

W3C Social Business Community Group

- Business Use Case -

Matching Supply And Demand of Skill Sets for Employment

1. Use Case Identification

Created By:	Lloyd Fassett
Organization	Azteria
Date / Version / words	4/13/12 / 1.0 / 2330
Editing: use Google ID, or no ID	Google Docs

1. Business Purpose

Problem Summary: Fill an open position for an employer.

Result Summary: Break down the problem into component parts. Aggregate and constantly update data and rank results using, in part, structured data and social feedback signals.

2. Use Case As A Story:

Mary Jo is an experienced Emergency Room Registered Nurse from Chicago who wants to live and work in San Francisco for a 3 month 'Travel Contract' for fun. She logs into her professional profile for networking on April 16, 2012 and indicates she is available on September 1, 2012 for employment in San Francisco and updates her textual based summary description. Her profile is now ready for matching and engagement.

When she submits the changes to her profile, the screen shows her that there are 7, 3 month contracts posted with start dates in the next two weeks and 0 with her start date. 172 ER RN's in San Francisco have posted information in the last 6 months, most of which are returning to their existing profiles like Mary Jo is. Not all are available for new employment..

There are also 80 potential employers who employ ER, RN's near San Francisco, CA.

Mary Jo is asked if she would like to be opt into alerts for information about 'ER, RN, San Francisco, CA, Travel' and she says 'yes'. She keeps information about ER RN in Chicago in her Activity Stream too.

She decides to look at a few of the top results from the employer list of 80 in San Francisco. The top three all have fine textual, starred and recent ratings posted by other 'RN', 'Travelers', with the few pieces of feedback by ER RN displayed at the top. She clicks 'prefer' for each of the employers. She also notices that each employer has been contributing feedback very recently about other candidates, so she hopes to get her profile reviewed and given feedback too.

Her profile and availability was added to the Activity Streams of each of the 80 employers, and to the 7 jobs. Mary Jo shows up in both the candidate Activity Stream and the general Activity Stream for the facility, as well as Activity Stream for the community of ER, RN, Travel in San Francisco. She wasn't prioritized high on the Activity Streams of any from the start because the matching algorithm predicted they wouldn't be interested in her as much as other candidates in their pipelines that matches permanent jobs.

One of the three employers she prefers sees Mary Jo's summary appear in the 3rd spot on her Stream of candidates because of the filtering she has for her stream.. She give the profile a quick glance and enters a question on the profile page 'Do you have a CA license?'. Over the next day another employer sees the profile and the question and clicks 'follow' on Mary Jo's profile. Mary Jo sees the question and applies for the license and pays a fee to the state of CA. During that time, another RN ER from Biloxi, MS decides she wants to check out Travel ER RN jobs in CA sees Mary Jo's profile. She clicks follow on Mary Jo's profile. Mary Jo answers the question, all the followers are directly messaged. The answer and link to the threaded exchange is also posted to a activity stream for ER, RN, San Francisco, CA, Travel.

In July, an employer posts a job for ER, RN, Travel that is in San Francisco on the employer's website. The page is aggregated, parsed and matched to Mary Jo who sees it in her Activity Stream. Mary Jo sees it and engages in a Q&A on that jobs Activity Stream where the answers come from the community and not the employer. She decides to apply. The employer is using the new social standard for profiles and Mary Jo's information is submitted to the employers Applicant Tracking System (ATS) directly without requiring Mary Jo to re-key information. What automated processes can be set are, including screening for years of experience and an image of a CA license. She is offered the job and accepts it, which is an activity stream event that happens on both employer and candidate profiles. Mary Jo's profile now includes that she was offered a job, which elevates her ranking significantly when compared with other profiles in the future that lack 3rd party validation for years to come. When Mary Jo accepts, that employer's profile carries the event as positive feedback available to algorithms to

score employers for ER RN Travel San Francisco.

3. Generalization of Story:

Open/public collaboration to match the demand and supply of skill sets using structured data. For 'social business' this is treating entities like 'candidate' and 'employer', at the data level where types of data with non-textual values enable more usable social interactions. This is similar in concept, but radically different in backend to how search engines work. In the example information is aggregated, like how a search engine crawls, but the connective tissue between query and result is based on data values, plus feedback from interactions against persistent profiles. Search engines analyze back links and anchor text in part because they are put in by a human. Social business networks however, can assess ongoing relationships set up between people, such as "rank this ER RN higher in my results for candidates when I post a job". That 'vote' can be a signal shared across all ER RN entities in a location including jobs, candidates and employers. Unlike search engines, in social business data can be analyzed and in differing degrees be fit into an ontology of data to know how things relate to each other and how well, including a time element and a feedback mechanism.

Special Notes

- What is 'social' is the collaborative exchange of information in a light structured way for a purpose.
- This is a summary that is not an all encompassing list of the elements of a business network. I found this March 26, 2012 list from the Federated Social Web W3C group to be inclusive: [Aspects Of A Social Network](#) - but specifically lacking:
 - Persistent types of relationships between entities. Who gets access? When? Ask permission to follow (Facebook), open following (Twitter)
 - Identities for things, not just people
 - A feedback process that is explicitly where specific kinds of people rate a similar thing in a process that effectively distributes the task of qualifying a pipeline of information. i.e. an item is in multiple pipelines and one rating effects that thing in all pipelines.
- The discussion of how data structure and ontology of information could be a distinct concern separate from the social mechanisms of relationships. However, they are frequently crucial because 'social business' is assumed to be about business transactions, which are frequently about comparing options. Social networking, in contrast, is about connecting with your friends, which do not have a transitive economic aspect i.e. they can't be compared to each other and someone's BFF is not another person's BFF, as much as a 'skill set' will tie together multiple jobs, employers and candidates.

