



OPPONENT'S EVALUATION OF THE MASTER'S THESIS

Student: Muhammad Tahir

Opponent: Elso Rodríguez García

Study program: **Information Technologies**
Study course/Specialization: **Software Engineering**
Academic year: **2023/2024**

Master's Thesis topic: **Development of an OPC-UA Client for PLC Monitoring and Control**

Evaluation of the thesis:

Please enter your evaluation of the submitted work here. The report will focus on:

- The thoroughness of the elaboration, its validity and the difficulties resolved in the thesis.
- The method and level of the concepts resolved in the thesis.
- The level of the student's thesis topic and elaboration and its contribution(s).
- The formal aspects of the thesis, errors and mistakes in the technical aspects.
- Questions relating to the defence of the thesis.
- In conclusion, assess the overall qualities of the submitted thesis and classify it according to the rating scale shown at the end of this form.

The evaluation may be extended to cover further pages.

Strengths

The developed issue is relevant and it has practical application to the challenges that currently arise in the industry. The urgent need for technologies that allow more exact and precise control over industrial processes requires technological developments that achieve this. Therefore, the developed project has a direct practical application.

The topic presented has a clear exposition of the concepts used. It shows an adequate explanation of the devices used in the development of the project and the methodology used clearly indicated. Regarding the development of the project, it details the process very accurately, clearly explaining the methodology used so the results can be replicated to verify them.

At the beginning of the text, one of the objectives set out in the thesis stands out:

“Creating a customized solution that allows PLCs to be controlled and communicated with via an IT system using the OPC UA protocol is the basic aim of this thesis...”(pg. 10)

Based on the results obtained, it is evidently fulfilled, it was possible to create a customized communication between the PLC and the client.

Technical errors were not observed

Areas of opportunity

Regarding the second objective described on page 11

“The thesis seeks to give actual evidence of the advantages and potential disadvantages of the developed customized solutions for OPC UA-based approach...” (pg.11)

There is an omission regarding the potential disadvantages of the project, it does not describe what they could be.

Another omission that exists is the lack of information about the PLC model or brand used in the project or if it could be of generic application.

The need for the project must be argued in a stronger way, presenting the benefits of development with real situations.

Evaluation

Because the omissions presented in the report do not directly negatively influence the main objective of the project, a grade “A” is assigned.

Overall evaluation of the thesis:

The Opponent shall grant a mark according to the ECTS classification scale:

A – Excellent, B – Very Good, C – Good, D – Satisfactory, E – Sufficient, F – Insufficient

An “F” grade also means "I do not recommend the thesis for defence."

I recommend this thesis to be defended and suggest the following evaluation:

A - Excellent

In the case of an evaluation grade of “F – Insufficient”, please supply the main shortages and reasons for this assessment.

Date: 29.8.2024

Thesis Opponent's Signature: