Database-driven web technology
LIX021B05, 2013–2014 Semester Ib

Course Description: This course is an introductory course on server-side web programming with a relational database management back-end. The course is a project-based course: students will build a web-based application for allowing access to data stored in a relational database. The focus will be on good database design, and functional and secure web-based application development.

Course Objectives: After completing this course, students should be able to:

- develop interactive server-side web applications with a relational database back end
- design relational databases for real-world applications
- understand what happens behind the browser in a web-based application
- be able to identify potential security problems in web-based applications
- be familiar with performance issues for large scale web-based applications using databases
- gain experience in developing software in teams.

Prerequisites: To be able to follow this course, students should have completed the courses

- Databases (LIX022B05)
- Introduction to Programming ('Inleiding programmeren', LIX020P10)
- Web programming (LIX018P05)

Students with equivalent knowledge (through other coursework or experience) can also take the course with the consent of the instructor.

The projects will be implemented using PHP and MySQL (unless agreed with the instructor on a different language/DBMS). Students should be familiar with both PHP and MySQL or should be capable of and willing to learn them quickly.

Literature: There is no compulsory textbook for this course. However, a good reference book on relational databases and being able to gather information from free/online sources will be useful.

Evaluation:

Homeworks (to be done individually):	30%,
Team project:	70%.

You need to get 5.5 from both the project and the homeworks to pass this course. Your projects will be evaluated based on your database design, security and usability of your web application. Your software development practices (e.g., clarity of your code, good team communication, distribution of workload to the available time) also contribute to the overall grade.

Weekly Plan:

1. Organization & a quick introduction to git & Forms processing in PHP (refresher)
2. Project discussion
3. Web programming: the background & Accessing databases from PHP
4. Session Management
5. Security
6. Summary & QA & Discussion
7. Project demonstrations

Projects: Project work is the main activity in this course. Unless there is a compelling reason for a single-person project, projects are required to be done by teams between 2 to 4 students. Participation by all team members is required.

Teams are required to collaborate using the version management system git. All projects files, including the documentation and reports, are required to be kept in a git repository allowing access to the instructor.

Homeworks: Homeworks are to be done individually. There will be a single task divided to multiple steps.

Expected workload:

Lectures	14 hours (0.5 ECTS)
Homeworks	14 hours (0.5 ECTS)
Project work	112 hours (4 ECTS)
Total	140 hours (5 ECTS)

Course Web Page: `http://www.let.rug.nl/coltekin/courses/dbweb2013/`

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Office Hours: Thursday 09.00–11.00 (or by appointment)