Master Software Technology
Software Project Management 2 – [00] Organisation

Agenda

Overall learning objectives
Assumptions
Class outline
Organisation
- incl. „rules of the game“: examination

References
- books (printed and electronic)
- articles
- web resources

Excursus: academic dishonesty and plagiarism
Timing

Teacher's Introduction

Gero Lückemeyer
2000 Diploma in Business Information Systems at University of Cologne
2007 PhD Degree in Computer Science at University of Cologne
1998-2010 Co-Founder & CEO in a Consulting and Implementation company in Bonn
2006-2010 Chief Architect and Release Manager at sd&m, Munich
Since 2010 Professor at HFT Stuttgart, special interest area Business Process Management

Contact
Office in 2/545, consultation hours Tuesday 9-9:45 a.m. – Zoom
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General organisational aspects

course timing
- Monday, 09:45-11:15 & 11:30-13:00
- Additional/moved lectures possible (Lab/Presentations)

office (room 2/545) hours:
- Tuesday, 09:00 – 09:45
- otherwise: on appointment; e.g., Monday/Tuesday/Wednesday/Thursday

all material available in Moodle or linked
- ➢ course „Software Project Management 2"

Overall objectives of "Software Project Management 2"

- ✓ Know and train methods to support all project phases
  - Planning projects
  - Staffing projects – „human factor"
  - Risk management
  - Controlling projects throughout their lifetime
- ✓ Apply methods from both areas adequately
  - Software engineering methods
  - Project management methods
  - Agile Project Management
- ✓ Link to Project portfolio management
- ✓ Current advanced project management topics

Course Outline

1. Introduction, Motivation & Basic Terms Recap
2. Building Blocks
    1. SWEBOK
    2. PMBOK
    3. PRINCE2
    4. IPMA
3. Lifecycle/Phases
    1. Project Start Phase
    2. Project Planning Phase
    3. Project Execution/Controlling Phase
4. Management Aspects
    1. Project Quality Management
    2. Project Risk Management
    3. Project HR Management
5. Agile Project Management
6. Link to Project Portfolio Management

Some general expectations

Prior participation in a Software Project Management course
- Basic knowledge on Project/Project Management Approaches/Phases/Goals, briefly recap'ed

Active participation during classes
- discussions
- contributions to the exercises as well in class, requires
  - An open eye/mind: following political/economic
  - "Home work": paper preparation

The will/stamina to tackle new subjects in depth

Pre-Examination requirements

before taking the exam

✓fulfill formal pre-examination requirements

– register for both, pre-exam *and* exam before April 26, 2021!
  → will save you € 20 ☺

pre-exam requirements

1. solutions for selected exercises: team work
   – project planning and controlling
2. (individual) paper (4-6 pages IEEE Computer Society standard format) & presentation
   – 1 to 4 students for single/interrelated subjects
   – (appr.) 15 min per student + 5 min discussion
   – subject of your choice in line with the overall agenda of the course
   – For examples see list of potential subjects – I am open for further suggestions

Examination – „rules of the game“

final examination at the end of the semester
oral examination, 20 min:

1. prepare & present a small exercise
2. questions in the area of your paper/presentation
3. questions to all of the subjects tackled in class, including basics from fellow students' papers/presentations

in English for *all* of you
– including (native) German speakers
preliminarily scheduled for Monday 28 June 2021
– Monday after lectures finished, before written exams

Paper & presentation process

Choose a topic in Moodle or suggest one: by March 21, 2021
Obtain the initial non-electronic literature from me: by March 22, 2021
Study literature (at least ten non-web sources) & hand in preliminary structure & initial chapter in IEEE standard format: by April 16, 2021
Initial chapter review and literature discussion with me: by April 23, 2021
Final paper & presentation draft hand-in: by May 20, 2021
Final paper & presentation feedback: by May 31, 2021
Presentation: by June 14, 2021

General:

- All dates are latest by-dates, earlier appointments are always welcome & much needed!
- Submit all material electronically at least two days before a meeting!
- Plagiarism check: plagiarism → no presentation → no pre-exam → no exam → next try summer term 2021!

