Moodle and Elgg Functionalities Comparison: Advantages and Disadvantages

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Abstract. *The focus of this research is technologies used for academic purposes: e-learning system Moodle and social network Elgg. The research took place at the Faculty of Organization and Informatics in Varaždin, University of Zagreb. Initial assumption was that students would rather use some Elgg features then the same or similar Moodle features. The questions were about personal preference and satisfaction in regards to Elgg and Moodle features. One research element was possible integration of social network's features into e-learning systems.*

It was interesting to observe the level of integration and how does it impact the communication and work experience.

Keywords. Moodle, e-learning, Elgg, social networking

1 Introduction

ICT is commonly used for academic purposes. Forms of ICT used are Web 2.0 tools, multimedia conferences, social networks and e-learning systems. Web 2.0 and multimedia conferences have fallen out of favour, which benefited social networks and e-learning systems. Today, most commonly used form of ICT is LMS (Learning Management System), which is still being worked on and expanded. The main idea for this research was created on the course Computer Mediated Communication at Faculty of Organization and Informatics in Varaždin held by prof. dr. sc. Goran Bubaš and mag. inf. Ana Ćorić Samardžija in winter semester 2012/13. Our work set out to find functionalities of social networks that could possibly be implemented in LMS, which would combine the two most common systems into one.

Starting ground for finding functionalities which need to be implemented would be user experience from students who have used LMS for a long time, and have some experience in social networking. From there, we would move on to experimenting with various iterations of said implementations, as to find out which version students are most satisfied with.

2 Theoretical backgrounds

When talking about implementation of e-learning systems in the Republic of Croatia the highest implementation level of these systems is LMS (Learning Management Systems), with small chance of finding more complex e-learning systems. This is a good indicator that, on technological level, higher education of the Republic of Croatia is not as advanced as the rest of Europe.

In 2007, the University of Zagreb published the document *Strategy of e-learning* [7], which presents implementation levels of e-learning systems at faculties of the University. Also, it contains steps for future implementation, and the expected results. For the year of 2010, expected implementation number was 50%, meaning that 50% of faculties and courses at the University of Zagreb would have implemented LMS. One of the faculties that deviates from that strategy is the Faculty of Organization and Informatics in Varaždin (where all of the courses are using LMS). That deviation is easy to see in following survey analysis, where students were asked questions about the implemented LMS system, and in which degree they feel it increased study program quality. Study has shown that LMS implementation at the Faculty of Organization and Informatics is on level 2 (ICT supported teaching), with strong tendency towards level 3 (hybrid teaching) [1].

LMS implementation has shown to be successful at the Faculty of Organization and Informatics in Varaždin, so we concluded that students are very familiar with Moodle LMS environment. Henceforth we had to test the limits of student knowledge regarding Moodle system, to have a baseline for comparison with Elgg system.

Research preceding our work encompasses user knowledge about various LMS's. Important works for

our study are ones regarding Moodle, Elgg systems and Web 2.0 tools. Work with Web 2.0 tools is very well known to targeted users, so we aimed to find the difference in using social network Elgg, with LMS Moodle [3]. Stepanyan et al. found out that users are more likely to use Moodle system, in every measuring interval in comparison to Elgg. Also, past user knowledge with Web 2.0 tools has been shown to affect work on both kind of systems, but while users were eager to explore Moodle system, they have shown little initiative for finding out about Elgg. Research concluded on a notion that it is important to find out why is Moodle more popular system to use then Elgg. One of possible factors is past experience with Web 2.0 tools, but it is also possible that users think that Elgg is less functional then more conventional LMS's, so they have less interest for work on Elgg.

Other parts of relevant works are based on user experiences on specific systems (Moodle and Elgg). In that field, a study has been done on Elgg system, where as a part of optional online graduate-level course taught at a large public university in the United States participants were asked to analyze their work on Elgg system [5].

The study has shown that participants were satisfied with social aspect of Elgg and connectivity with colleagues, but they have shown restraint in interaction, and have stayed on topics pertaining to course material. Some of the participants have found ways to fake the system, where they were able to do some of the tasks in advance, with automated delivery, without interacting with other colleagues. One of the examples is work analysis and review of other colleagues, where they would find which of their peers have similar ideas as themselves, so they could shorten their comments from critical review to simple support and approval of idea. Work analysis was done on required course tasks, where for each completed task participants had to review each other's work. These facts show that participants limit their work to required tasks and are finding ways to lessen or avoid work, instead of interacting with system and other users. Past research (Orehovački et al., European resource centre for Web 2.0 education) showed all the functionalities implemented in Web 2.0 systems and how much are they used [2, 4]. Here is the starting point for this research the authors wanted to explore: What would users like to see in classic LMS (Moodle), which can be found in socially oriented Elgg system?

3   Research goals and research design

Our goal was to find differences and similarities in user experience with Moodle and Elgg systems. That would serve as a basis for future implementation of

said functionalities in Moodle system. In our study, Elgg serves as a benchmark for socially oriented network in support of e-learning. We aimed to find out which Elgg features students would like to see implemented in strictly academic environment as Moodle.

