Rebuilding a Frequently Asked Questions website
The information you can extract – a use case

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INTRODUCTION

the aim of this paper is to examine how students use the new FAQ site of the tutorial services. Using a questionnaire and metadata of the posted questions, information about student behaviour and suggestions for improvements and additional features are extracted.

1   STUDENT FAQ SITE

The following sections are a summary of [1]. This paper explains in details how the new FAQ website was constructed.

1.1   Description

The tutorial services of the engineering faculty of KU Leuven host a website with questions about courses taught in the first year of the engineering programme. Students can read and search through questions other students posted earlier. They can also post new questions. The questions are categorized by course, year and chapter.

To make sure the questions are answered correctly, only professors, assistants and tutors are allowed to answer new questions. As these persons are involved with the course, they can answer the questions adequately.

In the 1990s a custom website was created by hand. At that time, it was quite revolutionary. Later on, a few updates were applied but turned out very difficult to implement as the system was built in a very unstructured way. As maintenance was very time-consuming, a newly built website was the only way out.

1.2 Available Systems at KU Leuven

The central ICT service of the KU Leuven offers a wide range of content management systems.

Blackboard Blackboard [2] is a widely used system for course management. Handouts, assignments, and related content and messages are uploaded to the course website;

Sharepoint Sharepoint [3] is Microsoft's collaboration suite. It is also very expensive to purchase this service;

Plone Plone [4] is the Content Management System (CMS) used for the webpages for the university website. It has a useful but limited range of features for the Student FAQ site. This service is available free of charge.

As all systems have their strengths and a wide range features, customization and writing your own features is not allowed on any of the above systems. As the FAQ site is rather specific, customization is required regardless of the used CMS.

Luckily, there was an alternative. The central ICT service also offers webspace with PHP and database functionality. PHP is a programming language, often used to construct websites. As many CMSs are implemented in PHP and use a database, this was the best option. Because the University already offers the Plone CMS, the central ICT service had to be convinced to allow us to deploy our own unrestricted website built with Drupal [5].

2 INFORMATION FROM THE METADATA OF THE QUESTIONS

2.1 Data description

As the website is built with a CMS, the following information is stored for each question:
- Uid: the user id of student who posted the question;
- Creation time: the date the question was posted;
- Update time: the date the question was answered;
- Course tags: all questions are tagged with the course and the chapter of the course they belong to;
- Title: the title of the question;
- Body: the actual question text;
- Response: the answer as entered by a member of the didactical team.

Students were allowed to ask questions from September 28th, 2012 to January 9th, 2013 in the first semester and from February 14th, 2013 to June 5th, 2013 in the second semester. During the examination period new questions weren't answered but the earlier answered questions were still available for consultation by students.

2.2 Question frequency over time

2.2.1 General overview

In figure 1 and 2, histograms of the number of questions posted per week are shown for the first and second semester. There is an obvious spike in the middle and the end of both semesters.
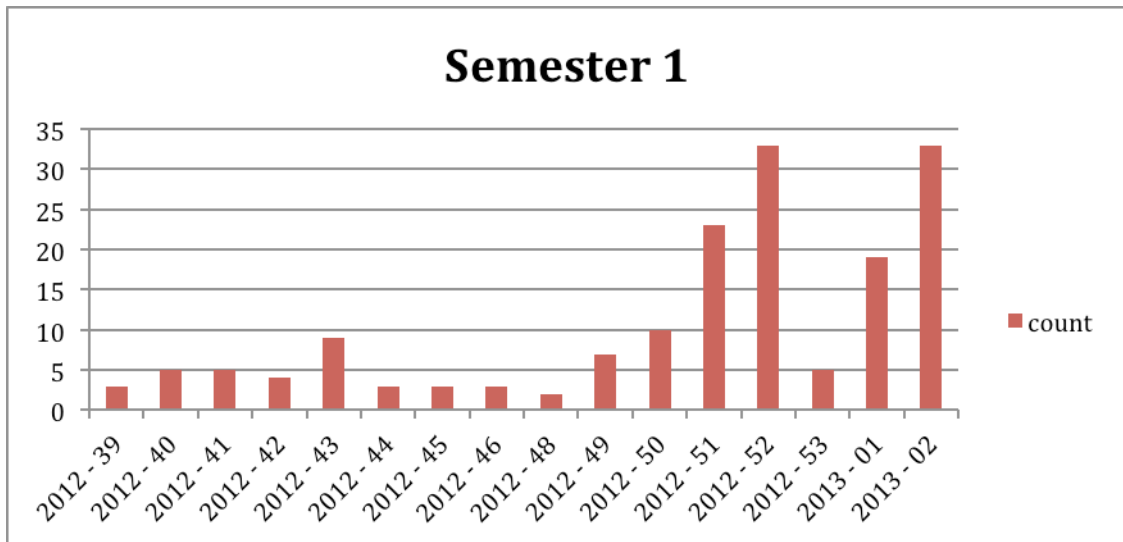