Course Outline - Week Plan

Agenda			Homework	HW Hrs
15.03.	0 Organisation	1 Introduction, Motivation, Basics	Paper: Pick a Task & Read Starting Sources!	7
22.03.	2 Building Blocks: SWEBOK & PMBOK	Exercise Scope Management: Work Breakdown Structure	Paper: Literature Research/Exercise Scope Management: Work Breakdown Structure	6/2
29.03.	Open Room: Paper Support	Exercise Scope Management: Work Breakdown Structure	Paper: Literature Research & 1st chapter	8
05.04.	Easter	Easter	Paper: Literature Research & 1st chapter	7
12.04.	3 Building Blocks: PRINCE2 & IPMA	Open Room: Paper Support	Paper: Literature Research & 1st chapter	7
19.04.	Project Phases: Start/Planning	Exercise Project Planning	Paper: extend	8
26.04.	Exercise Project Planning	Project Phases: Controlling	Paper/Exercise Project Controlling	6/2
03.05.	Exercise Project Controlling	Exercise Project Controlling	Paper: extend	7
10.05.	Managing Quality	Managing Risk	Paper: finalize	7
17.05.	Managing HR	Agile Project Management	Paper: finalize/presentation prep & read others	7
24.05.	Pentecost		Paper: finalize/presentation prep & read others	7
31.05.	Compensation for Speech Prep.	Compensation for Speech Prep.	Paper: read others	5
07.06.	Advanced Topics: Your Speeches	Advanced Topics: Your Speeches	Paper: read others	4
14.06.	Advanced Topics: Your Speeches	Advanced Topics: Your Speeches	Exam Prep	7
21.06.	Link to Portfolio Management	Question Session		

Speech Topics, Order and Groups

1) Project Classifications/Typologies
2) Project Environment
3) Project Complexity
4) Project Success Definitions & Factors
5) Project Failure Reasons
6) Project Management and Trust
7) Value Focus in Projects
8) Contract and Location Constellation
9) Project Stakeholder Management
10) Managing Change
11) Project Sustainability
12) Project Governance
13) Project Transparency
14) Maturity Model Comparison
15) Project Organisation
16) Project Teams
17) Project Manager/Style Influence
18) Project Quality Management
19) Project Phases/Stages
20) Project Generation/Initiation
21) Managing Small Projects
22) Managing Megaprojects
23) Managing Public Sector Projects
24) Managing Int./Cloud Projects
25) Managing Maintenance Projects
26) Agile Project Management
27) Lean Project Management
28) Agile Project Management Approaches in other Branches
29) Managing DevOps Projects
30) Agile/Hybrid Project Portfolio Management
31) <your own topic suggestion>

Paper Research Example: „Proof-of-concept PM approach“ publication

Search for „Proof-of-concept PM [method/approach]“ in the eBib
Journals → International Journal of Project Management, …
Search Google Scholar for „Proof-of-concept PM [method/approach]“
→ Book titles & sample contents, further Journals/papers
→ Scan abstracts
→ Gather candidates in a list
Obtain most promising candidates
From the candidates, obtain common terminology
- Proof-of-concept: pilot, prototype
- Proof-of-concept project characteristics: uncertainty, dynamism

Search for terminology in the above sources
Scan further abstracts/hits for clarification
Rule of thumb: >30 abstracts for ~10 quoted sources!

For your own topic suggestion, scan these sources!

IEEE Standard Paper Format

Preparation of Papers for IEEE Computer Society TRANSACTIONS

(revised November 2012)

First A. Author, Second B. Author Jr., and Third C. Author, *Member, IEEE*

Abstract—These instructions give you guidelines for preparing papers for IEEE Computer Society Transactions. Use this document as a template if you are using Microsoft Word 6.0 or later. Otherwise, use this document as an instruction set. Please note that use of IEEE Computer Society templates is meant to assist authors in correctly formatting manuscripts for final submission and does not guarantee how the final paper will be formatted by IEEE Computer Society staff. This template may be used for initial submissions; however, please consult the author submission guidelines for formatting instructions as most journals prefer single column format for peer review. An abstract should be 100 to 200 words for regular papers, no more than 50 words for short papers and comments, and should clearly state the nature and significance of the paper. Abstracts *must not* include mathematical expressions or bibliographic references. Please note that abstracts are formatted as left justified in our editing template (as shown here).

