

Project WS2024/2025

Development of a database-driven web application for activating students in academic courses

Prof. Dr. Christian Rich
Frankfurt University of Applied Sciences
Computer Science and Engineering
rich@fb2.fra-uas.de

Aim of the project:

The aim of the project is to design and develop a web-based, database-driven quiz and voting system for academic courses.

The system should contain the following components in particular: Web front-end for lecturers and students (desktop and mobile devices), survey administration, question/answer administration, feedback function and evaluation function of the answers. Depending on the size of the project group, the functional scope of the system can be customized.

The task requires going through the entire application development process (requirements analysis, design, implementation, testing, piloting). Participants must apply the knowledge they have acquired in previous semesters, particularly in the areas of databases, programming and software engineering, and work on the task in a group with distributed responsibilities.

Procedure:

Firstly, a requirements analysis must be carried out for the system to be developed and a suitable system design must be developed. Implementation options must be found and alternatives evaluated in terms of their suitability. The system is then to be implemented, and tested (piloted) as part of a course. The system must be fully documented following software engineering principles.

The low-code development platform Oracle Application Express (see apex.oracle.com), SQL, PL/SQL, CSS and JavaScript are recommended as the development environment. A training and familiarization session for the same will be held at the beginning of the project and individual workspaces allowing efficient group work will be provided for each group. Other development environments and tools are possible to be used as well, if found suitable.

Evaluation and certification of credits:

Active project work and presentation. Active project work is documented either by laid down software code, software documentation, laid down documentation of the project management or other written documents which show relevance to the progress of the project (e.g. quality assurance documents). Presentation of own results during and at the end of the project.