Fig. 1. Number of posted question per week in the first semester
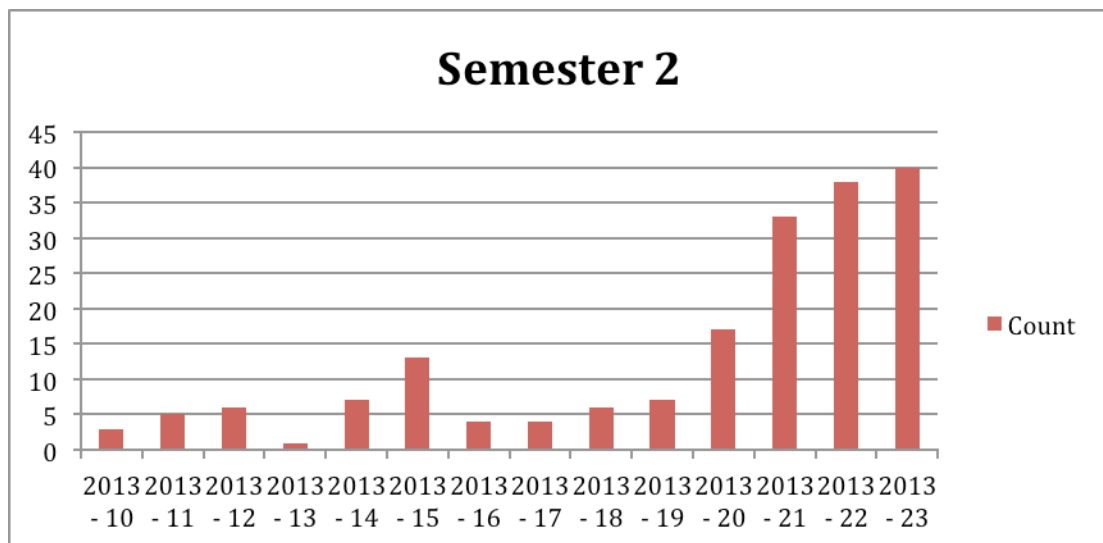

Fig. 2. Number of posted question per week in the second semester

After five weeks in each semester, students have the opportunity to take an optional mid-term exam. If they pass this exam and some prerequisites are met, the result is taken into account for the final mark. As such most students study for this mid-term exam, explaining the increase in posted questions.

At the end of each semester, students have two weeks leave to prepare for the examination period. In this period, students still can post questions. As they are now studying full-time, making additional exercises and finally face the more difficult topics, more questions are posted by the students.

For both semesters, a Chi-squared test [6] was run to see if the increase in posted question is by coincidence or not. As it turns out, the hypothesis "the number of posted question for each week has the same mean" was rejected with very significant results (p-value < 2.2e-16) for both semesters.

2.2.2 Frequency per course

In figure 3 and 4, the number of posted question is split out for each course. The general trend described in the previous section is clearly present: as the examination period comes closer, the activity increases.
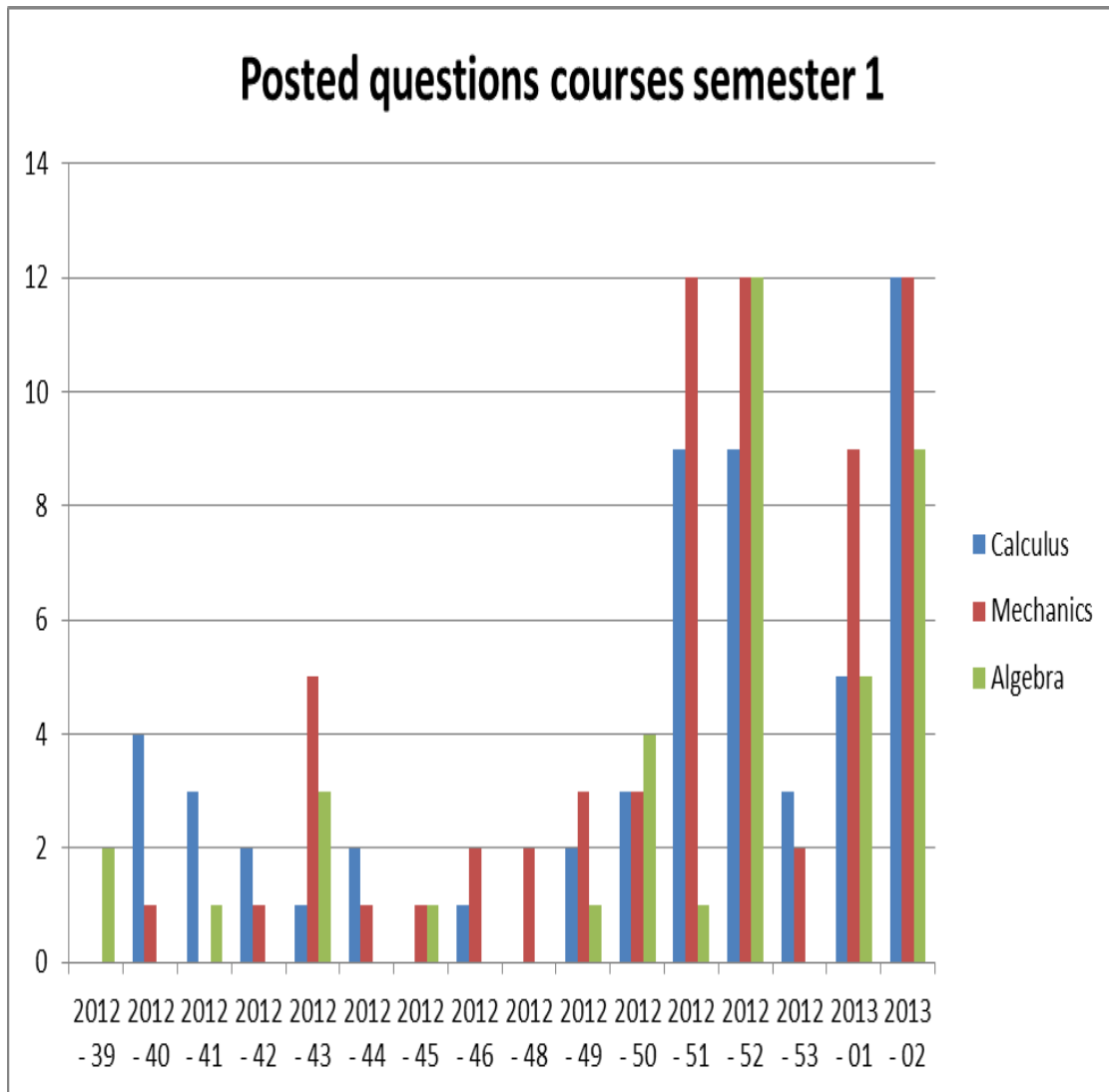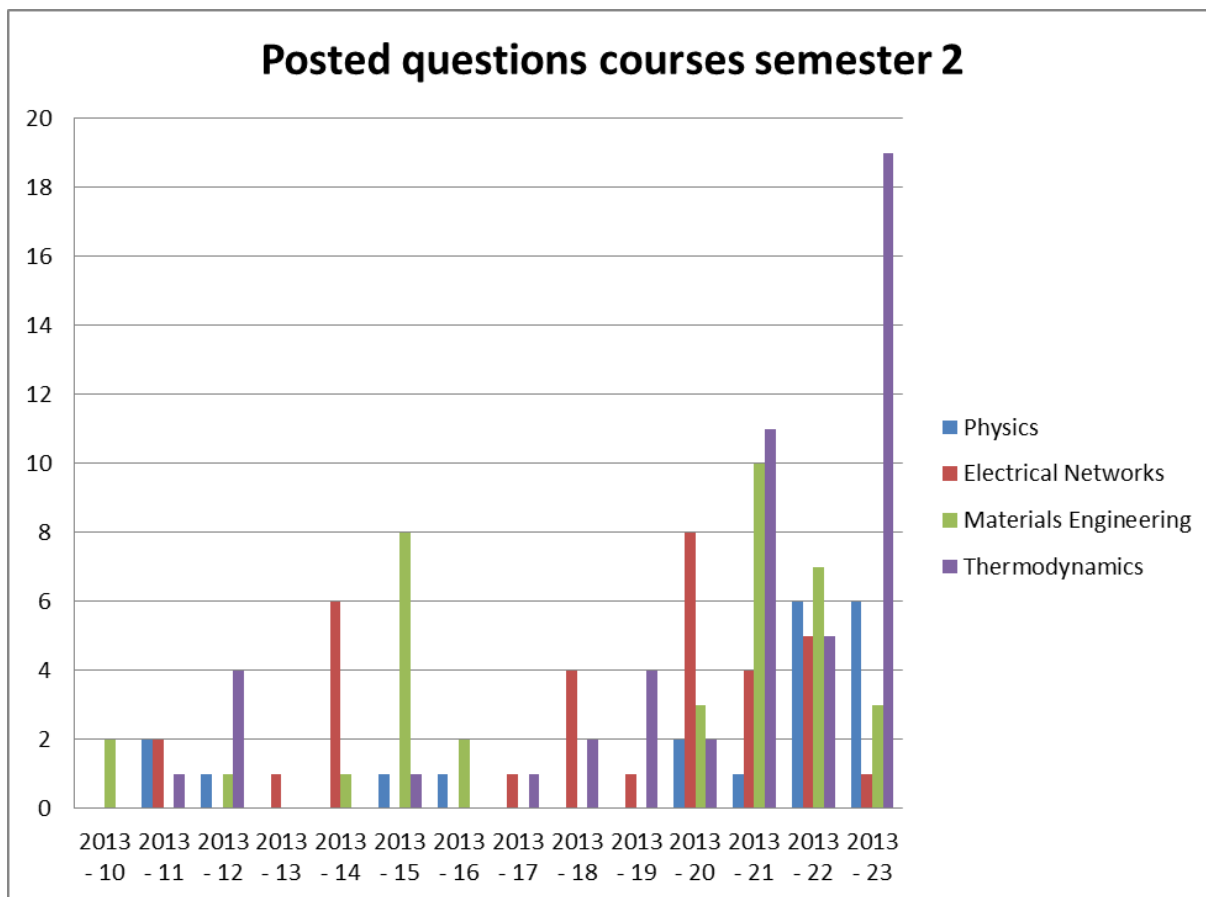

