

Portfolio Maurice Schippers

Reader's Guide

| Version | Sprint | Changes |
|---------|--------|---|
| 1.0 | 1 | <ul style="list-style-type: none"> Initial version Setting up the document structure |
| 1.1 | 2 | <ul style="list-style-type: none"> Updated the Web Application section Updated the Agile items section Updated the Requirements and design section Updated the Business Process section Updated the Professional section Updated the Reflection section |
| 2 | 5 | <ul style="list-style-type: none"> Updated layout Finalized the Web Application section |
| 3 | 6 | <ul style="list-style-type: none"> Finalized Professional section Finalized Cultural awareness and ethics section Updated Agile section |
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1. Introduction

This document serves as the reading guide to my portfolio items of S3-DB03 (Fall, 2022). Every section, except for **Software quality (LO2)** & **CI/CD (LO4)**, includes a location to the created work, how it relates to the LO, possible overlapping information, a reflection and how I will proceed from there. Not every learning outcome may have a separate section for IPS & GPS. The last section of this document contains an overall reflection of the semester. All reflection sections are built based upon the reflective model of looking at what went well, what could have gone better and what my next steps will be.

Please note that bold and underlined text indicates a clickable link. If this link does not work, please follow the specified path to find the file(s).

2. Web application (LO1)

2.1 Work

Web Application is a broad learning outcome which concerns the different aspects of working **full stack, SQL vs NoSQL, asynchronous communication** and **user experience**. The (zipped) source code from my frontend and backend projects (**IPS**) can be found in the folder: [LO1_WebApplication](#). I worked on this until the decision was made to split the semester. There is another document alongside these zip folders showing everything I have done for this learning outcome, both **IPS & GPS**, which you can read here: [LO1_WebApplication\WebApplication_InPractice.pdf](#).

2.2 Reflection

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| | | | Proficient | |
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Self-rating

I am glad I decided to switch between stacks during the semester, I learned a lot by doing so. It turns out that the more I worked on small parts and together with other students, the more I enjoyed it and learned quicker. One rememberable thing I want to mention here is that at the end of the semester, I finished a small data table in JavaScript in less than an hour. For me, this was the key point of process: I started out with no knowledge of the language and I finished the semester by making (small) components in little time. Long story short: I am especially happy about my (fast) learning process, I think the document mentioned in **Work** is the best proof of that.

It took some time for me to adapt during the semester, I did not start out with the current mindset that I have now. During the first two sprints, I wasted too much time on getting things to work (like setting up Java or getting Python to work) instead of moving on to other things, which eventually lead to me not being able to try out other things (like with my JavaScript framework research). This caused more delay in my planning than necessary. I also do not feel like I have shown my proficiency towards UX as well as I had hoped to, whilst I do feel like I have sufficient knowledge about it.

2.3 Next steps

To mitigate the chances of more delay in the future, some of the things I have been doing is ask around for help, start from scratch or move onto other tasks. I started this after the first assessment and it has improved my study and planning by a mile.

I want to practice with the other frameworks more in the future now that I have gained some experience with JavaScript. I even feel confident enough in taking on the challenge of using TypeScript. In addition, I hope to show more UX in my next project and perform more usability tests as they are very interesting and I learn a lot from observing users.

3. Software quality (LO2)

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| | Orienting | | | |
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Self-rating

I read the Canvas pages and watched a few videos about the concept. I decided to not further work on this learning outcome once the decision was made to retake the semester. I bought the books "Clean Code" and "The Pragmatic Programmer" to better understand this subject.

4. Agile method (LO3)

4.1 Work

As of version 1.1, there are currently two documents that concern this learning outcome.

I started my research on Scrum quite early in the semester and immediately implemented the results in the group project. My research features a summary of the foundation of agile, a list of the most common agile frameworks, a detailed explanation of the Scrum process and more. My research is documented here: [LO3 AgileMethod/AgileMethods Research](#)

I feel confident that I applied Scrum correctly in GPS. This feeling is mostly based on the feedback I have received from the other members during the semester. The details of the implementation are found here: [LO3 AgileMethod/AgileMethods InPractice](#).

4.2 Reflection

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| | | | Proficient | |
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Self-rating

I am happy about the work I did for this learning outcome. I feel like I am proficient because I can talk and explain several different aspects of the topic. I also learned a lot, even things to apply to my general way of working: I found out that one of the best ways to deal with perfectionism is by working agile; sort of being forced to only do a certain amount of work (and touch upon every part of the software develop process cycle) within a limited time span. This is something I want to keep with me when I work on any project from now on. I also learned how to work with agile tools correctly and most importantly, how they improve the process and why they make a difference. I will be working with Jira a lot from now on.

