

Project 1

University Management System



Description:

In this project you will have to create a university managing system.

Here is a list of some issues noted by the client (university):

- There are many students and they belong to a specific course or courses.
- Depending on the course type (seminar, lecture or other formats) there is a certain student capacity per course, seminar or lecture (for example: lecture can contain more students than a seminar)
- Seminars have a limited amount of students (e.g. 15 students vs. 100 students in a lecture).
- Independent of course type there is a registration deadline (that may be different to other courses)

- The registration deadline needs to be displayed.
- Each course has a start and end date.
- Each course has a room assigned to it (e.g Hörsaal A1, A2 ...).
- Each course also has a professor.
- Each professor can hold many courses.
- This professor has to grade each student attending their course(s).
- A grading system is needed - your team has to think of a good solution for an efficient grading system (e.g. Math: 3, Software Engineering: 4 ...).
- This system can also display comments and notes.
- Each student can attend one or many courses.
- Depending on the course format attendance has to be tracked or not.
- Think about a way to create a nicely formatted semester report
- Feel free to expand on all points

Proposal - how to start

Perhaps you can start with covering the following issues:

- Think (on paper or use an online tool) how to cover professors, students, subject and grades etc. as a data model (your team will decide on what university format you will work on e.g. university, college/FH, private university)
- Plan and develop a database structure
- Create a JavaFX application that is intended to be used only by the university staff. In this app, the staff can setup :
 - A class/course/lecture that a specific student is attending this year
 - The course description.
 - The professor assigned to that class
 - Setup the final grades of a student in any specific subject (1,2,3,4,5) for a given year
 - Feel free to expand and implement other solutions, if your team comes up with new ideas that make sense to be implemented

- Implement dummy / test data to your database to showcase your solution

Possible extension (not mandatory):

- Create Spring Boot driven web app part of the system:
 - Student can log in and see the final grades, comments from the professor/teacher as well as a list of all students in their class
 - If you do not manage to create a login at least try to display data.