



**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**

Thomas Sjöholm & David Karlbom

**Title of thesis:**

Replicating the emotions of a facial expression on a Furhat robot face using a Kinect input.

**Opponent:**

Magnus Gudmandsen

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

The purpose of the project is, which is easily discovered in the Introduction section of the document, to determine the best way to map emotions and facial expressions from a human face actor, through an Xbox 360 Kinect camera, to the Furhat animated face.

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

The report title is a very good top level summarize of the report, and thereby justly reflects the contents of the report.

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

The background was begun with a clear introduction of the field, inviting the reader to a situation of comfort. However, when the background should go into more depth, it was described in a very concise matter, leaving some of the necessary details out. Instead, the authors have a lot of references (22 references for only two pages of background, and leaves the reader to read up on the details for him/herself.

I would like to see a more detailed background that brings the reader into a deeper understanding of the subject.

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

The authors decided to use a survey to tackle the problem. This was justified by the choice to research how the emotions were anticipated by different people, and if the emotions transferred well to the animated face. The decision to not have any “correct” answers was justified well by stating that the universal recognition hypothesis was not assumed to be true due to contradicting previous research.

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

Before the survey could take place, pictures was needed. This was done using their own implementation of the mapping between Kinect and the Furhat animated face. These pictures was then used as the base of the survey, with questions regarding the emotions of the pictures. In other words – the authors presented the prerequisites for the application of the survey very well.

**Is the method adequately described?**

The survey is described in detail, even if some parts of it are a bit unclear. For example, it was not stated if the participants of the survey received the correct mappings for the final step of the survey, when they should rate how well the emotions matched between real and animated picture, or if they would use their own guess as the correct mappings.

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

The results are very confusing. They are only presented as two tables, with some texts explaining the tables. When reading the text for the first time, it was still not completely clear that the emotions of the pairs were undefined. This is confused even more by the statement that one of the pairs actually had an assigned emotion. One instantly starts wondering what emotions the other pairs might represent.

The results are however very concise, with mostly hard numbers. Any analysis of the results are done in the Discussion section.

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

The conclusion stated was very short. It basically says that the emotions did not transfer very well, and that the emotion was translated better when the difference between the animation and the picture was smaller. The second part of that conclusion is however very trivial, leaving the conclusion to be a simple statement. The authors should probably try to compare their own work to the background presented, creating a good connection between their work to previous work and research in the area.

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

The bibliography is well structured and consistent. It contains mainly of websites, with addition of a few research papers and youtube videos. It feels that the authors have included relevant bibliography, even if some of the references could be left out and replaced with more details in the text.

**Which sections of the report were difficult to understand?**Discussion

This section contained a lot of typos and index errors in figure and table references. The discussion of the survey results was also very short, leaving a lot of questions unanswered.

Appendices

There are close to no figure texts in the appendices, leaving the reader to figure out what the data of tables means, and what the figures represent. For example, in a table describing the input from the survey, the reader is presented with a table without any hints to what each column means.

**Other comments on the report and its structure.**

Figures have a lot of same numbering and wrong indexing, and appendix A.3 is mentioned, even though there is no appendix A.3 in the report. This is a very critical point that needs to be overlooked; it is very confusing for the reader.

**What are the stronger features of the work/report?**Introduction & Abstract

When starting out without much knowledge of the area, the reader is presented by a good abstract, followed by a clear introduction to the field. This creates a state of comfort that is very desired in the beginning of a document.

### **What are the weaker features of the work/report?**

#### Language

The first things that comes to mind when thinking of the weaknesses of the report is the use of the English language. There are a lot of grammatical and spelling errors in the report, which makes it look kind of sloppy and half done. When reading the report, one easily gets unsure about whether the contents can be trusted or not, seeing as the authors do not seem to have even proofread their own work.

When reading many of the sentences, I get the feeling that the authors have been structuring the sentences in Swedish, but written them in English.

When reading the section Survey in Sources of Error in Discussion, the word “whore” and “whores” are used three times. Specifically, I would want to quote the section:

“31 students from KTH did the survey, half of those whores from the School of Computer Science and Communication school.”

This sentence, coupled with all of the other typos and grammatical errors makes me confident that the report is either not very serious or should really have been written in Swedish, due to poor skills in the English language.

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

I believe that the results of the work could be used in some matter to determine if similar cameras to the Kinect camera could be used to animate faces, which I could imagine could be useful in areas such as gaming. As the authors describe, however, the Xbox 360 Kinect camera seems to lack the necessary details in face tracking, but with a better equipment it could indeed be profitable.

### **Summarize the work in a few lines.**

The report presents a project about connecting an Xbox 360 Kinect camera to an animated face, and determining if the face tracking possibilities of the Kinect camera is enough to transfer facial expressions and emotions from a real person appearing in front of the camera to the animated face. The authors conclude that the Xbox 360 Kinect camera is not detailed enough to, with their mapping algorithm, transfer the facial expressions and emotions good enough.

**Questions to author:**

1. How did you come up with the mapping algorithm? It feels fairly complicated, and you do not state that you found it somewhere, did you come up with it yourself? If so, very impressive!

2. What does the tables in the results section mean? It is a bit unclear in the text.

3.

4.

5.

6.