



Master Thesis

Title Master Thesis in Database Systems

Subject A portal for delivering solutions by students.

Background There are many ready-to-apply content management architectures. Some of them provide extended functionalities such as user and rights administration, workflow management capabilities, multimedia extensions and so on. Some of them allow also for cooperation with outside applications like accessing and executing services on different servers, importing data from different data sources.

In our department there is a need for developing a portal that allows for delivering solutions by students. Why a portal? Because all data will be stored in the database behind it (and advantages comparing to a file system are obvious), additional functionalities like automatic checking against errors and plagiarism, reporting engine and some others may be implemented. Additionally it has to be available from heterogeneous environment (system independence), which is quite hard to apply regarding available file systems.

Task The project will consist of few parts:

- analysis - here the student has to figure out what kind of content management frameworks are available nowadays and has to characterize them. Also he has to describe current reality.
- design - on the basis of previous part a student should create "actors" and "objects" and design a database for storing data. Besides these he should propose solution for implementation part (having in mind cooperation with JPlag service and possibilities to export data in XML format). The design part is the most important in the whole project.
- implementation - in this stage at first the database and then the portal itself should be implemented. Relational database in SQL, students' front-end, management console (considering security), checking service and reporting engine have to be developed here.
- testing phase - the portal has to be tested with some real-world examples (data based on the previous years).
- operation - the portal has to be set up in working environment and documentation has to be provided for administrators as well as for end-users.

Suggested tools: Zope, CMF Zope, JPlag, JDBC Extensions, Oracle DBMS (but may change after the first phase).

Requirements

- good knowledge of English
- interest in content management area
- good knowledge of Java
- understanding of Zope DTML and object-oriented programming with templates is welcome

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