

<b>BoomBook Bookstore</b>	
Supporting Requirements Specification	Date: 05.04.2020

# BoomBook Bookstore

## System-Wide Requirements Specification

### 1. Introduction

This System-Wide Requirements Specification describes the features and behavior of our system or software application. This document helps us to achieve consensus among the participants. It outlines the overall expectations and the task of software.

### 2. System-Wide Functional Requirements

The system-wide functional requirements are auditing, authentication.

#### 2.1. Auditing

The user transactions will be stored as logs. The system manager gathers the statistics about which tables are being updated and how many I/O operation is performed.

#### 2.2. Authentication

Database authentication is the process or act of confirming that a user who is attempting to log in to a database is authorized to do a so. The system prompts for these users to have a unique username while registering. Each user type only does the activities that they are authorized to.

#### 2.3. Reporting

All related logs must be reported when an unexpected event occurs.

### 3. System Qualities

#### 3.1. Usability

One of the most important goal of this application in the design is the consideration of users while they are using the user-interface.

##### 3.1.1 Accessibility

In the application, the functional processes that are not necessary to be seen by the user do not shown to the user. Some functions will be hidden in pop-up menus.

##### 3.1.2 Interface Aesthetics

On the main page of the application, there will be a navigation bar at the top and subcategory will be created when the user hovers over the desired category with the mouse cursor. At the same time, a slider will be created dynamically instead of a static view so that the user can see some books.

##### 3.1.3 Consistency

The user can return back to the main page at any time, no matter on which page. The current page will have the option to switch to all other pages.

#### 3.2. Reliability

Reliability requirements include aspects such as availability, accuracy, predictability, frequency of failure or recoverability of the system from shut-down failure.

- The backup system will be created for the database.
- If any problem occurs in the system, the system allows the data to be backed up

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periodically.

- The Unit Testing will be applied to ensure that the application works with reliability.
- These tests and backups will be made frequently so that recoverability is performed when a problem is occurred in the system.

### **3.3. Performance**

We envisage customers to perform transactions such as registration, login, adding products to the cart, payment, profile updates, product search and product filtering in maximum 4 seconds. If the specified times are exceeded during the testing process, the data structure accessed during the process, the ways to access the data and the time complexity will be reviewed.

### **3.4. Supportability**

The system will be designed in a modular way to keep sustainability high. Whenever a change is made to the system or a new feature is added, other parts will be designed so that they are not affected. The system will be designed to be displayed on different screens in different web browsers.

## **4. System Interfaces**

### **4.1. User Interfaces**

The user interface enables the system to communicate with vendors and customers. The user interface is designed to fulfill user requests and system requirements. User Interfaces Designed with HTML, CSS, Javascript and Bootstrap technologies. Schemes of the user interface are specified in the GUI\_Details report.

#### *4.1.1. Look & Feel*

The design is quite understandable, using plain colors, avoiding complications that will tire the user, using as few components as possible.

#### *4.1.2. Layout and Navigation Requirements*

The navigation bar is placed on top of the page. It consists of two part which are up and below. The upper part includes sign-up/login/profile button, a card button, a search box and the logo of the website. The below part includes HOME, BOOKS, FAQ, BESTSELLERS, NEW ARRIVALS buttons. On the body of the main page includes the functional screens like sliders, categories.

#### *4.1.3. Consistency*

Since the system offers an intuitive use to customer, the positioning of the interface components are resided like other common online shopping systems. The most used buttons like registering, logging in, adding a product to chart and switching pages will be adjusted as users are used to. In order to prevent further more confusions, button sizes, fonts, labels are normalized. Another issue considered is device size. To be able to provide smooth user experience for all users, the system is designed as responsive. The similar function buttons as edit, save, delete adjusted nearby. The aim of all design issues is enabling users to transfer their past knowledge to new context inherently.

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#### 4.1.4. User Personalization & Customization Requirements

Personalization and customization are both important factors while developing a web application. Customization enables user to control the system whereas in the view of personalization the system controls the application in order to achieve individual user-oriented design.

