

I. IDENTIFICATION DATA

Thesis name:	Terrain Modeling and Motion Planning for Hexapod Walking Robot Control
Author's name:	Diar Masri
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Belter Dominik
Reviewer's department:	Faculty of Electrical Engineering, Poznan University of Technology

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
The goal of the thesis was to design and implement the complete navigation system of a walking robot. The system includes: perception and mapping module, localization subsystem, foothold selection module and motion planner. This task is complex and requires outstanding skills in the field of robotics and computer science.	

Satisfaction of assignment	fulfilled
<i>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.</i>	
All goals have been accomplished. The navigation system has been verified experimentally o the real robot.	

Method of conception	outstanding
<i>Assess that student has chosen correct approach or solution methods.</i>	
The relevant methods were chosen to solve problems.	

Technical level	A - excellent.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
The relevant scientific and engineering methods are applied. The results obtained in the thesis confirm high technical skills of the author.	

Formal and language level, scope of thesis	A - excellent.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The structure and language of the thesis are at an high level. The thesis is well written and easy to follow.	

Selection of sources, citation correctness	A - excellent.
<i>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.</i>	
The work presented in the thesis is put in a general context and justified properly. The key literature is cited in the text. The level of referencing is appropriate.	

Additional commentary and evaluation
<i>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.</i>

The thesis provides interesting methods and presents original work. The work is substantially completed.

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.

The thesis presents the concept and implementation of the whole navigation system of the robot. The objectives of the thesis are well defined and easy to understand. The relevant methods are applied convincingly. The problem solved in the thesis is challenging. The proposed solution are practically justified and well-grounded.

Questions:

- In all experiments the terrain is horizontal. The planner also defines the horizontal coordinates (x and y) of the robot's body. Is the motion planner working on the tilted or rough terrain?
- Is the model of the terrain updated when the robot executes the planned motion?
- The costmap of a foothold accessibility is not presented for the experiments on the real robot. Is the binary foothold map used in these experiments?

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

Date: **3.6.2016**

Signature: