

Software Requirements Specifications  
for  
Project “BookExpress”

Marc A. Harnos  
mharnos@gmail.com

Joscha Rapp  
jraxxo@gmail.com

Christian Schulz  
crs.s@gmx.net

October 2012

# Contents

<b>1</b>	<b>Product Purpose</b>	<b>4</b>
1.1	Obligatory Requirements (“must have”) . . . . .	4
1.1.1	Communication with Publishers . . . . .	4
1.1.2	Communication with Customers . . . . .	4
1.1.3	Internal Administration . . . . .	5
1.1.4	Support . . . . .	5
1.2	Optional Requirements (“nice to have”) . . . . .	6
1.3	Non-Requirements (“need not have”) . . . . .	6
<b>2</b>	<b>Product Environment</b>	<b>7</b>
2.1	Application Area . . . . .	7
2.2	User Groups . . . . .	7
2.3	Operating Conditions . . . . .	7
<b>3</b>	<b>Product Overview</b>	<b>8</b>
<b>4</b>	<b>Product Functions</b>	<b>9</b>
4.1	Internal . . . . .	9
4.1.1	Employees of “BookExpress” . . . . .	9
4.2	External . . . . .	13
4.2.1	Book Stores (“Clients”) . . . . .	13
4.2.2	Publishers . . . . .	14
<b>5</b>	<b>Product Data</b>	<b>15</b>
5.1	Customer Data . . . . .	15
5.1.1	Book Stores . . . . .	15
5.1.2	Publishers . . . . .	15
5.2	Order Data . . . . .	15
5.3	Internal Data . . . . .	15
<b>6</b>	<b>Product Performance</b>	<b>16</b>
<b>7</b>	<b>Quality Requirements</b>	<b>17</b>

<b>8</b>	<b>User Interface</b>	<b>18</b>
8.1	Client Application (for clerks) . . . . .	18
8.2	Web Interface (for customers) . . . . .	18
<b>9</b>	<b>Non-Functional Requirements</b>	<b>19</b>
<b>10</b>	<b>Technical Product Environment</b>	<b>20</b>
10.1	Software . . . . .	20
10.2	Hardware . . . . .	20
10.3	Orgware . . . . .	20
10.4	Interfaces (product) . . . . .	20
<b>11</b>	<b>Special Requirements for the Development Environment</b>	<b>21</b>
11.1	Software . . . . .	21
11.2	Hardware . . . . .	21
11.3	Orgware . . . . .	21
11.4	Interfaces (development) . . . . .	21
<b>12</b>	<b>Subproducts and Subsystems</b>	<b>22</b>
12.1	Server . . . . .	22
12.2	Web Interface / Web Service . . . . .	22
12.3	Client Application . . . . .	22
<b>13</b>	<b>Additional Specifications and Stipulations</b>	<b>23</b>
<b>14</b>	<b>Appendices</b>	<b>24</b>

# Document History

Editor(s)	Date	Purpose of Editing	Version
Harnos, Rapp, Schulz	2012-10-01	Initial Document Creation	v0.01

# Chapter 1

## Product Purpose

To handle the addition of new books and the distribution in a better way, "BookExpress" asked us to develop an IT solution to optimize the idle time and labour usage by getting rid of the current, deprecated system. Furthermore one important goal of the software solution is to be very user friendly and easy to use; also there should be remote access implemented, so several customers can access the software at once and distribution partners can access and keep their book stock up to date.

### 1.1 Obligatory Requirements (“must have”)

#### 1.1.1 Communication with Publishers

The direct connection between the **publishers** and BookExpress shall be implemented by providing a web interface for the publishers.

- As each publisher also has a PIN, it will be used as the account name for the interface.
- The web interface has to provide the following features for the publisher: maintain the book database (add books, remove books, edit book data), edit their personal data, view statistics on how often which books are bought
- The interface has to be comfortably accessible from mobile devices as well, the data that is transmitted should be minimal

#### 1.1.2 Communication with Customers

The direct connection between the **customers** and BookExpress shall also be implemented by providing a web interface for the customers.

- As each customer already has a unique identifier, the PIN, we will use it as an account name for the login.
- The web interface has to provide the following features: view catalogue and stock, submit orders, view the current state of their orders and cancel them (if they haven't been shipped yet)
- The system has to assign a unique ID to each order, ideally incorporating the PIN of the customer
- The interface has to be comfortably accessible from mobile devices as well, the data that is transmitted should be minimal

### **1.1.3 Internal Administration**

The employees of BookExpress shall be provided a web interface as well.

- Each employee will get a unique user ID to log into the web interface. Ideally, this will be formatted along the lines of surname.name or something similar.
- The web interface must provide the following features for the employees: processing, editing and cancellation of submitted orders, directly contact the customers and publishers as well as the truck fleet and the warehouse
- Furthermore, the underlying system shall generate logfiles with login times, error codes and statistics (e.g. which books are ordered the most and by whom) for the publishers and the accounting and IT department / tech support.
- The interface has to be comfortably accessible from mobile devices as well, the data that is transmitted should be minimal

### **1.1.4 Support**

- The system should be as automatic as possible - we need a good, user-oriented manual.
- Additionally, a context-sensitive help tool has to be implemented in the interface itself.
- Moreover, As we want to make sure that the system is as reliable as possible, we will need a dedicated support team that is available 24/7 and can be dispatched in less than 2 hours to fix critical issues.

