

Requirements Specification

Company 10

Martin Ruzicka
Version 0.3

Status

| | | |
|----------|--|------------|
| Reviewed | Martin Ruzicka, Hans Sanell, Jonas Mattsson, Henrik Nilsson, Vamsi Seshabhattaru | 2010-02-03 |
| Approved | Sebastian Rehnby (PM) | 2010-02-05 |

Project identity

Company 10, 2010
Chalmers University of Technology, MPSEN

| Name | Responsibility | Phone | E-mail |
|---------------------------|--------------------|---------------|--|
| Martin Ruzicka | Software Architect | 070 219 20 81 | ruzicka@student.chalmers.se |
| Jonas Mattsson | Database Designer | 070 58 18 095 | emattsso@student.chalmers.se |
| Hans Sanell | Software Architect | 073 53 55 210 | hansn@student.chalmers.se |
| Sebastian Rehnby | Project Manager | 0735 080 850 | |
| Vamsi Seshabhattacharu | Quality Manager | 0739 190 703 | vamsi@student.chalmers.se |
| Henrik Schulze Nilsson | Graphical Designer | 0733 643 501 | henrnil@student.chalmers.se |

suit-group-10@googlegroups.com

Client: Central Operative & Independent Retailers Acquirer, 9 Downing St,
Westminster, London SW1A, UK

Client Contact: Peter Arch, +44 333 757589, peter.arch@coira.com

Supervisor: Per Zaring

Content

| | |
|--|-----------|
| 1. Introduction | 5 |
| 1.1. Stakeholders..... | 5 |
| 1.2. Aim and goal | 5 |
| 1.3. Use cases | 5 |
| 1.4. Background information..... | 5 |
| 1.5. Definitions..... | 5 |
| 2. Overview of the system..... | 6 |
| 2.1. Rough description of the product | 6 |
| 2.2. Product components..... | 6 |
| 2.3. Dependencies with other systems | 6 |
| 2.4. Included sub-systems..... | 6 |
| 2.5. Delimitations..... | 6 |
| 2.6. Design philosophy | 6 |
| 2.7. General requirements of the whole system..... | 6 |
| 2.7.1. Design requirements..... | 6 |
| 2.7.2. Functional requirements..... | 7 |
| 3. Sub-system 1 – MUW | 7 |
| 3.1. Description of MUW | 7 |
| 3.2. Interface requirements..... | 8 |
| 3.3. Design requirements | 8 |
| 3.4. Functional requirements | 8 |
| 4. Sub-system 1 – PUW | 9 |
| 4.1. Description of PUW | 9 |
| 4.2. Interface requirements..... | 9 |
| 4.3. Design requirements | 9 |
| 4.4. Functional requirements | 9 |
| 5. Sub-system 3 – LUW | 10 |
| 5.1. Description of LUW | 10 |
| 5.2. Interface requirements..... | 11 |
| 5.3. Design requirements | 11 |
| 5.4. Functional requirements | 11 |
| 6. Performance requirements..... | 12 |
| 7. Extensibility..... | 12 |
| 8. Reliability | 12 |
| 9. Economy..... | 12 |
| 10. Security..... | 12 |
| 11. Delivery requirements | 12 |
| 12. Documentation..... | 13 |
| 13. Education | 13 |
| 14. Quality requirements..... | 13 |
| 15. Maintainability..... | 13 |

Document History

| Version | Date | Changes | Responsible | Approved |
|---------|------------|-------------------------------|-------------|----------|
| 0.3 | 2010-02-03 | Change in template | MR | |
| 0.2 | 2010-02-02 | Updated text and added images | MR, JM, HS | |
| 0.1 | 2010-02-01 | Created template. | MR | |

1. Introduction

This document describes the software requirements for the UW system.

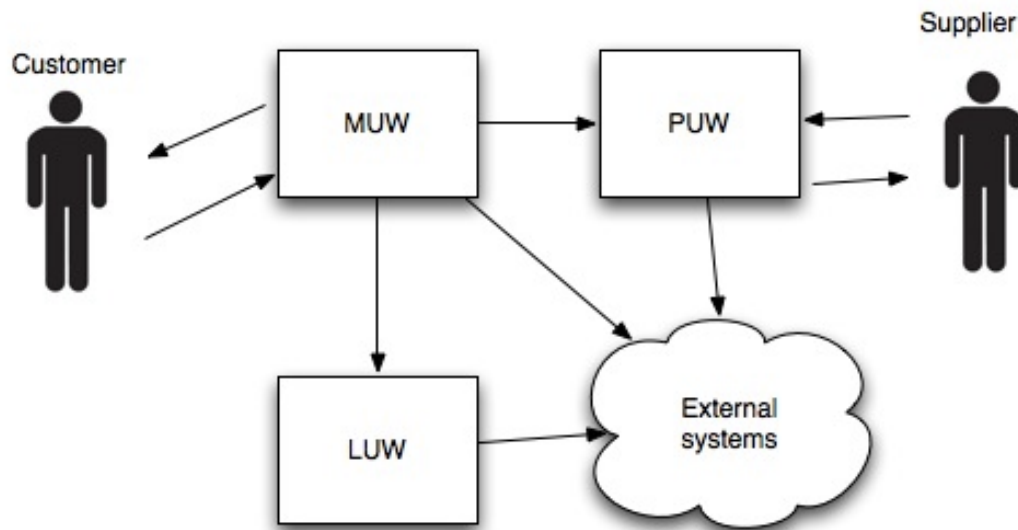


Figure 1 - Overview of the system.

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

TODO

See Appendix A.

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

| Abbr. | Explanation |
|-------|--------------------------------|
| MUW | Mall at the Unlimited Well |
| PUW | Purchase at the Unlimited Well |

| | |
|-----|---------------------------------|
| LUW | Logistics at the Unlimited Well |
| GIS | Geographical Information System |

2. Overview of the system

2.1. Rough description of the product

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.

2.2. 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.

2.3. Dependencies with other systems

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.

2.4. Included sub-systems

MUW, PUW, LUW

2.5. Delimitations

TODO

2.6. Design philosophy

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

2.7. General requirements of the whole system

2.7.1. Design requirements

| No | Requirement | Priority |
|-------|--|----------|
| NF1.1 | The system should be internet based and available to different platforms and browsers. | |
| NF1.2 | The system should be easy to understand and interact with. | |
| NF1.3 | The system should be able to run on multiple server architecture to provide portability. | |
| NF1.4 | User integrity should be respected. | |

| | | |
|--------|---|--|
| NF1.5 | The system should be available at all time. | |
| NF1.6 | The system should be globally accessible. | |
| NF1.7 | The system should provide high security. | |
| NF1.8 | The system should work with a minimum of manual intervention. | |
| NF1.9 | Interfaces between sub-systems should be well defined. | |
| NF1.10 | The system should scale well | |

2.7.2. Functional requirements

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

3. Sub-system 1 – MUW

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.

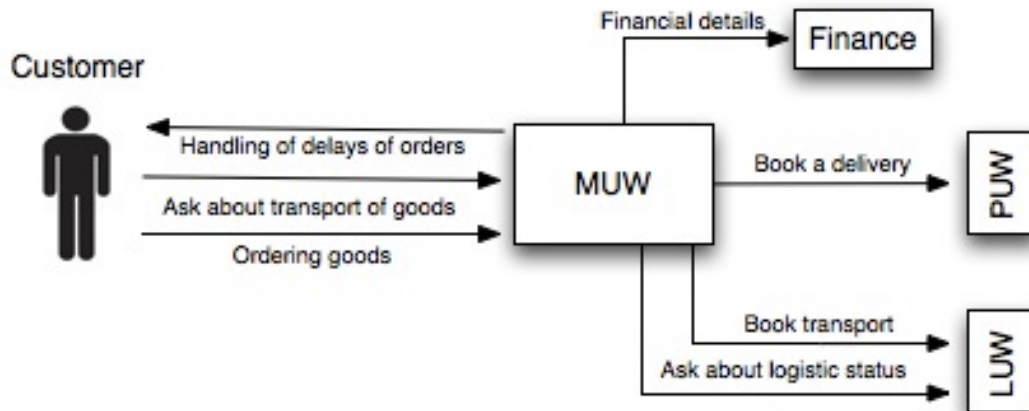


Figure 2 - Detailed view of the MUW system

3.2. Interface requirements

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

3.3. Design requirements

3.4. Functional requirements

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

4. Sub-system 1 – PUW

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 their 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 Coira's financial system.

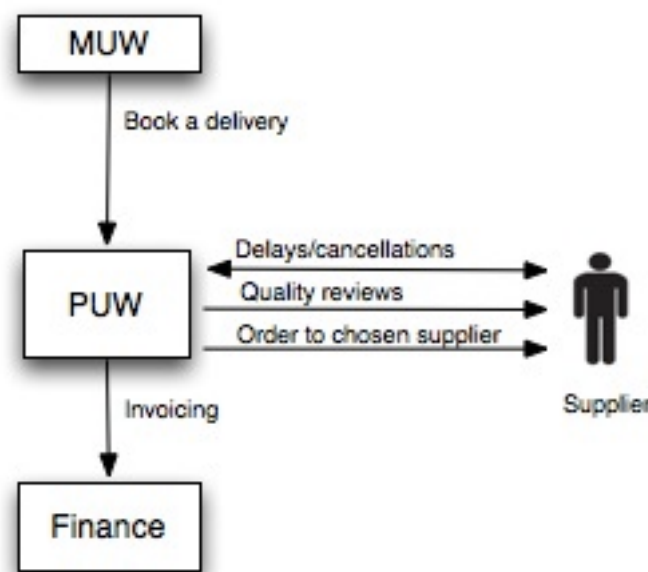


Figure 3 – Detailed view of the PUW system

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 from chosen supplier | |
| NF3.2 | Contact financial system with relevant data | |
| NF3.3 | Cancellation of orders | |

4.3. Design requirements

TODO

4.4. Functional requirements

This section describes the MUW's functional requirements.

| No | Requirement | Priority |
|------|------------------------|----------|
| F3.1 | Accept orders from MUW | |

| | | |
|------|---|--|
| F3.2 | Place an order with suppliers | |
| F3.3 | Produce delivery notes for all consignments | |
| F3.4 | Provide financial system with data for bookkeeping and invoicing | |
| F3.5 | Provide best supplier given customer location and ordered items | |
| F3.6 | Request supplier quality review from UW staff | |
| F3.7 | Update product database with available products | |
| F3.8 | Provide promotion support for suppliers with good price/time ratio. | |

5. Sub-system 3 – LUW

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.

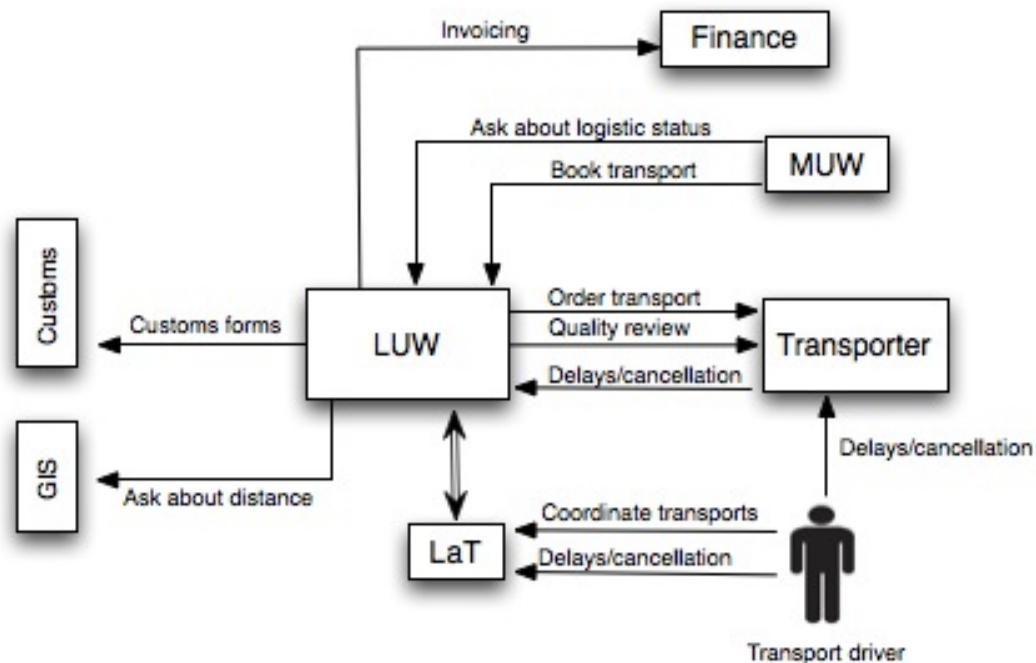


Figure 4 - Detailed view of the LUW system

5.2. Interface requirements

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

5.3. Design requirements

TODO

5.4. Functional requirements

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

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. | |
| NF1.5 | The system should be available at all time. | |
| NF1.10 | The system should scale well | |

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 | |

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. | |
| NF1.5 | The system should be available at all time. | |
| NF1.6 | The system should be globally accessible. | |

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. | |
| NF1.7 | The system should provide high security. | |

11. Delivery requirements

Will we deliver only modules or whole system? In which order will modules be delivered?

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. | User | 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.
(Possibly talk about free software)

Appendix A – Use cases

1. Use case 1 - Name

Acquirer reference:



Supplier reference: