Requirements Specification

Company 10

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Version 0.4

Status

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Content

Document History

Version	Date	Changes	Responsible	Approved
0.4	2010-02-03	Writing, prioritizing requirements.	MR, HS, JM, HN	SR
0.3	2010-02-03	Change in template	MR	SR
0.2	2010-02-02	Updated text and added images	MR, JM, HS	SR
0.1	2010-02-01	Created template.	MR	SR

1. Introduction

This document describes the software requirements for the UW system.

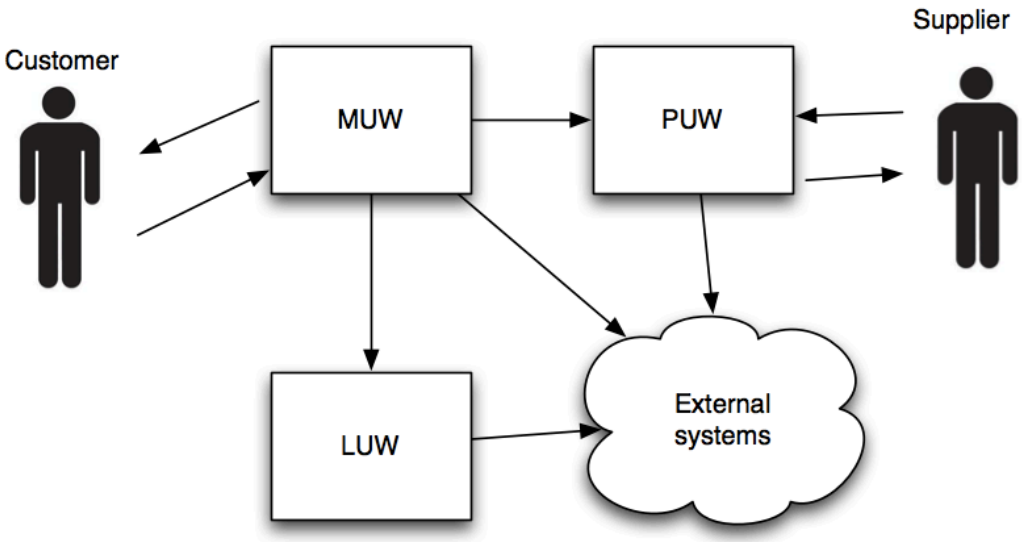

Figure 1 - Overview of the system.

1.1. Stakeholders

The stakeholders for the project are Company 10 who will build and deliver the system, Coira who is the acquirer of the system and Coira's customers.

1.2. Aim and goal

The aim of the requirements specification is to clearly define what the acquirer wants Company 10 to produce. The goal is to get a clear picture of the overall system.

1.3. Use cases

The use cases are specified from the end users' point of view. See Appendix A for detailed information.

1.4. Background information

Central Operative & Independent Retailers Acquirer (Coira) is an enterprise with a number of retailers in large parts of the western world. Coira deals in a number of unspecified products and wishes to expand to the rest of the world through a web-based portal, called "the Unlimited Well (UW)". To achieve this, Coira wants to create systems for handling retail, customer purchases and logistics, all of which should utilize existing systems, such as Coiras financial system. Coira has contacted Company 10 to design and produce these systems.

1.5. Definitions

The following abbreviations will be used throughout the report.

Abbr.	Explanation
UW	The Unlimited Well (The whole system)
MUW	Mall at the Unlimited Well (The web-portal)
PUW	Purchase at the Unlimited Well (Supplier portal)
LUW	Logistics at the Unlimited Well (Transportation)
GIS	Geographical Information System
F	Functional requirement
NF	Non-functional requirement

The requirements will be prioritized as Low, Medium or High.

2. Overview of the system

The "Unlimited Well (UW)" is to be a web-based portal offering Coira's products to customers all around the globe. The system consists of the three sub-systems MUW, PUW and LUW. MUW handles customers, displays products and allows purchases. PUW handles supplies and suppliers. And LUW takes care of logistics, customs and transportation of customers' products.

