

Software Engineering Group 2 (2009-2010)
Software Project Management Plan

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Contents

Chapter 1

Introduction

1.1 Project overview

The goal of this project is to design and implement the software behind an online auction website such as eBay. The codename of our project is *Salesmen*.

This project is embedded in the Software Engineering course, which is designed for senior students of Computer Science and Engineering at the Vrije Universiteit Brussel. It has a threefold purpose:

1. Get familiar with the software development process and learn to work in a team.
2. Develop a system that supports the functionality of an auction website. This means that a user will be able to sell or buy items in an online auction.
3. Develop and maintain a general website on our project. Up to date versions of all documents such as minutes, timesheets and deliverables will be available at any time. This site will be hosted at `http://wilma.vub.ac.be/~se2_0910/`.

The software of the application will be written in Java and distributed under an Open Source license.

1.2 Definitions and acronyms

| | |
|-------------|--|
| SCMP | Software Configuration Management Plan |
| SDD | Software Design Plan |
| SPMP | Software Project Management Plan |
| SQAP | Software Quality Assurance Plan |
| SRS | Software Requirements Specification |
| STD | Software Test Document |

1.3 Project deliverables

| Deliverable | Available on |
|-------------|--|
| Minutes | 3 days after meeting |
| Timesheet | Every Monday before 12h00 |
| SPMP | Draft will be ready on October 26, 2009 |
| SCMP | Draft will be ready on November 2, 2009 |
| SRS | Draft will be ready on November 2, 2009 |
| SQAP | Draft will be ready on November 23, 2009 |
| SDD | Draft will be ready on November 16, 2009 |
| STD | Draft will be ready on November 30, 2009 |

1.4 Reference materials

- http://tinf2.vub.ac.be/~dvermeir/courses/software_engineering/slides.pdf
- Eric J. Braude, *Software Engineering - An Object-Oriented Perspective*, John Wiley & Sons, 2001. ISBN 0-471-32208-3.

1.5 Revision history

| Version | Date | Name | Description |
|---------|----------|----------------|---------------|
| 1 | 21/10/09 | Nick De Cooman | Initial draft |

Chapter 2

Project Organization

2.1 Process model

The chosen process model will be the spiral model, with 2 iterations. Unlike the waterfall process, we will be able to show partial versions to the customer for feedback, reducing risks such as faulty requirements.

Figure 2.1: A general example of the spiral model with 2 iterations.

In our case, this will be defined as:

| Workflow | Completion date | Deliverable to customer |
|----------------|-----------------|-------------------------|
| Flow 1 | | |
| Requirements | 09/11/09 | ??/11/09 |
| Design | 23/11/09 | |
| Implementation | 07/12/09 | |
| Testing | 16/12/09 | 2*/12/09 |

Flow 2

Will be defined later.

2.2 Organizational structure

The structure of our team will be organised as followed:

2.2.1 Project Manager

- Head of the project team

- Deliver the SPMP
- Risk Analysis
- Keep track of the project's progress
- Manage timesheets
- Prepare and chair meetings
- Spokesman to organizational boundaries and interfaces
- Motivate and improve internal collaboration

2.2.2 Project Secretary

- Resume meetings
- Deliver minutes

2.2.3 Configuration Manager

- Deliver the SCMP
- Manage revision control system
- Install and maintain used tools
- Make backups of all project documents

2.2.4 Quality Assurance Manager

- Head of quality team
- Deliver SQAP and STD
- Design and implement test framework
- Coordinate testing as defined in STD
- Verify the general quality of the product
- Verify the quality of documents

2.2.5 Requirements Manager

- Deliver SRS
- Check whether the requirements are implemented
- Look for extra functional requirements
- Interview customer related to the requirements
- Present final requirements to the customer

2.2.6 Design Manager

- Head of design team
- Deliver SDD based on the SRS
- Manage design of the system
- Check whether implementation is based on the SDD
- Design and manage database according to SRS and SQAP
- Present design to the customer

2.2.7 Implementation Manager

- Head of implementation management
- Manage the integration of different parts of the code
- Track errors
- Define implementation proces based on the SDD
- Manage documentation of code

2.2.8 Webmaster

- Develop and maintain project website
- Upload documents, after approval of the project manager

2.3 Organizational boundaries and interfaces

The external communication with the customer will only happen via the project manager, the requirements manager and the design manager. The project manager reports major problems, progress status and other organisational issues. The requirements manager discusses the functionality of the system and the design manager will present the design of the system to the customer.

2.4 Project responsibilities

The responsibilities, as defined in ??, will be associated to the following persons:

| Role | Effective | Assistant |
|---------------------------|-----------|-----------|
| Project Manager | Nick | Patrick |
| Project Secretary | Jonathan | Wouter |
| Configuration Manager | Jorne | Sina |
| Quality Assurance Manager | Patrick | Bart |
| Requirements Manager | Wouter | Jonathan |
| Design Manager | Bart | Nick |
| Implementation Manager | Sina | Jorne |
| Webmaster | Sina | Wouter |

However, this does not mean that a person is only responsible for his/her own function. Every team member can be asked for assistance in all processes in function to achieve the end goal.

