

Expert Finding as Informal Learning Support: Competency-Aware and Socially-Aware

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Abstract. Expert finding goes beyond identifying and locating experts. We see expert finding embedded into informal learning activities where personal and social context plays a decisive role (e.g. looking for colleagues to ask for help). That means on social context level, we need social relationship models describing not only objective but also subjective opinions about relationships' quality. On personal context level, we need shared competence models describing experts and the purpose of interacting with them. With this approach we make expert finding competency- and socially-aware.

Introduction

So far, research on “expert finding” within the area of knowledge management has restricted itself to the identification and localization of experts for specific topics. In our point of view, we need a more holistic approach incorporating also the how-to-use aspects of expert finder applications. For instance, expert finding is often associated with informal learning activities—learning taking place in communication and interchange with others. One typical situation at the workplace is that one employee looks for another to ask about a problem at hand. However, only locating experts is insufficient for such situations. In fact, further factors like the personal and social context plays a decisive role in this process of expert finding. Because doesn't it draws a distinction who you ask for help and in return on the expert's side whom you help? Doesn't this affect your willingness and receptiveness, whether you overcome barriers etc.?

This has an impact in two areas where we see our focus: (1) Social Awareness in Expert Finding and (2) Competencies and Expert Finding. In the following, we will present our approach of competency- and socially-aware expert finding.

Social Awareness in Expert Finding

The second area on which the perspective of “expert finding as informal learning” has an impact on is the social dimension. We have to acknowledge that asking for help always requires admitting a weakness, exposing vulnerability. And often you do not want to ask the expert, you rather prefer a person being on a par with you. Further, it is less awkward to ask a confided person than someone you cannot get along with. This means that expert finder applications have to balance the “expert status” with the quality of the social relationship towards the potential “expert” in order to provide *relevant* results. As a consequence, a colleague and good friend next door, who is somewhat competent in the area, could be a much better result than the ultimate expert, who is viewed as a rival [BS06b].

Examining the potential experts on the other hand, annoyance because of overload and distraction from own work is an ongoing problem in expert finder applications (cf. [Ros06]). However, often it is not only objective overload and bad timing, but also missing consideration of how the relationship is viewed. For instance, you will always help specific

colleagues or friends even though you are in hurry and you get less annoyed about frequent requests of these persons while there are others you will never allow for disturbing you. Thus, expert finder applications have also to consider the needs of the potential experts (cf. [BS06a]).

In order to make expert finder applications socially-aware, we need a model with focus on qualifying social relationships in an appropriate way and extending <foaf:knows>. Here, we have to consider in particular informal types of relationship because formal relationships (or roles) like organizational or kinsmanlike are insufficient. Moreover, we need to separate *objective* and *subjective* relationships. Going beyond the approaches of [MVB+04], [MHM+04] and [DV05], this means instead of modelling objective relationships, it is rather necessary to focus on subjective opinions about the quality of the relationships. Because we usually decide and act depending on how we regard the relationship with our counterpart and not on how it “is”. And this view is often not symmetric as it is assumed by existing models. Thus, we can distinguish these relationships along different criteria like trust, loyalty, expectancy of reciprocity and reliability.

We have to be aware that the introduction of a (really!) private subjective and a public objective relationship description has a huge impact on the design of a semantic description framework enabling expert finding.

Competencies and Expert Finding

Viewing expert finding as an informal learning activity leads us to the question of competencies, both for describing “expert” (and where she is expert in) and for describing the purpose of interacting with an expert (what an expert is needed for). Bringing together these two aspects is the key towards learning on demand, blending more formal learning with learning objects and informal learning with information artifacts as well as with communication and collaboration with others.

Modelling those competencies and relating them to the actual work process is here the key challenge, which has been tackled by our research on supporting learning on demand [SB06] which integrates different forms of learning and different perspectives (individual vs. organizational) based on a shared ontology [SK06] for professional learning¹. Typically, however, such learning on demand is restricted to more or less closed environments. In order to overcome the boundaries, shared (and thus reusable) competence vocabularies are being defined on different levels. These activities on competence ontologies need to be reflected in a further development of the field of expert finding:

- Competence ontologies need to become part of an expert description, building on standardization work within the IEEE Reusable Competency Definition initiative and HR-XML.
- These competence ontologies must enable competency-aware services that are able to locate “experts” (which do not always have to be experts, just have the sufficient competence to help the requester), exploit competency relationships (like subsumption or weaker similarity), map competencies between different ontologies, and aggregate individual competencies into organizational competencies (which is important for competence management).

¹ see http://www.professional-learning.eu/competence_ontology.shtml

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