2.1. Product components

Mall at the Unlimited Well
Contains the interface towards the customer and the database of available products.

Purchase at the Unlimited Well (PUW)
Handles contact with suppliers.

Logistics at the Unlimited Well (LUW)
Handles contact with transporters.

2.2. Dependencies with other systems

The following table defines UW's dependencies with other systems.

System	Dependency
GIS	For geographical information.
Customs	To make sure that customs are not a problem.
Economy/finance	Coiras' existing system for handling invoices and similar.
Customer Register	Of existing customers.

2.3. Included sub-systems

The included sub-systems in the project are:

- MUW
- PUW

- LUW

2.4. Delimitations

Due to the time and resource limitations, Low-prioritized requirements will not be implemented. Medium-prioritized requirements will be implemented if time permits.

2.5. Design philosophy

Due to time and resource limitations each module should at least be able to work individually.

2.6. General requirements of the whole system

The following sub-sections define the functional and non-functional requirements specified by Coira.

2.6.1. Design requirements

No	Requirement	Priority
NF1.1	The system should be internet based and available to different platforms and browsers.	High
NF1.2	The system should be easy to understand and interact with.	Medium
NF1.3	The system should be able to run on multiple server architecture to provide portability.	Low
NF1.4	User integrity should be respected.	Medium
NF1.5	The system should be available at all time.	Medium
NF1.6	The system should be globally accessible.	High
NF1.7	The system should provide high security.	Medium
NF1.8	The system should work with a minimum of manual intervention.	High
NF1.9	Interfaces between sub-systems should be well defined.	High
NF1.10	The system should scale well	Low

2.6.2. Functional requirements

No	Requirement	Priority
F1.1	The system should be accessible through a text-based browser.	Low
F1.2	The system should be localizable in English, Swedish, Spanish, French, Portuguese and Canton Chinese languages	High
F1.3	The system should support mobile platforms.	Low
F1.4	System should get and utilize information from a GIS company.	Low
F1.5	The system should make information available for financial systems.	High
F1.6	The system should produce necessary documents from suppliers to customers.	High
F1.7	Transporters should be able to use the system to update transport status.	Medium
F1.8	System should plan and coordinate transportations.	Low
F1.9	System should choose and book appropriate transportation upon purchase.	High

3. Sub-system 1 – MUW

MUW is the shopping mall of the system. This is the interaction point for the end user.

3.1. Description of MUW

MUW handles all interaction with the customer. MUW displays all available products, their details, their price and how long it will take to deliver. MUW also handles the customers orders, displays information and options about orders, such as where they are and if there is any problems, and notifies the customer if there is any hiccups along the way. MUW's graphical interface will provide context-sensitive help at all levels of the interface. At purchase, MUW should find an optimal combination of supplier and transporter. MUW contains the database of available products, their status and suppliers, as well as the customer register. MUW must support several languages and it must be easy to extend the number of languages supported. MUW will also collect statistics about purchases and use these to make predictions about demands and ask PUW to make sure that there is enough supply to satisfy the demand.

