



VQEG RICE Ghent 2013

REAL-TIME INTERACTIVE
COMMUNICATIONS EVALUATION

Kjell Brunnström

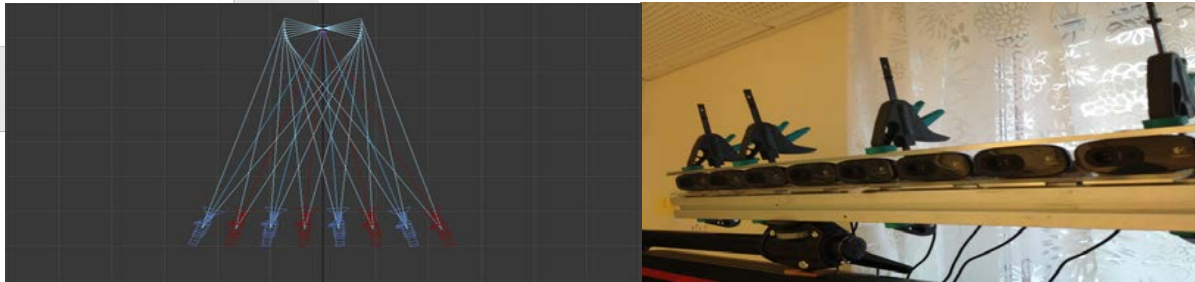
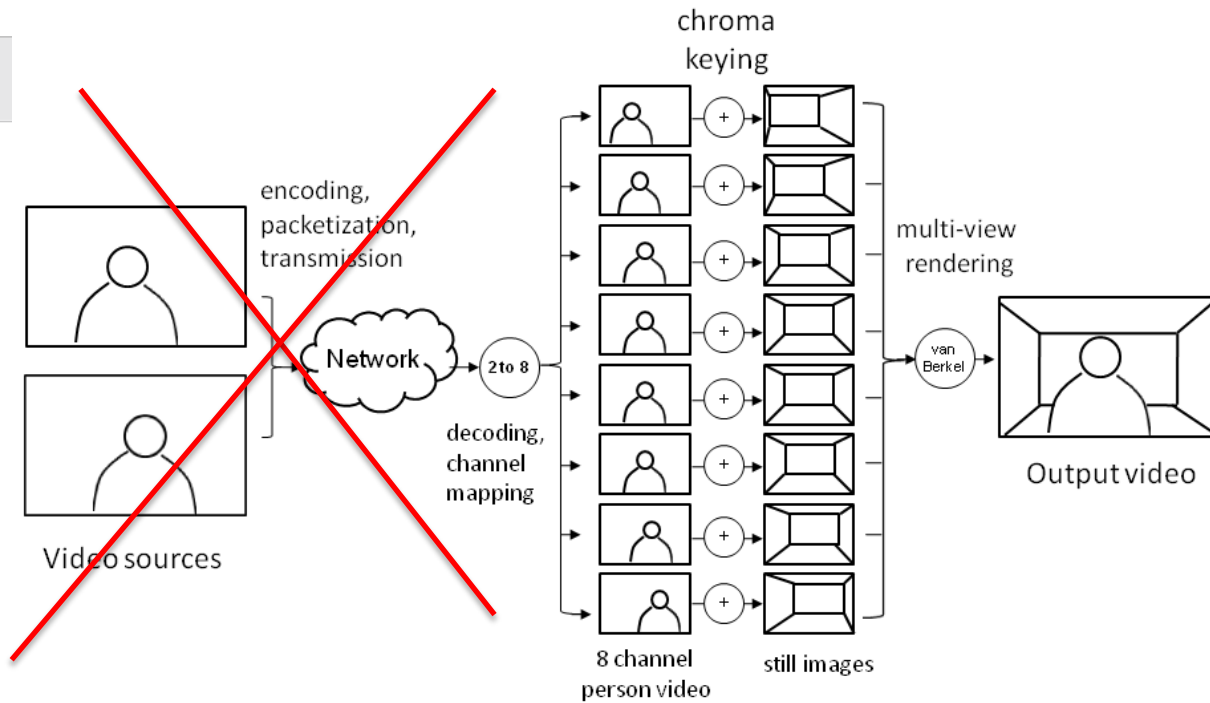
AGENDA

