REVIEWER'S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name:	**MODELING OF "DOOR TO DOOR" TRANSPORT SERVICE APPLICATION**
Author's name:	**Bc. Jakub Štok**
Type of thesis :	master
Faculty/Institute:	Faculty of Transportation Sciences (FTS)
Department:	Department of Transport Telematics
Thesis reviewer:	Ing. Tomáš Těthal BEng
Reviewer's department:	

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

Evaluation of thesis difficulty of assignment.

Assignment is difficult and challenging since the complexity of the task is relatively high and many components and services have to be interconnected to create a working solution. Knowledge from several fields had to be put together to reach the final goal.

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.

Student clearly describes architecture of the proposed system, methodology of simulation together with machine learning approaches and optimization algorithm. The introduction describing different means of transportation is rather exhaustive, but introduction to the problem itself is brief. I would appreciate deeper introduction into the problem itself.

Method of conception	**correct**

Assess that student has chosen correct approach or solution methods.

Since this field is relatively new and door-to-door transportation has been implemented mostly only as a concept, the student didn't have many guidelines how to face the problem. Even though the solution might seem overly complex, the simulation results are promising and the approach is suitable.

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.

The technical level of proposed system exceeded the scope of knowledge gained by study. Many different computer science approaches were combined including several programming languages. The code itself is readable, but hardcoded constants and long methods should be omitted. It's risky and makes modification of input parameters difficult.

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

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

Written English is on a high level and formal notations are in a correct form.

Selection of sources, citation correctness	**B - very good.**

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.

Student thoughts are clearly distinguished from those taken from literature. Statements in the thesis are correctly cited. Some non-scientific articles and programming guides could be omitted.

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.

Results are represented by number of graphs is well chosen and understandable form. I would really like to see results from real life operation, since the simulation results seem promising.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

1. You've stated that one of the main limitation of the simulation is the database speed. Have you considered using modern approaches such as in-memory database?
2. In section 4.5 the accuracy of simulation was 97%. How can you calculate the accuracy without having real data?
3. You simulate transportation of passengers either from hub, or to hub. Have you considered the possibility of doing both simultaneously?
4. Have you considered the convenience of passengers? From the optimization point of view a van full of passengers can be a good solution, but more personal space and short travel times can be significant aspect of the door-to-door approach.

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

Date: **15.6.2017**   Signature: