**Mushroom++ Process Report**

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# Introduction

During this project, two methodologies were used to execute tasks and proceed toward the predefined goal. These were Agile Unified Process (AUP) and the Scrum framework. Unified Process consists of four distinct phases: Inception, Elaboration, Construction and Transition.

During the first phase, Inception, the team defined the base technical requirements of the project, agreed on a common interpretation of facts concerning both the problem domain and the proposed solution, and established the core non-technical requirements, such as solution functionality, targeted process and timeline, and feasibility. This phase ended on the 17th of March 2021, beginning the next phase.

During the second phase, Elaboration, the team established the groundwork for all future work. Common design elements, such as the connectivity between different parts of the system, and general architecture were established, with supporting materials such as descriptions, core documentation and a working proof of concept.

During the second half of this phase (from the 7th of April 2021), the Scrum framework was also used to support the development. This was due to a variety of factors which will be further detailed in the Project Execution section.

For Scrum, Levente Nagy served as Product Owner and Kristóf Lénárd served as Scrum Master. All other team members served as members of the development team. This team was organized into smaller departments, consisting of three or four members, working on a distinct part of the system, led by the agile role of technical leads. Scrum was organized regularly, with the usual set of meetings, ie. sprint planning, daily scrum, sprint review and sprint retrospective. Further details can be found in the Project Execution section. Scrum was used, as previously mentioned, during the second half of the Elaboration phase and during the Construction phase.

During the Construction phase, the main focus was on the development of the software code, along with all required supplementary materials such as diagrams, reports, and other documentation. This was the longest phase of the project, stretching from the 28th of April all the way to the 2nd of June, with more frequent working days than before.

On the 3rd of June 2021, the project reached Transition phase. This phase was the shortest, even though, in theory, it could possibly be indefinitely long, since this phase consists of post-release support. This was also when the system was deployed to its currently final Production Release iteration- This phase also included finalization of supplementary materials such as user guides, and the final hand-in of the project.

# Group Description

For content see Appendix 2 “Process Report – VIA Engineering Guidelines”.

# Project Initiation

Before any group starts a project, there must be something that generates the group, a metaphorical force that gets the members of the group together. Of course, in our case, one aspect of this was the fact that the project is a mandatory part of our studies here at VIA. There were other factors, however.

At the beginning, some of us have tentatively formed two groups, each consisting of only a few people, expecting a similar project as we have experienced in previous years. This, as it later turned out, was not the case. When the project description meeting was held and the full scope of the project detailed, we had known that we needed more people. Soon after a group was generated – the original group of seven. This was still too few, so we sought to attract more people, ones that we knew we could trust to accomplish their tasks. Thus, through friends and contacts, we came into contact with another small group. This group then joined us, bringing the count of our members to eleven. While this number would later be reduced to ten by the unfortunate departure of Eva Nikolaeva, this was still a number that was sufficient – and thus, the group came to be.

So now we had a group. We asked the question: “What next?”. The answer was obvious – we need to have something as our project. For that we needed an idea, and so we sat down (unfortunately, due to the corona-situation, not in person, but online, which we kept on using through the whole project). We have discussed many ideas, iterating through the ones that we thought of as interesting or otherwise appropriate. The results of this can be seen in Appendix C. In the end, we reduced the final round of ideas to two, and voted on the better one – thus, we selected our topic.

We then knew what should be our next step – forming a consensual understanding of the problem, and detailing our way of solving it.

# Project Description

The first challenge when writing the project description came from the fact that most of us were unfamiliar with the problem domain, that is, the processes and inner workings of fungiculture. This problem was tackled by intense research, and with the most experienced member of our group, Audrius Sauciunas, working to secure more data from personnel who were then working in the industry. This gave us a significant amount of data on which we could base our background description. This helped us define the problems within the entire problem domain more precisely, and have allowed us to select a realistic goal.

Many of the following parts of the project description phase were derived from this information, as per usual procedure. These sections were no less important, however, since, for example, the supporting questions of the problem statement, formed the basis of our functional requirements later.

These parts were also critical procedurally. Before, we have worked on either single-issue problem resolutions (such as the decision of the idea), or on heavily factual texts (such as the background description). These sections, however, taken all that and added the problem of balancing the derivation of certain elements from others, and negotiating which aspects should we focus on. Both of these are critical to the process of software development. Therefore, we have, with the benefit of hindsight, have seen this as the final rehearsal of these before starting the more technical work on the project. During these, all members demonstrated such conduct and integrity that it was obvious to all members what to expect if and when the group again had similar meetings. We have aimed at having similar discussion in both procedure and conduct for the entire remainder of the project, a goal that we hope we have achieved.

This phase was, however, perhaps the most important in forming a preliminary way of meetings. During this phase, we have agreed on how to hold meetings, both with regards to meeting issues and procedures, and the conduct of the person chairing the meeting. These we have sustained during the rest of the project. Some of these matters derive from the group contract – however, some are merely procedural, which occasionally required adjustment.

The following sections, however, were more technical in nature. For example, the time schedule, while without a doubt important, was a highly factual and technical document, with perhaps only one thing remarkable with regards to the process. This was the fact that the group showed admirable restraint and appropriacy in discussing these issues. There was nearly no time wasted, which proved to be of advantage later, as we have continued to show these traits in later procedural discussion, which have allowed us to spend more time on, and focus better on, the development of the project instead of having to spend additional time on resolving minor issues. We were still able to solve all issues – but the time and energy not expended on these were of great use in the project.

All in all, however, we view this phase as highly influential in conducting this project, and highly successful in enabling further work on the project.

# Project Execution

For content see Appendix 2 “Process Report – VIA Engineering Guidelines”.

# Personal Reflections

For content see Appendix 2 “Process Report – VIA Engineering Guidelines”.

# Supervision

For content see Appendix 2 “Process Report – VIA Engineering Guidelines”.

# Conclusions

For content see Appendix 2 “Process Report – VIA Engineering Guidelines”.

**Appendices**

* Appendix A – Scrum log book
* Appendix B – Azure DevOps log
* Appendix C – Ideation document