



**KTH Computer Science
and Communication**

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OPPOSITION FOR MASTER'S PROJECT

The duties of an opponent are to:

- Critically review the report in question
- Pay particular attention to the problem approach, the methodology chosen and to the interpretation/evaluation of results
- Make annotations on the report of clerical errors, other minor errors, incomprehensible or ambiguous text
- Complete this Opponent Record (use a computer or black ink)
- In advance – at the time stipulated – give this record to the persons stipulated in the instructions for your exjobb subject.
- Orally present your general opinion of and comments on the work during about 5 minutes after the author's presentation of the work
- Put questions to the author of the report following his/her presentation: you may put forward the questions set down in the Opponent Record, or some of these questions, but it is also reasonable to expect the presentation to generate new questions.
- Give the Opponent Record and the annotated report to the author at the conclusion of the seminar

You may contact the person responsible for the degree project, e.g. to test programs.

The Opponent Record can be completed either using a computer or manually. If writing by hand, use red or black ink and write distinctly. The Record copies must be legible but not necessarily aesthetically pleasing.

Master's projects vary considerably. Consequently, at times not all of the questions will be relevant to the project you are opposing. It can be appropriate to rephrase the questions to fit the project. You may also introduce one or two additional questions.

Attempt to answer the questions in the Opponent Record in relative detail. Answers such as **Yes** and **Good** are insufficient.

OPPONENT RECORD

Thesis compiled by Magnus Olsson

Title of thesis: Efficiency evaluation of Simulated USAR Control Methods

Opponent: Jens Ståhl

Was it easy to understand the underlying purpose of the project? Comments.

The swedish abstract was easier to understand, since the term USAR was new to me and it was not explained in the english abstract. Without reading (or not understanding) the swedish abstract it would take quite a lot of time for me to understand what USAR meant. Other than that the introduction and problem statement gives a clear background on what the purpose of the project is. The abbreviation is explained, but that alone is not enough (for me at least) to understand what a USAR robot is.

Do you consider that the report title justly reflects the contents of the report?

Yes, the focus is very much on the actual controls and camera settings so it is a very suitable title.

How did the author describe the project background? Was there an introduction and general survey of this area?

The background information was plentiful, including area of usage for this technology. What could have been more clear is how much this technology is used today, and who is the user? It gives a hint that the users could be inexperienced, which was not my intuitive thought.

To what degree did the author justify his/her choice of method of tackling the problem?

It was motivated well. Given the budget and resources of such a project the method described seemed very sensible and well motivated.

Did the author discuss the extent to which the prerequisites for the application of such a method are fulfilled?

It is implied that it is fully fulfilled since the test subjects completed the course.

Is the method adequately described?

Yes, using eight volunteer operators and with the simulation described in detail the method was clear.

Has the author set out his/her results clearly and concisely?

The author is clear in that no statistical ground has been set to do conclusions. After this statement however, the conclusions and indications are clear and concise.

Do you consider the author's conclusions to be credible?

Yes, since they are very cautiously made. Some of them were based on the users/test subjects experience which made the small sample-issue relevant. It would be interesting to compare the conclusions with some specifications of real USAR-robots (which FOV do they have, what kind of wheels etc). It is a little bit unclear how "ground breaking" these conclusions are.

What is your opinion of the bibliography? What types of literature are included? Do you feel they are relevant?

No literature is included, only references and they are quite sparse. The few (3) that are mentioned are very relevant however.

Which sections of the report were difficult to understand?

Some of the technology specific words, such as USAR and LIDAR could have used a bit more explaining. Also a little bit more information about the tools could have given a better background – how does one work with Unity3D in this case for example.

Otherwise the report were very clear and easy to follow – it might even be a little bit to repetitive at times.

Other comments on the report and its structure.

Good header structure and quite concisely written for the most part. Good looking layout. The discussion-part is quite long (over a page) without any breaks or sub-headings – this could be improved a little bit by adding some meta text or pictures.

What are the stronger features of the work/report?

Its good that the issue with having a 3rd person view is adressed – this strikes the reader as impossible to do outside a simulation. It is however explained why this is a relevant camera setting.

It is fluently written and easy to follow the authors thoughts most of the time. Good text-quality.

What are the weaker features of the work/report?

Some of the information is given many times, for example that the virtual environment for the test subjects has very low visibility and light for a more challenging run. This could be written only under Implementation/Environment.

There are no illustrations, this could have helped understanding in some areas – especially regarding the implementation parts. Since the project itself must have been quite graphical (since it uses a 3d engine) it is a bit confusing why there are no figures in the report.

The measured data could be a part of the report – show what times the test subjects scored with the different FOV-settings.

What is your estimation of the news value of the work?

Not very high since no clear conclusions were made. The subject in itself is however quite good news value so with a more clear conclusion it might very well be of high news value.

Summarize the work in a few lines.

It is a concise report without any graphical aid – the reader must visualise these sometimes spatial situations in his or her head. Apart from that the report is well written and deserves a readthrough from anyone interested in USAR robots. No statistical data is presented which contributes to an easy read.

Questions to author:

- 1. How much is USAR vehicles used in the real world – is there some quantitative measurement of this? Like yearly turnover of the industry or similar.**
- 2. You mention that USAR robots will most likely play a larger role in future rescue missions – what is this statement based on?**
- 3. Have you read anything about similar tests/simulations? Did you expand on anyone else's work or is this a new idea of simulating?**
- 4. You first say that the test subjects found all targets in the course, but in the conclusion you say that their individual skill was a major confounding aspect – could you elaborate? Were they very good, or are they much worse than a professional/the intended user?**