

Answerer-oriented Adaptive Support in Community Question Answering

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In situations when Internet users are not able to find required information by means of standard information retrieval systems (especially web search engines), they have a possibility to ask their questions in popular Community Question Answering systems (CQA), such as Yahoo! Answers or Stack Overflow. The main goal of CQA systems is to harness the collective intelligence of the whole community to provide the most suitable answers on the recently posted questions in the shortest possible time. There are several groups of approaches that adaptively support collaboration among students in order to achieve this goal.

In our project, we tackle two open problems that are present in current CQA systems and state-of-the-art approaches to collaboration support. The first one is a proposal of a novel answerer-oriented question routing method. The second open problem is an employment of CQA concepts in the educational domain.

The majority of approaches to collaboration support in CQA can be characterized as asker-oriented. It means that they take primarily asker goals and expectations into consideration. The most typical example of this kind of adaptive support is question routing which refers to a recommendation of new questions to potential answerers. Existing solutions to this task utilize mainly expert users with a high level of knowledge regardless the real difficulty of routed questions. As the results, experts can become overloaded very easily while the rest of the community remains unutilized [2]. Therefore, our first research goal is to propose a novel answerer-oriented adaptive support which focuses specifically on answerers and their preferences. In addition, we attempt to involve all relevant users in the question answering process as we recommend users who have sufficient level of expertise with regards to difficulty of question, however, not necessary the highest from all users in the particular community.

In addition, we proposed a concept of organization-wide education CQA system to tackle the second open problem. In order to evaluate the feasibility of this concept,

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we created CQA system Askalot [1], which is the first university-wide CQA system (see Figure 1) that takes into consideration educational (e.g. a presence of teacher) as well as organizational specifics (e.g. common familiarity of students).

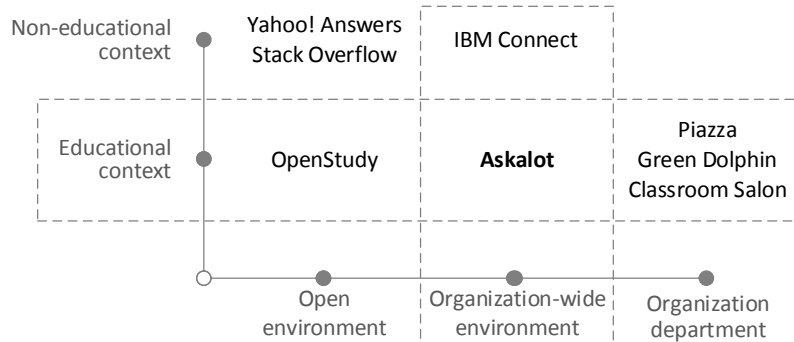


Figure 1. Askalot in the context of existing CQA systems. By introducing Askalot, we fill the gap between educational CQA systems employed in open and too restricted class environments.

Askalot, provides three groups of features: 1) essential features that are common with standard open CQA systems (e.g. posting questions and answers, voting, best answer selection); 2) educational-specific features (e.g. asking questions in real-time during lectures); and finally 3) organizational-specific features (e.g. content organization that corresponds to formal structure of courses, following classmates and teachers). Askalot is used as a supplementary tool to the formal educational process at Faculty of Informatics and Information Technologies, Slovak University of Technology in Bratislava, with more than 900 students and teachers.

CQA systems can be characterized as a successful example of online community that builds on collective intelligence. For this reason, CQA became popular not only among Internet users but also as a subject of research. Nevertheless, there are still many open problems that represent possibilities for further research. In our project, we tackle two of them, particularly how to route questions to answerers while considering their preferences and utilizing the whole community; and how to apply successful concepts of CQA in the educational domain.

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References

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