4. Actors and Definitions

Primary / Secondary Actors: N/A, entities are on equal footing

1. Candidate profile

A candidate is a person that can or is employed in multiple employment types.

2. Job profile

- A job is an opening that an employer has.
- A job must be related to an employer.
- Job profiles can have a status of open, or closed so at anytime the percentage of open jobs relative to closed asymptotically approaches zero.

3. Employer profile

An employer is a business that employs people in multiple employment types

5. Live Example: Candidate Profile Page

This is an example page from my company that includes data structure and a nascent activity stream. It is a candidate page that includes ER, RN, San Francisco, Travel.

<http://www.azteria.com/c/P1291257>

This is how we currently handle the permissions to access personal information, logging and plans for feedback.

- To engage the candidate a user has have an approved account.
- To download the candidate's personal information name, phone etc. the candidate has to have opted into letting approved accounts do that. When they do, candidates are told who can downloaded their profile. The goal is to then have that action become an entry in the activity stream that the candidate can provide feedback on that is attributed to who downloaded the profile. For example in the Activity Stream, as of right now, you can see that on 3/26/12 10:39 PM Norm Fisher downloaded this candidate's profile. We want to be able to know if Norm is good or not by enabling a feedback loop that affects how Norm is ranked against other recruiters.

6. Data Structure That Enables Relationships Between Different Types of Entities

These types of values are copied from a candidate's profile page. Our approach is to ask candidates to score each attribute as 'prefer', 'consider', 'exclude' or not answer. The answers drive the algorithm, so this candidate would not rank as highly for ER as other professions because she only 'considers' ER and 'prefers' others.

Our current generalizable data elements that could be a part of social business engagements for the purpose of staffing are:

1. Available Date
2. Date information was confirmed
3. Locations, with range for candidates, but not for jobs
4. Availability Schedule for Interviews (not on this candidate)
5. Facilities Requested as a subset of all matched facilities (not on this candidate)
6. Work Type
7. Specialty
8. Responsibility level
9. Work Places
10. Shift
11. License type by state
12. Category of skills (i.e. 'RN')
13. Specialty with years of experience and when last used

Special Note on the detail of skills and 'social' implications.

14. Skills check list with candidate's self rating on 100's of questions.

I.e. If you search this page in the candidate link for "Post percutaneous balloon valvuloplasty" you'll see the candidate rated themselves as 'Very Experienced (performs frequently)'. Data elements handled at this level allows for 'social' links to be made to that specific element for questions between candidates, as well as professional developments about that specific 'thing'. If you want to employ someone for that skills, we know where and when this person is most relevant in a machine readable format. If you want to ask a question about "Post percutaneous balloon valvuloplasty" we have a list of people with ranges of skill related to that. It's through this structure, analytics, engagement that social business can be about organizing relevant conversations about topics.

Social business will shortly run into spam once groups are formed, if the system is not designed better than e-mail was. I am not a spam expert, but would suggest that if user-generated input is required to be linked to a profile that is linked to a feedback process, a score like a credit rating may be useful in elevating known good players, decreasing known bad players and having people start at neutral.

Because of this, I think it's the creating of the profile that opens social business to

discussions on topics separate from a social network based on who knows who. I do not believe there is a process yet for creating the correct kind of profile that will enable business focused transactions to be more efficient, especially at the high value end of the spectrum of value per transaction.

“Job Matches”, are really other content types that share your attributes and are associated through software. Job Matches are not an attribute of data, but an output of an algorithm.. These are presented as a ranked list waiting for dispositions. You can read why the job was associated with the candidate. That is an activity stream event where the response can be logged and then shared with other similar activity streams.

7. Social is Transitive: Each Job, Candidate and Employer has lists of entities ranked by an algorithm.

The candidate page from above is linked by profile settings to multiple jobs and employer profiles.

You can see the link to the candidate under the ‘Top Candidates’ tab for [UCSF Medical Center](#) in San Francisco. The Activity Stream for facilities is not working. What’s there is a placeholder.

The same candidate is also currently the top ranked candidate for this [Travel, RN, ICU job in Honolulu, HI](#). The Activity Stream on jobs is also not yet working.

Social activity streams in our system are somewhat like double entry accounting because an activity can be accrued to more than one ledger. For collaborating to optimize a solution, the activity in one stream should affect the ranking or activity in associated streams.

8. Background & Business Goals

From template: Briefly describe any background and business goals, e.g. notify approver that a decision is needed, and enable her quickly to make an informed decision and record it.

Answer:

The problem solved is a person wanting to find a job, as well as employers wanting to find employees. By applying a ‘social approach’, we can get input and participation by both sides that improves the outcome for both.

Social business will be a threat to existing processes that are centralized and are paid for access to information. By adding a layer of feedback and new signals for algorithms to successfully use, 'information brokerage' business models will be threatened. Existing disrupted 'information brokerage' businesses include newspapers, particularly classifieds and Craig's List, and the music industry by file sharing. However, the value will be accrued to candidates and employers in my example. For Craig's List, now the person who owns a valuable thing can more easily be connected with a buyer, accruing value to both buyer and seller and taking it away from the traditional paid broker.