



Supervisor's statement of a final thesis

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Thesis title: RPA and OCR integration
Branch / specialization: Web and Software Engineering
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Evaluation criteria

1. Fulfillment of the assignment

- [1] assignment fulfilled
- ▶ [2] **assignment fulfilled with minor objections**
- [3] assignment fulfilled with major objections
- [4] assignment not fulfilled

A combination of so-called Robotic Process Automation (RPA) with Optical Character Recognition (OCR) resonates in industry. It is often emphasized by renowned consulting firms. However, RPA is quite a new technology, not many industrial case-studies are available. Therefore, the goal of this thesis is to contribute here. The submitted FT defines the objectives sufficiently and is in line with the assignment. My only remark goes to the second point of the assignment "Review available case-studies of bigger-size RPA/OCR". Although both RPA and OCR are reviewed in detail, the thesis lacks this case-study review. However, needless to say that throughout the year, the student tried to find available case-studies and even contacted UI Path re-sellers. Unfortunately, with no success. This justifies why this particular section is not broadly elaborated.

2. Main written part

75 / 100 (C)

The thesis is very-well structured, it clearly revisits the goals and evaluates them independently. The State-of-the Art chapter is very detailed. I only find section "what is OCR" a bit redundant as OCR was already introduced in the "Analysis of OCR" section. The extent of the thesis is appropriate to its topic, the formal notation is correct, only the abbreviations are a bit chaotic. I would prefer that the student is consistent with using abbreviation from the point it is defined. Moreover, some abbreviations are used without a definition what makes the readability difficult. The citation ethics could be improved, often the student describes statements that would deserve citation. It only contains certain marginal grammatical errors and typos.

3. Non-written part, attachments

80/100 (B)

The goal of the non-written part was to create a prototype of integration between RPA and OCR. The student introduced a case-study in the area of Order Management in Pharmacy. She showed how RPA/OCR can automate the corresponding workflow. The student demonstrated the automation using UiPath and Abbyy. Even though many edge-cases are not solved in this prototype, and only the "happy path" is implemented, the main challenge was to inspect all the involved systems, conceptually and technically, and to propose their meaningful integration. Although the attached source code is rather decent, it is appropriate to the scope of the thesis. I appreciate that the student demonstrated the integration on an attached video.

4. Evaluation of results, publication outputs and awards

80/100 (B)

As mentioned above, the industry lacks case-studies regarding RPA/OCR integration. Therefore, the case-study in this thesis can contribute here. However, I am not 100% sure, if the given RPA/OCR program would contribute directly. It would need to be adapted to the requirements of the customers and their concrete Order Management process.

5. Activity of the student

- [1] excellent activity
- [2] very good activity
- ▶ [3] **average activity**
- [4] weaker, but still sufficient activity
- [5] insufficient activity

In the beginning, the student was very active and worked on the thesis intensively. However, due to private reasons and the difficult situation with COVID, the work was slightly discontinued. Nevertheless, I do really appreciate that the student got reborn in the final month and provided the thesis in the desired quality.

6. Self-reliance of the student

- ▶ [1] **excellent self-reliance**
- [2] very good self-reliance
- [3] average self-reliance
- [4] weaker, but still sufficient self-reliance
- [5] insufficient self-reliance

Student was self-reliant. We met on regular appointments to touch base with the student. However, all her tasks were done independently.

The overall evaluation

80/100 (B)

The work evaluates quite a new area of RPA and OCR. Overall, the student had to gain quite some conceptual overview regarding RPA, OCR, and Neural Networks. She had to learn new technologies, UiPath and Abbyy, and she had to investigate their smooth integration. Therefore, she proved her engineering skills to analyse, propose, and

implement a solution using technologies she had not been familiar with. Despite my only remarks regarding the redundancy, consistency, and citation ethics, I am very positive about this work as it deals with something very new, often emphasized by consulting firms, and still not fully embedded on a market. I recommend this thesis to be successfully defended.

Instructions

Fulfillment of the assignment

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

Main written part

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 52/2021, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

Non-written part, attachments

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

Evaluation of results, publication outputs and awards

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

Activity of the student

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations.

Self-reliance of the student

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

The overall evaluation

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.