In this system user can customize his/her account information such as email, password, name and surname. He/she can add another address which the delivery will be sent. From the view of personalization, the system recommends appropriate books to user according to user's previous orders.

## 4.2. Interfaces to External Systems or Devices

The project will be implemented in JAVA language and JDK will be used during the development process. (JRE is sufficient to run). IntelliJ will be used but there is nothing needed except internet connection and a browser. Interfaces to external systems or devices are categorized below in details. Lastly, the project will not contain any REST API.

### 4.2.1. Software Interfaces

Since it is a web-based application which is compatible with all browsers and operating systems, it will only need a random browser and OS. In order to provide system functionality, a DBMS should be used from developer's side which is determined as MySQL in this project. In terms of user interface, Bootstrap and JQuery CDN's will be embedded in the code.

### 4.2.2. Hardware Interfaces

Only internet connection is required to allow the browser to access and download website files. (Wireless, Ethernet cable, DSL etc.)

### 4.2.3. Communications Interfaces

In order to handle requests and responses between web server and web client(browser) HTTP and for important processes such as payments HTTPS will be used.

## 5. Business Rules

The system includes administrator user and customer user. The admin user is responsible for the management of the purchasing, customer information, and other system parameters like categories, books. The customer user can see and interact with the element of these system parameters.

### 5.1. Customer-User

- *Recommendation – 01:* The user must have done purchasing operation to have a recommendation category.
- *Customer Authentication - 02:* The customer must have an account and be logged in to purchasing operation.
- *Purchasing - 03:* The customer must add books to the card first to make purchasing operation.
- *Commenting and Rating – 04:* If the user wants comment or rate a book, s/he must be logged in the system.

### 5.2. Administrator-User

- *Confirming the Purchasing – 01:* The administrator-user must confirm the purchasing which is done by customer user to send the information to the cargo firm.
- *Payment Methods – 02:* The administrator must add payment method to the system to customer choose a payment method.

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- *Addition of Campaign – 03:* The admin specifies campaign for a book/books to user can view them.
- *Information of Campaign – 04:* The admin sends an e-mail from the system to inform a campaign for specific customer users or add a campaign to the system from administrator panel.

## 6. System Constraints

### 6.1 Implementation Constraints

- The back-end system should be developed with Java language.
- Spring frameworks and JPA, Spring Boot dependencies should be used.
- Passwords of the user should be encrypted in DBMS for security purposes.
- HTML and CSS are used for front-end system.
- Bootstrap framework is used for front-end system.

### 6.2 Deployment Constraints

- The environment of server, that is used by website, should include MySQL Database.
- The system can run on every browser (Chrome, Safari, Mozilla Firefox etc.) and operating system.

## 7. System Documentation

Our system enables the user to buy books in a useful, reliable and very quickly way. The system necessitates users to have internet connections. Then they can view the items and buy them. The system must log all transaction and user information and also the system data. This system also be maintainable.

In this software system, users will be able to have a user manual. This manual contains these materials:

