

<b>BoomBook Bookstore</b>	Version: 1.0
Software Design Description	Date: 17/05/2020

# BoomBook Bookstore

## Software Design Description

### 1. Revision History

<i>Version</i>	<i>Date</i>	<i>Author</i>	<i>Change Description</i>
1.0	17.05.2020	Oktay Ugurlu	ER Diagram is updated, sequence diagrams added.
1.0	17.05.2020	Yusuf Emre Genc	Class Diagram is updated, sequence diagrams added.
1.0	18.05.2020	Ahmet Deniz Guner	Design screenshots added, sequence diagrams added.
1.0	18.05.2020	Koray Kara	Traceability matrix is added, sequence diagrams added.
1.0	18.05.2020	Tuna Aybar Tas	Sequence diagrams and state diagrams are added.

### 2. INTRODUCTION

#### 2.1 Purpose and Scope

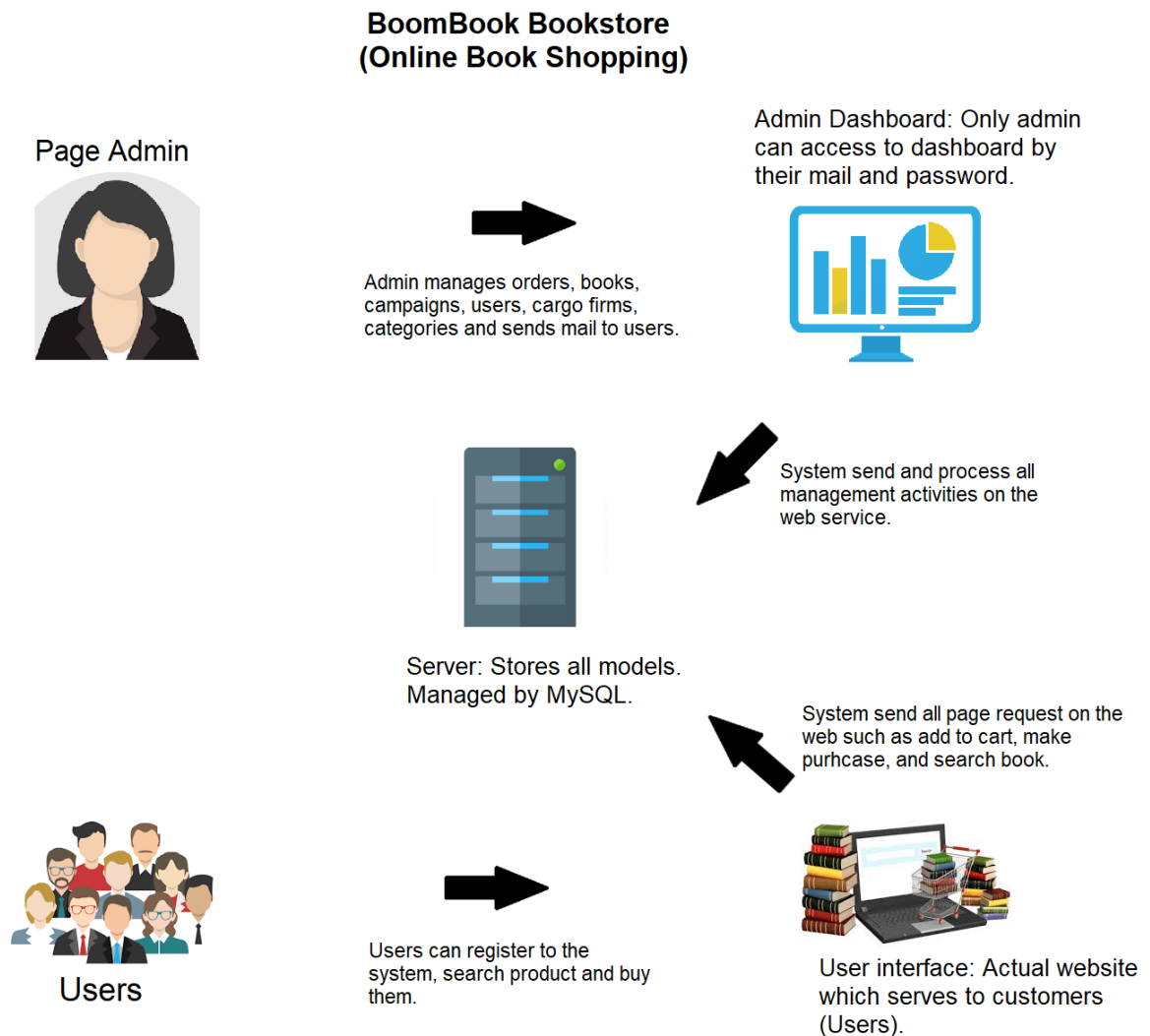
The document aims to explain the complete design details of the online bookstore project. It visualizes the purpose of components, structure, and interface by using the UML diagrams. Besides, the versions of the documents are placed in this SDD document.

#### 2.2 Document Overview

- 1- Revision History: Changes are specified with their versions and authors.
- 2- Introduction: This part provides the information about purpose and use of the document. The overview of the document and system are stated. Besides, used terms in document and references are specified under this title.
- 3- Design Constraints and Decisions: Constraints, which affects to the implementations such as used frameworks, environment and decisions on architecture of the software, are explained in technical aspect.
- 4- Design Details: Describes the interface detailed, lifetime, and flow of the components according to use cases. ER Diagram and class diagram are placed in this part with the updated version. Sequence diagrams of the use cases and state-machine diagrams of the entities that are part of the software lifecycle take part in there.
- 5- Requirements Traceability: Relations are demonstrated between classes and requirements. Requirements that the classes serve are demonstrated in traceability matrix.

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## 2.3 System Overview



## 2.4 Definitions, Acronyms, and Abbreviations

<i><b>Term/Acronym</b></i>	<i><b>Definition</b></i>
SDD	Software Design Description
SRS	Software Requirements Specification
ER	Entity Relationship
GUI	Graphical User Interface
JPA	Java Persistence API
DBMS	Database Management System
HTML	Hypertext Markup Language

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CSS	Cascading Style Sheets
OS	Operating System
DB	Database
MVC	Model View Controller Pattern

## 2.5 References

- [1] BoomBook Bookstore SRS Document, v1.0, 05.04.2020
- [2] BoomBook Bookstore Architecture Notebook Document, v1.0, 03.05.2020
- [3] BoomBook Bookstore Use Case Definitions, v1.0, 01.04.2020

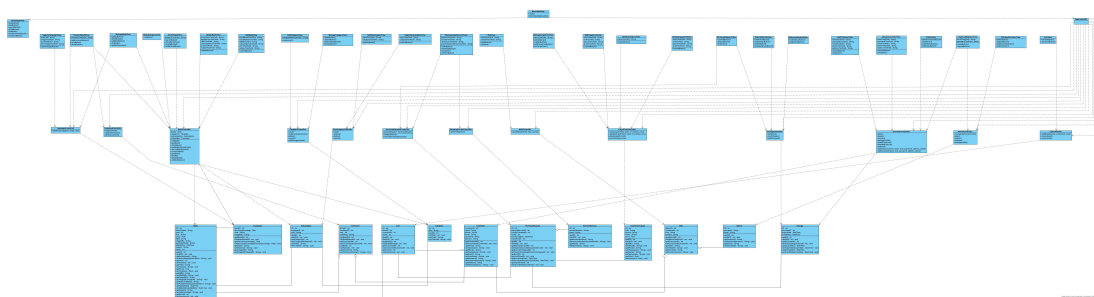
## 3. Design Constraints and Decisions

- Passwords of the user should be encrypted in DBMS for security purposes. [1]
- Spring frameworks and JPA, Spring Boot dependencies should be used. [1]
- Passwords of the user should be encrypted in DBMS for security purposes. [1]
- HTML and CSS are used for the front-end system. [1]
- Bootstrap framework is used for the front-end system. [1]
- The environment of the server, that is used by website, should include MySQL Database.
- The system can run on every browser (Chrome, Safari, Mozilla Firefox etc.).
- The system can run on every OS.
- The system will be a stand-alone web application that requires a DB connection.
- The system uses a layered architecture with important assets in inner layers (i.e. DB connection) to increase security of the application. [2]
- The system developed by using MVC design pattern to provide high cohesion and low coupling. [2]
- The system will be versioned over GitHub with documentations.
- The system provides functionality and user-friendly GUI.
- Non-member customers can view the details of books and campaigns.
- The system uses replaceable components with less possibly dependency to ensure maintainability of the project. [2]
- The system resides important operations as most local as possible with minimum communication to increase performance. [2]
- The system has more than one alternative user interface components to provide availability of the project in case some components' failure. [2]