- Presentation 3D video conference experiment
- Discussion RICE work direction

TESTING ADDED VALUE OF 3D IN VIDEO CONFERENCING

- Evaluation of 3D video conference system
- Apart from audio-visual quality we wanted to test difference in performance of depth based tasks

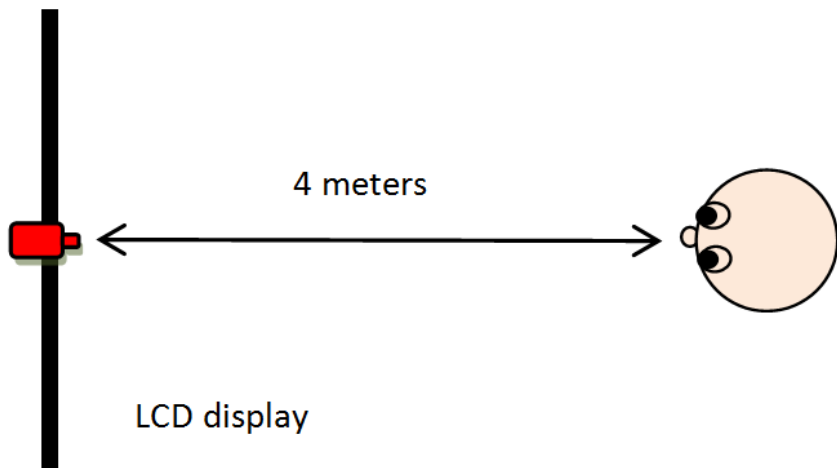
3D VIDEO CONFERENCE



TEST SETUP 2D

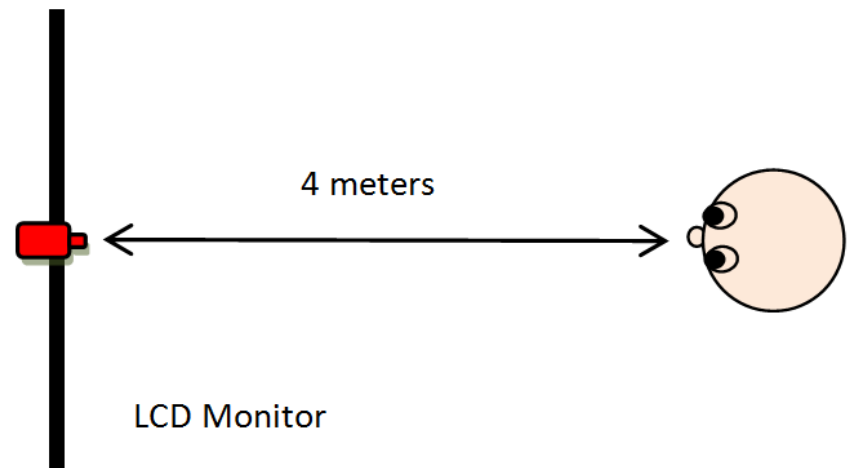
Subject 1 (Room 1)

A HD-camera and an LCD Display



Subject 2 (Room 2)

