DIT831 Resarch Methods for Software Engineering
Assignment 1

Due: February 9th, 2024   (Optional)

Optionality and Feedback

The February 9th, 2024 hand in of this assignment is optional. If students hand in this assignment to Canvas before the deadline, hand in the assigned peer review before February 15th, 2024, and at least one group member attends the peer review lecture on February 19th, 2024, the group will get feedback on their hand in before the next assignment deadline.

This document also describes the peer review structure, criteria and procedure.

Formatting

Part 1 and Part 2 must be formatted using the IEEE Conference Proceedings format (`https://www.ieee.org/conferences/publishing/templates.html`).

Note: you can find many IEEE conference templates in Overleaf, if you choose to use this tool, e.g., `https://www.overleaf.com/latex/templates/ieee-conference-template/grfzhhncsfqn`

Thesis Introduction & Related Work

In this course, your report gradually builds up the content of a thesis proposal. This can be the thesis proposal that you submit as your bachelor thesis proposal in March, but does not have to be.

In the assignment directory in Canvas, please find the bachelor thesis proposal template (also following IEEE), in both Word and LaTeX. In assignment 1, you will complete the title, introduction, and related work sections of the report, with a bibliography.

Page length: MAX 2 pages, IEEE, not including acknowledgements and references.

The report must have the following sections and the sections should contain the content listed. Note that each bullet point should not be its own sub-section. These sections should be similar to the sections that will appear in your thesis. The proposal template text also has guiding text for what to put in each section.

Refer to the lectures and literature for more detail and inspiration, the list below is just an outline and can be elaborated with further course content. Also take inspiration from example published papers.

1. Introduction

   - Statement of the problem
   - Why it is important to conduct research about the problem, motivation, purpose

- Key existing literature about the problem and why the problem is not solved or more work is needed
- For the above three items, a minimum of 4 trustworthy references (in total) must be used in the introduction when describing the problem, why it is important etc.
- In the introduction, describe briefly what the methodology will be and give a few details on how the study will be conducted. Are there participants? Who are they and why are they suitable for the study?
- State the research questions (RQ(s)) and link them to the motivation.
  - State clear and concise research questions that will be investigated
  - State at least two research questions (main or sub research questions)

2. Related Work

- Describes the results of other studies that are closely related to the study being proposed
- Include the 4 references from the introduction, but add additional references, a minimum of 4 in addition.
- Describes related literature in enough detail to understand why they are included in the section, but not in too much detail to distract from the key message.
- Consider the use of sub-sections to organize the literature into topics.
- This section could contain both related work – work closely related to your topic – and background – work that the reader needs to understand your topic. If both are present, differentiate between the two.
- It should be clear why this work needs to be done, how does the existing literature, either individually or in groups, not sufficiently solve your problem of focus.

3. Acknowledgement

- Write who is responsible for what part of the report

4. References

- A list of references used in the report, presented in correct IEEE formatting and order.

Peer-review and Discussion (February 15th, 2024 and February 19th, 2024)

If you submit your assignment on February 9th, 2024, then you will be paired with another group to review their assignment 1. If you submit your peer review by February 15th, 2024 and participate in the peer review session on February 19th, 2024, you will get feedback from the teachers on your assignment 1 submission.

Be prepared to read and give constructive feedback to each other's work. Maximum 1 page (discussed during the seminar on February 19th, 2024).

Peer review structure

- Summary - Brief summary of the paper, what problem are they addressing? How? What are the results
- Positive Points – A few positive comments, use the criteria below for inspiration

- Negative Points (usually longer) - Use the criteria for inspiration

- Detailed Points – Spelling, grammar, or issues with formatting and figures

Peer review criteria

Comment on each point where issues are found. If there is too much feedback to fit in one page, prioritize the most important issues.

- Motivation – Is the purpose of the study clear? Does it address a real and important problem?

- Research Questions – Are the RQs understandable and clearly matching the introduction

- Related Work – Are the papers clearly related, is a research gap clear?

- Writing – If space, point out writing issues

- Formatting – If space, point out any issues with the IEEE template, references, or figures.

Note: the above list is a reduced form of your thesis opposition report template.