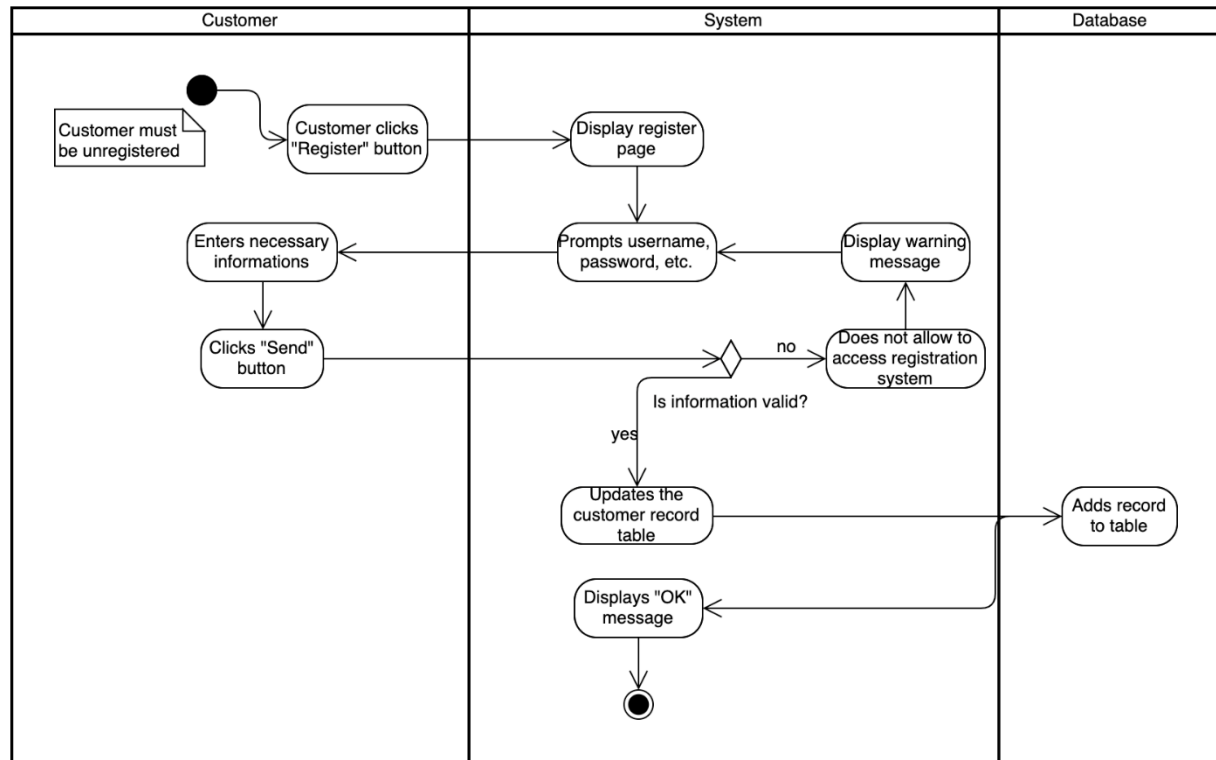
- General usage of the system
- Describing the use cases and functions that users can use
- Specify the constraint that system must provide to end-users

This document provides all requirements and detail information about application. It is also a consensus between stakeholders.

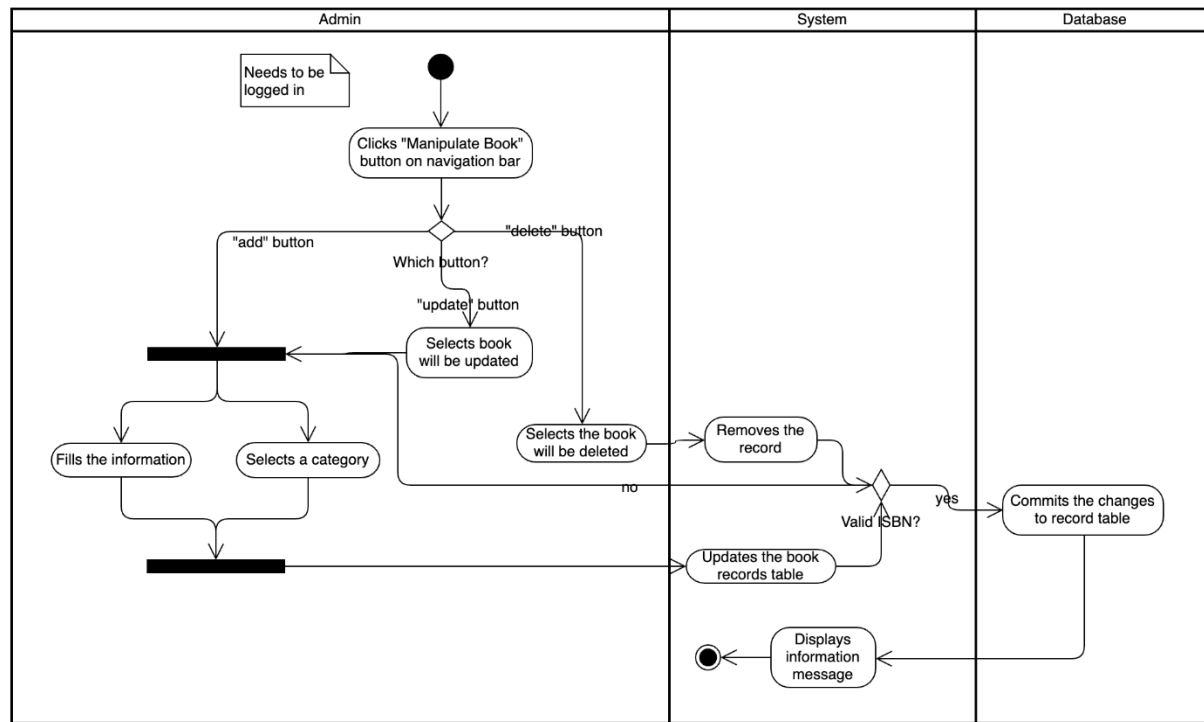
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## 8. Activity Diagrams

