili assegnati:	BeV [REDACTED]
Curriculum:	DOWNLOAD
Origine CV:	Self-candidate



Commenti e valutazioni pervenute:

Valutatore / Data	Commento / Valutazione
Richiesta valutazione 24/02/2012 14:14	Per cortesia valutare questo CV. [REDACTED] [REDACTED] [REDACTED]
[REDACTED] 24/02/2012 14:43	Ciao, questo secondo me è un profilo [REDACTED] (lavorava [REDACTED]) ciao [REDACTED]
[REDACTED] 24/02/2012 14:57	Non adatto [REDACTED]

Done Local intranet 100%

Other features

- **Virtual data deletion.** In HRRS data are never physically erased, so they can always be recovered (the deletion of records consists in just setting a flag).
- **User activity logging.** In HRRS, each user is identified through his/her login credentials, thus any

activity on the data (addition, updating, deletion) is tracked. The activity log can be inspected by users having the proper permissions.