

# Requirements Document

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Lab assignment Requirements Engineering



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# Document Status Sheet

## 25 Document status overview

### General

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### Document history

<i>Version</i>	<i>Date</i>	<i>Reason of change</i>
0.0	02-09-2015	Setup of the document layout
0.1	29-10-2015	Release version week 1

# 1 Project Plan

The project plan for the first four weeks is explained in this chapter. The goal is to discover some of the essential features that should be provided by the successor of Blackboard. We base our project plan on the requirements engineering process, see Figure 1.1 [2] (chapter 1.1.6). This book identifies four phases of requirements engineering;

1. Domain understanding and elicitation.
2. Evaluation and negotiation.
3. Specification and documentation.
4. Quality assurance.

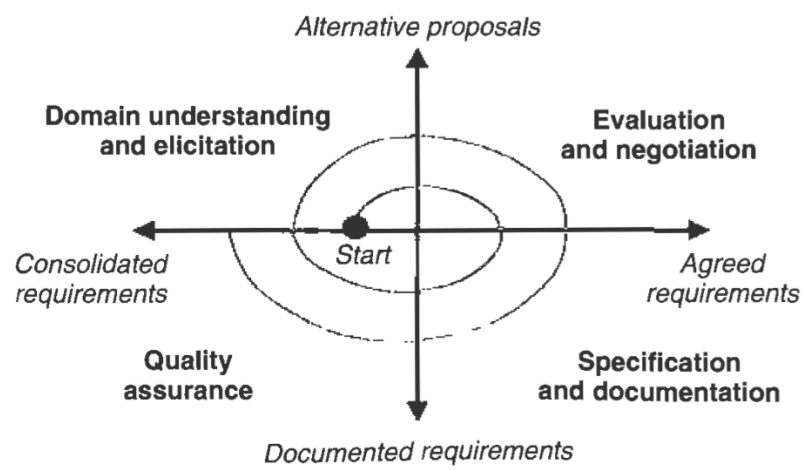
During the first week we will get familiar with the problem world, as described in the first phase [2]. We will investigate the system-as-is, ourselves, and ask users (students) about their experiences. We will work through the questions listed in the relevant section in the book. We will also compose a list of stakeholders, which we interview in the coming weeks.

Week 2 will resolve around the second phase: evaluation and negotiation. The goal of this week is to find all critical (business) goals of the stakeholders of the system. Why is it replaced? What is the relation to the mission and vision of the UvA (if there is any)? Why did the UvA use an education management tool in the first place? What are the goals of the students in relation to the tool etc. During this week we will interview remaining stakeholders, to verify and add upon the information we gathered in the first week. We will also interview more students with prepared questions.

During week 3 we will draft an initial set of requirements. After week 3 the first draft version of the Requirements Document is finished. We will focus on the smallest set of requirements that together realize the business goals on an acceptable level, due to limited time.

In week 4 we will plan meetings with relevant stakeholders to assess the set of requirements we drafted for the new system. Assessment focuses on whether we forgot crucial requirements and if the requirements are consistent.

Note that we conduct one round of the spiral model, see Figure 1.1. There will be some backtracking to other phases (previous weeks), because some information becomes available after the relevant week/phase.



**Figure 1.6** *The requirements engineering process*

Figure 1.1: Spiral Model of requirements engineering process

## 2 Week 1: Domain Analysis

60 In the first week we focused on getting a better understanding of the domain in order to form a better understanding of the problems in the domain with relation to the goals, which we will gather during the next phase.

### 2.1 Glossary of terms

List all relevant terms in the problem world

### 65 2.2 Organization

The organization in which Blackboard is used is the University of Amsterdam (UvA).

The organization within which the system-as-is takes place: its structure, strategic objectives, business policies, roles played by organizational units and actors, and dependencies among them.

### 70 2.3 Goal

The goal of a requirement engineering project in a perfect world would be strife to find all of most important quality requirements for all relevant stakeholders. As stated in Contextual Design [1] a design process could always be further elaborated, so finding all and every requirements for all stakeholders is an illusion.