Index Terms—Keywords should be taken from the taxonomy (http://www.computer.org/mc/keywords/keywords.htm). Keywords should closely reflect the topic and should optimally characterize the paper. Use about four key words or phrases in alphabetical order, separated by commas (there should not be a period at the end of the index terms)

1 Introduction

THIS document is a template for Microsoft Word versions 6.0 or later. If you are reading a paper version of this document, please download the electronic file from the template download page so you can use it to prepare your manuscript.

When you open the document, select "Page Layout" from the "View" menu in the menu bar (View | Page Layout), which allows you to see the footnotes. Then type over sections of the document or cut and paste from another document and then use markup styles. Please keep the template at 8.5" x 11"—do not set the template for A4 paper. The pull-down style menu is at the left of the Formatting Toolbar at the top of your Word window (for example, the style at this point in the document is "Text"). Highlight a section that you want to designate with a certain style, and then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. Use italics for emphasis; do not underline. **Do not change the font sizes or line spacing to squeeze more text into a limited number of pages. Please be certain to follow all submission guidelines when formatting an article or it will be returned for reformatting.**

To modify the running headings, select View | Header and Footer. Click inside the text box to type the name of the journal the article is being submitted to and the manuscript identification number. Click the forward arrow in the pop-up tool bar to modify the header or footer on subsequent pages.

To insert images in Word, position the cursor at the insertion point and either use Insert | Picture | From File or copy the image to the Windows clipboard and then Edit | Paste Special | Picture (with "Float over text" unchecked).

IEEE Computer Society staff will edit and complete the final formatting of your paper.

2 Procedure for Paper Submission

2.1 Review Stage

Detailed submission guidelines can be found on the author resources Web pages. Author resource guidelines are specific to each journal, so please be sure to refer to the correct journal when seeking information. All authors are responsible for understanding these guidelines before submitting their manuscript. For further information on both submission guidelines, authors are strongly encouraged to refer to http://www.computer.org/portal/web/peerreviewjournals/author.

- *F.A. Author is with the National Institute of Standards and Technology, Boulder, CO 80305. E-mail: author@ boulder.nist.gov.*
- *S.B. Author Jr. is with the Department of Physics, Colorado State University, Fort Collins, CO 80523. E-mail: author@colostate.edu.*
- *T.C. Author is with the Electrical Engineering Department, University of Colorado, Boulder, CO 80309. On leave from the National Research Institute for Metals, Tsukuba, Japan E-mail: author@nrim.go.jp.*

****Please provide a complete mailing address for each author, as this is the address the 10 complimentary reprints of your paper will be sent*

Please note that all acknowledgments should be placed at the end of the paper, before the bibliography (note that corresponding authorship is not noted in affiliation box, but in acknowledgment section).

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2.2 Final Stage

For papers accepted for publication, it is essential that the electronic version of the manuscript and artwork match the hardcopy exactly! The quality and accuracy of the content of the electronic material submitted is crucial since the content is not recreated, but rather converted into the final published version.

All papers in IEEE Computer Society Transactions are edited electronically. A final submission materials check list, transmission and compression information, and general publication materials can be found at: http://www.computer.org/portal/web/peerreviewjournals/author.

2.3 Figures

All tables and figures will be processed as images. You will have the greatest control over the appearance of your figures if you are able to prepare electronic image files. Save them to a file in PostScript (PS) or Encapsulated PostScript (EPS) formats. Use a separate file for each image. File names should be of the form "fig1.ps" or "fig2.eps."

For more information on how to format your figure or table files for final submission, please go to http://www.computer.org/portal/web/peerreviewjournals/author#figures and View transactions art_guide.pdf (PDF, 4.69MB).

2.4 Copyright Form

An IEEE Computer Society copyright form must accompany your final submission. You can get a .pdf, .html, or .doc version at http://computer.org/copyright.htm. Authors are responsible for obtaining any security clearances.