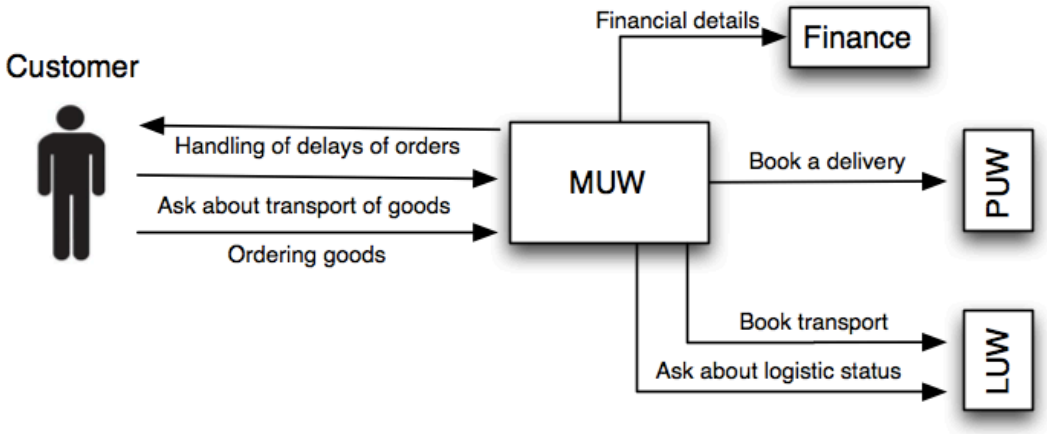

Figure 2 - Detailed view of the MUW system

3.2. Interface requirements

No	Requirement	Priority
NF2.1	Request PUW to acquire a specific item from a specific supplier	High
NF2.2	Request LUW to book transportation for the item, given supplier and customer.	High
NF2.3	Request transportation status from LUW.	Medium

3.3. Design requirements

No	Requirement	Priority
NF1.1	The system should be internet based and available to different platforms and browsers.	High
NF1.2	The system should be easy to understand and interact with.	Medium
NF1.4	User integrity should be respected.	Medium
NF1.5	The system should be available at all time.	Medium
NF1.6	The system should be globally accessible.	High

NF1.7	The system should provide high security.	Medium

3.4. Functional requirements

No	Requirement	Priority
F2.1	Display products and their details.	High
F2.2	User logon at any time.	High
F2.3	Send relevant information to LUW	High
F2.4	Send relevant information to PUW	High
F2.5	Create sales forecast based upon sales history	Low
F2.6	Request that PUW has sufficient supplies based on F2.5	Low
F2.7	Notify customer on delays	Medium
F2.8	Allow cancellation of orders	Medium
F2.9	Change customer registration details	Medium
F2.10	Provide customer registration	High
F2.11	Check transportation status at any time	Medium
F2.12	Remove customer	Medium
F2.13	Check transportation availability	Low
F2.14	See transportation availability given a specific area on a map (based on F2.13)	Low

4. Sub-system 1 – PUW

PUW is the supplier system. It handles the suppliers and requests quality reviews.

4.1. Description of PUW

PUW is, upon purchase, to contact the chosen supplier and book the products specified. PUW will also keep track of suppliers and update there status in MUW's database. PUW will select suppliers that should undergo a quality review given certain conditions. PUW also has to notify Coira employees if there is not enough suppliers in the system to meet the demand as predicted by MUW, so that new suppliers may be acquired. PUW will also handle delivery notes and send all required data to Coiras financial system.

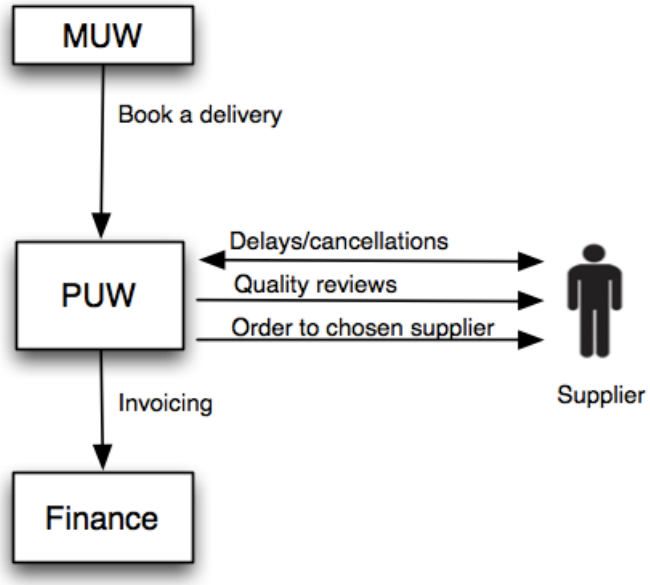

Figure 3 – Detailed view of the PUW system

4.2. Interface requirements

The interface requirements describe what input can be sent to the MUW system, and what output the system will produce.