A person responsible for creating a deliverable also needs to be aware of the fact that

- Documents will be written in L^AT_EX-format, using the provided template.
- Documents need to be ready in time (as defined in ??), and sent to the project manager for approval.
- Documents needs to be up-to-date during the entire project.

Chapter 3

Managerial process

3.1 Objectives and priorities

During the development of the system, the following objectives should be kept in mind:

1. The project should meet the requirements of the customer
2. Deadlines have to be respected
3. Reusability and extensibility of the software is very important
4. The system should be stable

3.2 Assumptions, dependencies and constraints

- No assumptions were made.
- Dependencies
For the project to succeed, it will depend on the knowledge and the motivation of the team members
- Constraints:
 - Only open-source software is to be used
 - The product should run in a Linux environment
 - The product should run on the Wilma server

3.3 Risk Management

Developing software introduces a lot of risks. Every meeting these risks will be discussed in order to reduce or eliminate them.

3.3.1 Google goes down for a certain period

Criticality: ++

We need to make backups of our files and documentation. This will be performed by the configuration team.

3.3.2 Someone doesn't spend enough time on his job

Criticality: ++++

At first this will be discussed at the next meeting and a suggested action will be given. Thereafter a warning will be given. Possibly there will be further actions. If its absolutely necessary, a member can be dismissed.

3.3.3 Deadline will not be achieved

Criticality: ++++

Not achieving a deadline, can bring the timeschedule in danger. Because of this a team member should report this to the project manager who can reorganise the tasks, as soon as he/she perceives a delay.

3.3.4 Somebody becomes ill

Criticality: ++++

This risk has already been considered in the beginning of this project. This is why there is an Assistant(formerly called Backup) for every Management position. If a leader or manager gets ill, the assistant of that function should be able to fully understand his function and replace that leader or manager, for a certain period of time.

3.3.5 The client can't make an appointment before the deadline

Criticality: +

The client should be contacted as soon as possible. *Update: The client has been contacted on Friday, October 23, 2009 and an appointment has been made on Monday, October 26, 2009.*

3.3.6 The wrong questions have been asked to the client

Criticality: +++

There should be at least two appointments with the client before the first version of the SRS becomes available.

3.3.7 The requirements are misunderstood or misinterpreted

Criticality: +++

The interview with the client will be recorded and will be made available to all team members. This interview will be relistened by the Quality Assurance manager to reduce misinterpretations. In order to avoid ambiguity, there will be a presentation of the requirements during another meeting with the client.

3.4 Monitoring and controlling mechanisms

3.4.1 Meetings

Meetings will be held every week. The topics to handle at the meeting will be defined in an agenda and will be sent to every team member before the start of the meeting. Minutes will summarize the meetings and will be available on the project website within 3 days after the meeting.

Should one not be able to attend the meeting, he/she is requested to inform the project manager within 3 hours before the start of the meeting.

3.4.2 Timesheets

A global timesheet will be available every Monday before 12H00. Team members will need to submit their timesheet on Sunday before 23h59 for approval by the team manager.

Chapter 4

Technical Process

4.1 Methods, tools and techniques

- Google Code

There has been chosen for Google Code because it has some handy features:

- Revision control system: Subversion in our case, see below.
- Issue tracker
- Wiki (is sometimes handy e.g. for meeting agenda).
- File download server (for our software and document releases).

- Subversion

This is a centralized version control system chosen for the following reasons:

- It is easy to refactor the source code structure, while preserving files' history.
- The whole repository has a single revision that is incremented after each commit.

- Eclipse

Eclipse is a software development environment comprising an IDE and a plug-in system to extend it. It is used to develop applications in Java. It was decided to work with Eclipse because it has a very userfriendly interface and because of its popularity. Also it's known by most of the team members.

- \LaTeX

\LaTeX has been chosen to document this project because it's internationally known and commonly used. Also, a few members were interested in learning this language.

More specific tools will be discussed later.

4.2 Software documentation

See the SQAP.

4.3 Project support functions

Throughout the entire project, Joeri De Koster and Dirk Vermeir will be available for any help. For Wilma related problems, Dirk Van Deun can be contacted.

Chapter 5

Work packages, schedule and budget

5.1 Work packages

All costs are expressed in man-hours.

| Package | Deliverable | Total estimated time |
|-------------------|-------------------|----------------------|
| Organizational | Meetings (+/- 30) | 210 Hr |
| | Timesheets | 25 Hr |
| | SPMP | 30 Hr |
| | SCMP | 20 Hr |
| Analysis | SRS | 40 Hr |
| Design | SDD | 50 Hr |
| Implementation | Source code | 250 Hr |
| Quality Assurance | SQAP | 100 Hr |
| | STD | 150 Hr |

Please note that the numbers above are just an estimation and will become more precise after every stage in the project.

5.2 Dependencies

At this time, it is only possible to provide 1 general dependency :

- Iteration 2 depends on the completion of iteration 1.