For any questions about initial or final submission requirements, please contact one of our staff members. Contact information can be found at: http://www.computer.org/portal/web/volunteercenter/staff.

3 Sections

As demonstrated in this document, the numbering of sections is upper case Arabic numerals, then upper case Arabic numerals, separated by periods. Initial paragraphs after the section title are not indented. Only the initial, introductory paragraph has a drop cap.

4 Citations

IEEE Computer Society style is to note citations in individual brackets, followed by a comma, e.g. "[1], [5]" (as opposed to the more common "[1, 5]" form.) Citation ranges should be formatted as follows: [1], [2], [3], [4] (as opposed to [1]-[4], which is not IEEE Computer Society style). When citing a section in a book, please give the relevant page numbers [2]. In sentences, refer simply to the reference number, as in [3]. Do not use "Ref. [3]" or "reference [3]" At the beginning of a sentence use the author names instead of "Reference [3]," e.g., "Smith and Smith [3] show ... ." Please note that references will be formatted by IEEE Computer Society production staff in the same order provided by the author.

5 Equations

If you are using Word, use the MathType add-on (http://www.mathtype.com) for equations in your paper (Insert | Object | Create New | Microsoft Equation or MathType Equation). "Float over text" should not be selected.

For display equations as seen below, number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1). First, use the equation editor to create the equation. Then, select the "Equation" markup style. Press the tab key and write the equation number in parentheses. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Use parentheses to avoid ambiguities in denominators. Punctuate equations when they are part of a sentence, as in

$$\int_0^{r_2} F(r,\varphi)\,dr\,d\varphi = [\sigma r_2 / (2\mu_0)] \cdot \int_0^{\infty} \exp(-\lambda\,|z_j - z_i|)\,\lambda^{-1} J_1(\lambda r_2)\,J_0(\lambda r_i)\,d\lambda \,. \quad (1)$$

Be sure that the symbols in your equation have been defined before the equation appears or immediately following. Italicize symbols (*T* might refer to temperature, but T is the unit tesla). Per IEEE Computer Society, please refer to "(1)," not "Eq. (1)" or "equation (1)," except at the beginning of a sentence: "Equation (1) shows ... ." Also see *The Handbook of Writing for the Mathematical Sciences*, 1993. Published by the Society for Industrial and Applied Mathematics, this handbook provides some helpful information about math typography and other stylistic matters. For further information about typesetting mathematical equations, please visit the IEEE Computer Society style guide: http://www.computer.org/portal/web/publications/style_math.

Please note that math equations might need to be reformatted from the original submission for page layout reasons. This includes the possibility that some in-line equations will be made display equations to create better flow in a paragraph. If display equations do not fit in the two-column format, they will also be reformatted. Authors are strongly encouraged to ensure that equations fit in the given column width.

6 Helpful Hints

6.1 Figures and Tables

Because IEEE Computer Society staff will do the final formatting of your paper, some figures may have to be moved from where they appeared in the original submission. Figures and tables should be sized as they are to appear in print. Figures or tables not correctly sized will be returned to the author for reformatting.

Detailed information about the creation and submission of images for articles can be found at http://www.computer.org/portal/web/peerreviewjournals/author#figures where you can View transactions art_guide.pdf (PDF, 4.69MB) . We strongly encourage authors to carefully review the material posted here to avoid problems with incorrect files or poorly formatted graphics.

Source: http://www.ieee.org/publications_standards/publications/cs_template_word.zip

Paper Example: „Proof-of-concept PM approach“ publication

Natural Sciences Publication Structure

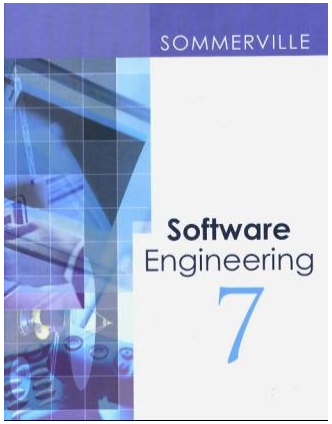
Introduction
Materials & Methods
Results
Discussion
Conclusions

Computer Sciences Publication Structure

Introduction
State of the Art
Results
Discussion
Conclusions

Special case no results: present your weighting instead!

