SUPERVISOR’S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name: A semantically interpreter for multi-modal and multi-robot data
Author’s name: Philipp Florian Kashammer
Type of thesis: master
Faculty/Institute: Faculty of Electrical Engineering (FEE)
Department: Department of Control Engineering
Thesis supervisor: Tomáš Strboda
Supervisor’s department: Department of Cybernetics

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment

Evaluation of thesis difficulty of assignment.
The assignment was ordinarily challenging. The core of the task was about developing a software tightly connected to actual robots and the whole system. Signal noise in data was inevitable and the requested software had to cope with it. The student also had to understand the geometry of the robot and sensors.

Satisfaction of assignment

Assessment that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.
The positive point is that the whole complex software pipeline is working. It is worth to mention that it required to understand several parts of the TRADR complex system, which is a research project, is not always well documented. The experiments are just sufficient. No doubt, all cases were tested. Limits of the proposed approach are unknown.

Activity and independence when creating, final thesis

C - good.
Assessment that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assessed student’s ability to work independently. Philipp worked quite independently and consulted reasonably often. He was also able to collaborate and discuss with project partners. His effort was not always at the same level, but he always managed to recover from weaker phases of his endeavor. Still, the uneven effort a bit harmed the overall quality of the work and the text of the thesis.

Technical level

C - good.
Assessment of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.
The technical level is acceptable. The methods used are simplistic and there is definitely room for improvement. The appearance based vision matching is not well tested and it is difficult to evaluate the actual performance. Individual parts of the algorithm, like 3D posture estimation, are not sufficiently tested.

Formal and language level: scope of thesis

E - sufficient.
Assessment of correctness of usage of formal notation. Assess typographical and language arrangement of thesis.
The structure of the thesis is reasonable. English is rather weak making reading and comprehension difficult at several places. Some parts require multiple reads in order to understanding the meaning. The low quality of the text is perhaps the weakest part of the work.

Selection of sources: citation correctness

B - very good.
Assessment of student’s activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own

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III. OVERALL EVALUATION: QUESTIONS FOR DEFENSE: CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your "final evaluation."

The "final evaluation" is not easy to reach. On the positive side, the student worked independently and was suggesting his own ideas. The "final solution" was implemented and integrated into the overall system. On the negative side, I see that some design choices are sub-optimal, experiments are incomplete, and the text of the thesis is very weak.

I evaluate handed thesis with class "c" on grade C - good.

Date: 06/08/16

Signature:
Czech Technical University
Faculty of Electrical Engineering
Department of Control Engineering
Examination board

CTU Diploma Project Review
Kiruna. September 7 2016

CTU Diploma Project review- 2nd reviewer’s evaluation of master thesis with title
"A semantic interpreter for multimodal and multirobot data" by Space Master student Philipp
Käshammer.

I find that the goal of the thesis project well fulfills the requirements of a master thesis in
space technology. The work concerns development of a system that based on a low-level
database (images) recognizes objects (i.e. victims in catastrophe scenarios), a so called
semantic interpreter.

The thesis includes databases, neural networks, imaging and other subjects not part of the
main path for the Space Master education. Through the thesis project work the student has
shown that he has been able to work with new tasks learning new concepts within a limited
time.

The thesis is only 48 pages, but the student manages to present the project and the relevant
background theory in a very clear way without unnecessary information, helping the reader
to understand the problem and the motivations for the choices of the final solution.

The implemented system is validated using simulations with different scenarios and the
student performs a quantitative and qualitative analysis of the results. I find that specially the
qualitative discussion in chapter 5 clearly reveals that the student has a deep understanding
of the subject and has been able to perform the analysis and modelling independently.

Based on the review above I recommend to grade the thesis by A( excellent). The oral
presentation is still to be graded.

This review serves solely for the purposes of the diploma project defense at CTU. LTU official
evaluation for the SpaceMaster double degree will follow the thesis defense and may differ
from this review report and suggested grade.

Dr. Anita Enmark
Luleå University of Technology