Tampere University Unit of Computing Sciences

TIE-13106 Software Engineering Project (Hervanta campus)

TIE-13106 Software Engineering Project (Pori campus)

TIEA4 Project Work (City centre campus)

TIETS19 Software Project Management Practice (City centre campus)

Group name/number

Project name

Final Report

Note: All texts in this document that are coloured blue are instructive and should be replaced with actual text by you. They just tell what should be included in each section.

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| Student Name: Student number |
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Version history

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Description |
| 0.1 | 17.09.2013 | Peter Productowner | First draft |
| 0.2 | 20.09.2013 | Paula Projectmanager | Comments included |
| 0.3 | 10.01.2018 | Harry Master | total rewriting  |
| 0.4 | 10.01.2018 | Ted Hill  | fine-tuning  |
| 0.5 | 02.11.2019  | Ted Hill  | cosmetics for TUNI  |
| 0.6 | 08.11.2020 | Ted Hill | fine-tuning for PROJs |
| 0.8b | 13.11.2020 | Ted Hill | MMT-related changes  |
| 0.8c | 16.12.2020 | Ted Hill | 6.3 Communication challeng. |
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# Introduction

## Purpose of the report

Why was this document made.

This document should describe how the project finally turned out, what it produced, how it performed and what the team learned from it.

## Product and environment

Product name, purpose, and the environment in general, to give an overview.

(Stakeholders who may read Final Report, may not have seen previous documents.)

## Definitions, abbreviations and acronyms

Scrum Agile software development framework

UI User interface

Work item Product Backlog item (epic, user story, issue), which is split to tasks in Sprint Backlog.

# Project organisation

## Group

Members, contact information (also phone) and roles.

## Customer

Company, key contact persons with contact info. Possible technical assistants also.

## Other stakeholders

Other parties related to this project, e.g. end user organization, consultants or external test groups, TUNI course personnel.

# Project implementation

## Communication

Regular meetings, tools used for communication

Describe the number of various kinds of communication between parties.

* Meetings

Within (inside) the group,

With customer,

Others ? (e.g. course personnel, end users).

* Tools used in communication

virtual meetings (e.g. Zoom, Teams, GM, Skype, Jitsi,…)

instant messaging (e.g. Slack, Telegram, Whatsapp, Discord,…)

others (email, SMS, phone,…).

## Tools and technologies

Tools and technologies used. Clarify usage (why that ? for what ?).

## Sprints

Describe here your sprints; length and number (e.g. five implementation Sprints, each two weeks long, plus one-week QA Sprint).

Content of your product backlog in the end of the project. How many items have been implemented ? How many items are left at the product backlog (not implemented) ? (Usually there are some left at the end of agile project.)

Explain also for each Sprint; number of planned work items and actually implemented ones.

Success of the prioritisation of your product backlog (you implemented only the most important work items) ?

Insert here from MMT; group area, tab “Members”, “Working hours prediction” chart (at MMT diagram, right upper corner “three lines (chart context menu) has print option).

## Deliverables and outcomes

Actual product (delivered in what format, to whom, when).

List these: Component and medias, binaries and source files, installation packages, instructions, other documents, quality records, test scripts.

Also describe state of the product and actions necessary to take it into production use or to commercialize it.

Write here also the following mandatory information (estimation if you can not easily count some);

Total amount of source code (LOC / SLOC):

Self-coded lines.

Totally reused X % (code used as is),

Partially reused Y % (modified code),

Number of classes and methods,

Number of views / main windows.

## Restrictions and limitations

E.g., is some functionality left out for some reason.

Anything from customer’s side… e.g. tools, technologies, methods or DB,…

## Third party components, licenses and IPRs

Are third party components used, if so what/which? What kind of licenses do those have?

Who has the rights to the product and its future development? Describe the division of rights (may be different for different components).

# Working hours

* Report estimated working hours
	+ Per person (Weekly promises, from Project Plan)
* Report realized working hours
	+ Per task
	+ Per person (personal hours’ division is not visible at Chapter 10)
	+ Weekly totals.
* Report hours like tables 5.1 and 5.2 (numbers you find from MMT).
* Insert here three project’s charts from MMT; “Charts”, “Working hours”, “Total hours”, and “Working hours categorized by type” (at MMT diagram, right upper corner “three lines” (chart context menu) has print option).

