

Review of thesis supervisor

Thesis title: Stabilized driving platform

Author: David Mateo Dubrovsky

The goal of the thesis was to design and build a stabilized platform, that could be mounted on a moving undercarriage and stabilize whatever is placed on the platform during motion.

The specific goals were:

- 1) mechanical redesign of all parts
- 2) electronics platform, controlled by Arduino.
- 3) programming

The student has first focused on a literature review, finding and describing similar projects. The goal was to build a low cost (and low performance) platform, that would more or less serve as a proof of concept.

After the concept was clear, he had to design the structure of the platform and the all its components. For this, he had to familiar himself with 3D printing, what are the limitations of the technology and how to use it properly. Together with another student he also had to make a 3D printer operational in the lab. The majority of the parts were then printed by the student himself. Other parts such as screws, bearings etc. were provided. The platform has obvious limitations, for example the weight of the object on the platform. The thesis documents well the structure of the design.

For control, the student has chosen an Arduino. He had to learn how to use it. The platform position is read by MPU6050, an integrated accelerometer with gyroscope. The control design is well documented in the thesis. Results are shown on photographs of the platform and with charts how the platform reacts to commands.

The student has regularly shown his progress on weekly meetings. While working on the thesis he had to learn new skills, such as 3D printing and programming.

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

Doc. Ing. Martin Novák Ph.D. – thesis supervisor

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