### 8.1. Register Case

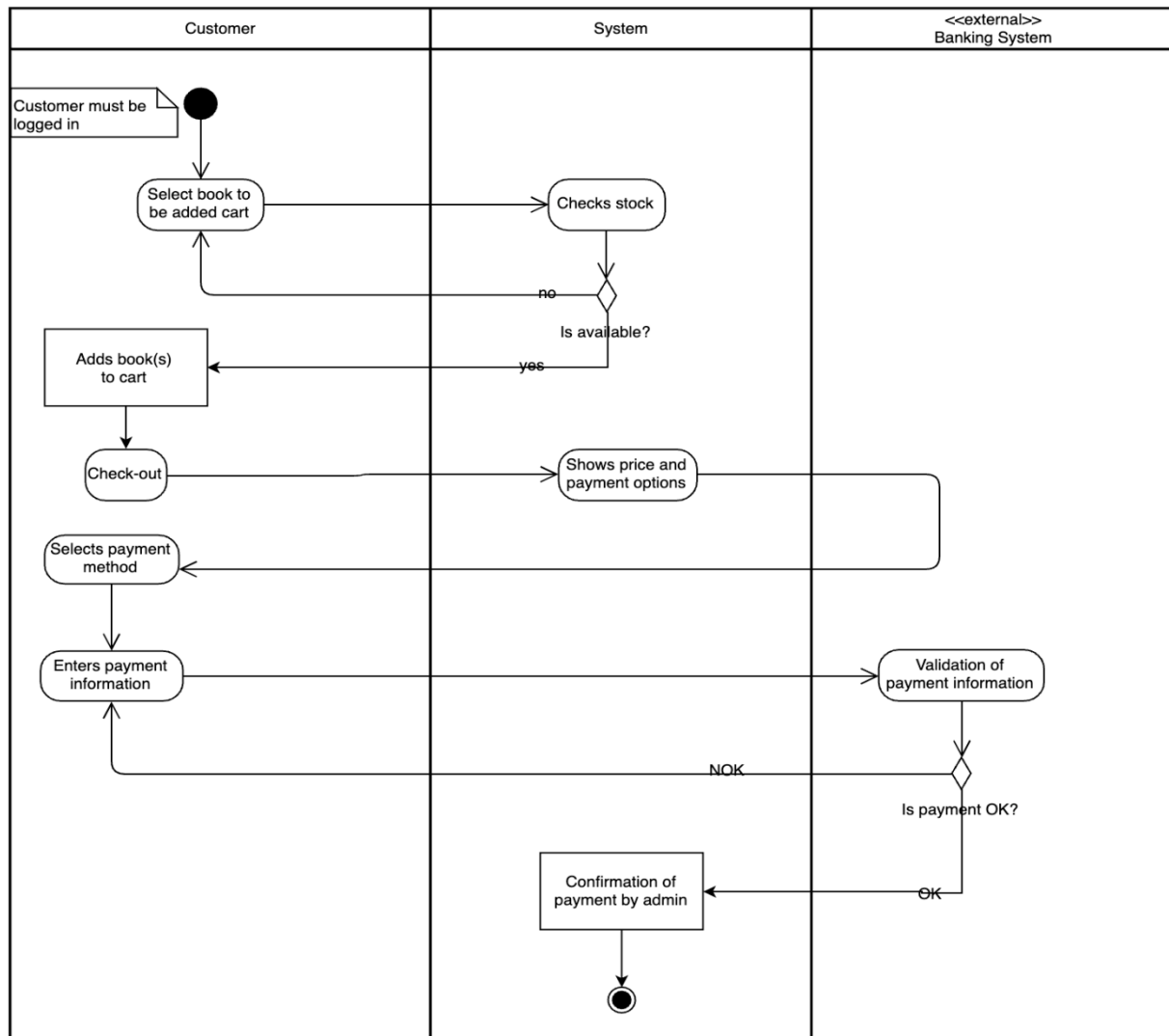


## 8.2. Manipulate Book Case