I noticed that it can be hard sometimes to maintain the subject at hand during meetings when we slowly stray away from the subject and start talking about other, less relevant topics. This also resulted in not being able to implement and follow through with fixed agenda points, like updating our Jira board. Which eventually lead to us not being able to work with a burndown chart, something I would have liked to use and possibly might have motivated the other members too.

4.3 Next steps

If there is one thing I have learned about Agile, it is that the learning and polishing never stops. Agile is meant to improve a product over time in an efficient way and eventually create a product close to what a product owner really wants. But where we improve our product, we improve ourselves by constantly looking back on the process. No matter what role I will have in the next project, I will try to keep on 'polishing myself' by listening to others, reading (like the books "Clean Code" & "The Pragmatic Programmer") and contributing my ideas to the projects yet to come. Additionally, I hope to try out other roles within the Scrum team too. This is, in my opinion, the only way to truly understand a role or process.

5. CI/CD (LO4)

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| | Orienting | | | |
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Self-rating

I read the Canvas pages and watched a few videos about the concept. I also made a start with Docker. I decided to not further work on this learning outcome once the decision was made to retake the semester.

6. Cultural differences and ethics (LO5)

6.1 Work

For this learning outcome, I created one general document where I discuss ethical principles and real-life examples where they might be relevant. I also talk about cultural situations (like working in group projects with members from other countries/cultures) and did a small interview with a teacher who is part of the “Global Acting Group” within Fontys. More about it here:

[LO5 Cultural differences and ethics\Cultural Differences and ethics Report.pdf](#)

I gave myself the “Proficient” rating (see **Reflection**) because I am always up for a talk about the subject; I enjoy listening and sharing my visions with other people. On a more professional level, I think I have sufficient knowledge on the topic to recognise what is ethical and what is not and where the differences lie between cultural and personal traits. In the document mentioned before, I talk a little bit about how I work with other cultures.

One more interesting thought I wanted to share is that I think this specific outcome relates to multiple other learning outcomes: Ethics are, for example, to be considered when you are working on UX design (LO1: Web Application), this is also discussed in the document above. Ethics are also part of a business process (LO7: Business process): Are the decisions we make ethical or not? Maybe it will improve business, but how does it affect the users? Thinking about this matter can improve a process significantly. While cultural differences are very important to the learning outcomes LO3: Agile and LO8: Professional. How we connect and interact with others are what makes us professionals and Scrum aims to ‘bond’ the strengths of all the team members in order to form a stronger team.

6.2 Reflection

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| | | | Proficient | |
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Self-rating

I realised I really enjoy talking, writing, and researching about this subject. This is also what motivated me to ask a teacher more about the subject, especially since it concerns the university I attend. Most new things I have learned were more on the ethics part of the learning outcome. I think working on this subject made me more aware of how important ethics are when it comes to creating new software and most importantly, the consequences when they are not considered. I noticed that this learning outcome is often seen as the least important, but I personally think it

might be one of the most important ones. In my opinion, it is often the non-technical skills that matter the most in the long run.

I started way too late on this subject, which led to me not being able to cover everything I wanted to talk about and making the document seem a bit rushed. In hindsight, it might have been better to tackle the cultural part of this learning outcome earlier in the semester; it might have been a good experience to share with the other group members. Speaking of which, if I had started working on this learning outcome sooner, I would have been able to discuss the results from the tests I have taken with the group, concerning my role in group projects. We could have used these results to better determine positions within the group and finding the strengths of other members, even affecting LO3: Agile and LO8: Professional to a certain extent.

6.3 Next steps

I have barely scratched the surface of the ‘iceberg’ of the ethics topic. Like what I wrote in the (Agile) **Next steps** I believe the learning on this topic never stops. We are living in a vast changing world and to keep up with the changes it is important to stay informed. Therefore, I have decided to get more involved and spread more awareness for ethical software. My first step was to do the interview with somebody that is involved in a greater organisation almost literally based on this learning outcome. I also want to read more books about the subject, possibly starting with the before mentioned book “Weapons of math destruction”. Another individual who greatly inspired me is Tristan Harris, Ex-Design Ethicist at Google. He has given multiple TED-talks and interviews explaining why ethics are so important in software. I want to see more and learn from him in the future.

7. Requirements and design (LO6)

7.1 Work

As of version 1.1, there is currently one document that concerns this learning outcome.

