ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

SUPERVISOR'S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name:	A seman□c interpreter for mul□modal and mul□robot data
Author's name:	Philipp Florian Kashammer
Type of thesis:	master
Faculty/ Ins□tute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Control Engineering
Thesis supervisor:	Tomáš Svoboda
Supervisor's department:	Department of Cyberne□cs

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment — ordinarily challenging

Evalua□on of thesis di□culty of assignment.

The assignment was ordinarily challenging. The core of the task was about developing a so! ware □ghtly connected to actual robots and the whole system. Signi" cant noise in data was inevitable and the requested so! ware had to cope with it. The student also had to understand the geometry of the robot and sensors.

Sa□sfac□on of assignment — fulfilled with minor objections

Assess 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 posi□ve point is de" nitely that the whole complex so! ware pipeline is working. It is worth to men□on that it required to understand several parts of the TRADR complex system which, being a research project, is not always well documented. The experiments are just su* cient. No di* cult cases were tested. Limits of the proposed approach are unknown.

Ac□vity and independence when crea□ng , nal thesis — C - good.

Assess that student had posi□ve approach, □me limits were met, concep□on was regularly consulted and was well prepared for consulta□ons. Assess student's ability to work independently.

Phillip worked quite independently and consulted reasonably o! en. He was also able to collaborate and discuss with project partners. His e/ ort was not always on the same level but he always managed to recover from weaker phases of his endeavor. S□ll, the uneven e/ ort a bit harmed the overall quality of the work and the text of the thesis.

Technical level — C - good.

Assess level 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 simplis□c and there is de" nitely room for improvement. The appearance based vic□m matching is not well tested and it is di* cult to evaluate the actual performance. Individual parts of the algorithm, like 3D posi□on es□ma□on are not su* ciently tested.

Formal and language level□scope of thesis — E - sufficient.

Assess correctness of usage of formal nota□on. Assess typographical and language arrangement of thesis.

The structure of the thesis is reasonable. English is rather weak making reading and comprehension di* cult at several places. Some parts requires mul□ple reads in order to understanding the meaning. The low quality of the text is perhaps the weakest part of the work.

Selec□on of sources□cita□on correctness — B - very good.

Present your opinion to student's ac□vity when obtaining and using study materials for thesis crea□on. Characterize selec□on of sources. Assess that student used all relevant sources. Verify that all used elements are correctly dis□nguished from own

results and thoughts. Assess that cita on ethics has not been breached and that all bibliographic cita ons are complete and in accordance with cita on conven on and standards.
The student used appropriate sources and used them accordingly. Some references are somewhat incomplete, e.g. [7] and [8].

Addi onal commentary and evalua on
Present your opinion to achieved primary goals of thesis, e.g. level of theore cal results, level and func onality of technical or so%ware concep on, publica on performance, experimental dexterity etc.
Please insert your commentary (voluntary evalua on).

III. OVERALL EVALUATION QUESTIONS FOR DEFENSE CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your ' nal evalua on.
The " nal evalua on is not easy to reach. On the posi ve side, the student worked independently and was sugges ng his own ideas. The " nal solu on was implemented and integrated into the overall system. On the nega ve side I see that some design choices are sub-op mal, experiments are incomplete a the text of the thesis is very weak.

I evaluate handed thesis with classi" ca on grade C - good.

Date: 09/08/16

Signature:

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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 fulfils 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
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