Requirements Exercise

The company LSN A.G. has signed a new contract with the library BB to develop a new library system. To reduce the cost of the development, the LSN A.G. has decided to outsource the implementation to India. LNS A.G. develops the requirements specification, the company in India implements the system. LNS A.G. has written a first version of the requirements document.

In the following we present the requirements document for the library system; for simplicity, non-functional requirements are omitted.

1 Introduction

This document describes a system for a library. The main functionalities of the system allow (1) borrowing and returning books in a library; (2) getting the list of books by a particular author or in a particular subject area, (3) finding out the list of books currently checked out by a particular borrower, (4) finding out what borrower last checked out a particular copy of a book.

2 Definitions, Acronyms and Abbreviations

The following table explains the terms and abbreviations used in the document:

Term/abbreviation	Explanation
LS	Library System
BB	Borrow Book

3 Glossary

Word	Explanation
User	Any person who uses the system and is registered within the system. It means that he or she has a user login.

4 Functional Requirements

4.1 Basics

The functional requirements are described using the following template:

ID	Defines a unique identifier of the requirement. The requirements are ordered by topic.
Title	Title of the requirement
Description	A description of the requirement.
Priority	Defines the order in which requirements should be implemented. Priorities are 1, 2, 3, and 4 (highest to lowest). Requirements of priority 1 are mandatory for the first implementation; requirements of priority 2 are mandatory for the final implementation; priority 3 is used for features that are optional but the client would like to have it; priority 4 is used for optional features.
Risk	Specifies (1) the risk of not implementing the requirement, and (2) a probability that this feature is not implemented. The first one shows how critical the requirement is to the system as a whole; the second one, the probability, is a percentage 0...100. The following risk levels are defined over the impact of not being implemented correctly. • *Critical*: it will break the main functionality of the system. The system cannot be used if this requirement is not implemented. • *High*: it will impact the main functionality of the system. Some functions of the system could be inaccessible, but the system can generally be used. • *Medium*: it will impact some system features, but not the main functionality. The system can still be used with some limitations. • *Low*: the system can be used without limitations, but with some workarounds.

4.2   Books

ID	R1.01
Title	Books
Description	The system stores books. The status of a book is either *available* or *borrowed*.
Priority	3
Risk	Low / 50%

ID	R1.02
Title	Books \ book copies
Description	The system also stores book copies. A book can have several copies. The status of a book copy is either *available* or *borrowed*.
Priority	3
Risk	Low / 35%

ID	R1.03
Title	Books \ book copies \ copies of a book
Description	The system must be able to show the amount of copies of a particular book. This functionality is only available to *Staff* users.
Priority	3
Risk	Low / 30%

ID	R1.04
Title	Books \ repair
Description	The system shall provide functionality to repair book copies. The status of a book copy is either *available* or *borrowed* or *broken*. If the book is in status *broken*, this functionality repairs the book by setting a string attribute to *available*. This functionality is available to any user.
Priority	3
Risk	High / 10%

ID	R1.05
Title	Books \ borrow
Description	The system shall provide functionality to borrow book copies. The user selects an *available* book and borrows it. This functionality is only available to *Borrower* users.
Priority	3
Risk	Critical / 10%

ID	R1.06
Title	Books \ return
Description	The system shall provide functionality to return book copies. The user returns a book if the book status is *borrowed*. This functionality is available to any user.
Priority	3
Risk	Low / 30%

4.3 Users

ID	R2.01
Title	Users \ User Roles
Description	There are two kind of users: *Administrator* and *Borrower*. The *Administrator* user can access any functionality, and the *Borrower* user only the functionalities defined in R1.01, R1.02, and R1.03.
Priority	2
Risk	High / 10%

ID	R2.02
Title	Library
Description	Any *Administrator* user can check how many books are available and how many books are borrowed. Furthermore, the *Administrator* user can check how many books are broken. To borrow, or return a book, the user has to log in first.
Priority	3
Risk	Low / 40%

4.4   Display

ID	R3.01
Title	List of books \ By user
Description	The system shall be able to display a list of books authored or co-authored by a given author. The list shall be ordered in chronological order. If the author published more than one book in the same year, the list should be also order by the title.
Priority	1
Risk	Low / 70%

ID	R3.02
Title	List of books \ By topic
Description	The system shall be able to display a list of books in given subject area. The list shall be ordered by topic in chronological order. If there is an author who published more than one book in the same year, and area, the list should be also order by the title.
Priority	1
Risk	Low / 70%

ID	R3.03
Title	List of books \ Checked out by user
Description	The system shall be able to display a list of books that a given user has checked out. The list should be ordered by date.
Priority	1
Risk	Low / 70%

ID	R3.04
Title	List of books \ Checked out by book
Description	The system shall be able to finding out what borrower last checked out a particular copy of a book.
Priority	1
Risk	Low / 70%

5   Non-Function Requirements

Non-functional requirements are omitted here to keep the document short.

(This document has been signed by the client.)
15. May 2010

Task 1:

Define the stakeholders of the system.

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Task 2:

Given the above requirements document, give examples (extracted from this document) of quality goals that are not satisfied.

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