7.1.1 Sprint 1

I created the Project Analysis document which contains:

- the C1 (Context) part of the C4-model that concerns the architecture of my application
- user stories (which involve both functional and non-functional requirements)

This document can be found here: [LO6 Requirements and design\IP VoiceCheck Analysis.docx](#)

7.1.2 Sprint 2

In sprint 2, I created one working (.NET core and Vue) and one-half working (Quarkus works, React does not) prototype using different technology stacks, to find the combination that best supports my individual project. Please check the (LO1: Web Application) **Work** section for the related work.

7.2 Reflection

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Self-rating

In sprint 1 I spent a lot of time on this Learning Outcome, looking for fitting user stories and looking into a possible architecture while mostly paying attention to what users might require. This went very well, as I got good feedback on how I deepened myself into how a user might possibly think. On the downside, I feel like I might have wasted too much time in sprint 2 by playing around with technical stacks. Looking back, this does not seem to be the best approach. I read the pages about architecture on the GPS section about a week ago and realised that my approach did not lead to any useful results. Besides having a lot of trouble with setting up my first Java project (which cost me a lot of time), I do not think it was worth wasting so much time on when I had a working prototype in .NET core.

7.3 Next steps

There is a lot of work to do on this Learning Outcome and I very much underestimated it. However, I have a solid plan to try and get back into it. Starting in sprint 3, I will be mapping the user stories to components (as explained in the architecture page of the Canvas GPS course) and group them by non-functional requirements. From there on, closely follow the steps described there to build distributed software system and simultaneously create the C2 and C3 levels of the C4 model. When this is finished, I will complete the Quarkus – React architecture, write down and explain my decision for the chosen technology stacks. I want to finally practice the microservice course that I had planned for sprint 1, this could be useful for to gain inspiration on further decisions. Lastly, I will be looking into tech stacks of existing applications that resemble my idea and take inspiration from them. If everything goes according to plan, I am hoping to apply my newly gained knowledge to the group project as well and see if our current project can improve.

8. Business processes (LO7)

8.1 Work

As of version 1.1, there is currently one document that concerns this learning outcome.

8.1.1 Sprint 1

I worked on the process analysis for the group project during the sprint 1. The document can be found here: [LO7 BusinessProcesses/GP ProcessAnalysis](#)

According to Marc, my GPS teacher, I am missing some aspects like the history of the company. Additionally, I received the tip to make the paper readable for future reading. The context should be clear, and someone should be able to immediately tell what it is about.

8.2 Reflection

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Self-rating

I am glad I started working on this learning outcome as soon as possible. The PO also seemed pleasantly surprised to see the process analysis so early in the project. However, as stated in the previous section, it is missing a lot of valuable information that would make it more accessible for future readers.

8.3 Next steps

I have planned to complete this document in the last sprint of the semester. By complete I mean that I will then add the remaining information and ask for feedback again. By then, I expect the project to be at a certain stage, so I will have to possibly reflect this in the paper as well.

9. Professional (LO8)

9.1 Work

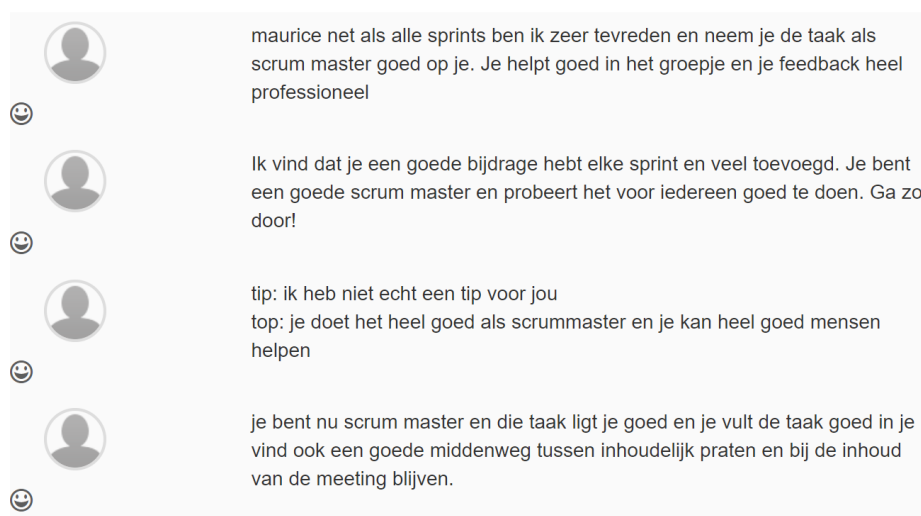
As of version 2.0, I have this learning outcome covered for the most part. I do not have proof, but I am familiar with the DOT framework and could answer questions about how it works and how it is applied.

9.1.1 GPS

“You develop software as a team effort according to a prescribed software methodology and following team agreements. You are able to track your work progress and communicate your progress with the team.”

We used Scrum as our method of choice and used Jira to monitor our work. This part of the Learning Outcome: Professional is similar to what is covered in the document “Agile: In Practice” under the section “Group project”. It can be found in this section of the reader: **Work**.

Another thing I think might have contributed to this learning outcome is my way of providing peer feedback. Every sprint, I took the time to write constructive feedback for my peers. As I am no longer able to see them after I submitted the feedback, I do not really have any proof of that. The only proof I can provide here is the feedback I received during sprint 4.



Screenshot of Feedbackpulse. Retrospective sprint 4.

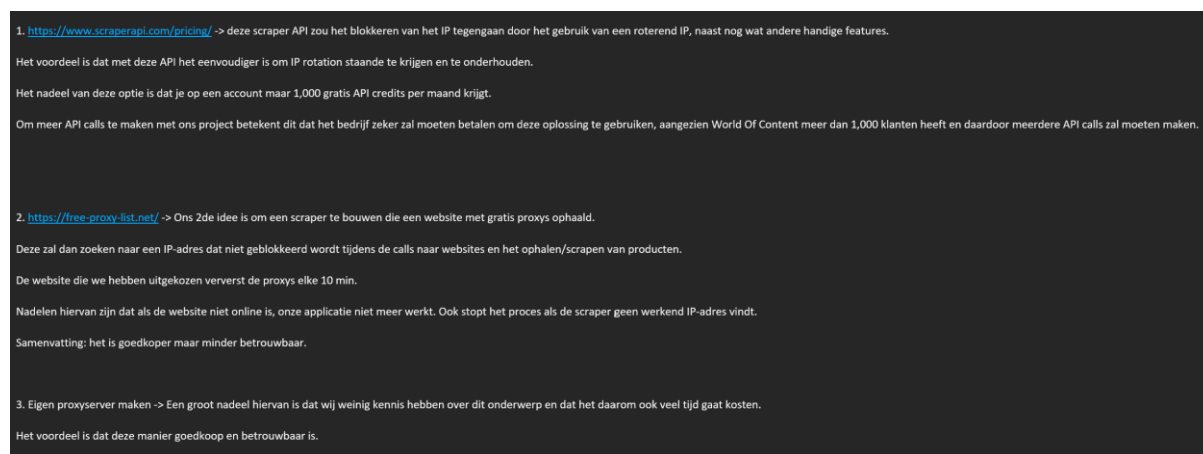
Colleagues in a professional environment usually take several points into consideration when writing peer reviews. When I write peer reviews, I think about what my team members worked on during the sprint, how the process went and other things that stood out during the sprint. If I have any additional, reasonable advice, I add that as a suggestion at the bottom, something they might look into. I think the goal should always be to help another person or improve their performance, by sharing my vision of their way of working. Feedback should always be constructive.

“You actively ask and apply feedback from stakeholders and advise them on the most optimal technical and design (architectural) solutions.

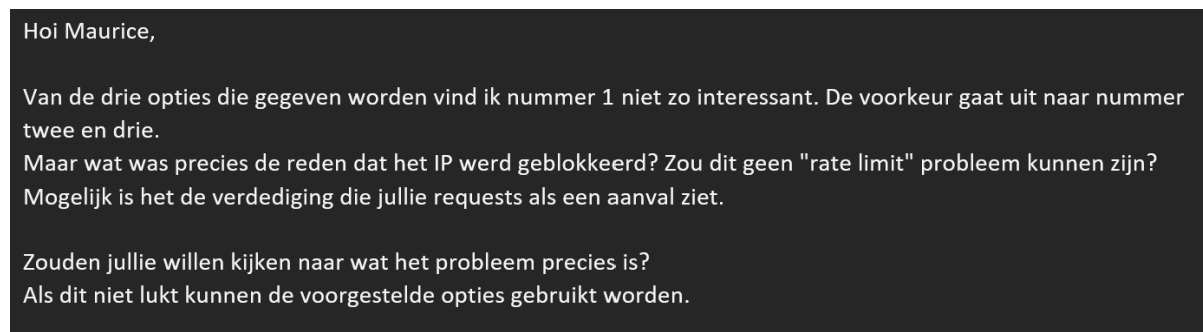
You choose and substantiate solutions for a given problem.”

During the sprint reviews, we made sure to ask as much feedback as possible and write everything down. After analysing the given feedback, we determined whether follow-up questions or comments were necessary or if it could be processed right away. Besides the contact moments during the sprint reviews, we kept in touch through e-mail and made sure to add the PO to our agile tool, Jira, to view the process we made.

Before going through with any major decisions, we made sure to discuss our solutions with the PO. A good example of this is during sprint 3, when the requests sent out by our application got blocked by websites. We then made a top 3 list featuring pros and cons of external sources that we might need to allow our application to get past this problem. The PO then decided which ones were reasonable and which ones were not.



Screenshot of the e-mail sent to the PO. Featured here are the top three choices.



Screenshot of the response sent by the PO. As the PO has a technical background, another approach is proposed.

9.2 Reflection

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Self-rating

I am satisfied but uncertain whether my work for this LO was sufficient. My own work progress can be monitored, and my team members are always up to date with what I am working on. I think I implemented and followed the Scrum rules the right way, especially since all agreements were made with the entire team involved. Regardless, I think I understand the purpose of working with a software methodology and why it improves the process. As fluent as it went during this semester, is something I could only hope to experience many times from now on. But that is exactly what I have learned: How working with a software methodology contributes to a better working environment. In

addition, something that I am especially happy about, is that I learned how to write professional peer reviews. By doing that every sprint, I got better and more to the point. These are both skills that I need and will be using in the future.

Not everything went well for this learning outcome; as mentioned in the (Agile) **Reflection** section, not everyone in the team used Jira optimally, which sometimes lead to confusion about what everyone was working on. Besides that, it took a long time before the PO was added to the Jira board. Several members sent e-mails to the PO as we did not really have a fixed member in charge of contact. There is also a lack of explanation and involvement for the choices we have made. Finally, I am missing the proof for the connection between agile development and software architecture / design choices. I should have spent more time reading the requirements for this LO, especially the Canvas page about agile development and software architecture.¹

9.3 Next steps

I feel like I am on the right track to becoming a professional, but I still have a long way to go. The path I am taking from here is focussing on the connection between agile development and software architecture. I want to be confident in the part of this LO: “to be able to advise them on the most optimal technical and design choices”. A good starting point will be the before mentioned Canvas page but also the books I bought during this semester: “Clean Code” & “The Pragmatic Programmer”. So far, it seems especially the latter will be contributing to this learning outcome.

¹ https://fhict.instructure.com/courses/12512/pages/software-design-and-architecture-how-do-you-approach-design-and-architecting-in-agile?module_item_id=835473

10. Reflection

As of version 2.0, the section below contains an overall reflection of the semester instead of a reflection per sprint.

10.1 GPS

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| | | | Proficient | |
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Self-rating

10.1.1 What went well

I made some big steps since the first assessment: I took a prominent part in the group project, was able to present to the client and learned a lot from working in the different tech stacks, which allowed me to contribute a lot to the group project. I was told that the group members started out with little faith in me when they heard I would be part of their group (because I work remotely all the time), but during the last retrospective they told me they were very glad to have me be part of their team and barely noticed the difference. I am also happy with the document I wrote for **Web application (LO1)**, because it is minimalistic, to the point and still contains all the relevant information. It is an improvement from the way I designed the agile documents, as I went from overcomplicated and losing sight of the scope, to almost the complete opposite. I was able to show my progress by writing two detailed reports.

10.1.2 What could have gone better

The unfortunate part is that I realised how to take the 'right' approach way too late (two weeks before the final assessment). I was not able to update all the learning outcomes for the final assessment. I should have delivered my portfolio more often and as stated in the Canvas section, start in week 1. I do not think it was because I underestimated the work that went into the learning outcomes, rather it was the feeling of being overwhelmed all the time. It is a combination of my physical condition and not knowing where to start or losing sight of the scope. Which in hindsight, is simply a matter of asking for help or asking more questions. I noticed that this is a common theme throughout all the other reflections in this document and I have decided I need to do something about it.

10.1.3 Next steps

I have identified the problem I experience when I lose sight of the scope and I am learning how to deal with it, like making only small parts of a document or perform small tasks to get into the workflow. Another thing I have been working on is finding and setting the 'right' priorities to work on, to avoid having work left unfinished when I am unable to work.

I am preparing myself for the IPS part of next semester. Armed with sufficient knowledge of agile to prevent myself from spending too much time on details, a great tool for planning my project (Jira) and a new way of working: Do research, follow a dedicated tutorial or demo and finally, implement it into my project. I feel much more confident going into the semester for a second time. If things do not work out, I will keep trying and set a timer to prevent getting completely lost in a task. I will also reach out for help and if help is not available, I will move onto another task. This is a mindset that I have since the last assessment, and it did make a big difference for the process I made. I will also deliver my work more often from now on, to keep a clear idea of what needs to be done.