

I. IDENTIFICATION DATA

Thesis title:	Indoor mobile robot localization using up-looking camera
Author's name:	Eslam Elgourany
Type of thesis :	Master
Faculty/Institute:	Faculty of Electrical Engineering
Department:	Department of Control Engineering
Thesis supervisor:	Karel Kořnar
Supervisor's department:	CIIRC

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	Select: ordinarily challenging
<i>How demanding was the assigned project?</i>	
The assignment involves use of real robots and sensors.	

Fulfilment of assignment	Select: minor objections
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
The experimental part of the thesis is insufficiently evaluated and described.	

Activity and independence when creating final thesis	Grade: B
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
Student was active during the whole semester and works hard. He consults the work often and follows the advice of the supervisor. The level of independence can be improved. Unfortunately, he was lock-down in Egypt due to coronavirus for a significant period of time. The possibility to work remotely was limited, as the real robot was involved in the thesis.	

Technical level	Grade: E
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
The mapping method, taking advantage of external localization is working. The selected method of the particle filter is appropriate for robot localization. The proposed sensor model is designed well. The selection of the python for the implementation causes long processing time but is sufficient for proof of concept. Major deficiency of the work is in the experimental part. I know, that the experiments were executed, but the description of them is unsatisfactory. The presented map shows, that the mapping part is working but it is hard to evaluate the precision or correctness. I expect a comparison of the ground-truth position from external localization with a proposed method.	

Formal level and language level, scope of thesis	Grade: B
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
The thesis is written in a readable manner. The structure of the thesis is appropriate. There are minor typographic errors like missing letter "ř" in the name Jiří.	

Selection of sources, citation correctness**Grade: D**

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The selection of sources is appropriate. The bibliographic citations of many sources don't meet the standards (e.g. the citation of the diploma thesis, some of the on-line sources or citation[13], etc.)

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Even the student was working hard, the thesis has a significant deficiency in the experimental evaluation. I believe, it is caused by the forced interruption of the work by the lockdown due to coronavirus measure. Nevertheless, it is hard to evaluate the quality of the work, if the experimental results are not presented.

Therefore, the grade that I award for the thesis is **E**.

Date: 25/08/2020

Name and signature:

Karel Kořnar