Thesis projects

and reports

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Where to begin

Let the report feed your work! (not the other way around)
Where to begin

- Start writing day 1!
- Mandatory events to make sure you do:
  - Day 1: Make a disposition of the whole report and discuss it with your reviewer
  - Mid course meeting: Focusing on what you have written so far (which should be plenty by then). Book a time for this now!
Swedish or English?

- English is recommended
  - Easier to find a reviewer
  - Wider audience for your thesis
  - No need to translate technical terms
- Swedish
  - if you think language quality would suffer otherwise
  - if your supervisor requires it
• Consider who you're writing for!
  • What can they be expected to know?
• Be explicit and comprehensive!
• Don't take things for granted
• Will your report make sense 10 years from now?
  • Affects both when you refer to sources, and to where you can refer
Structure

- Title
- Abstract
  1. Introduction
  2. Background (optional)
  3. Body (several sections)
  4. …
  5. Related work (that is not part of introduction)
  6. Discussion (optional)
  7. Conclusions and future work
- References

If you need a glossary, insert it here
Structure

- Title
- Abstract
1. Introduction
2. Background
3. Body
4. …
5. Related work
6. Discussion
7. Conclusions and future work
- References
The 'face' of your report

Maybe few people read your report, but many will read the title!

You have 2 seconds to catch the reader's interest!

Short

Catchy

True
Structure

• Title

• Abstract

1. Introduction
2. Background
3. Body
4. …
5. Related work
6. Discussion
7. Conclusions and future work

• References
Abstract

• Written last!
• Sell your idea!
• Single paragraph, 100-200 words
• Come directly to the point!
  1. What's the problem
  2. How did you solve it
  3. What are the results
  4. Conclusion (what it means for the future)
• Make sure the abstract stands on its own!
  • The reader may not have access to the full report yet
  • No reference tags
  • Avoid acronyms
Structure

• Title
• Abstract

1. Introduction
2. Background
3. Body
4. …
5. Related work
6. Discussion
7. Conclusions and future work
• References
Introduction

1. Describe the problem
   • Probably including some prior work but not necessarily all related work
   • If this grows too big, consider inserting a Background section after the Introduction

2. State your contributions
   • Perhaps as a bulleted list (optional)
   • For each contribution, refer to where in the report you go into more details, or finish with a short paragraph about the structure of the rest of the report
Structure

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• References
Background

• What does a reader need to know to understand what you have done?
  • This varies wildly between reports.

• Who is the reader?
  • Your supervisor?
  • Your subject reviewer/examiner?
  • Yourself at the start of the work?
  • A random student in your class?
Structure

- Title
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  3. Body
  4. ...
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  6. Discussion
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- References
Body

Subject dependent. For example:

- Theory → Method → Results
- Requirements → Design → Implementation → Evaluation
- Existing methods → Comparison → Suggestions
Explaining things

• Do it top-down! (when possible)
• Intuition first, details later
  • Easier to understand the details
  • A reader who skips the details, gets something valuable anyway
• The order in which you discovered or did things, may not be the best order for the reader!
Explaining decisions

• Justify your decisions!
• Describe also the alternatives!
  • How did you come up with them?
  • Why you did not choose them?
  • (Some of them may of course be open for discussion later, in the Discussion or Future work sections)
Structure

- Title
- Abstract
1. Introduction
2. Background
3. Body
4. ...
5. Related work
6. Discussion
7. Conclusions and future work
- References
Related work

• Part of the introduction or after the body
• After the body: easier to explain, shorter intro
• Prior work $\subseteq$ Related work

• Credit is not like money!
• Giving credit to someone else does not take away from yours!
• Failing to give credit, however, does!
  • If you claim an idea is yours when it isn't, you either did not know (bad), or you knew but pretended it was yours (very bad)
Structure

• Title
• Abstract
1. Introduction
2. Background
3. Body
4. …
5. Related work
6. Discussion
7. Conclusions and future work
• References
Conclusions and future work

• Summarize your contributions
  • Be honest!
  • Acknowledge weaknesses in your work

• Conclusions from the results
• Implications for the future

• No new information in this section!
Structure

- Title
- Abstract
- 1. Introduction
- 2. Background
- 3. Body
- 4. …
- 5. Related work
- 6. Discussion
- 7. Conclusions and future work
- References
References

• Always refer to the literature when
  • you first introduce an established concept
  • you claim things for which there is no evidence in this report
  • you are quoting (including figures from other sources, which require a reference in the caption)

• Most common reference tag formats
  • Vancouver [1] (most common in computer science)
  • Harvard (Andersson, 2019)

• If you want to refer to a certain page, do so in the tag [1, p.17], not in the reference list!
• References in the list must be complete!
  • a source, not just a name and a title
• Refer to the publication, not to the web site where you found the paper! (good complement though)
• web links to publications should be to the publisher's web site, or via the DOI
• Avoid web references!
  • Often neither authoritative nor of high quality
  • Content may, and probably will, change
  • Imagine someone reading your report in 10 years
  • If a web site really is the best source, include:
    • date of access
    • a link to an independent archive (e.g. Wayback Machine)
Language

• Don't write as you talk! (or chat)
• Grammatically correct English, including …
  • Articles ('the', 'a', etc)
  • Singular/plural dependencies (is/are, has/have and verbs with or without an 's')
• Be personal if you wish, but within reason!
  • Your reviewer decides what "within reason" means
  • Don't address the reader directly! ("you")
• Spell check!
• Have someone else proof read
• Spell out acronyms first time they are used
• Use figures!
The most common mistakes

• Forgetting who the reader is
• Taking too much for granted
• Poor reproducibility (lack of details)
• Not supporting your claims by references
• Unnecessary web references
• Incomplete references
  • Author and title is not sufficient
Good luck!