## **1.2 Optional Requirements (“nice to have”)**

- Book Stores should be able to save recurring orders
- Book Stores should be notified when the delivery of their order is imminent

## **1.3 Non-Requirements (“need not have”)**

- The software should not allow final customers to buy books. It is only intended for retailers.
- Moreover, invoices are generated elsewhere, as well as financial reports, so the system should not interfere with that.

## **Chapter 2**

# **Product Environment**

The Product takes the orders from the book stores and files them into the system, so that they can be prepared for shipping. For different sized book stores there should be several account types with separate functionality and different options for packaging and ordering. The targeting groups of the software solution are the book store owners(our consumers), the assistants of "BookExpress" and the distribution partners.

### **2.1 Application Area**

The new IT system should replace the old system and provide administrative and commercial functions to relieve the employees of unnecessarily complex administrative tasks. Certain processes can be handled without any interaction at all, e.g. if a book runs low in stock, the system will automatically order new copies from the publisher.

### **2.2 User Groups**

- BookExpress commercial employees
- BookExpress IT employees
- Publishers
- Book Stores

### **2.3 Operating Conditions**



## Chapter 3

# Product Overview

The products environmental diagram.

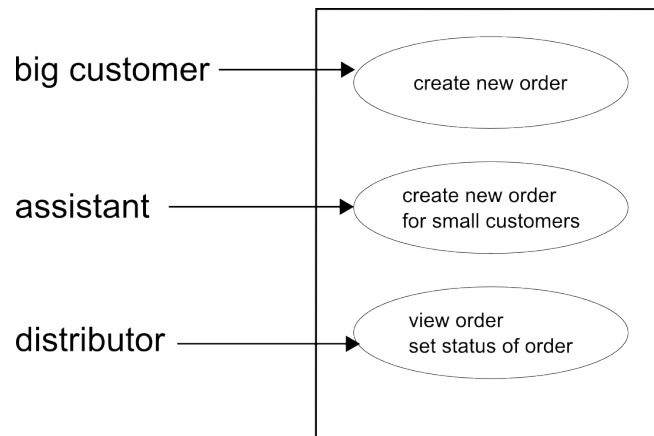


Figure 3.1: The environmental view of the product

## **Chapter 4**

# **Product Functions**

### **4.1 Internal**

#### **4.1.1 Employees of “BookExpress”**

/PF10/	<b>Process</b>	Register Publisher or Book Shop (client)
	<b>Actor(s)</b>	BookExpress employee
	<b>Category</b>	
	<b>Description</b>	A Book Express employee creates an account for a book shop or publisher after both business partners have signed a contract handling the business relations.
	<b>Goal</b>	The contract partner should have an account to log into the Software. After registration through the Book Express employee, the contract partner will be send a verification and its account information via email.
	<b>Preconditions</b>	Contract signed
	<b>Postcondition success</b>	Successfully created account
/PF20/	<b>Postcondition failure</b>	Unsuccessful in creating an account
	<b>Trigger Sequence</b>	Menu option "register new client" (Software) Input relevant data and contractor details into the managements system Save the signed contract on the server Register a new client by creating a new ClientID in the database Send verification and account information to the contractor
	<b>Process</b>	Edit client information
	<b>Actor(s)</b>	BookExpress employee
	<b>Category</b>	
	<b>Description</b>	The clients data is outdated and needs to be updated
	<b>Goal</b>	Client data is updated
	<b>Preconditions</b>	Client exists in database
	<b>Postcondition success</b>	Client data is updated and a notification mail is sent to the client.
	<b>Postcondition failure</b>	Client data is not updated but rolled back to the previous state. Notification with problem report is shown to the employee.
	<b>Trigger Sequence</b>	Menu option "edit client data" (Software) Menu option "edit client data" Edit specific data Submit edited data to the server

/PF/	<b>Process</b>	Delete client
	<b>Actor(s)</b>	BookExpress Employee
	<b>Category</b>	
	<b>Description</b>	Client gets deleted due to resignation of the contract
	<b>Goal</b>	Delete client from the system
	<b>Preconditions</b>	Client exists in database
		Contract is being resigned by one of the contractors
	<b>Postcondition success</b>	Client is deleted from the system
	<b>Postcondition failure</b>	Client could not be deleted because of existing orders
	<b>Trigger</b>	Menu option "delete client" (Software)
	<b>Sequence</b>	Choose client
Check if client is deletable (i.e. no existing orders)		
Send notification mail to client		
Delete client		