A HD-camera and LCD monitor



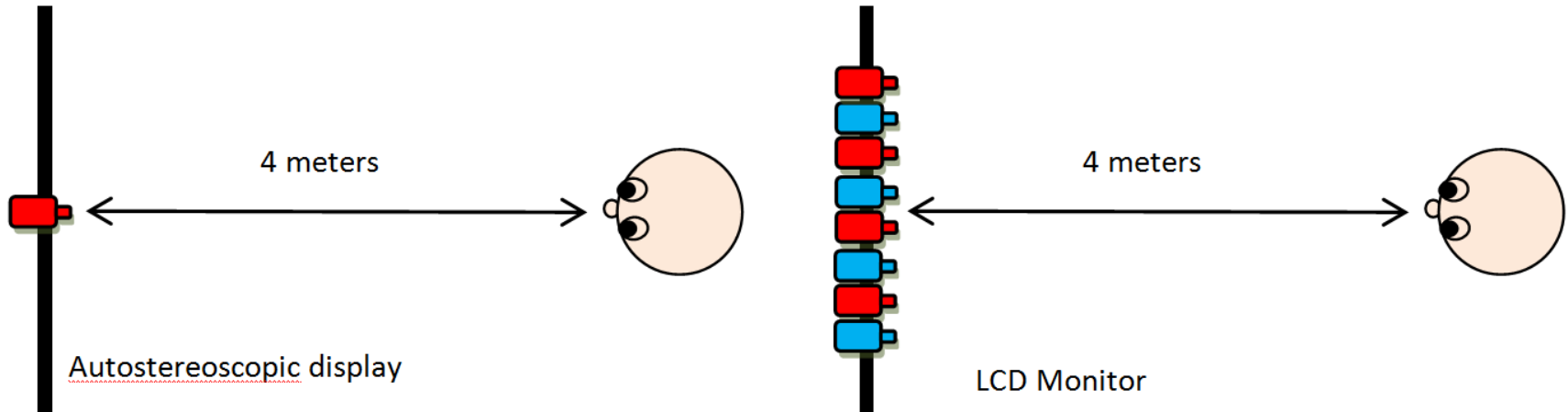
TEST SETUP 3D

Subject 1 (Room 1)

A HD-camera and an Autostereoscopic Display

Subject 2 (Room 2)

Eight HD-cameras and LCD monitor, ideal distance is 4 meters.



METHOD & IMPLEMENTATION

Subjective Evaluation – Questionnaire

- Q1. How would you rate the overall audio-visual quality?

MOS	Quality
Bad	1
Poor	2
Fair	3
Good	4
Excellent	5

Other Questions

TASKS

- 2D tasks name guessing and free conversation
- 3D tasks ball drop test and distance judgement

