

PUSP214201

v.0.1

Software development plan - SDP 123

Group 2

Responsible: (PG) Project-management Group

Authors: (PG) Project-management Group

January 28, 2021

Contents

1	Introduction	3
2	Terminology	3
3	Referenced documents	3
4	Development model	4
5	Staff organisation	4
5.1	Client	4
5.2	Head of section	4
5.3	Experts	4
5.4	Examiner	4
5.5	Project managment group	4
5.6	Software architecture group	4
5.7	Development group	5
5.8	Quality control group	5
6	Schedule	6
6.1	Estimated work load	6
6.2	Estimated phase schedule	6
7	Standards & tools	6
7.1	Discord	7
7.2	Github & Git	7
7.3	Eclipse	7
7.3.1	Egit	7
7.3.2	TeXlipse	7
8	Configuration managment	7
8.1	Project library	8
8.1.1	Document library	8
8.1.2	Work library	8
8.2	Bug management	8
8.3	Patch management	8
8.4	Version naming & update	9
9	Rules and guidelines	9
10	Follow up and quality evaluation	9
10.1	Informal Review	9
10.2	Formal Review	9
10.3	Re-Review	9
11	Risk anlysis	10

1 Introduction

This document describes the development model and the development plan for !!NAME!!, which will be a system for time reporting and is based on *Baseblock System*. !!NAME!! will be developed by students at LTH in the course *ETSF20 Programvaruutveckling för stora projekt*.

2 Terminology

Baseblock system	This is the base system that is used in !!NAME!!
SG	System architecture Group
DG	Developer Group
QG	Quality control Group
PG	Project management Group
CML	Configuration Management List, consists of all configuration units
ECG	Error Control Group, consists of PG and SG
SDP	Software Development Plan
SDP	Software Development Plan
SRS	Software Requirements Specification
SVVS	Software Verification and Validation Specification
SVVI	Software Verification and Validation Instruction
STLDD	Software Top Level Design Document
SDDD	Software Detailed Design Document
SVVR	Software Verification and Validation Report
SSD	System Specification Document

3 Referenced documents

- Google Java Style Guide

- CML

4 Development model

The development model that is used in this project is the waterfall model. This means that the project is divided into four separate phases where each phase depends on the previous one in a sequential manner. It is thus required that a phase is completed before the next one begins.

In every phase, there are several documents that must be produced and a phase is considered completed only once all documents required in the phase has reached baseline. To reach baseline, all documents of the phase must first pass an informal review, followed by a formal review.

5 Staff organisation

5.1 Client

5.2 Head of section

5.3 Experts

5.4 Examiner

5.5 Project management group

- Coordinating the group effort
- Making a project schedule
- Ensuring that every individual has the information they need
- Authoring the following documents
 - SDP
 - SSD
 - PRF

5.6 Software architecture group

- Designing the software architecture
- Delegating work to DG and QG
- Coordinating the writing of the following documents
 - SRS
 - STLDD
 - SDDD

5.7 Development group

- Design GUI for the software
- Develop the architecture that SAG designed
- Co-author the following documents

—

5.8 Quality control group

6 Schedule

6.1 Estimated work load

PG holds one hour long meeting every week. PG has also scheduled for a two hour time slot every wednesday where every group works on their respective task. To supplement this, the groups are expected to hold their own planing meetings and work sessions. Since the workload of each group varies between phases, it seemed more fitting to allow groups the flexibility of managing their own time. Group leaders have been tasked with making sure that coordination between groups is constant throughout the project. PG also estimated that approximately an hour every week will be spent on general discussions in the discord channel.

Activity	Frequency/week	Duration (h)
Project group meeting	1	1
Project group work	1	2
Subgroup work session	2	2*2
Self studies	1	1
Discussions	1	1
Reviews/Expert meetings	1	1
Total hours		10

Table 1: Estimated time for each activity per person, per week

6.2 Estimated phase schedule

Table 2 illustrates the estimated start and end dates for every phase as well as estimated hours spent per week, per person.

7 Standards & tools

In order to make the development process as easy and straight forward as possible, the project group has agreed on several standards and tools to use.

The standards should be followed by every member and consists of the following:

- The source code should follow the Google Java Style Guide.
- All comments, commits and pull-requests should be in english.