No	Requirement	Priority
NF3.1	Order product form chosen supplier	High
NF3.2	Contact financial system with relevant data	High
NF3.3	Cancellation of orders	Low

4.3. Design requirements

No	Requirement	Priority
NF1.2	The system should be easy to understand and interact with.	Medium
NF1.5	The system should be available at all time.	Medium
NF1.7	The system should provide high security.	Medium
NF1.8	The system should work with a minimum of manual intervention.	High

4.4. Functional requirements

This section describes the PUW's functional requirements.

No	Requirement	Priority
F3.1	Accept orders from MUW	High
F3.2	Place an order with suppliers	High
F3.3	Produce delivery notes for all consignments	High
F3.4	Provide financial system with data for bookkeeping and invoicing	High
F3.5	Provide best supplier given customer location and ordered items	Medium

F3.6	Request supplier quality review from UW staff	Medium
F3.7	Update product database with available products	High
F3.8	Provide promotion support for suppliers with good price/time ratio.	Low

5. Sub-system 3 – LUW

LUW is the transportation system. It handles the contact with transportations companies and makes sure that the products are delivered on time.

5.1. Description of LUW

LUW will be responsible for handling logistics and transportation and keeps track of transporters and their routes. Upon purchase, LUW will book suitable transportation and produce all the needed papers, such as bills of lading and import licenses. LUW is responsible for updating the status of orders and where a particular order is physically. To be able to do this, LUW must accept input from a number of different sources so that the companies that handle the actual transport can update regardless of internal system used. LUW shall utilize a GIS company to compute distances and time consumption. LUW must also make sure that each transport is as profitable as possible with very few, but existing, exceptions. LUW must also allow independent transporters to use the system to plan transports and routes. This includes transports that have nothing to do with Coira. In this case the system is called "Logistics at Transporters" (LaT). In case the system is used this way, the content in the transporters area must be exclusive to that transporter. LUW should notify MUW and Coira personnel in case any hiccups occur.