References (“p books”)

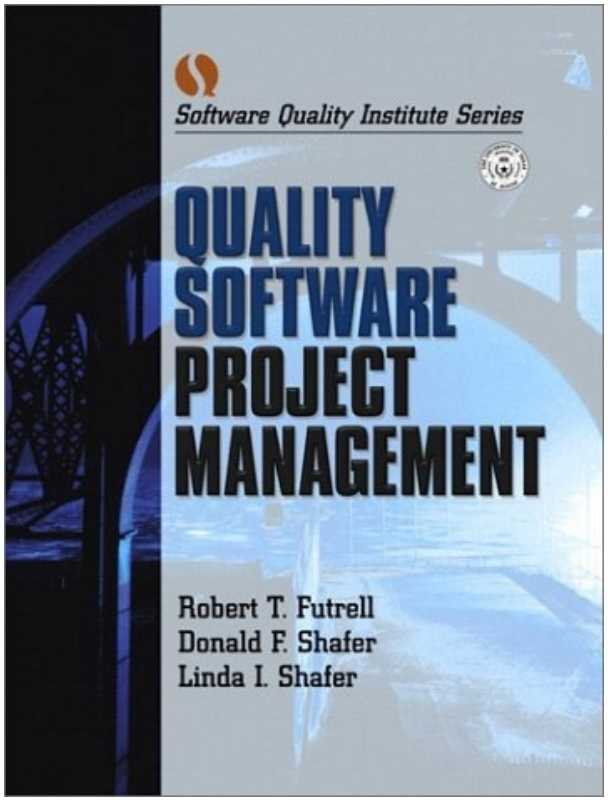


fairly huge number of books on

- ➢ software engineering
  - e.g. Ian Sommerville: Software Engineering
- ➢ project management
  - …

however, only (very) few books on *Software Project management*

- – Futrell, Robert; Shafer, Donald; Shafer, Linda: Quality Software Project Management. Prentice Hall, Software Quality Institute Series. 2002; 1,600 pages
- ✓ available in the HFT library

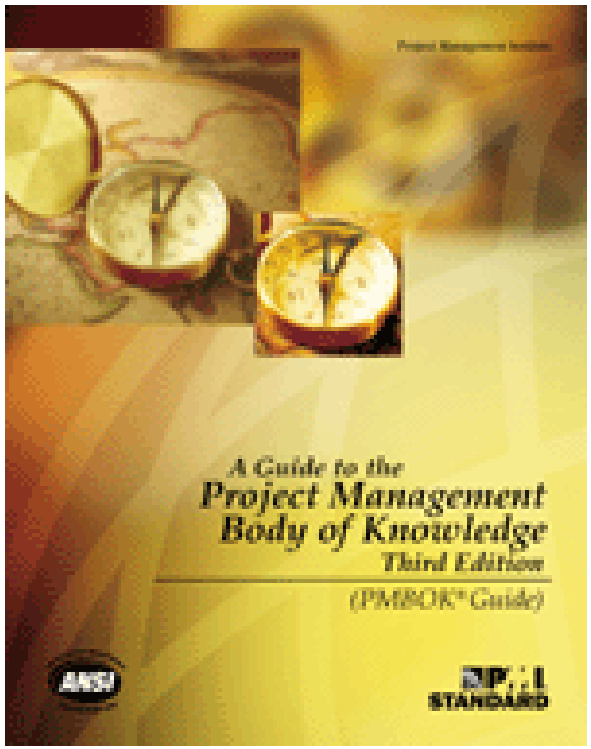


(Electronic) Reference on Project Management

PMI Standards Committee: A Guide to the Project Management Body of Knowledge (PMBOK)

- Project Management Institute PMI
- http://www.pmi.org
- IEEE Standard 1490-2011, based on 4th ed. as of 2008
- most recent version 6th ed. as of 2019

✓PDF of original standard 5th ed. available as link in Moodle



(General) Resources on the Web

International Project Management Association
IPMA

- some 28 national associations: www.ipma.ch
- e.g., the German one: GPM - Deutsche Gesellschaft für Projektmanagement www.gpm-ipma.de

