

INDIVIDUAL ASSIGNMENT “REUSE” IN THE COURSE SOFTWARE PRODUCT LINE ENGINEERING (DAT165)

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1 Introduction

The following assignment is mandatory in the DAT165 course at Chalmers. It aims to give knowledge about alternatives to software product lines (SPL) for achieving reuse in software development. The assignment is done individually by students.

1.1 *Deadlines and Dates*

The actual deadlines and dates are clearly stated at the course home page. In order they are:

1st deadline: Chosen theme/topic within Software Reuse as well as complete reference to the 3 papers you will summarize

2nd deadline: Report summarizing your findings on your theme/topic

Presentation: Workshop presenting and discussing your results

All deadlines are hard deadlines; if you miss them you fail the assignment. There are no exceptions so do not ask for any.

1.2 *Formatting and submission*

The assignment is to be reported using the IEEE Conference Proceedings template (available on the course homepage). You should follow all rules specified by IEEE, i.e. also for references etc. The report shall:

- be no less than 2 pages and no more than 3 pages using the IEEE template, and
- include a minimum of 3 peer-reviewed references relevant to your study.

The reports shall be submitted via e-mail in PDF format. All e-mail communication with the assignment responsible shall have a subject line starting with the keyword ”DAT165” followed by the assignment title and the last name of the author of the report (e.g. “DAT165: Case Study (Lastname)”). The e-mail body shall include the name, surname and email address of the author. On the report itself your social security number should be clearly stated.

After submitting the assignment the author will get a confirmation via email that the assignment has been received. It is the responsibility of the student to assure that the assignment is sent to

the assignment responsible on time, missing a deadline equals an automatic fail grade on the assignment.

Please note that we present a range of page limits above. It is not a given that it is better to write longer; if you are able to write in the shorter end of the range, we welcome and encourage this. Your grade will be based on the quality of your work and report, in any case. References may extend to one or more pages in addition to the presented maximum number of pages, and the format of the references should follow the format given in the IEEE template. References should primarily be from sources of high quality (ACM, IEEE and similar journals and conferences). Web references and similar should be the exception (and are not counted as peer-reviewed).

1.3 Presentation

Each student will present her/his findings to the class as a whole. You will have 5 minutes for your presentation. Be sure to use your time wisely and focus on the most important aspects. Don't spend precious time on irrelevant or general information.

You are expected to have prepared slides and have the talk in English. You should have a maximum of 3 slides so plan and use them wisely. Bring your own apparel for presentation (laptop etc); there is a projector with VGA cable in the presentation room that you can hook up to. If you have no laptop, borrow from a fellow student or notify Robert Feldt at least 2 days before your presentation. In the latter case you need to send your Powerpoint/Keynote/PDF presentation/file(s) to Robert Feldt at least a day in advance.

To have a good presentation you should have rehearsed it beforehand so you can give it in 5 minutes. Using less than 5 minutes is unprofessional and not ending with a nice summary/wrap-up is rude. Don't be unprofessional or rude.

Some general advice on doing good presentations is listed below. If you do not follow them your grade will be lower.

Do NOT:

- Stand in front of the presentation screen.
- Point to your computer screen. If you want to point to things on your slides point to the screen seen by everyone.
- Have "dense" slides with very much text, which take a lot of time to read. Instead, use graphics, figures, lists, tables etc to give overview and summarize. You have to limit what you can include! You should not have to rush through slides in the end.
- Mumble. Instead speak clearly and loud enough so that everyone can easily hear you.
- Have spelling errors or other errors in your slides.
- Spend too much time on setup, methodology and general information like that. Often it is better to start with specifics and results and spend the majority of the time on them.

Make sure that:

- Everyone in the audience can see your presentation screen.
- Explain what diagrams and graphs show. What are on the different axes? Different elements? Colors?

1.4 Grading

A total of 6 points can be assigned to each assignment and counts towards your course grade.

2 Task

Your assignment is to write a 2-3 report on a specific focus/theme/topic/method/technique/process for software reuse. Your chosen topic should not be SPL but be an alternative way to achieve reuse.

You are to choose topic, find 3 peer-reviewed and high-quality papers relevant for that topic, read and summarize them. The topic can be any relevant topic within software reuse research. You should first read the paper:

W. E. Frakes and K. Kang, “Software Reuse Research: Status and Future”, IEEE Transactions on Software Engineering, Vol. 31, No. 7, July 2005.

to get an overview of the area and get ideas for specific topics. You can also check the program of the latest conference on Software Reuse:

<http://icsr11.isase.org/index.php/attendees/program.html>

to get ideas for relevant topics.

When you have chosen a topic (and gotten an ok from the examiner on working on that) you should search for 3 relevant research papers (not web references or unpublished material) on that topic. You should critically read and summarize these papers and then analyse and discuss the topic based on them. You are allowed to use more than 3 such papers; 3 is the minimum.

Your report should at least contain:

- Abstract
- Introduction (to topic, why it is important, overview of rest of report)
- Summary of relevant papers (with each paper being summarized in a sub-section)
- Analysis, that answers the questions:
 - In which situations, and for what, can the sw reuse topic/method/technique/process be used?
 - What are the advantages of the topic/method/technique/process?
 - What are the disadvantages of the topic/method/technique/process?
 - How is it related, or not, to a software product line engineering approach?
 - What kind of evidence exists that it works?

- What more do we need to know to successfully evaluate or use the topic/method/technique/process?
- Conclusions
- References