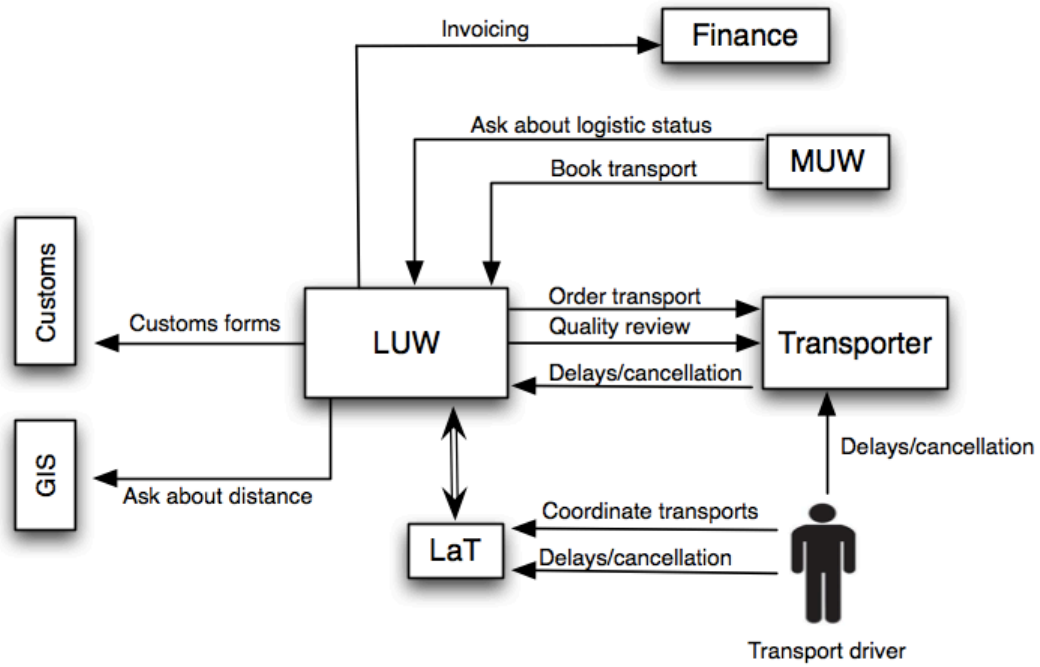

Figure 4 - Detailed view of the LUW system

5.2. Interface requirements

No	Requirement	Priority
NF4.1	Interface to customs for calculation of taxes	High
NF4.2	Communicate to GIS for geographical information form supplier to customer	Low
NF4.3	Get a transport booked for transportation by MUW	High
NF4.4	Status updates from transporter	Low
NF4.5	Provide transportation status to MUW	Low
NF4.6	Delays and cancellation of orders	Low
NF4.7	Send the financial system relevant data	High

5.3. Design requirements

No	Requirement	Priority
NF1.2	The system should be easy to understand and interact with.	Medium
NF1.5	The system should be available at all time.	Medium
NF1.7	The system should provide high security.	Medium
NF1.8	The system should work with a minimum of manual intervention.	High

5.4. Functional requirements

No	Requirement	Priority
F4.1	Find and book an optimal transportation from a supplier to a customer	High
F4.2	Receive transportation booking from MUW	High
F4.3	Handle cancellations of order/transport	Low
F4.4	Update order status	Medium
F4.5	Produce required documents; bills of lading	High
F4.6	Sends available data to financial system regarding the order	High
F4.7	Request transporter quality review from UW staff	Low
F4.8	Communicate with transporter through LaT	Low

6. Performance requirements

The system will consider the following requirements from a performance perspective.

No	Requirement	Priority
NF1.2	The system should be easy to understand and interact with.	Medium
NF1.5	The system should be available at all time.	Medium
NF1.10	The system should scale well	Low

7. Extensibility

The system will provide extensibility by adding language support. The following requirement defines this.

No	Requirement	Priority
F1.2	The system should be localizable in English, Swedish, Spanish, French, Portuguese and Canton Chinese languages	Medium

8. Reliability

The system should provide high availability and accessibility to users, defined in the following requirements.

No	Requirement	Priority
NF1.3	The system should be able to run on multiple server architecture to provide portability.	Low
NF1.5	The system should be available at all time.	Medium
NF1.6	The system should be globally accessible.	High

9. Economy

The customer has not provided any economical requirements for the project. Also, all man-hours allocated for the project development are free.

10. Security

The system must provide high security and be resistant to attacks.

No	Requirement	Priority
NF1.4	User integrity should be respected.	Medium
NF1.7	The system should provide high security.	Medium

11. Delivery requirements

The system will be delivered as a whole, consisting of three separated modules.

12. Documentation

The following documents will be delivered to the acquirer.

Document	Language	Aim	Audience	Format
Technical documentation	English	Define all requirements of the system	Technical responsible	PDF
User manual	English	Introductory description of the system.	Coira personnel	PDF
Installation manual	English	Installation instructions for the system	IT Administrator	PDF

13. Education

Company 10 will not provide any education for the system. The system should be self explanatory from the user manuals.

14. Quality requirements

The system will assure quality from the requirements specified in the sections 6, 8 and 10.

15. Maintainability

The system will be module based so each module easily can be maintained. Also, the following requirements results in better maintainability:

No	Requirement	Priority
NF1.8	The system should work with a minimum of manual intervention.	High
F1.2	The system should be localizable in English, Swedish, Spanish, French, Portuguese and Canton Chinese languages	High