Phase	Start	End 3	Work days	Estimated hours/week
1	18/1	5/2	15	10
2	08/2	19/2	10	10
3	22/2	5/3	10	10
4	8/3	19/3	10	15

Table 2: Estimated start and end for the phases

7.1 Discord

Discord is used as the many communication tool in the group. A server has been setup and is used for both messaging, working together and having project meetings. The server consistst of several voice channels and several text channels, each with its specific purpose, eg "Meetings" or "Developer Group".

7.2 Github & Git

Git is used for collaboration between decouments and the project library (see 8.1) and is hosted on Github. Git provides abilities that makes certain action very easy, such as pulling and pushing updates to the working repository and creating pull-requests for merging.

7.3 Eclipse

Eclipse is the primary IDE that is used due to its familiarity in the group and its huge span of different properties such as plugins.

7.3.1 Egit

Egit is a plugin for Eclipse that provides the tools needed for a git workflow in Eclipse IDE.

7.3.2 TeXlipse

TeXlipse is a plugin that provides the tools needed to compile and preview latex files directly in Eclipse IDE.

8 Configuration managment

All changes to units in the CML must follow a certain procedure once the documents are in baseline. Git and Github are the tools that are used to handle configuration management.

8.1 Project library

The project library consists of two separate libraries: Document library and Work library.

8.1.1 Document library

The document library consists of all configuration units that have reached baseline. The purpose of this library is that the customer or a reviewer at any point should be able to access these documents. This means that this library is initially empty, and documents are added as the project proceeds. In the end of phase 4, all units found in CML can be found in this library.

8.1.2 Work library

The work library contains everything all files that are required during the project. The library is divided into three different branches where each branch has a unique purpose.

- **development**

This branch is where the all development is made and is used as a placement for all files related to the project, regardless of the documents status. Every member in the group has free write access to this branch.

- **review**

Once the documents in the development branch are ready for a formal review, they are moved into the **review** branch. This requires a pull-request to be made, which must be reviewed and accepted by a reviewer before it is merged into the branch.

- **master**

Once the documents pass the formal reviews, they are merged into **master** branch, which consists of only files that have reached baseline. Once new documents are added to this branch, they are also placed in the **document library**. Note that not all files are copied to the document library, but only the documents specified above.

8.2 Bug management

8.3 Patch management

Once a configuration unit has reached baseline there are several steps that must be taken in order to make changes to it. These steps consists of the following:

1. Creating a error report that states what the error is with the unit, in its current state.
2. The error report is handed to the ECG who creates a status report. ECG then decides if the error is legitimate.

3. If the error is deemed legitimate, then they propose a solution and decides whom shall be responsible to fix the problem. Once the error is corrected, ECG must approve it and then the unit version must be updated. The status report is then closed.
4. If ECG decides that the error is to be discarded, then the problem and status report is closed.

8.4 Version naming & update

9 Rules and guidelines

10 Follow up and quality evaluation

To keep the quality of all documents as high as possible during the project, two reviews will be carried out and the end of every phase. One informal review followed by one formal review.

10.1 Informal Review

The informal review is performed within the project group and is meant to catch errors, bugs or mistakes in the documents. The purpose is to ensure as high quality as possible for the formal review and the philosophy is that if documents pass the informal review, they should also pass the formal review.

10.2 Formal Review

Once the documents have passed the informal review, they must pass the formal review, before they can reach baseline. During the formal review, an external reviewer is given the documents at least 48 hours in advance so that he or she can prepare. During the actual review, the majority of the project group shall be present. The formal review can result in one of the four scenarios:

1. The documents are approved
2. The documents are approved after certain modification.
3. Modifications must be made followed by a re-review.
4. The documents are *not* approved and must be re-written, followed by a new review.

10.3 Re-Review

An opportunity to do a review after certain modifications have been made.

Det ska finnas en del i projektplanen som beskriver hur uppföljning, t ex av tidplanen, sker under projektet, samt vad som händer om arbetet inte verkar

gå enligt plan. Det ska också finnas en beskrivning av de rutiner som finns för kvalitetsutvärdering under projektet.

11 Risk analysis

I projektplanen ska även resultatet av en riskanalys för projektet presenteras. Ange hur riskanalys utförts i projektet, samt de viktigaste riskerna som identifierats. rapportera åtminstone följande för varje rapporteras risk: skattad sannolikhet (t ex, låg, medel, hög), skattad effekt (t ex, låg, medel, hög), möjliga indikatorer på att risken förverkligas, samt exempel på lösningar om risken förverkligas.