## 4. Design Details

### 4.1 Software Components

Note: This picture has high quality. Please zoom in to look at the content of classes.

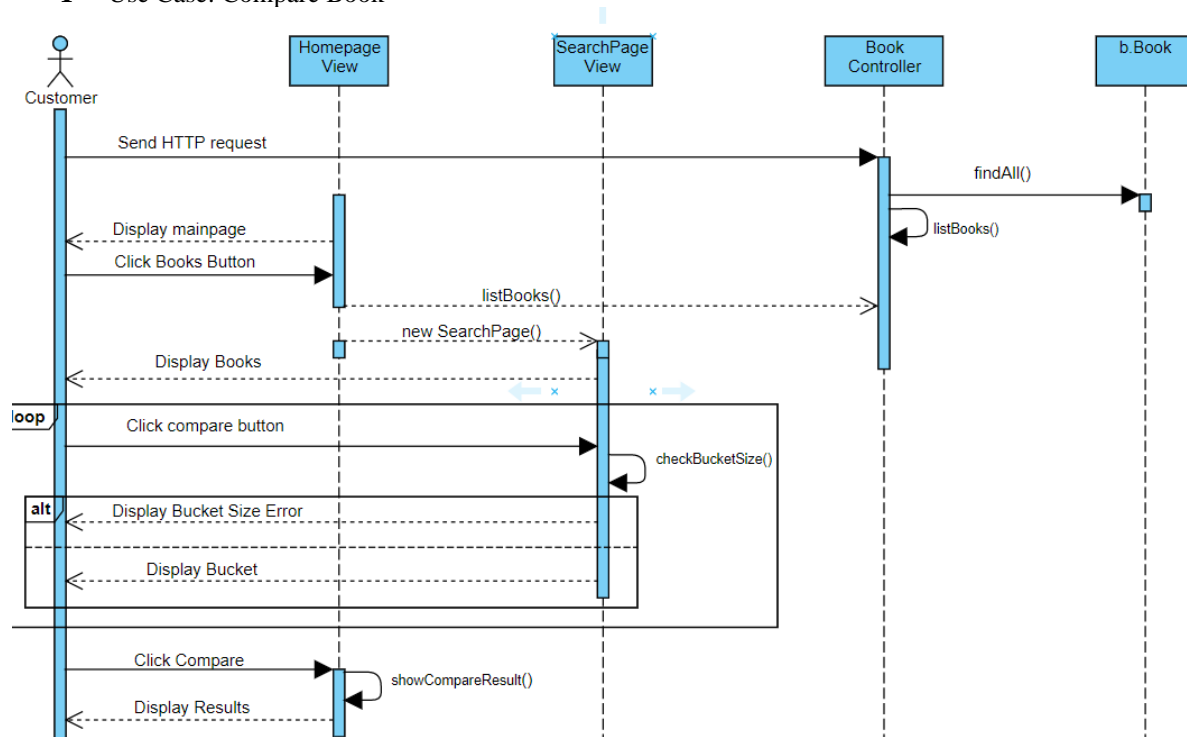


