Software Projekt

Computer Science

Objectives, Expectations, Regulations

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Classification and significance of the module in relation to the objectives of the degree programme

A challenging project is carried out during the course:

- in a team
- with roles that are typical in practice,
- using all the competences acquired to date (technical, methodological and personal competences).
- In addition, the methods of project management are learned in a realistic way and with a direct practical reference.

The module is therefore of great importance for the professional qualification and employability of graduates.

The acquisition of the competences and skills takes place through the independent execution of a project in a team of ~6-8 persons. As a rule, students can choose from various project proposals on current areas of application in computer science according to their individual preferences. The supervising lecturer of a project team provides a content and formal framework that includes project goals, the superset of techniques and technologies to be used, and acceptance conditions. He accompanies the team and participates in the iteration meetings as moderator and consultant.

Learning Outcomes

professional competence

- apply the knowledge acquired so far in a multidisciplinary way to solve a complex problem

methodological competence

- analyze and manage requirements
- apply methods for project planning and project management
- select suitable modeling techniques (UML) and development tools and use them pragmatically
- carry out a complete project from vision to deployment on their own responsibility on the basis of a suitable process model
- apply Design Pattern meaningfully

Social and personal competence

- explore new subject areas independently
- cooperate in the creation of artifacts and implementation in groups with clearly defined roles and Developing results together
- Target-oriented and persistent mastering of challenges

Experiences

You will gain practical experience in the following areas:

- Coordinate work in a team, identify and solve problems.
- Create work plans and (regularly) correct them on the basis of empirical data.
- Early recognition and clarification of uncertainties of the task.
- Reflect regularly on the progress of the process and use results for further planning and implementation of the project; record reflection results.
- Develop software and document designs.
- Implement a larger program.
- Explicitly record and adhere to coding and documentation standards.
- Schedule and conduct reviews.
- Schedule and perform systematic tests.
- Gain design, coding and testing experience.
- ...

Organizational Issues

- It is a 4 SWS / 5 ECTS module:
  - Corresponds to a workload of: 150 h / person
  - Duration 15 weeks
  - Time required / week: approx. 10 h / person and week
- Team size: 6 to 8 persons
- Project size:
  - 7 * 150 h → 1050 h, 1050 h / 8 h = 130 person days
- Self organized work – but with guided process
- Given topic
- Moodle and Git as platforms to submit deliverables

My Expectations

Ambition

- Set ambitious goals!
- Constantly work towards your project goal!
- Try something new, be courageous!

Professional working

- Follow a professional development process and apply state-of-the art methods and tools!
- Assign and fulfill responsibilities!
- Actively communicate and contribute to the project, allow others to participate!
- Document your decisions!

Results
Examination Prerequisites and Examinaton Method

Examination Prerequisites

- Continuous active participation documented with individual time log
- Being present for presentations and meetings with advisor
- Submitting deliverables in time

→ Milestone deadlines are strict deadlines!

Examination Method

- Content of all deliverables (incl. project result and presentation)
- Grade from team grade and individual performance

Grading

Result (30%)

- Project scope, size and ambition, originality, robustness, user experience, ...
- Presentation

Technical excellence (30%)

- Quality of architecture and design
- Quality of source and test code
- Quality of documentation
- Professionalism (e.g. adequate use of professional tools like Git, UML, Junit,…)

Process (40%)

- Team motivation
- Individual motivation and contribution
- Process compliance (Quality of planning documents, process adherence, submission of functionality and deliverables in time, ...)
- Quality of all deliverables not covered before

Typical weaknesses

Weaknesses in Documentation

- Only product related (users view), architecture and process neglected
- I expect an architectural document (e.g. architecture notebook) describing everything to understand the approch. In such a document we will find quite often: deployment diagram, one or more component diagrams, one or more (domain) class diagrams, an entitiy relationship diagram. And remember: a diagram without an explanation is worth nothing.

Weaknesses in Presentation:

- not found the right level of abstraction

Weaknesses in Poster:

- not informative

Weaknesses in overall structure of all artefacts:

- I expect a documentation, where I can find quick and easy what I‘m looking for.
- A zip file, containing a meaningful folder structure and all artefacts sorted into this structure might be fine. Another approach could be to provide an explanatory file in top level folder explaining where to find what. It must be easy and intuitive to find things without long searching.