75 Because of this and the time constraints of this project, the goal will be limited to the following: *find a couple of the major requirements for the main stakeholder(s)*. We believe this is measurable enough for the assignment given the time frame but still enough of an abstraction given that we do not yet have a clear enough understanding of the domain at this time to make it more concrete without taking away from the achieveability.

### 80 2.4 Scope

The scope of the system-as-is: its underlying objectives, the components forming it, the concepts on which it relies, the tasks involved in it, the information flowing through it, and the constraints and regulations to which the system is subject.

### 2.5 Stakeholders

- 85
- Users: Both students and teachers
  - Management:

- Blackboard (company):

The set of stakeholders to be involved in the RE process.

## 2.6 Strengths and Weaknesses

90 Students:

- + Easy way to access course specific information.
- + Latest schedule of course.
- Hard to use in the beginning.
- Only marginal functionality used, e.g. "We *have* to use it."

95 The strengths and weaknesses of the system-as-is, as perceived by the identified stakeholders.

## 2.7 Domain facts

The following facts are from a study in [3]. The implications for the requirements engineering process are in italic.

- 100 • Formative feedback can help students improve their work. *BB does not offer formative feedback, this is merely a responsibility of the teacher.*
- Should be clear link between learning goals (of a course) and the ICT solution. If the ICT solution is merely a means to reach a goal it will not improve learning.
- 105 • Important how ICT is used that determines its effectiveness. *If a domain fact is that students use BB because they have to, then a BB-related solution might not be effective.*
- Teachers use ICT based on their own skills. This might undermine its effectiveness.
- ICT changes rapidly. Partly, but in an increasingly lesser manner, by Moore's Law. In week 3 we will investigate this fact more in the literature.
- 110 • The availability of a tool does not determine its effectiveness. In its initial stages the focus is on how to use the tool, rather than using the tool for learning-promoting purposes.
- Research also rarely reports on technical issues or problems with equipment, yet these are what teachers find act as barriers to increasing the use of technology in classrooms.
- 115 • Media reports faster on trends than research can validate or discredit using that technology. Example: Interactive Whiteboards.
- ICT does not help increase pupils attainment.

## 3 Week 2: Essential stakeholder goals

During this phase we set out to gather the essential stakeholder goals. Each stakeholder has a specific goal, be it something that has to do with the system or something entirely different.

120 Our aim is to identify these goals in order to understand how the ELE of the UvA can assist in reaching these goals and which minimal features are needed to this end.

### 3.1 UvA

Taken from the core values of the UvA is the following:

125 *Engagement for the UvA and its staff implies the age-old obligation based on a privileged academic position to use acquired knowledge and insights to play an ongoing, prominent and visible role in the social debate. This value also reveals that the UvA is committed to the maximum development of the individual talents of its staff and students. Additionally, the choice of this core value suggests a strong mutual involvement between students, staff, employees, study programmes, institutes and the institution as a whole. And, lastly, there is*  
130 *an important link between academia and society. The UvA is located in historical and modern buildings throughout the city of Amsterdam, thus making it an integral part of the city.*

Important goals are:

1. The UvA is committed to the maximum development of the individual talents of its staff and students.
- 135 2. The UvA strives for a strong mutual involvement between students, staff, employees, study programs, institutes and the institution as a whole.

### 3.2 Teacher

Becomes relevant question to answer next week.

### 3.3 student

140 The student goals still need to be confirmed by finding a relevant paper. We believe these are the broad categories of students:

1. Obtain diploma.
2. Optimally develop one's personal and academic skills.



## 4 References

- 145 [1] Hugh Beyerand and Karen Holtzblatt, *Contextual Design*,
- [2] Axel van Lamsweerde, *Requirements Engineering: From System Goals to UML Models to Software Specifications*
- [3] Steve Higgins, *Does ICT improve learning and teaching in schools*, Newcastle University.
- [4] UvA mission
- 150 <http://www.dsdm.org/content/10-moscow-prioritisation>