

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	Universal solar powered water quality monitoring IoT device and notification system
<b>Author's name:</b>	Catherine Kanama
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Dept. of Microelectronics
<b>Thesis reviewer:</b>	Vladimír Janíček, MSc., Ph.D.
<b>Reviewer's department:</b>	Dept. of Microelectronics

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>ordinarily challenging</b>
<i>How demanding was the assigned project?</i>	
The project was focused on the implementation of a remote monitored system for monitoring water quality. The application uses the IoT concept. The work consists of a hardware part covering the design of circuit wiring, programming of service software and connection to an external database for monitoring operating parameters. The type is work of an application nature rather than a scientific one.	

<b>Fulfilment of assignment</b>	<b>fulfilled</b>
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
The device is fully functional, has been tested in live operation and did not show any major errors during it. I consider the goals of the work fulfilled.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</b>
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
During the semester, the student consulted with me on the solution process, regularly attended control meetings and was always able to solve the problems on her own.	

<b>Technical level</b>	<b>A - excellent.</b>
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
Due to the intended area of application, the main emphasis of the work is on optimizing consumption and providing electricity from solar cells. The input analysis of observable parameters and the selection of the necessary sensors is described in detail.	

<b>Formal level and language level, scope of thesis</b>	<b>A - excellent.</b>
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
The work is logically divided into a theoretical part, where the student describes the technical parameters monitored during water testing, and the implementation part, which deals with the design of the device. In terms of language, the work meets the requirements. The work is not written in the passive voice, but this does not reduce its quality.	

<b>Selection of sources, citation correctness</b>	<b>B - very good.</b>
<i>Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?</i>	

The student bases her claims on references to a sufficient number of sources. I'm missing online citation data.

**Additional commentary and evaluation (optional)**

*Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.*

Please insert your comments here.

### III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

*The work is focused on the currently very current issues of quality control of strategic raw materials (water). The device is able to work autonomously without operator intervention and deliver test results to a central data server, where the measured values are evaluated. A large part of the work is devoted to the optimization of the power supply to ensure energy self-sufficiency. The prototype was implemented and successfully passed the testing period. The work creates a complex impression, proves the student's ability to find out the necessary information, design the device and then, after creating the software, successfully revive it.*

The grade that I award for the thesis is **A - excellent**.

Date: **3.6.2020**

Signature: Vladimír Janíček