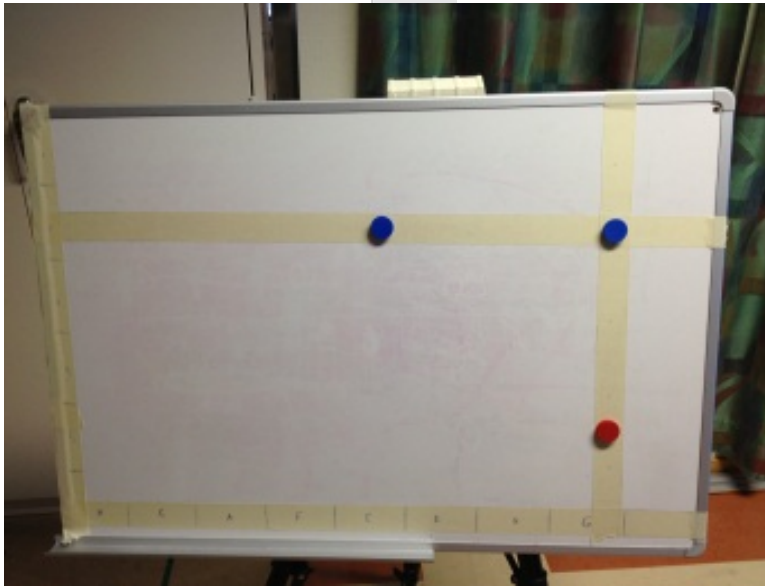
METHOD & IMPLEMENTATION

Subjective Evaluation – Ball-Drop



METHOD & IMPLEMENTATION

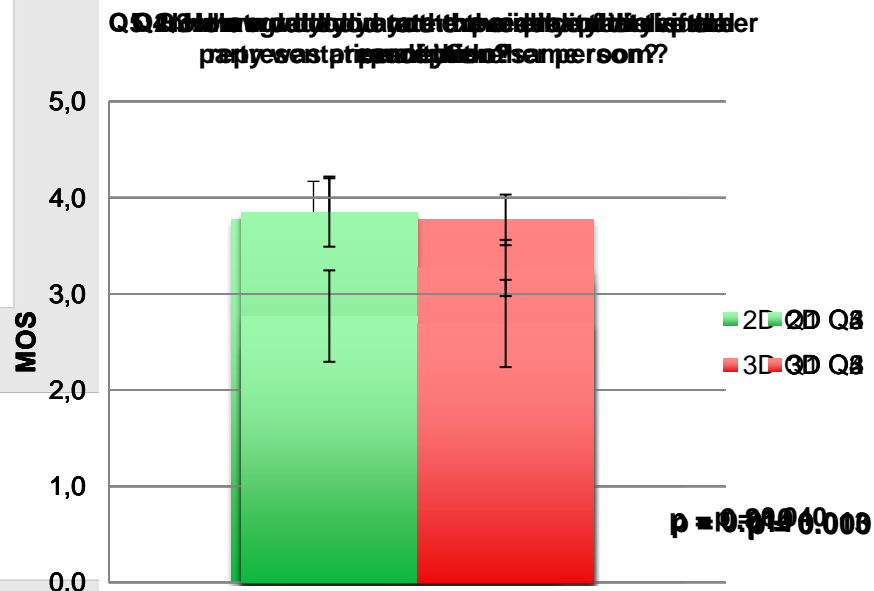
Subjective Evaluation – Judge-Distance



DEMO – SHOW VIDEO

RESULTS & DISCUSSION

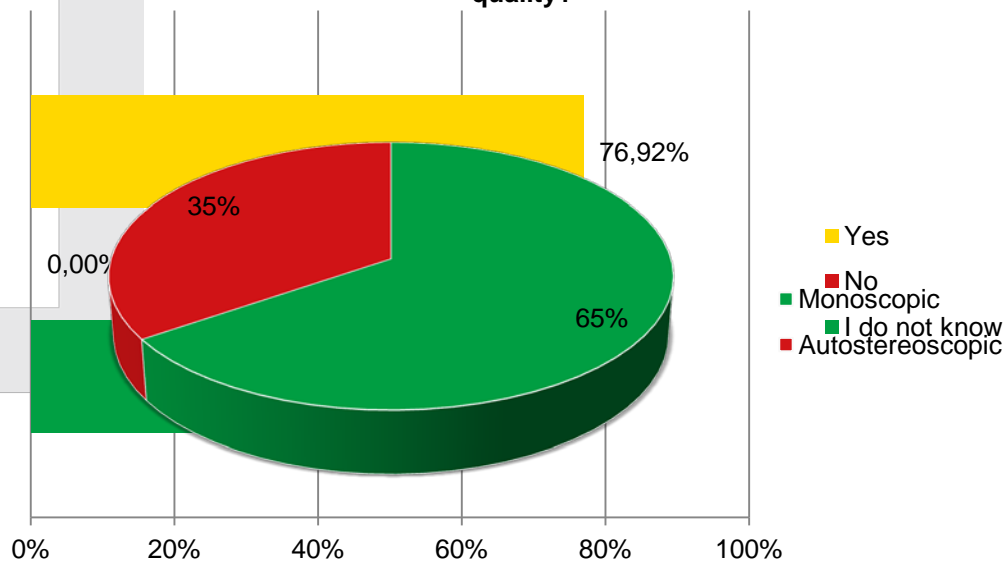
Subjective Test - Questionnaire



RESULTS & DISCUSSION

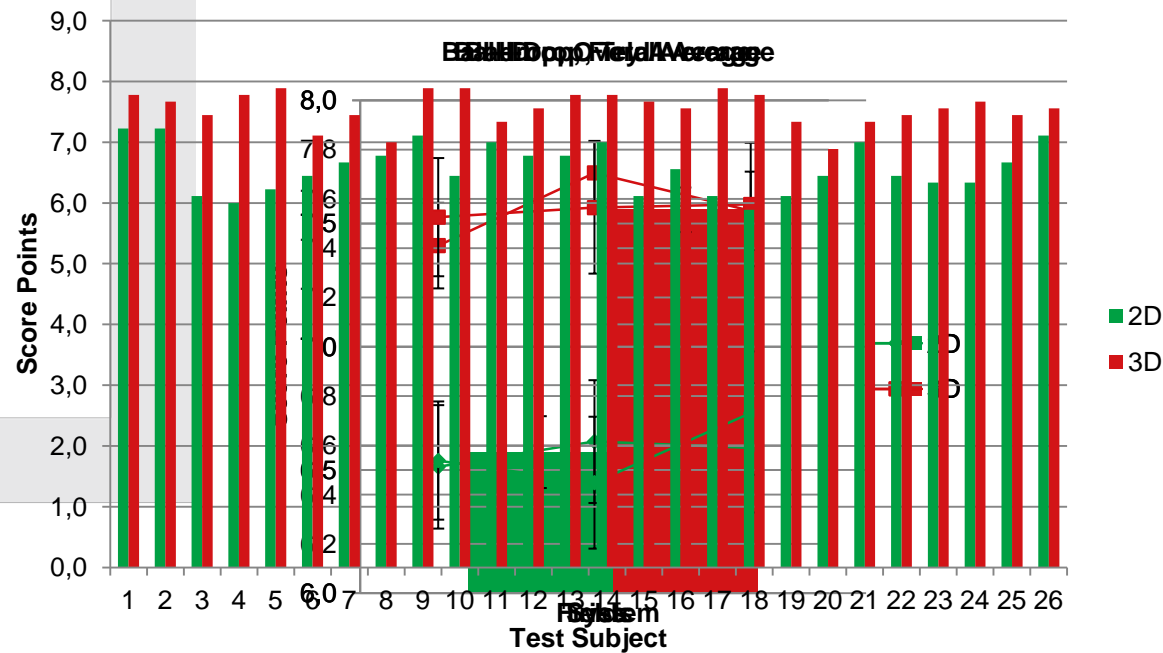
Subjective Test - Questionnaire

Do you think 3D provided with the test the video quality?