Fig. 3. Number of posted questions per week for each course in the first semester

In the first semester, the number of posted questions increases from week 50 on. At the end of the semester, there seems to be always one course that is not as active as the others. This shows that students are focusing on some courses during one week, and focusing on other courses during the next week.

Fig. 4. Number of posteds question per week for each course in the second semester

The second semester shows a slightly different trend. Thermodynamics, shown in purple, starts off rather slowly but at the end of the semester it suddenly peaks far above the other courses. The other courses show increased activity as the examination period comes closer, but not that extreme as thermodynamics.

3 INFORMATION FROM THE QUESTIONNAIRE

3.1 Questionnaire description

While the questionnaire was built [7], it came to the author's attention that students built their own FAQ site, called Burgieclan (BC). Questions are answered by fellow students only. Since the aim of the questionnaire is to find out if students value this kind of sites, questions about BC were included as well.

In the first section of the questionnaire, questions were asked about the FAQ site and Burgieclan. For both sites, students were asked how important they find these FAQ sites, how often they use it and why or why not they use both sites.

The next section is about the devices students use (desktop, laptop, tablet or smartphone): how often they use these devices and how important it is for them to use the FAQ site on their mobile devices.

The third section contains questions to find out what information channels students use while studying, what sites they frequently visit and which sites are important for them.

The questionnaire was filled out by 100 students, 9 students didn't answer all questions.

3.2 Importance of FAQ sites

The response results in figures 5 and 6, show that students think that both FAQ sites are important. The FAQ site and BC are considered important for 79% of the students.
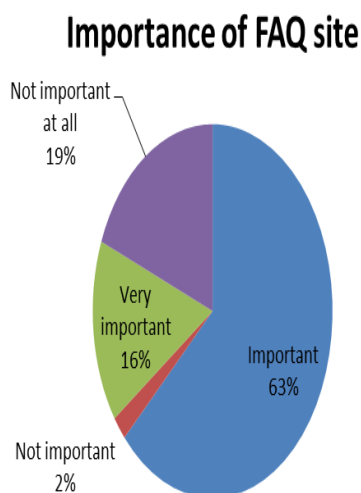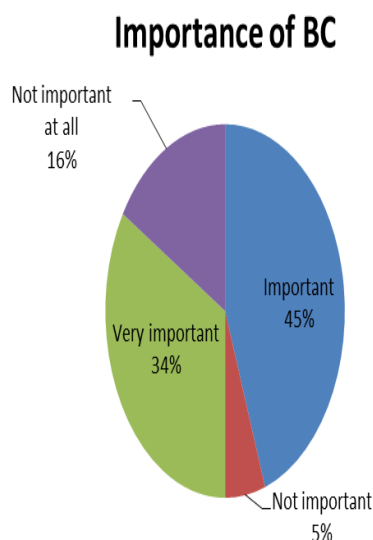

Fig. 5. Importance of FAQ site   Fig. 6. Importance of BC site

The primary reason for using both sites is consulting the posted questions and their answers. The second reason is who answers the questions. As for the FAQ site of the tutorial service, an answer from a member of the didactical team is highly valued. BC is important in that way that questions are answered by their fellow students.

As reasons for not using these sites, BC has the drawback that the answers originate from students. Apparently students are reluctant to accept answers by their peers.

The main reason for not using the official FAQ site is that it is not integrated with other websites. BC automatically posts questions on facebook which turns out to be an important tool for students for communicating with their fellow students.

3.3 Mobile devices

As it turns out, mobile devices, such as tablets and smartphones, are not the primary devices for students, as shown in figure 7. The majority of students still uses a laptop for studying and doing other learning tasks.
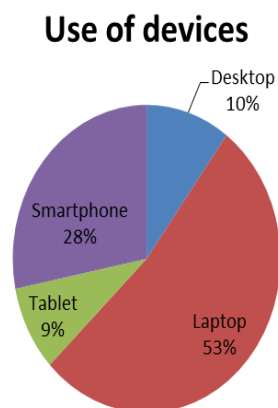
Use of devices

Fig. 7. Distribution of devices

Further questions revealed that students believe that a mobile friendly version of a FAQ site is not very wanted. If it were available, it is perceived as quite inconvenient to post new questions and to consult already answered questions.

3.4 Conclusions

The main conclusions of the questionnaire are:

1. It is important for students to post questions and to consult already answered questions;
2. It doesn't really matter if questions are answered by members of the didactical team or by students. Answers of members of the didactical team however, are perceived as more valuable;
3. If a FAQ site is more integrated with other websites, students would consult and ask more questions. Monitoring an additional website is considered tedious.

4   FUTURE WORK

Based on the result of the questionnaire and feedback of members of the didactical team, future changes and improvements are required.

- Searching questions on keywords needs improvement. The basic search functions seems inefficient;
- Integration with facebook is very desired. As it is not feasible to duplicate content on both the FAQ site and facebook, or to allow students to login on the site with their facebook account, much tought is required on how to implement this;
- As students value both the answers of the didactical team and answers of their fellow students, it might be useful to combine both worlds in one site. In order to maintain the high quality of the answers on the FAQ site, a rating system is required;
- As the load increases at the end of the semester, the site needs more performance. Caching and loadbalancing might solve these problems.

5   ACKNOWLEDGEMENT

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