

Opposition for Telepresence using Kinect and an animated Robotic Face

Thesis compiled by:

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Title of thesis:

Telepresence using Kinect and an animated robotic face

Thesis version and source:

http://www.csc.kth.se/utbildning/kth/kurser/DD143X/dkand13/Group6Gabriel/report/report_magnus_johannes.pdf

Opponent:

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

Yes. Relevant background information and purpose was given in section 1.2 of the report.

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

The title of the report is somewhat misleading by use of the word robotic. While the report does bring up the robotic face Furhat, it does not seem to use it in the implementation or study.

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

Background was described in section 2. There is an in-depth survey of the area within that section about Telepresence in general, CANDIDE-3 and Kinect. The survey may be too extensive for the purpose, but I don't think that is a bad thing.

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

Generally the report is missing justification of using Kinect and Furhat versus using other hardware. I don't feel that the method of tackling the problem requires much justification because it is in essence a part of the subject of the report.

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

Yes. The authors describe both the hardware and software used for the implementation and study.

Is the method adequately described?

Yes. The method consists of the implementation and study, which are both described well. I like the usage of UML diagrams in the implementation description, it helped in understanding how the implementation worked.

Have the authors set out their results clearly and concisely?

Yes. Results from the study are presented clearly and concisely with diagrams in section 4.

Do you consider the authors' conclusion to be credible?

Yes. The authors give a credible conclusion with regards to Kinect's limitations and usage-of for the CANDIDE-3 model.

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

The bibliography is good and varied, there are no obvious missing references. I would like to see internet urls for some of the papers cited however, I found that the CANDIDE papers are easily found online. Attaching a URL to those papers, and any other papers which can be found online, would make it easier for a reader to follow up on the citations.

Which sections of the report were difficult to understand?

I did not find any of the sections difficult to understand. To nitpick: the beginning part of the discussion sections had a lot of references back to the diagrams in the results sections which broke the reading flow. Perhaps a more general reference rather than explicit is in order?

Other comments on the report and its structure.

Generally clear and well-structured. Good usage of diagrams for both implementation and study results. However, I feel that the Furhat involvement is unclear. Did you test the Kinect using the Furhat robotic face or did you just use an animation? In the study conducted it would seem that you used an animated face, I think it would have been a lot more interesting if the study was conducted with the Furhat face and the interviewee in person rather than an animated face.

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

Interesting, but as I wrote in the previous question; it would have been much more interesting if the robotic face was used instead of the animated one. I feel that there is a lot of research into motion capture and animation thereof which make this work less noteworthy. Using the robotic face as an actual physical representation of someone's emotion is very interesting however.

Summarize the work in a few lines.

The report and work investigates and evaluates an implementation of Kinect's face tracking used to capture and animate facial representations of human emotions. A study is conducted to measure the likeness and recognisability of human emotions using an animated face. It is

concluded that the emotional state can be represented on an animated face very well for some basic emotions and that the Kinect is not a sufficiently accurate device to capture facial expressions.

Extra Frågor:

1. Why no robot face (furhat)? Is it not ready for testing yet?
2. Is the source code available somewhere to the public? (Hard to reproduce results)
3. How practical is the implementation using a robotic face compared to e.g. the Double's way of streaming video? Traffic usage etc?