Project case: Grade Management, group 19

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Purpose and Need

What is the most important thing a student wants to know? No, it`s not whether it`s time for beer already, it`s his grades. The student wants them to be reliable, and have the grades communicated to him as soon as possible. Module coordinators, module teacher, student assistants and BOZ have to be able to administrate grading, know which assignments have been completed by which students and they have to be able to relay those results to the module coordinator. It is then necessary for the module coordinator to be able to communicate these to the students themselves. The most grueling task of all is to keep track of all grades, as every module typically consists of 60 to 120 students, all of which receive 10-30 grades. The current system uses manual labour, which takes a lot of time and is prone to error.

Since most grades consist of multiple partial grades, Osiris is not the solution. Osiris merely shows the final grade, which is only useful for the BOZ, whereas students are interested in all of their grades. Blackboard does have a Grade Center which can manage all grades and assignments. However, Blackboard has shown to be inferior to tools such as Excel. On top of that, the import-facilities of Blackboard have shown to be unreliable.

Implementation Method

For the implementation of our solution, we will make use of a number of tools, to ease the development.

- Trello (for planning the work).
- VisualParadigm (for drawing UML models).
- Eclipse (for software development).
- Git and GitHub (for cooperation and version management).
- Maven (for defining software dependencies and facilitating software building).
- Java and Java Servlets / JSP (for implementing web applications).
- Jersey (for implementing RESTful web services in Java).
- JUnit (for unit tests).
- PostgreSQL (database management system).
- Apache Tomcat (application server and web container).

Timeline

Starting from 20 april, over the time of just over two months, we are expected to build the entire solution. Every two-three weeks, we will present our progress in the form of a Sprint presentation. The goal of these presentations is to show a working version of our system. It is important to present a working solution, instead of a very expanded system, which is unreliable or with malfunctioning parts.

In the first week, it is important that the project group is set up well, i.e. we all have a means of communication (whatsapp group), we have a project todo management (trello), and we have access to the Github repository. Furthermore, a beginning of the project report is to be written.

There are various other deadlines to be met.
On the 8th of May, a Mock-up file is to be uploaded to the design directory on the github repository.
On the 29th of May, We are expected to deliver pictures of UML use case and class diagrams, as well as the scheme.sql file containing the database definitions.
On the 26th of June, the final product has to be delivered.
On the 3rd of July, we hold our final presentation.

Requirements and expected outcomes

The system has to support multiple types of users: coordinators, teachers, student assistants, which can communicate the grades and signed-off assignments, but also students, so they can review their grades. It should support the grading scheme used in a module so all intermediate and final grades can be derived automatically, as well as provide insight into what re-sits or repairs are needed for completing the course. Not all students follow the whole module; the system should be flexible enough to allow that. The system has to allow simple import and export functionality, and should also be able to generate a complete set of statistics on the grade data which can then be communicated to BOZ. The system should support a grade notification functionality which allows the coordinator to release a grade to all students, after which those students get a notification if the grade changes.
The expected outcome of our project is a fully functional and user-friendly grade management system which implements all requirements mentioned above.

Sources:

- Keulen, Maurice, van. "Project "Grade Management"" *Blackboard.utwente.nl*. Universiteit Twente, 15 Apr. 2015. Web. 23 Apr. 2015.
- Hiemstra, Djoerd, and Luís Ferreira Pires. "Data & Information Project Manual 2014-2015." *Blackboard.utwente.nl*. Universiteit Twente, 21 Apr. 2015. Web. 23 Apr. 2015.