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## 4.2 Software Behavior

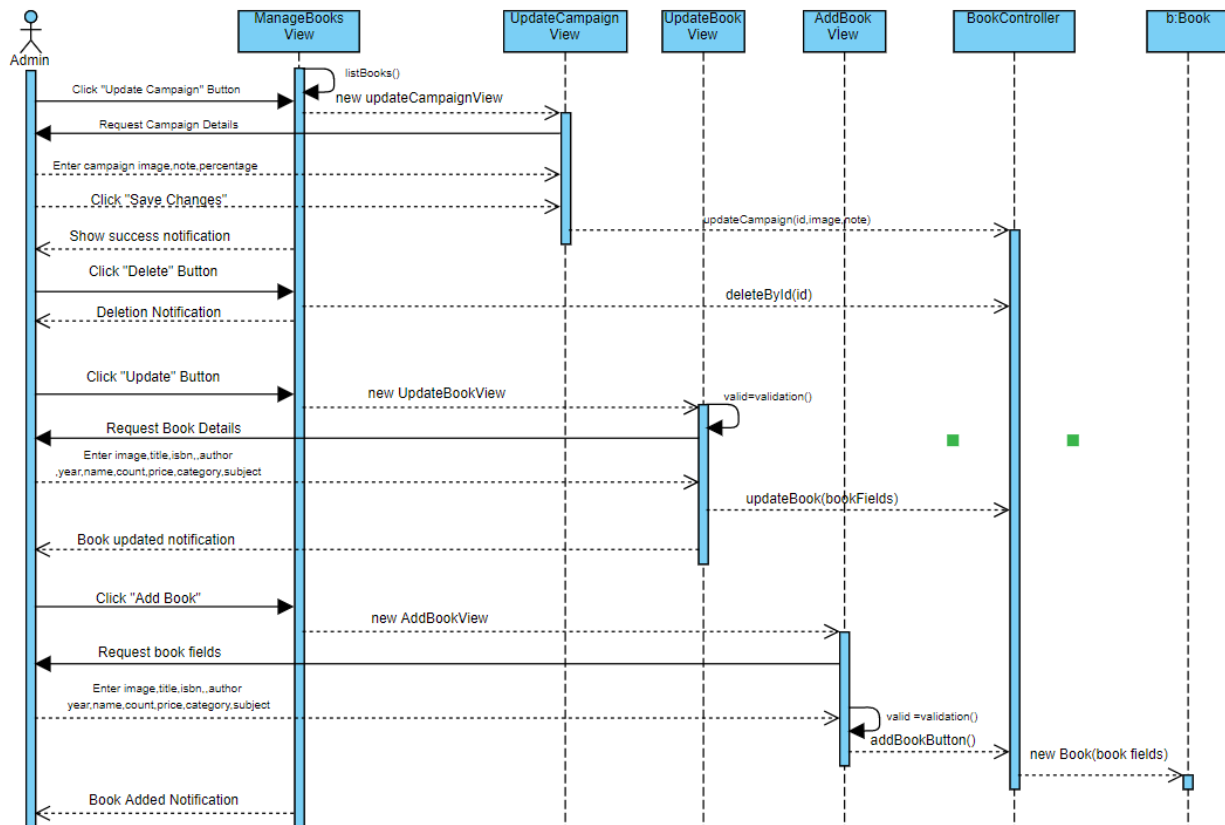
### 4.2.1 Sequence Diagram

#### 1- Use Case: Compare