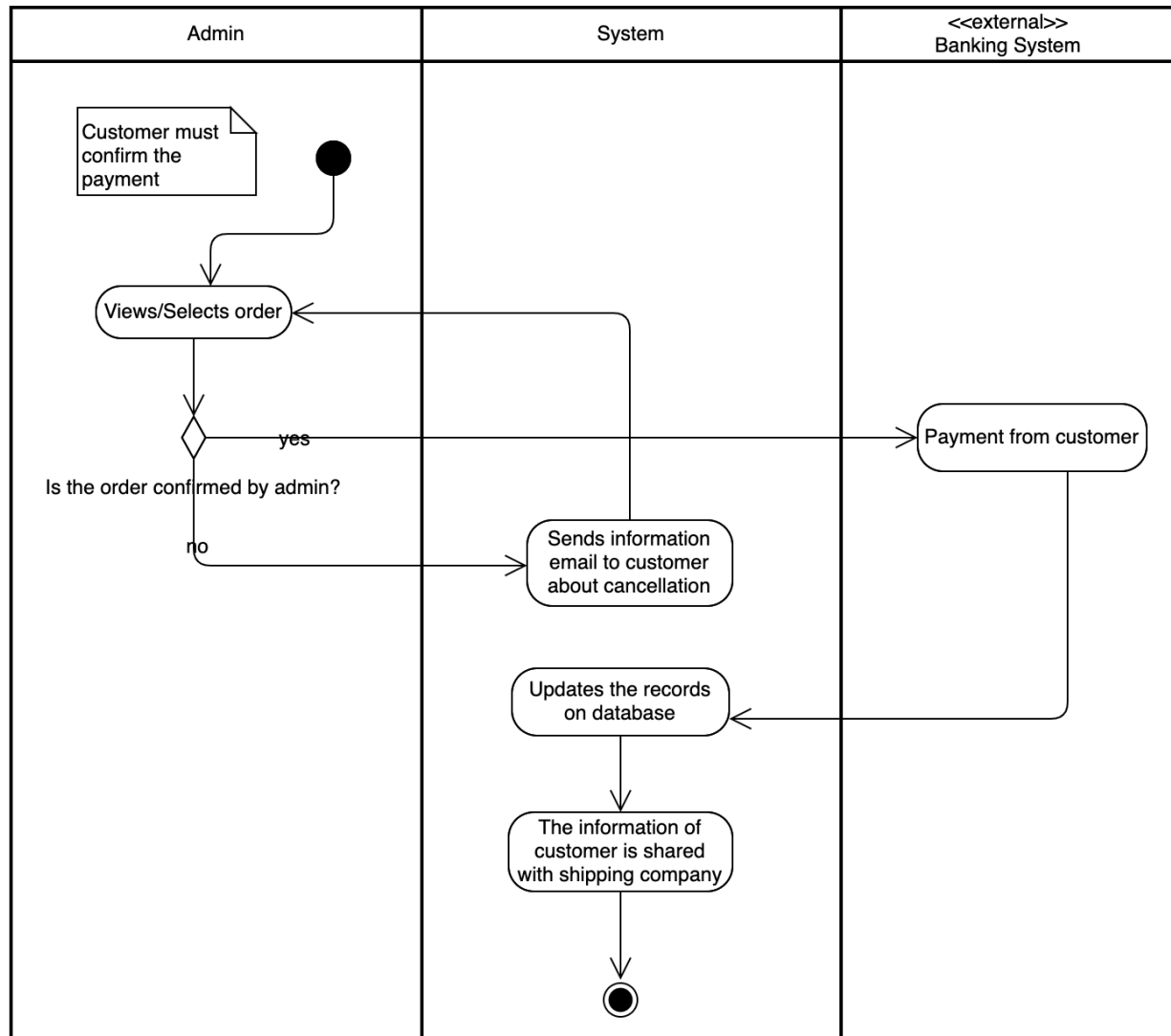
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### 8.3. Confirmation of Sale Case