Main research goals of this study were:
- Identification of Moodle system functionalities.
- Identification of Elgg system functionalities.
- Identification of online functionalities that are used for studying.
- Student satisfaction with Moodle functionalities and student satisfaction with Elgg functionalities.
- Potential functionalities that could be implemented in future Moodle systems.
- Comparison of previous views with Elgg users views.

The Research was performed at the Faculty of Organization and Informatics in Varaždin in winter semester 2012/2013. Students were asked to fill in an online survey about prior experience with Moodle and Elgg systems. Characteristics that are shared by both systems are [6]: (1) file upload; (2) schedule; (3) calendar; (4) e-mail integration; (5) private messages; (6) forum; (7) wiki system; (8) blog; (9) surveys/polls. Between these common elements, authors tried to find preferences between Moodle and Elgg. Furthermore, authors also wanted to find out what functionalities users that never used Elgg would like to see in Moodle. And the last part of the survey was about functionalities which are found only in Elgg system, and how eager were users to see them implemented in Moodle.

4 Results and discussion

The Survey was done on limited sample of participants, with 70 students in total. Results are aggregated below:

4.1 Familiarity with Moodle system

Since this research is based on differences between Moodle and Elgg systems, authors wanted to test the level of familiarity that students posses about Moodle functionalities. From the first question it is clear that most of users are very familiar with Moodle, 93% of students said that their knowledge of Moodle system is good, to very good.

4. 2 User experience with specific functionalities of Moodle

Students had to rank their experience with specific functions on Likert scale from 1 to 5 (1 meant not satisfied at all, 5 meant completely satisfied). Fig. 1 shows that students have positive opinion about *file*

upload, which is understandable when you take into account that students don't always study from material present on Moodle system, but they want to broaden the study material, and file sharing would help in that regard. Students have also shown below middle line opinion about last 4 functionalities (*private messages, wiki system, surveys* and *blogs*). Also, students' opinion on Moodle as a whole is on the negative side of the middle line (3.1 from 5).
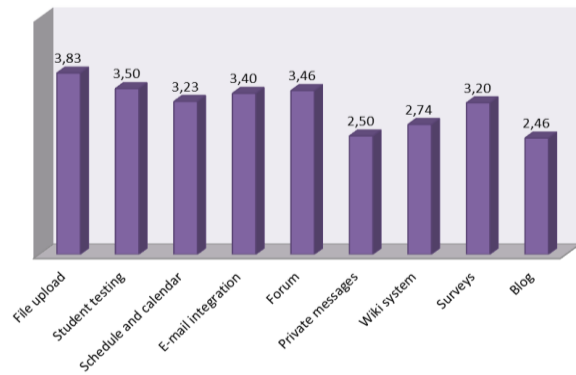

Figure 1. User experience with Moodle functionalities

4.3. Interest for functionalities not present in Moodle system

With this question we wanted students' opinion on functionalities which are present in Elgg system, but can't be found in Moodle. Interest for *bookmarks*, *personal status updates*, and *user activity logs* on the low side, while *file sharing* was found to be of high interest (Fig. 2).

From this question is also evident that users show a moderate interest for implementation of missing functionalities (3.2 from 5).
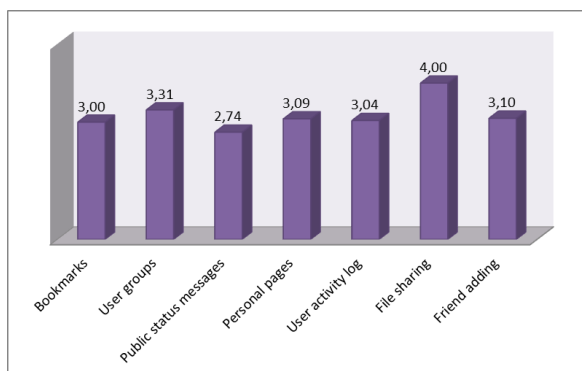

Figure 2. Interest for functionalities not present in Moodle system

4.4 Number of users who used both systems

Users' experiences in both systems are relatively small compared to the number of users with experience only in Moodle (25% of participants). This question was crucial for the rest of the survey, only students who answered positively on Elgg usage were able to continue the survey, and answer questions about Elgg familiarity.

4.5 Familiarity with Elgg system

As in question 1 (4.1), participants were asked how familiar are they with Elgg system. We can conclude that most of the users rated their experience as good to very good (75% of participants).