Book

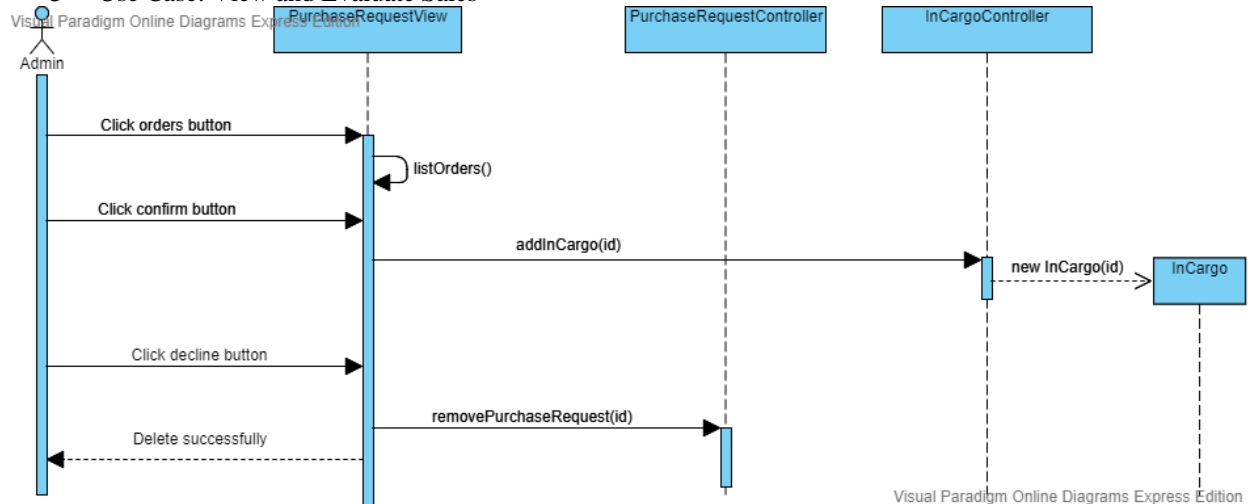


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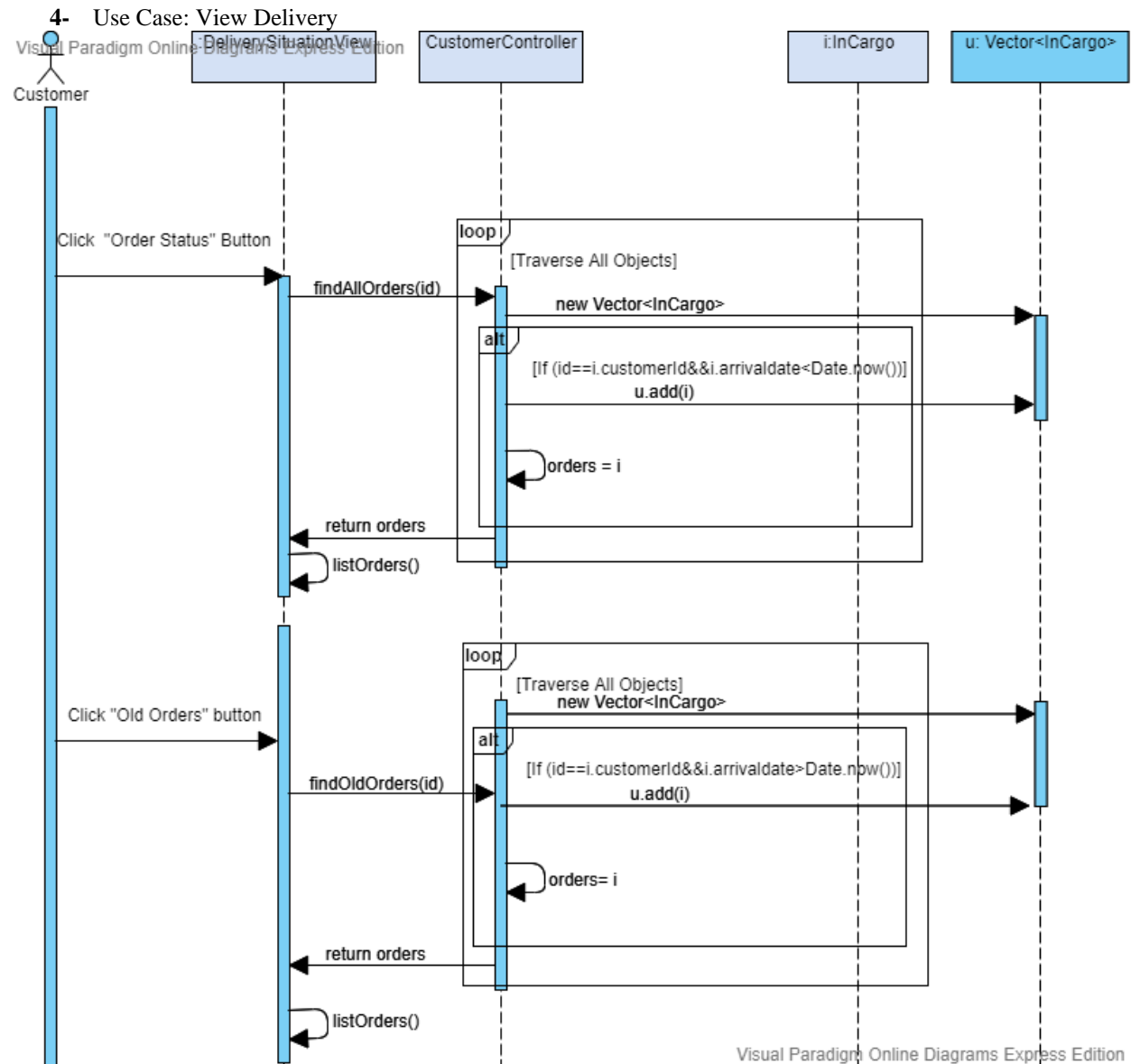
## 2- Use Case: Manage Books



