ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

SUPERVISOR'S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name:	**Exploitation of unmanned aerial vehicles in mobile networks**
Author's name:	**Yevhen Lystovshchyk**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Telecommunication Engineering
Thesis supervisor:	Ing. Jan Plachý
Supervisor's department:	Department of Telecommunication Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment **extraordinarily challenging**

Evaluation of thesis difficulty of assignment.

The assignment requires a wide theoretical knowledge and an ability to solve a complex problem in the research area which is very novel.

Satisfaction of assignment **fulfilled**

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 student fulfills all objectives of the thesis and is in line with the assignment.

Activity and independence when creating final thesis **A - excellent.**

Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.

The student has regularly attended weekly meetings during which he has shown his preparedness and ability to work independently, which was supported by many interesting ideas how to solve the assignment.

Technical level **A - excellent.**

Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.

In line with the thesis, the student has gained a large knowledge by studying expert literature of both general and specific focus. From the technical level, the thesis is on a high level and satisfies all requirements on the bachelor thesis.

Formal and language level, scope of thesis **B - very good.**

Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.

Both formal and language levels are of high level. Nevertheless, there are some missing commas and equation numbering is missing. Moreover, there is a small typo in Figure 12. and 13., as x axis should originate in 5 m instead of 0 m. However, these typos do not have a strong impact on the quality of formal and language levels.

Selection of sources, citation correctness **A - excellent.**

Present your opinion to 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 results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.

The student presents in the thesis a chapter with related work, covering up to date literature review. Sources are well selected and relevant. Existing work is correctly distinguished from the student's thoughts and results. Citations are in line with convention and standards of the thesis area of expertise.

Additional commentary and evaluation

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Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.
In the thesis, the student clearly states the need of the proposed work, which is backed up by performance comparison with existing approaches by simulations. The comparison shows the clear gain of the proposed approach and can be exploited as a base of publication outputs.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

The presented thesis is on a high level from both expert and formal level. The student has shown his ability to solve a complex problem and his ability to work independently. The thesis required a wide spectrum of expert literature, which is demonstrated by the theoretical part of the thesis. The performance evaluation of the proposed solution clearly demonstrates the gain and the importance of the proposed solution.

Questions for defense:

1. **Is it possible to exploit the proposed approach for users with mobility?**
2. **Given the shown total throughput, is it feasible to provide the required UAVs' connectivity wirelessly?**

I evaluate handed thesis with classification grade **A - excellent.**

Date: **5.6.2017** Signature: