Reciprocity as a Means of Support for Collaborative Knowledge Sharing

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Knowledge management systems provide organizations with many progressive ways how to create, improve and mainly share knowledge. These systems can be divided into three categories according to their perspective of knowledge [3]: knowledge as object, knowledge embedded in individuals and knowledge embedded in communities.

We consider knowledge management systems focused on knowledge embedded in communities as interesting and promising area for further research. This perspective views knowledge as collectively owned and maintained by whole community. All members of community are involved in dynamic process of knowledge obtaining, exchange and continuous improvement. One type of these knowledge communities is called *knowledge building communities* [2] which focus not only on knowledge sharing but also on learning new valuable practices. It is possible to identify knowledge building communities in many areas. The most common examples are classrooms, academic research teams or workplace teams.

Employing computer support in knowledge sharing process provides many advantages [1]:

1. *A representation advantage*, where technology provides an innovative ways of information presentation with aim to support knowledge sharing.

2. *A process advantage*, where technology can support users in their activities, i.e. technology can provide scaffold for a novice user to find required information.

3. *A social context*, where technology can be used to shift the social context in which users share knowledge, i.e. by providing users with possibility to communicate anonymously.

On the other side, technology caused that users' with high diversity of knowledge and specialization are supposed to collaborate together. According to several researches, reciprocity is one of the most important motivator for knowledge sharing because users with different specialization and knowledge expect that they will get back from the

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community the same amount of knowledge as they give to community. However, this symmetry of knowledge is not usually achieved. Therefore, we decided to propose an innovative model of adaptive web-based system for collaborative knowledge sharing which will be aimed to support symmetry in activities of receiving and producing knowledge among all members of particular knowledge community (see Figure 1).
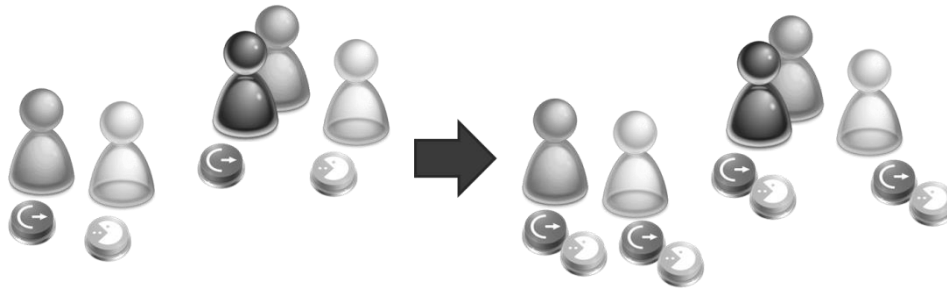

Figure 1. Symmetry in providing and receiving knowledge is not usually achieved. The goal of our project is to propose a model of system for reciprocal collaborative knowledge exchange.

There are several types of knowledge management systems based on perspective of knowledge embedded in communities, e.g. electronic discussion groups, chats or community question answering systems. We focus on *community question answering* systems which are very popular recently (i.e. StackOverflow or Yahoo! Answers). These systems scaffold users' collaboration by three the most common approaches: expert finding, question routing, and question-answer topic modeling.

We plan to achieve symmetry between provided and received knowledge by employing *question routing* approach. The concept of question routing refers to routing newly posted questions to potential answerers. The appropriateness of particular answerer is typically calculated on the basis of his knowledge and specialization. We propose to include additional aspect of reciprocity in this step. As the result, the questions will be routed to users who mostly received knowledge and they will have an opportunity to return the acquired knowledge back to their community.

References

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