Process and Project Plan

Group 6

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We will be following an incremental development process. This means we will define a set of features for v0.1 and work towards achieving those. Then we will define a set of features for v0.2, etc, until we have implemented all required features from the product specification. This allows us to tackle the project one bit at the time.

To help with this, we will be following an agile method. This means we create a list of tasks to be done, pick which to focus on this sprint, and start working. Next meeting we review what went well and what did not, and adjust our next sprint accordingly. This has several advantages:

1. If a task proves more difficult than anticipated, we can further break it up into parts and assign more people to work on it.

2. If anyone finds a type of work unsuitable for them, we can quickly reassign them to a task they can work more efficiently with.

For the project, we will be using a modified version of scrum, which is a framework for organizing agile projects. Roughly, scrum is an organization method based around a development team and a "ScrumMaster" who is responsible for leading the team according to the scrum process and interface with the rest of the world. The development cycle is organized in "sprints", a short burst of development where the team picks some things to focus on, and works towards completing those things by the end of the sprint. Sprints often starts with selecting the items to work on, and end with a sprint review. Throughout the sprint, the development team will normally hold short daily meetings ("scrums") where they review the progress and potentially re-prioritize work. The output of a sprint is, ideally, a "potentially shippable product".

Setting us apart from the "typical" version of scrum, we don't have a "product owner" involved in the loop, and we won't have daily scrum meetings like a conventional scrum team would have, since we don't work full-time on the project. Instead we will meet twice a week, and our meetings will be longer than what's normal for scrum meetings (two hours as opposed to a meager 15 minutes).

Software development activities

In addition to producing raw code, we will also require documentation. This can partially be covered by Javadoc for the code, but further documentation is expected to be required. We will also need test suites to ensure correct implementation once we have some basic code ready to test (or at least their interfaces).

Project management activities

Project management will be relatively hands-off. The main task will be to schedule meetings and make sure they stay on-topic and focused. Tasks will be made and assigned as a group according to what people feel they are best suited to work on, but it's the ScrumMasters responsibility to ensure that everyone has something to do and to follow up on it next meeting.

Communcation

Communication inbetween meetings will mainly be done through Discord, but Facebook Messenger remains an option if you need an immediate response, as everyone has it installed with notifications enabled.

Tools

Version management

Git has been chosen as our version control system. Any questions regarding the use of this tool can be sent to Stian, who is happy to help with anything from branching guides to merge conflicts.

Our repo structure will be a master branch for versions that are in a good state (v0.1, v0.2, v1.0, etc.), while all other development happens on the develop branch. We should strive to keep each commit on develop compilable — feature branches can be created for work that will leave the project uncompilable for some time.

Building

We've picked Gradle as our build tool, because of how easy it is to use and work with, and the flexibility it allows. Instructions for how to build and run the project can be found in `README.md` in the project root folder.

Testing

Testing will be done with JUnit tests as that is what we are most comfortable with. Tests can be run using Gradle or within the IDE of the programmer.

Issue and task tracking

We will keep track of issues and tasks, their priority, scope and assignees using GitLab issues for simplicity.

GUI

GUI will be handled by Robin using LibGDX for versatility.

Meetings

Meetings will be held every Tuesday 12:15–14:00, and Thursday 14:15–16:00. Each Scrum meeting will have a predefined agenda arranged by ScrumMaster / project lead, and any team member may request topics to be added to the agenda. Defining and allocating tasks will be done as a group, with ScrumMaster taking responsibility to make sure everyone has something to do as well as following up on it next meeting.

A generic agenda may look like this:

1. Review of progress since last meeting
2. Defining new tasks to be done (if any)
3. Assigning and/or reassigning tasks (if necessary)