

Assignment of Educational Badges in CQA System Askalot

Michal KREN*

*Slovak University of Technology in Bratislava
Faculty of Informatics and Information Technologies
Ilkovičova 2, 842 16 Bratislava, Slovakia
kren13@fiit.stuba.sk*

One of the most used platforms for sharing knowledge and information are Community Question Answering systems (CQA), such as Yahoo Answers or Stack Overflow. Unlike search engines, CQA systems are highly dependent on constant activity of their user base to be effective. Intensive research is being made in addressing the problem of maintaining user activity in online communities. One promising approach to solve the problem of user engagement is gamification. Huotari and Hamari [1] defined gamification as a process of enhancing a service with affordances for gameful experiences in order to support user's overall value creation. These affordances include mainly badges, points, leaderboards etc.

In our work, we focus on badges and their effect on user's motivation in online communities and learning environment. Badges are one of the most popular forms of gamification used in online communities, affecting mainly the user's extrinsic motivation. They serve as a summarization of one's achievements, skills and effort [2]. Unlike points and leaderboards, which tend to compare users' progress to one another, badges do not give rise to competitiveness among users. This is crucial especially in educational domain, because extreme external influence, such as a competition, may harm student's intrinsic motivation, what can finally result into a negative impact on the process of learning.

The main goal of our work is to propose new types of badges utilizing the characteristics of educational domain and implement them in CQA system Askalot. Askalot is an educational and organizational CQA system [3] and unlike Stack Overflow, it is not open to general public. This means that its user base is considerably smaller and thus increasing the overall user activity is essential to fully utilize all of Askalot's potential. Considering the specifics of educational domain, we added three novel attributes to the design of regular badges:

* Supervisor: Ivan Srba, Institute of Informatics, Information Systems and Software Engineering

1. *Topic scope.* Different courses and subjects have different requirements on students and we want to give teachers the ability to design badges accordingly.
2. *Time scope.* User's progress with these kinds of badges is reset after each interval, meaning these badges can be earned multiple times. We focus mainly on badges awarded on a weekly basis, to reflect the term which is divided into 12 weeks.
3. *User limitation.* Badges can be awarded only to a limited number of users based on how many activities of a certain condition they have carried out. To earn this badge it is not enough to fulfill all the conditions, but to fulfill them better than others.

Each badge belongs to a specific badge collection, which groups badges of a similar context, i.e. "Database Systems Contributor". Badges within a collection have different ranks which indicate the difficulty of earning the badge. Each badge has one or more conditions, consisting of a topic tag, activity and a threshold.

To test the success of our novel badges, we work with a teacher of Database Systems in order to perform a live uncontrolled experiment. Over the course of several weeks, we collect data about student activity in Askalot. We compare the overall activity in Database Systems before and after we implemented our badges and also with data from previous terms to determine the effects our badges on students' engagement and whether the effects were positive.

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References

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