## 3- Use Case: View and Evaluate Sales

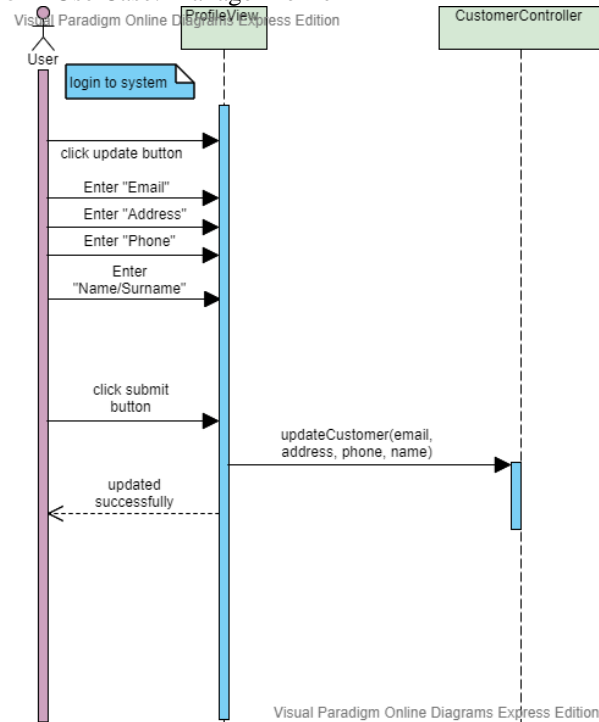


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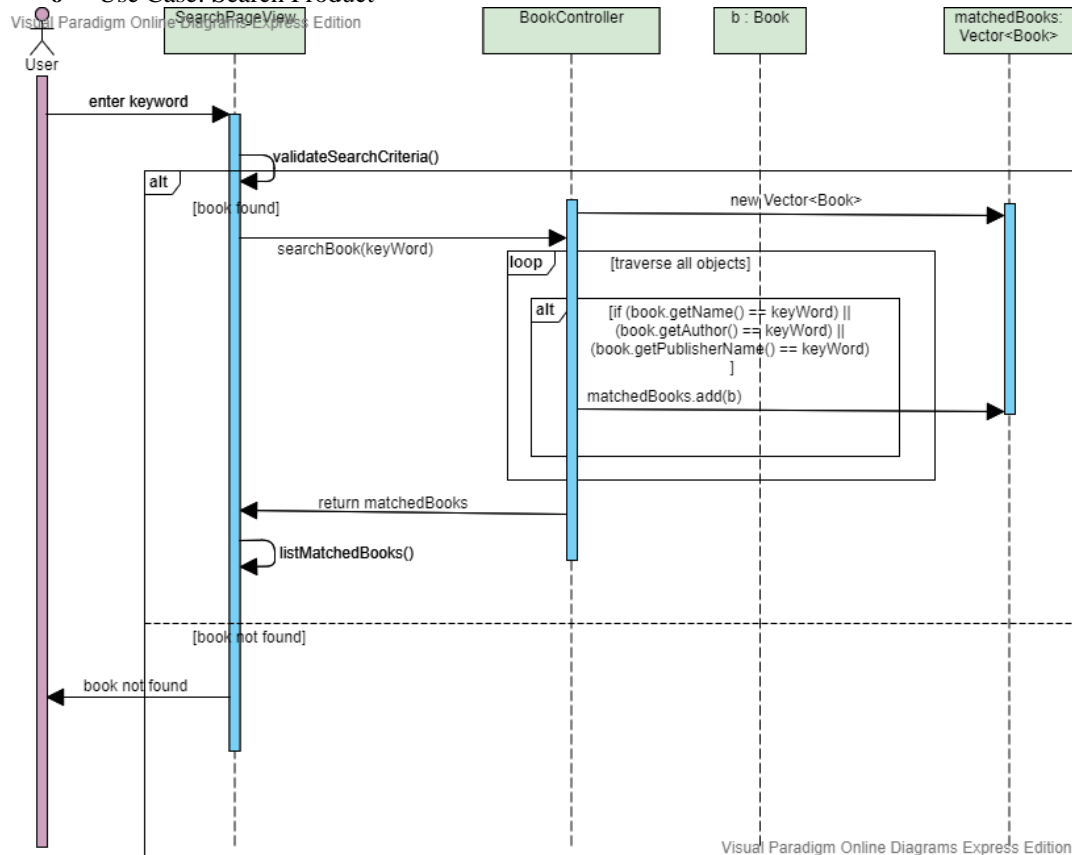


