Title of the Thesis

Proposal for (Bachelor's / Master's Thesis)

firstname lastname

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1 Motivation

1.1 Research field

Introduce the general domain of research targeted by this thesis (e.g. VANETS, IMG, Simulation, distributed systems, high performance computing). Show and explain particular characteristics of that domain, use cases, and where appropriate, cite introductory literature. **(remainder of this page)**

...

1.2 Thesis area

Map the particular domain of research of this thesis (e.g. communication protocols security, fault tolerance, scheduling algorithms) to the general domain explained earlier. Identify general and specific questions of this domain. Define requirements (e.g. high/better performance) and goals of this thesis. **0.5 pages**

...

2 State of the Art

Present related work for your thesis such as work serving as a starting point for your own work. This analysis of related work (state of the art) by no means has to be complete. Instead, you should show that you are aware of the problem, existing solutions, or the lack of existing solutions. Your advisor will help you identifying initial papers and book chapters. **(1 page)**

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3 Problem Statement

3.1 Thesis focus

This section shall introduce the main problem the thesis will (try to) solve based on motivation (Section 1) and related work (Section 2). It further identifies artefacts to be created as part of the work such as concept, architecture, implementation, comparison, and performance evaluation. Finally, if applicable approaches to validate the results of the work shall be described ranging from mathematical proof over benchmarking to user study, or simulation. **(0,75 pages)**

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3.2 Research questions

The kind of questions presented in this section depend on the type of thesis. Research-oriented theses (e.g. master's theses) will rather deal with research questions while innovation-oriented theses (e.g. bachelor's theses) with mainly deal with technology transfer and optimisation of existing solutions.

In both settings the questions of this section are supposed to cover the entire problem targeted in the thesis. It is recommended that one or two main questions are identified that are further divided into sub-questions. Your advisor is happy to assist you in identifying and discussing the questions. The questions can be classified as follows:

Description: What happens (in certain situations)?

Explanation: Why is something as observed? Why does it happen that way?

Prediction: How would something evolve (over time, over parameter space, ...)?

Assessment/Judgement: How does something (e.g. results) align with something else (e.g. related work)?

Design/Planning: What has to be done (to reach a goal)?

The questions shall be chosen and put up in a way that allows answering them in the scope of the thesis.

Example

main question ...

1. sub question
2. sub question
3. ...

(0.25 pages)

4 Approach

This section presents first ideas how to target the main questions of the thesis. This may for instance consist of pointers to promising literature (not necessarily completely read and understood) and a sketch how to apply the results of that research in the scope of the thesis. This content of this section does not have to be concrete, but show that a basic understanding of the problem and the next steps exists. **(0.5 pages)**

...

5 Planning

5.1 Own Background

This section presents a self-assessment of the student. It lists relevant experience regarding techniques, methodology, and tools (e.g. simulation tools, programming languages, programming frameworks, protocols, algorithms...) that have been gained in seminaries, lectures, and in practise. In addition, the section also lists areas that require further studying. **(0.25 pages)**

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5.2 Required Resources

if applicable: lists required hardware and software and any other type of resource required for succeeding. **(as required)**

Resource Description ...

Resource Description ...

5.3 Work packages

Coarse grained structure of the timing targeted for addressing the questions of this thesis. Please use a monthly schema for master's thesis and a weekly schema for 6-week bachelor's thesis. Make sure to refer back to the research questions identified earlier (3.2), to include some setting-in period (5.1), and to include some time for writing and revising the text. If specific resources are needed (5.2) you may want to include waiting time as well. **(0.25 pages)**

M1 ...

M2 ...

M3 ...

M4 ...

M5 ...

M6 ...

5.4 Contingency plan

Identify those risks that can already be identified prior to starting working on the thesis (e.g. unavailable resources, no efficient algorithm known, ...) and present a fall back plan for these cases. **(0.5 pages)**

1. Risk item ...
   fall back strategy ...
2. Risk item ...
   fall back strategy ...