*Table 5.1. Example table: Realized working hours in person-hours by person and task.*

|  | Donald | Huey | Dewey | Louie | Daisy | Total |
| --- | --- | --- | --- | --- | --- | --- |
| Documentation | 20 | 10 | 10 | 10 | 20 | Xx |
| Requirements | 35 | 17 | 17 | 17 | 35 | Xx |
| Design | 15 | 20 | 20 | 20 | 15 | Xx |
| Implementation | 20 | 29 | 29 | 29 | 20 | Xx |
| Testing | 23 | 12 | 12 | 12 | 23 | Xx |
| Meetings | 8 | 20 | 20 | 20 | 8 | Xx |
| Studying | 6 | 20 | 20 | 20 | 6 | Xx |
| Other | 6 | 4 | 4 | 4 | 6 | Xx |
| Lectures | 20 | 20 | 20 | 20 | 20 |  |
| Total | 153 | 152 | 152 | 152 | 153 | Xx |

*Table 5.2. Example table: Realized working hours (weekly totals / project).*

|  | Weekly total |
| --- | --- |
| Week 36 | 34 |
| Week 37 | 62 |
| … | .. |
| Total | 876 |

# Quality assurance

## General description of testing

Describe briefly your team’s approach to testing. How did you do it at various phases of the project ? Did you use test automation or exploratory testing ? Who did the testing ? What were the testing environments and arrangements like ? What test data was used? How did the project customer or other parties participate in testing ? How were end-users involved in testing ? What kind of a test log/diary ?

## Bug reporting

General overview of test results (e.g. from test Report), which may interest stakeholders (Final Report readers may not have Test Report available).

How many bugs have been found (totally) ?

How many of those are still open ? List of those…

How about severity of those bugs ?

## Conclusions on product’s quality

Give a conclusion on the product’s quality based on the testing and other means of evaluation.

Is the product error-free enough for production ?

Is it sufficiently secure (for customer and users) ?

Should some form of additional testing be done during the final productisation before releasing to market or production use ?

What is customers opinion (e.g. approval testing results, acceptance testing, if any) ?

# Risks and problems

## Foreseen risks

Include your risk list here or include it as attachment and give a reference to it (= risks what has been realised and were in your risk management table/plan).

## Risks not foreseen

Tell about surprises that caught you out. Listing those unforeseen risks is important for learning. Those are risks which have been realised/encountered, but were not your risk table/plan (i.e. unforeseen risks, which occurred but were not involved in risk management).

## Communication challenges

The answers of this section will be used in research on communication challenges in agile distributed projects. All information collected will be used for academic purposes only.

This semester project teams were recommended to handle interaction between team members remotely instead of face-to-face. Communication becomes more difficult in remote settings, which can lead to a variety of problems.

### Communication practices and tools

Describe your team's communication practices and tools used for communication.

### Communication related challenges

Tell what communication-related challenges your team faced during the project. Try to think these challenges from multiple different perspectives as they can relate to many things such as time and distance differences between team members, customer communication, communication tools, personal differences in skill/culture/language/goals/etc, project management...

### Strategies and solutions

What strategies/solutions you used to overcome those challenges. Did the use of agile practices (sprint reviews, task board...) help your team  to mitigate some of these challenges? If so, how?

# Not implemented in this project

## Rejected ideas

What approaches were considered during the project but rejected ? Why ?

Were there third party components that you thought of using (or even tried for a while) but did not use in the end ? Why ?

## Further development

How could the product be developed further ?

List ideas that you had but didn’t have time to implement now (or were left out for some other reason). What was the idea and from who did it come ?

# Lessons learnt

Experiences from the project.

* What did you learn ?
* What went well ? What did you get compliments for during the project ?
* What things turned out easy that were thought to be difficult ?

What could be done better next time ? How to do/handle next similar project ?

Think here e.g. about:

* Technical solutions
* Project management
* Used tools
* Problem solving
* Team forming, project start phase
* Teamwork
* Workload
* Balance of workload (equal for all groupmembers ?)
* Communication

 within group

 with customer

 with course staff.

# Comments about the course

Your feedback is important for developing the course. Note that comments will not affect your grade !

* Good aspects – more of what ?
* Bad aspects – take away what ?
* Anything new that should be covered ?
* Other comments ? E.g. lectures, documents, meetings,

Thank you for the feedback !

# Statistics

The statistics page (may be longer than just one A4 page) of the project will be printed out and shared in final presentations and the sauna party (WHEN WE HAVE CONTACT TEACHING, currently perhaps at Moodle page, for learning and educational purposes).

In this Chapter you add the following information (formatting is up to you):

* Name of group/project, size of group (number of students)
* Group picture with names and national flags (optional)
* Name of customer (company or organisation)
* List of tools and technologies used at project and for implementation
* Lines of code numbers; self-made/ reused (LOC/SLOC)
* Number of classes, methods, views (or similar measurements, to describe size)
* Number of revisions in version control
* from MMT (group’s numbers not personal) Charts-tab (limits = project time); charts
* “Working hours”,
* “Total hours”, and
* “Working hours categorized by type”

(at MMT diagram, right upper corner “three lines” (chart context menu) has print option)

* Number of Implemented items / not implemented items from Product Backlog
* Your personal thoughts (feelings) (e.g. “learnt a lot, got new friends, great work !”)
* If you have used some measurements/metrics, show how it has evolved during the project.