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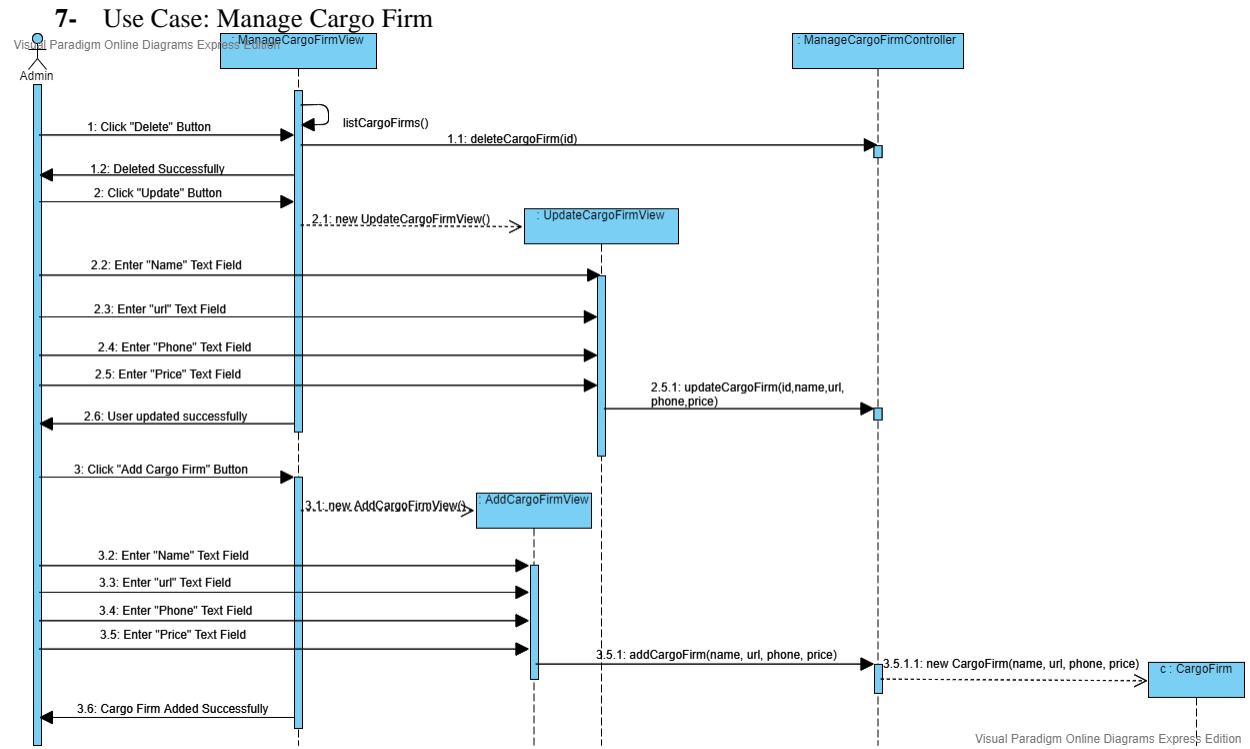
## 5- Use Case: Manage Profile