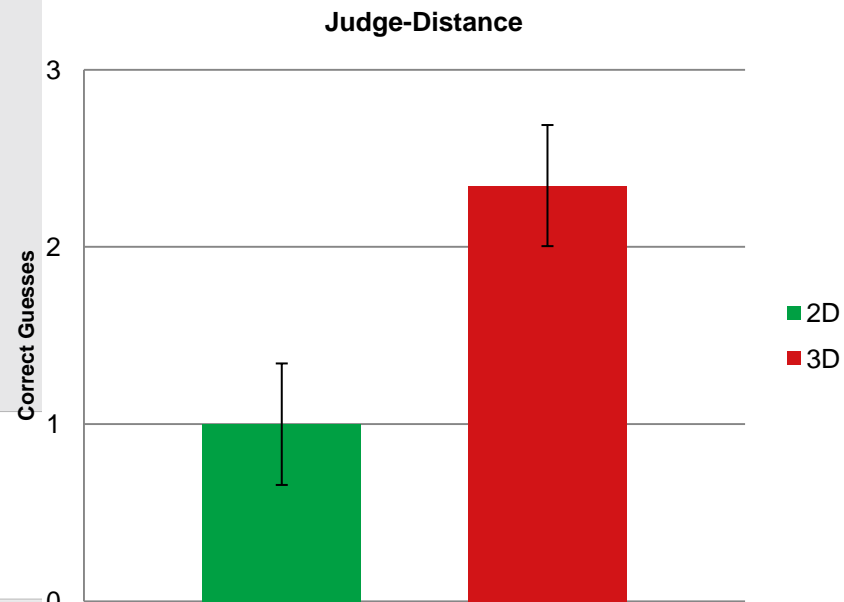
RESULTS & DISCUSSION

Subjective Test – Depth-Based Tasks



RESULTS & DISCUSSION

Subjective Test – Judge-Distance Task



SUMMARY & CONCLUSIONS

- 2D outperform 3D on most aspects
- 3D important for depth related tasks
- People think can bring added value



- Finally we would like thank our sponsors:
 - VINNOVA (The Swedish Governmental Agency for Innovation Systems), TCO Development, Alkit, LC-Tec and Intertek Semko



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