4.6 User experience with Elgg system

Students were asked about Elgg functionalities, and how satisfied they were with their implementation. We can see in Fig. 3 that students were mostly satisfied with *personal pages, public status messages* and *friend adding*. This came as a surprise in regards to answers in question 3, where the functionalities users wanted to see implemented in Moodle were rated as moderately interested by Elgg users. With Elgg functionalities interest was shown to be above the middle line, with 3.6, which is 0.5 higher than user satisfaction with Moodle users.
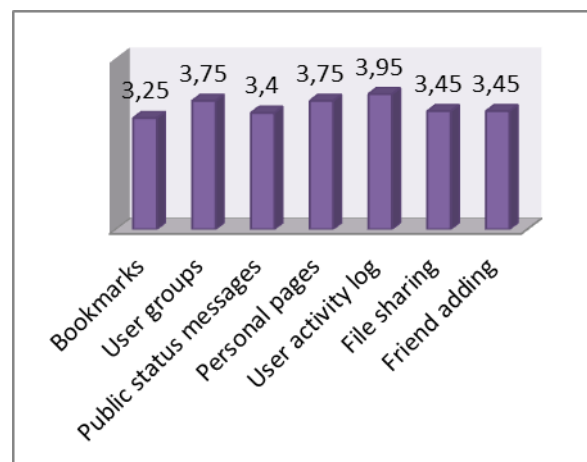

Figure 3. User experience with Elgg system

4.7 User preferences between both systems

Students were asked about preferences between functionalities of both systems in which they overlap. Fig. 4 shows that Moodle is preferred in *e-mail integration, schedule and calendar*, and most users also prefer Moodle when it comes to *file upload*. Marginally higher number of users prefers Elgg system when it comes to *private messages* and *wiki*, and much higher number prefers Elgg for *blogs*.
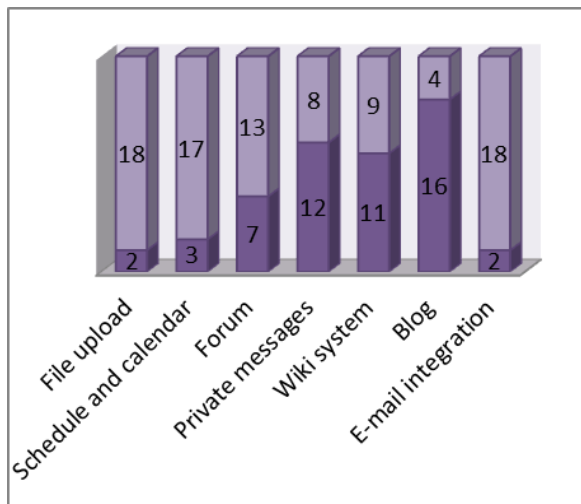
Figure 4. User preferences between both systems

4.8 User interest for implementation of Elgg functionalities in Moodle

Last question asked was about which functionalities Elgg users want to see implemented in Moodle from Elgg. Authors concluded that most of the participants showed mild interest for most of the functionalities (Fig. 5), where only functionalities that students showed interest were *user groups and file sharing*. File sharing has a lot of potential for allowing students to share with one another any extra study materials that aren't present in Moodle already, which helps broaden the knowledge pool of any particular subject. User groups are a way of organizing that kind of collaboration, by allowing users to share only with a certain group, or write messages only in a certain group. It was interesting to compare these answers with answers in question 3 (4.3), because the functionalities that Moodle users showed great interest in aren't so high regarded by users of both systems (example: *friend adding*).
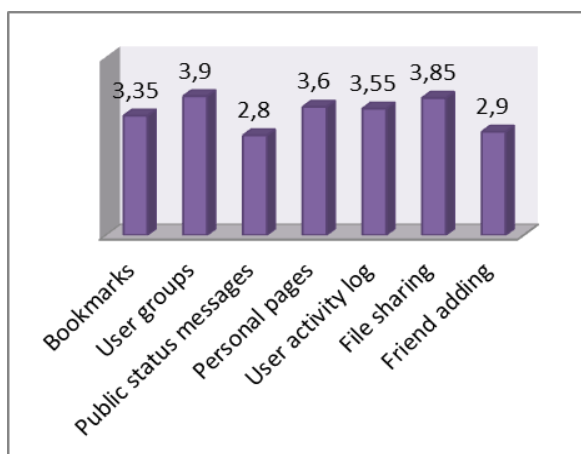

Figure 5. User interest for implementation of Elgg functionalities in Moodle

6 Conclusion

This research showed that there are certain characteristics of Elgg social network which students are interested in. But, in comparing both systems it is evident that most of the students prefer Moodle system for e-learning rather than Elgg network in functionalities that they both posses.

Students haven't shown much interest for implementation of functionalities in Moodle system, which are already present in Elgg system.

Also, when we look on user preferences in general, it is evident that users prefer not to „mix" their personal life with their academic life in one system. That is clear from the last question, where students were asked about functionalities from Elgg system which they want to see implemented in Moodle, and least interest was shown for *friend adding* and *public status messages* (like in Twitter social network).

From that reason we recommend that in further upgrades of Moodle system at the Faculty of Organization and Informatics in Varaždin extreme care is taken not to delve in user privacy so they don't include the information that shouldn't be shared, like friendship connections, public scores of students work, last access, activities that were performed, etc. But they should continue implementing certain functionalities which users would find helpful in their education, and leave the user interaction to other networks, which are focused on social aspect of communication.

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