PMI - Project Management Institute: www.pmi.org
Project magazine: http://www.projectmagazine.com/

further resources during the course

Excursus: academic dishonesty and plagiarism

legal background

- state law of Baden-Württemberg for universities (so-called „Landeshochschulgesetz“ – LHG)
- Study & examination orders („Studien- und Prüfungsordnung“, SPO) Teil/part A of our university, which you accepted signing for your Master studies here at HFT Stuttgart

in case you really have no idea what I am talking about, you might want to watch, e.g.,

- What is Plagiarism? (Part 1 of 3) http://www.youtube.com/watch?v=4P05vgxDoPU

Academic dishonesty

"Academic dishonesty or academic misconduct is any type of cheating that occurs in relation to a formal academic exercise. It can include

- Plagiarism: The adoption or reproduction of original creations of another author (person, collective, organization, community or other type of author, including anonymous authors) without due acknowledgment.
- …"

Plagiarism

Plagiarism is the "use or close imitation of the language and thoughts of another author and the representation of them as one's own original work."

Source: Random House Compact Unabridged Dictionary
according to http://en.wikipedia.org/wiki/Plagiarism

"Within academia, plagiarism by students, professors, or researchers is considered academic dishonesty or academic fraud and offenders are subject to academic censure, up to and including expulsion."

Source: http://en.wikipedia.org/wiki/Plagiarism

Legal background – only available in German ☹

§3 …; wissenschaftliche Redlichkeit

- (5) Alle an der Hochschule wissenschaftlich Tätigen sowie die Studierenden sind zu wissenschaftlicher Redlichkeit verpflichtet. Hierzu sind die allgemein anerkannten Grundsätze guter wissenschaftlicher Praxis einzuhalten. Ein Verstoß hiergegen liegt insbesondere vor, wenn in einem wissenschaftserheblichen Zusammenhang vorsätzlich oder grob fahrlässig Falschangaben gemacht werden, geistiges Eigentum anderer verletzt oder die Forschungstätigkeit Dritter erheblich beeinträchtigt wird. …

§ 62 Exmatrikulation

- (3) Studierende können von Amts wegen exmatrikuliert werden, wenn
  - 4. sie vorsätzlich oder grob fahrlässig gegen die Grundsätze des § 3 Abs. 5 Sätze 1 bis 3 verstoßen.

Legal Background (cont'd): SPO Part A (Master)

§12(6) Stimmen Prüfungsleistungen oder Leistungsnachweise ganz oder in wesentlichen Teilen mit anderen Arbeiten oder Veröffentlichungen überein, ohne dass wörtliche Zitate unter Angabe der Quelle verwendet werden, sind diese als Plagiat im Sinne des §3 Abs. 5 LHG anzusehen.
Bei einfachem Verstoß (bspw. unzureichende oder falsche Zitation) erfolgt ein Gespräch mit dem Prüfungsausschuss.
Bei wiederholtem Verstoß oder in besonders schwerwiegenden Fällen wird die Prüfungsleistung oder der Leistungsnachweis mit „nicht ausreichend" (5,0) bewertet.
Beim Nachweis eines vorliegenden Plagiats in der Master-Thesis wird diese als endgültig nicht bestanden gewertet. Dies führt zum endgültigen Verlust des Prüfungsanspruchs in dem betreffenden Studiengang.

Plagiarism – why we STILL do NOT do it

Source: Sandro Halank@wikimedia commons
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Because we are morally better!

Consequences for your papers & presentations

Very briefly: no plagiarism, please

- Scientifically incorrect
- Unfair (compared to other students)
- …

there is rarely any need to copy 1:1

- reword (summarize) in your own words instead
- there are exceptions, though: e.g., definitions
  - quotations must be marked as such: "…" [reference], e.g. [SBOK 2012], [1], [White 2011a]

as a general rule

- provide all of the references you used
  - one criterion for the quality of any scientific work

Even stricter rules hold for your Master thesis, up to final exclusion from the whole Master's degree.

Questions? Questions!

THANK YOU VERY MUCH FOR YOUR ATTENTION!