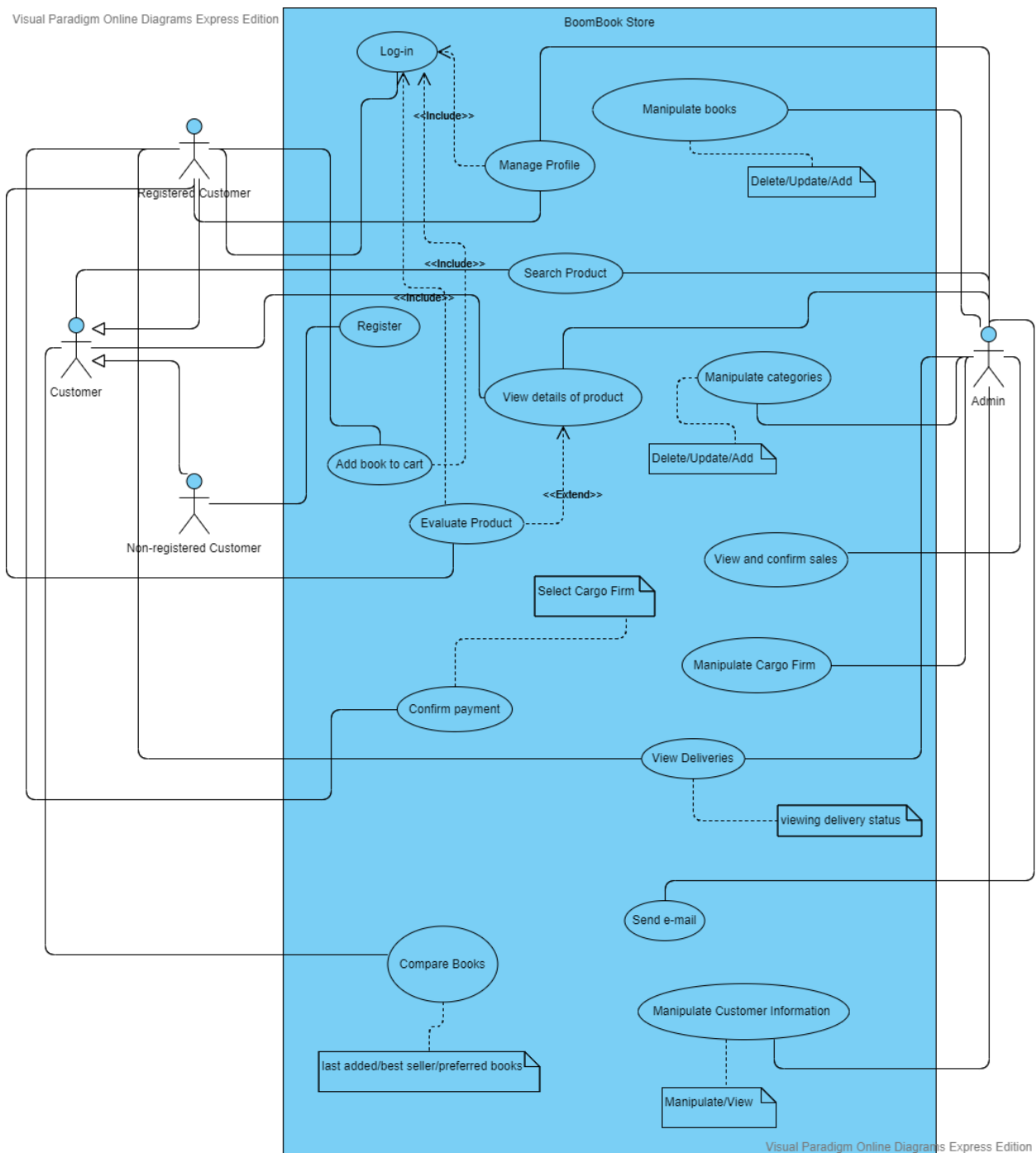
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#### 8.4. Confirmation of Payment





