

Instructions for the exercise in Management of Software Projects WS 2014 (188.407)

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Abstract

The goal of the practical part of the VU 'Management of Software Projects' is to give you the opportunity to experience the planning of a research project in a self-defined problem area. This document describes only the practical part. It contains a list of tasks and documents to be created.

1 Goal

One goal of the master's program is to qualify you for an academic career. The planning of research projects is an important part in research to attract external funding and therefore increase the scientific output. As part of this exercise you have the opportunity to go through the various stages of project planning and perform them as group work. The task is the following: National (e.g. FWF) and international organizations (e.g. EU) often sponsor interesting and promising projects with quite considerable sums. A similar situation can be found in large companies, where internal projects must be approved by department heads and managers. To get such a project and the associated funding approved, a project application must be submitted, in which all details of the proposed project are described. You have the opportunity to bring together a team of 5 people and submit such a project. Your goal is

- to find a project topic you find interesting and that is also interesting for your funding agency/employer/organization/sponsor/...
- to describe and plan the project in such a way that your sponsor can risk investing in it without suffering sleepless nights
- to present the project in a convincing way so that it will be approved.

In a way the exercise part is complementary to the lecture part, which deals mainly with the traditional methods of software project management. Many of these classical methods (or some modified form) are also used in research projects, but there are some specific peculiarities which you will encounter in the practical part.

Although it will be impossible for us to award you funding to tackle your projects, you will at least, upon successful completion of the project, get access to the lecture exam :-)

2 Organization

- Groups of 5 students supported by teaching assistants.
- Fixed deadlines and individual group meetings in between.
- It is only required to handle the planning of the project, *no realization (implementation) or monitoring.*
- You have to hand in a well-structured and complete project documentation.

- Presentation of your project at the end of semester.
- The successful execution of the practical part is a prerequisite for the lecture exam.
- Sources of information in case of problems (in this order):
 1. TUWEL-course
 2. your group members
 3. the teaching assistant
 4. instructor:

Dr. Fenz, stefan.fenz@tuwien.ac.at

3 Schedule

All dates are also published on TUWEL:

- **Nov. 6: Review of project ideas:**
 - Oral presentation of project ideas (group-wise)
 - Location: EI8
- **until Nov. 20: Submission 1:**
 - Synopsis (Project abstract)
 - Project diary
- **until Nov. 27.: Submission 2:**
 - Introduction and problem description
 - Project goals and deliverables
 - Scientific relevance and innovative aspects
 - State of the art and/or current knowledge
 - Project diary
- **until Dec. 11: Submission 3:**
 - Method
 - Detailed description of the workpackages (Work breakdown structure)
 - Time plan (Gantt chart)
 - Project diary
- **until Jan. 8: Submission 4:**
 - Human resources / team
 - Costs
 - Expected implications and risks
 - Ethical considerations & security issues
 - Project diary
- **until Jan. 15: Submission 5:**
 - Presentation
 - Project diary
- **Jan. 22: Submission 5:**
 - Final presentations

4 Guidelines

- All assignments have to be submitted via TUWEL.
- The template for the proposal should be filled incrementally. Additional documents (Gantt chart, cost sheet) have to be embedded into the PDF.
- **Only .pdf is admissible for the submissions!**
- **The proposal and the presentation slides have to be in English.**
- The submission deadlines are strict. There won't be any deadline extensions.
- Concerning e-mails: The subject has to start with *MSWP<GID>*: for all mails addressed to the teaching assistants or instructor.
- Pages which go beyond the page limit are not considered by the tutors
- Plagiarism will result in negative grades
- Delayed submissions will be graded with 0 points
- Both, lecture and exercise course have to be graded positive to get a positive course certificate

5 Requirements for the projects

- The project should have a complexity of about two to five years with three to eight project members.
- The project has to require project management and has to be realistic.
- The project should contain some software engineering as well as some interdisciplinary research parts.
- The project has to be interesting and reasonable.
- *You have to use your creativity.*

The project should cover one of these domains:

- Green IT
- Enhancing sustainability by IT
- Security
- Privacy
- Semantic technologies
- e-Health
- Social Network analysis

It is important that your project has a unique selling proposition. (There must not be any research projects on the topic already.)

These projects are NOT suitable for this course:

- development of new display hardware for mobile devices
- address management or accounting applications
- application to manage a CD collection
- popular ideas of applications for mobile devices
- implementations of existing solutions like (parking) tickets via SMS unless there is a new unique selling point
- a communication system for the next mars expedition unless most of the project members have detailed domain knowledge

The most important facts for the project are that it should be creative and interesting for all project members. In order to successfully plan a project, it is necessary to have some knowledge about the domain in your group.

The project proposal (synopsis) should describe the project idea and state the desired outcome of the project. Additionally you should explain why this project is interesting and should be accepted. In case the project idea does not meet the given criteria, a project idea will be assigned to you.

