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 reviewer:	Ing. Tomáš Kukrál
Reviewer's department:	External reviewer

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	extraordinarily challengin

Evaluation of thesis difficulty of assignment.

The assignment for this thesis is fairly general and unspecific. However, it requires high level of the expertise and deep knowledge of advanced algorithms.

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.

Fulfilled absolutely.

Method of conception	outstanding

Assess that student has chosen correct approach or solution methods.

At the beginning, the author is defining purpose of this thesis in the context of related work and he is explaining practical use-cases for the algorithm. Expected results, edge cases and simulation settings are described afterwards. The most important part is a description of the genetic algorithm and definition of cost function. The result are discussed the the end of the thesis, together with future work.

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.

Technical level of this thesis is excellent and the used methods are much more advanced compared to the common bachelor thesis.

Formal and language level, scope of thesis	A - excellent.

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

This thesis have very high formal and language level. It has less pages than the average bachelor thesis but it brings more than average of the knowledge. The author is focusing purely on the problem and he isn't trying to give comprehensive and excessive description on well know facts. I find this approach much better than long text with almost no content.

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.

All of the citations are correct and well formatted. There is a section "Related work" with overview of the articled focusing on similar problems. These information are then used as a foundation for this work and differences are described in detail.

Additional commentary and evaluation
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.
Mr. Lystovshchyk was able to run simulations and get valuable data, which can be used in further publications. He is able to clearly define the problem and run simulations to support his results.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

I evaluate handed thesis with classification grade A - excellent.

The author of this thesis isn't trying to give comprehensive overview of the problem. He is focusing purely on the important parts and expect the reader to have some elementary knowledge. I really appreciate that he is able to describe the problem, define it in the context of related works and to justify the limits of his solution.

Problem is defined briefly and solution is presented concisely. However, it still keep more than enough of expertise.

Otázky:
1. **How can be the optimization of UAV position affected by a terrain?**
2. **Is it possible to use genetic algorithm for the real-time optimization?**

Date: 06/05/17   Signature: