

# Adaptive Collaboration Support in Community Question Answering

Marek GRZNÁR\*

*Slovak University of Technology in Bratislava  
Faculty of Informatics and Information Technologies  
Ilkovičova 2, 842 16 Bratislava, Slovakia  
marek.grznar@gmail.com*

Nowadays, users are lost in a great amount of information available on the Internet. Many times they come into a situation when information, which they search, is not easily found anywhere on the Internet using traditional search engines. With the development of Web 2.0, there is an option to obtain such information by asking a community [1]. This kind of systems based on the sharing of knowledge to each other is being used lately. One type of these systems is Community Question Answering (CQA). Typical examples of such CQA systems are Yahoo! Answers and Stack Overflow.

The existing CQA systems, despite of their increasing popularity, fail to answer significant number of questions in required time. In some of current popular CQA systems, only 17,6% of the questions are answered sufficiently [2]. This critical problem was confirmed also in other studies, such as authors in [3] found out that only 11,95% from questions were answered in one day and in two days, there were just 19,95% of answered questions.

There are several options how to adaptively support users during community question answering process and thus how to achieve more successful results. One of these options for supporting cooperation in CQA systems is a recommendation of questions to a user which is a suitable candidate for providing the correct answer (Question Routing). Various methods have been proposed to help find answerers for a question in CQA systems, but almost all work studies heavily depends on previous users' activities in the particular system (QA-data). These methods use different aspect for question routing, such as:

1. users' knowledge;
2. users' activity;
3. users' motivation.

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\* Supervisor: Professor Mária Bielíková, Institute of Informatics and Software Engineering

In our work, we focus on utilizing users' non-QA data as a way of personalized support during question routing. By analyses of users' non-QA activities, such as blogs, micro-blogs, friends etc., we can identify a suitable user for answering a specific question better. One of the examples could be to get social connections of answerer from social network (e.g. Facebook) and then we expect, that friends will more likely answer each other.

Expect of identifying suitable users, using non-QA data can help to solve the cold start problem, because when there is a new user in system, it has not any information about this user and cannot recommend him or her any question. However in CQA systems, there is also another big problem. Many users in CQA systems are inactive. It means that they do not ask any question or they do not get answer on any question. This users are called lurkers [4]. We think that non-QA data help to recommend questions to this kind of users.

In addition to non-QA data, we will consider even the QA data such as votes, given answers, etc. In our method we also include existing semantic methods for question routing. We will be able to regarding to current state-of-the-art methods using different accesses for the extraction of semantics (LDA, LSA).

We want to verify our proposed method on the dataset from existing CQA systems (e.g. from Stack Overflow). After these experiments, we want to verify results from dataset obtained at our own faculty CQA system named Askalot. Moreover, we will implement the proposed method as a part of Askalot and consequently, we can employ this system in a live experiment when we will recommend questions to students at our faculty.

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## References

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