

Prague 19.6.2016

Review of the thesis supervisor

Title: Design of a laser distance sensor with a web camera for a mobile robot

Author: Bc. Ashykhmin Mykhailo

The goal of the master thesis, authored by Bc. Mykhailo Ashykhmin was to propose, design, develop and test a low cost device for obstacle detection in front of a mobile robot.

The author had to first search for suitable sensors, parts and algorithms to fulfill the task. The device structure was chosen to be composed of a web camera and a line laser. Based on the literature review he identified two suitable algorithms for the obstacle detection.

The student has then designed the mechanical arrangement and the required parts. The parts were 3D printed. He then assembled the device together.

Next step was to design a LabView program. The program takes the image from the USB connected camera. It processes the image of the on the obstacle projected laser line. Last step is the obstacle distance calculation in one selected point. The testing has confirmed a good function of the device.

During the preparation of the thesis the student had worked independently, attended our regular weekly meetings and completed the assigned tasks without any delays.

He has shown his ability to work independently on assigned tasks.

I recommend the thesis for presentation and evaluate with grade „A - excellent“.

Doc. Ing. Martin Novák Ph.D.

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