/PF/	<b>Process</b>	Client places order (via telephone)
	<b>Category</b>	
	<b>Actor(s)</b>	BookExpress employee, client
	<b>Description</b>	A client orders book via telephone
	<b>Goal</b>	Order is placed in an order queue
	<b>Preconditions</b>	Client exists in database
		Client is authorized
	<b>Postcondition success</b>	Order is placed in an order queue
	<b>Postcondition failure</b>	-
	<b>Trigger</b>	Client initiates order process by calling an BookExpress employee BookExpress employee triggers manual order process
	<b>Sequence</b>	BookExpress employee selects client in Software
BookExpress employee enters ordered book into the system		
Order is placed in order queue		
Order notification containing detailed report is sent to client		

/PF/	<b>Process</b> <b>Category</b> <b>Actor(s)</b> <b>Description</b> <b>Goal</b>  <b>Preconditions</b> <b>Postcondition</b> <b>success</b> <b>Postcondition</b> <b>failure</b> <b>Trigger</b> <b>Sequence</b>	Validate order  System Order is checked for validation The software checks every order for validation and confirms it to the client. BookExpress knows about every orders validation status. Order is in order queue Client receives a confirmation email  Client receives a problem report about invalid order Order was placed and exists in order queue System gathers details and checks whether order is valid or not System sends mail to client
/PF/	<b>Process</b> <b>Category</b> <b>Actor(s)</b> <b>Description</b>  <b>Goal</b> <b>Preconditions</b>  <b>Postcondition</b> <b>success</b> <b>Postcondition</b> <b>failure</b> <b>Trigger</b> <b>Sequence</b>	Check stock  System/BookExpress employee The system checks whether the amount of books, which the client orders, is available or nearly out of stock. Check succeeds Order is placed or BookExpress employee initiates check Books which are nearly out of stock get displayed as a list -  Stock check is initiated Check

/PF/	<b>Process</b>	Forward order to Logistics
	<b>Category</b>	
	<b>Actor(s)</b>	System
	<b>Description</b>	A validated order gets forwarded to Logistics
	<b>Goal</b>	Logistics proceeds processing the order
	<b>Preconditions</b>	Order is valid
	<b>Postcondition success</b>	Logistics processes delivery
	<b>Postcondition failure</b>	Order could not be forwarded to Logistics
	<b>Trigger</b>	Order is validated
	<b>Sequence</b>	Send order information/details to Logistics

## 4.2 External

### 4.2.1 Book Stores ("Clients")

/PF/	<b>Process</b>	Client places order (via web interface)
	<b>Category</b>	
	<b>Actor(s)</b>	Client
	<b>Description</b>	Client places an order via the web interface of BookExpress
	<b>Goal</b>	Order is placed
	<b>Preconditions</b>	Client is successfully logged into the web interface Connection to BookExpress server is established
	<b>Postcondition success</b>	Order is delivered to BookExpress and added to the order queue
	<b>Postcondition failure</b>	Order is saved as draft and client gets a notification
	<b>Trigger</b>	Menu Option "create new order" (Web interface)
	<b>Sequence</b>	Client adds books to order (via book search or ISBN) Client specifies amount for every book Client submits order to server Order is in the order queue

/PF/	<b>Process</b>	Search for a book
	<b>Category</b>	
	<b>Actor(s)</b>	Client
	<b>Description</b>	Client searches for a book to add it to his order
	<b>Goal</b>	Searching for a book succeeded
	<b>Preconditions</b>	Client is logged into the system
	<b>Postcondition success</b>	Book is being found
	<b>Postcondition failure</b>	Display items and options Book could not be found
	<b>Trigger</b>	Display notification
	<b>Sequence</b>	Menu option "find books" (Software) Enter ISBN/title/author/genre in search bar Hit the "Search"-Button Choose book from list to add it to the order

#### 4.2.2 Publishers

## **Chapter 5**

# **Product Data**

### **5.1 Customer Data**

#### **5.1.1 Book Stores**

#### **5.1.2 Publishers**

### **5.2 Order Data**

### **5.3 Internal Data**



## **Chapter 6**

# **Product Performance**

## Chapter 7

# Quality Requirements

Quality	very good	good	normal	irrelevant
Functionality	X			
Reliability	X			
Usability			X	
Efficiency		X		
Modifiability			X	
Portability				X

## **Chapter 8**

# **User Interface**

**8.1 Client Application (for clerks)**

**8.2 Web Interface (for customers)**

## **Chapter 9**

# **Non-Functional Requirements**

## **Chapter 10**

# **Technical Product Environment**

**10.1 Software**

**10.2 Hardware**

**10.3 Orgware**

**10.4 Interfaces (product)**

## **Chapter 11**

# **Special Requirements for the Development Environment**

**11.1 Software**

**11.2 Hardware**

**11.3 Orgware**

**11.4 Interfaces (development)**

## **Chapter 12**

# **Subproducts and Subsystems**

**12.1 Server**

**12.2 Web Interface / Web Service**

**12.3 Client Application**

## **Chapter 13**

# **Additional Specifications and Stipulations**



## **Chapter 14**

# **Appendices**