Learning Outcomes: Approach

Overview

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Visualization of How I am going to achieve the learning outcomes.

For each LO, I specified the main acts that are going to be done to reach proficiency level at each one. This also includes a diagram of the workflow of the achievement/activities that are going to be done in each sprint. Note that this is just the baseline of what is going to be done, and not a full-on detailed explanation since sprint outcomes can vary and the prioritization of items can differ.

1. **Professional Standard**: With the research questions I have made, apply the appropriate methodologies from the DOT-Framework, to conduct a final answer on each research question, that can be found in the process report. Also, consider the ethical requirements for group projects using several methods. Furthermore, having professional products with standard APA referencing.
2. **Personal Leadership**: Working professionally in a SCRUM method within the group project. Keeping track of my progress for each sprint by having retrospectives and constantly improving on them. Also for every portfolio delivering a self-assessment, where I critically look at my progress and development as a software engineer. Furthermore, looking at my interest in a graduation project and applied it to the document 'Finding a suitable graduation project'. Have a proactive and student-to-stakeholder approach to seeking feedback and justifying my professional outcomes
3. **Scalable Architectures**: Based on the defined requirements I set as a base for the individual project but also the group, designing my architecture around it. This is done by researching several architectures, designing the architecture, and applying best practices for the architecture to align with the requirements (arguing based on the non-functional requirements). These practices will aim at making the application also open to an extent.
4. **Development and Operations (DevOps):** All the services that are created will be run independently from my local host by using software such as Docker and Kubernetes. Add relevant testing, that aligns with the code coverage, assuring security, and for further quality control, add monitoring techniques for further testing and analyzing. I will have separate pipelines running for each service, that will automate all the things mentioned.
5. **Cloud Native:** Based on my research question around this, I will first explore where I can use cloud services in my application, and where it also will benefit from. After that, I will implement the practices that best fit my application and the context of the group project.
6. **Security by Design:** Doing research and making a security design report around common risks, and best practices. Also incorporating techniques around the architecture and validating that certain choices improve security. Furthermore, the standard techniques will be integrated around the architecture such as authentication and authorization. All the security improvements will be tested with different kinds of tests depending on the certain implementation.
7. **Distributed Data:** This will approached to reach proficiency by applying and researching GDPR. This means that sensitive data needs to take extra precautions to protect it. With a further look into data storage based on my estimated data volume, access pattern, and data variety. Moreover, we also need to consider for the group project the ethical issues that we researched and discovered.

For LO2, working in a scrum methodology in the group project will be done throughout the whole semester. Furthermore, clarifying for the group project what I am going to reach for each LO, is difficult, since we need to discuss what is going to be done based on the client's priorities. Therefore, I will give a brief showcase of how I am going to reach the proficiency for each LO based on the individual and when possible specify things around the group project.
For a better visualization of when I want to achieve proficiency for each learning outcome, see the following overview where the base things will be said:

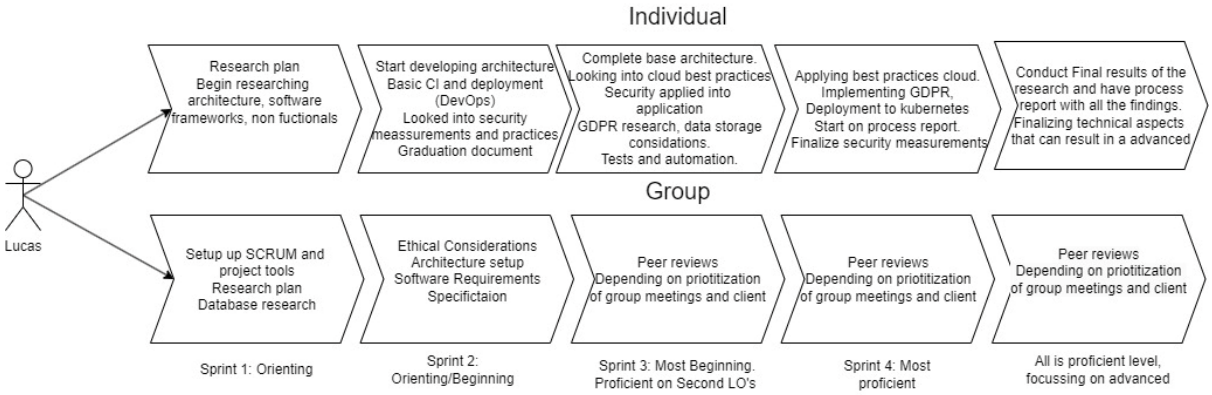

Figure 1: Workflow to reach proficient

Sprint 1: Most are orienting, and some can be undefined since there was no time to spend on it.
Sprint 2: All of them are orienting or above, and some are beginning with the aim of the two learning outcomes and the architecture.
Sprint 3: Most are now beginning, focussing on 1, 3, 4, 6, and 7, this includes that the research is done and the implementation is started but not fully finished. Some parts are still missing but will be implemented in the coming sprint. Second LO will be proficient since all the expectations are met, and there is enough shown in the group project that I can work in a SCRUM methodology.
Sprint 4: Most are proficient, LO 5 and 7 need extra attention to also reach the proficient level.
Sprint 5: Focus on having all proficient, so the last sprint will be making the final touches to LO 5 and 7 to reach the proficiency level, while also looking at potential advanced for other learning outcomes when there is time left. Also, this final stage includes a process report around the research questions.

Moreover, in (Jacobs, 2024, Project Plan, 1.6) the main finished products are covered with an explanation of the purpose of each product.

References

Jacobs, L. (2024). Project Plan (Unpublished manuscript), FontysICT.