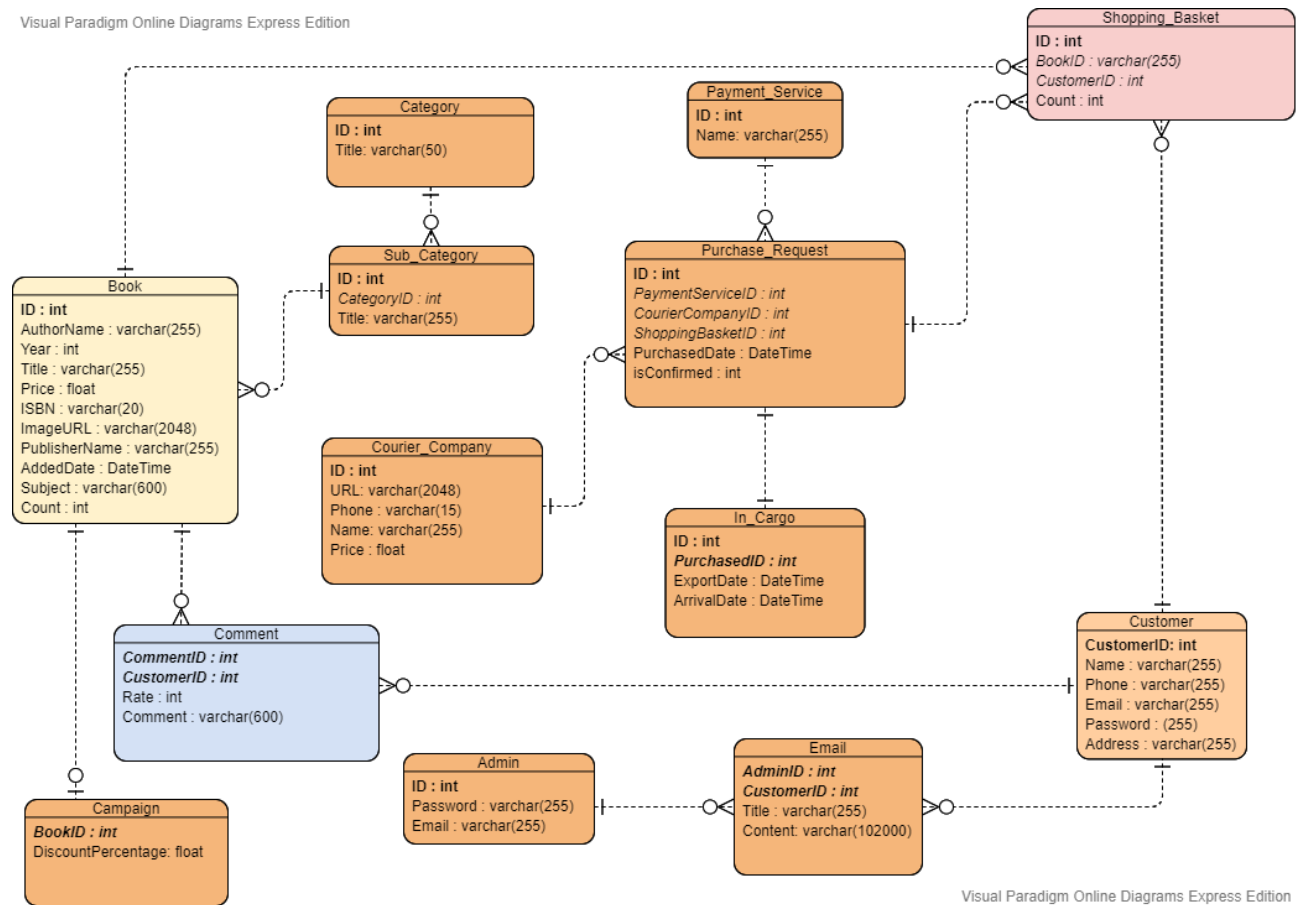
## 9. Use Case Diagram



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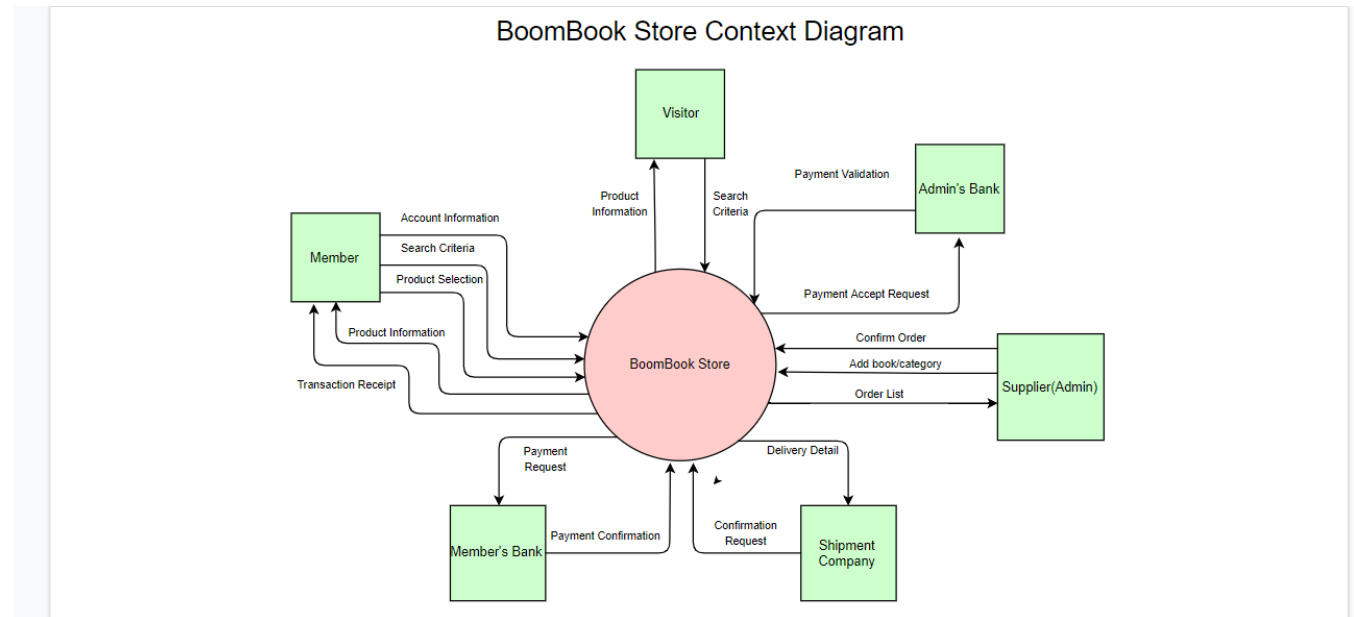
## 10. Entity Relationship Diagram

Visual Paradigm Online Diagrams Express Edition



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## 11. Context Diagram



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## 12. Traceability Matrix

		PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -	PP D- UC - 00- -
Business Requirement	ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Login	1			√		√			√	√			√			
Register	2			√		√			√	√			√			
Manage Profile	3	√	√													
Search Product	4															
View and Evaluate Product	5	√	√													
Manipulating Books	6							√								
Manipulating Categories	7						√									
Add a Book to the Cart	8	√	√													
Confirm the Payment	9	√	√													
Compare Books	10															
View and Confirm Sales	11												√			
View Deliveries	12	√	√									√				
Send Email	13															
Manipulate Customer Information	14															√
Manipulate Cargo Firm	15														√	