



Lab Course / “Praktikum”: *Project Management and Software Development for Medical Applications*

Preliminary Meeting (“Vorbereitung”) – 05.02.2018
Summer Semester 2018

Conducted by:

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Prof. Dr. Nassir Navab - Chair for Computer Aided Medical Procedures & Augmented Reality

Work with clinicians on real-world medical applications

Improve your project management and presentations skills



Lecture Structure

4 lectures by course tutors

- Introduction (Administrative, Requirements, Grading)
- Project Management & Presentation Tips
- Introduction to Software Engineering - Unified Modeling Language (UML)
- Introduction to Software Engineering - Documentation, Tests, Design Patterns & Integration Strategy

1 Hands-on Presentation Session

3 presentations by students

- Kick-off
- Intermediate
- Final with Demo

Min. 8 hours per week of project work during semester.

Please follow course web page for a detailed schedule.



Projects will be on Software Development in Medical Applications

Certainly involves “Medical Application” and “Software Development”

In collaboration with **Hospital** or **Industry** or **Research Institute**

In the previous years, example projects were based on:

- Image Analysis (Registration, Segmentation, Quantification)
- Graphical User Interface design
- Mobile App Development
- Robotics
- Machine Learning, Deep Learning
- Computer Vision
- Image Reconstruction
- Simulations and Modeling
- Augmented Reality
- Computer Graphics



**You are
as well as**

**Project Manager
Software Developer**

Make and follow your **project plan**

- Gather requirements
- Set goals and tasks
- Derive milestones
- Make Gantt chart (project time plan)

Design and implement the software

- Design patterns, use case and class diagram
- Programming in higher level languages (C/C++, Python, Java, Matlab etc.)
- Development tools like IDEs, version control (GIT) etc.

Present your work to the course and supervisors

- 3 presentations: Kickoff, Intermediate, Final with Demo



Project Assignment

Project proposals will be announced at start of semester

Students send us application with 3 preferred projects

The application gives reason to why these projects fit the skills and motivation of the student

We will try to assign students one project from their preferences

Students discuss the projects with their assigned supervisors

Talk to us now if you want to propose your own project and supervisor!



Grading

This course has 10 ECTS.

Project Supervisor will grade based on **performance** (weight: 50%)

- Requirement coverage
- Implementation on time
- Completion of the project goals
- Regular communication

Course Tutors will grade based on **presentations** (weight: 50%)

- Fundamental requirements met (citations, correctness, formatting)
- Presentation skills (get the message across)
- Slides (proper layout of text and visual information)
- Content (for example: introduction, software design, tasks, project management)



Please Register via the TUM Matching System

Highest priority is given to BMC students in their last semester who have never taken this course

TUM Matching System matching.in.tum.de

Matching FAQ docmatching.in.tum.de



**Please follow the course webpage
or write to us if you have specific questions**

Website

<http://campar.in.tum.de/Chair/TeachingSs18PMSD>

Course tutors

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Thank you

Any questions?