6 Required project documentation

You have to hand in the following documents:

- Proposal
 1. Synopsis (15 Pts.)
 2. Introduction and problem description (20 Pts.)
 3. Project goals and deliverables (15 Pts.)
 4. Scientific relevance and innovative aspects (10 Pts.)
 5. State of the art and/or current knowledge (20 Pts.)
 6. Method (15 Pts.)
 7. Detailed description of the work packages (Work breakdown structure) (15 Pts.)
 8. Time plan (Gantt chart) (10 Pts.)
 9. Human resources / team (15 Pts.)
 10. Costs (15 Pts.)
 11. Expected implications and risks (10 Pts.)
 12. Ethical considerations & security issues (5 Pts.)
- Presentation (20 Pts.)
- Project diary (15 Pts.)

6.1 Proposal

Filename: <GID>_Proposal_<version-nr>.pdf

Nr. of pages: 1-2

For details on the required content have a look at the proposal template (mswp-proposal.tex or mswp-proposal.pdf).

6.2 Project diary

Filename: <GID>_Diary_<versions-nr>.pdf

Nr. of pages: 1-3 per meeting, additionally an e-mail log, memory log, notes about phone calls, ...

Each group has to write a project diary during the exercise. This diary has to document the progress of the exercise and an actual version has to be handed in at every submission and will be graded at the last submission. The contents of the diary should contain all relevant events, for example:

- group meetings
- meetings with lecturers
- phone calls, e-mails, etc.

The project diary is very important! In case of conflicts questions of liability can be handled because every problem, discussion, and the delay is described in the diary. (Who hasn't done his/her part? Who hasn't been at the meetings? etc.) In case of problems, the project diary will be used to grade members individually.

The project diary has to contain following details:

- date, time and location
- duration
- attending group members
- absent group members (with excuse and reason / no excuse)
- analysis of the project progress: What happened since the last meeting? Is everything according to the plan? Are there delays and in case of delay why?
- contents of the discussions, problems, frictions, feedback of the tutors
- decision-making processes: discussion contents, accepted and discarded ideas, ...
- decisions made (unanimously?): what is going to be done and how
- next steps: who is going to do what and until when

- scheduling next appointments: date, time, location

The diary has to contain following details at the beginning:

- work structure: group members and role allocation (project-lead – contact person for tutors, internal coordination, task distribution)

6.3 Presentation documents for internal review

Filename: <GID>_PraesInternal.pdf

Nr. of slides: ca. 4-7

6.4 Presentation documents for the final presentation

Filename: <GID>_PraesFinal.pdf

Nr. of slides: ca. 4-7

1 handout (folder / project overview sheet / marketing-brochure)

The groups are going to show the project proposals during an oral presentation at the end of the term. At this event the project has to be “sold” well, that is: the audience (the committee that decides about project grants has to be convinced). The project has to be:

- interesting
- promising
- reasonably well planned and well thought through; i.e., the team has to show that it is able to successfully carry out the project as well as:
- to show that the project is worth the investment

The duration of the presentation and the discussion will be between 10 and 15 minutes.

The focus of this presentation is the marketing of the project, that means the project has to be exciting, successful and reasonable. The documents for this presentation can be seen more like a commercial flyer, instead of a detailed breakdown of the planned details. However, the need to be serious and justified.

The groups also have to prepare a handout (folder / project overview sheet / marketing-brochure), which covers the most important aspects of the project. It must not be a printout of the slides!

7 Grading

The exercise part of the VU will be graded separately. This grade combined with the grade of the oral exam of the lecture part gives the final grade. The practical part has a weight of 2/3 and the lecture part a weight of 1/3 for the final grade. Every document of the exercise is graded (contents, completeness, quality, consistent formatting, conventions). The final presentation is graded separately (How was the structure? How informative was the presentation? etc.) The grading is based on points, whereas each part receives a max. number of points according to the overview in Sect. 6. Every document has to be handed in to pass the practical part. A total of 200 points can be achieved.

ATTENTION!! Delayed submissions or documents that don’t follow the formatting rules will be graded with 0 points!

| percentage of points | grade |
|----------------------|-------|
| 0–49,99% | 5 |
| 50–62,99% | 4 |
| 63–74,99% | 3 |
| 75–86,99% | 2 |
| 87–100,00% | 1 |

The grading is based on a review. Generally all group members are graded equally. It’s part of the group’s responsibility to take care that every group member hands in his/her part in time. If the group decides unanimously that one member should get a grade better or worse, the instructor needs to be contacted. The sum of the grades has to be constant! I.e., if one member receives a better grade, another member has to receive a worse grade. (After all, somebody must have done the work for somebody else.)

Exceptions are only possible for serious reasons and only if the case is explained and justified. In case of doubt the project diary is important for the grading.