## 6- Use Case: Search Product

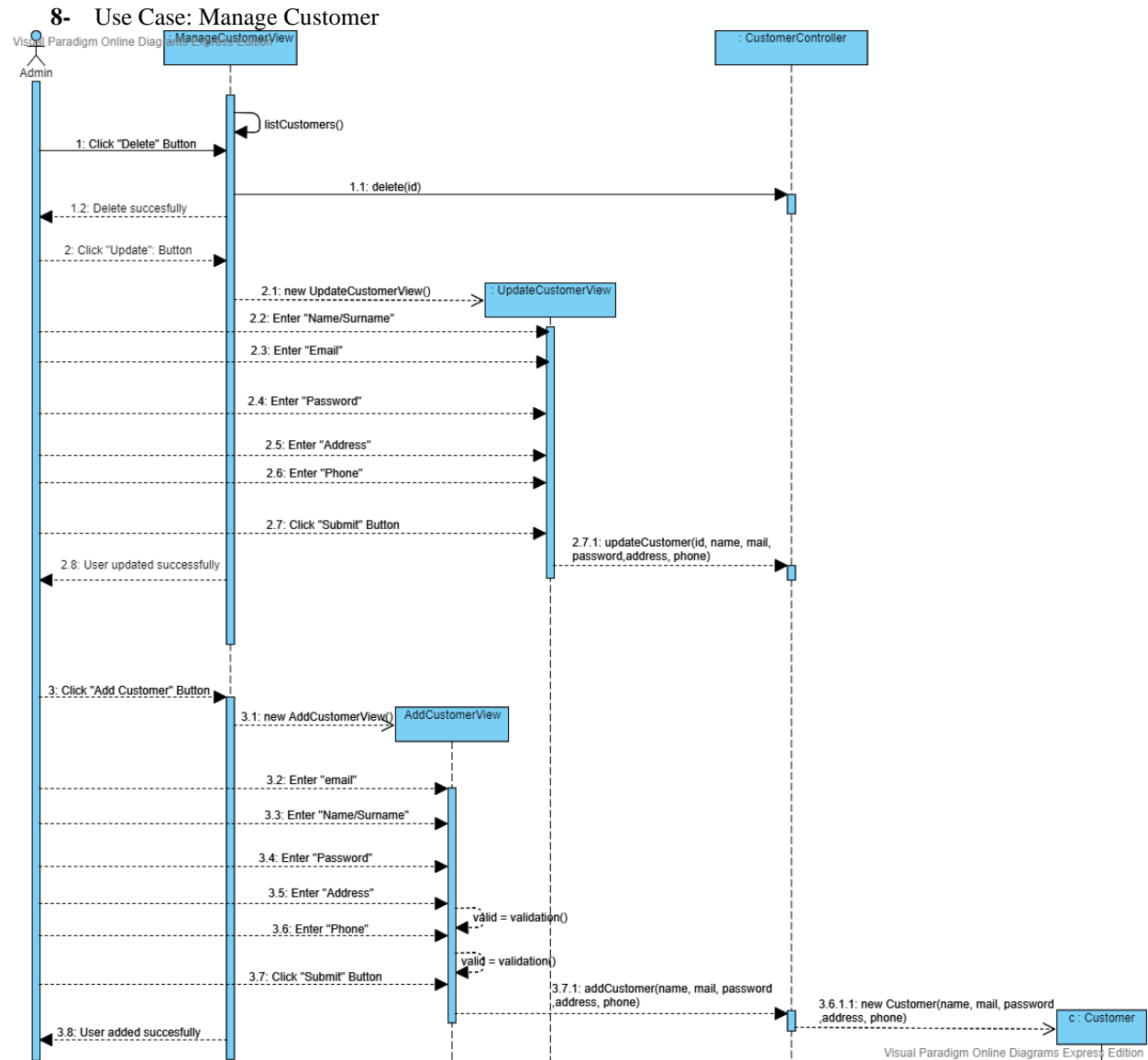


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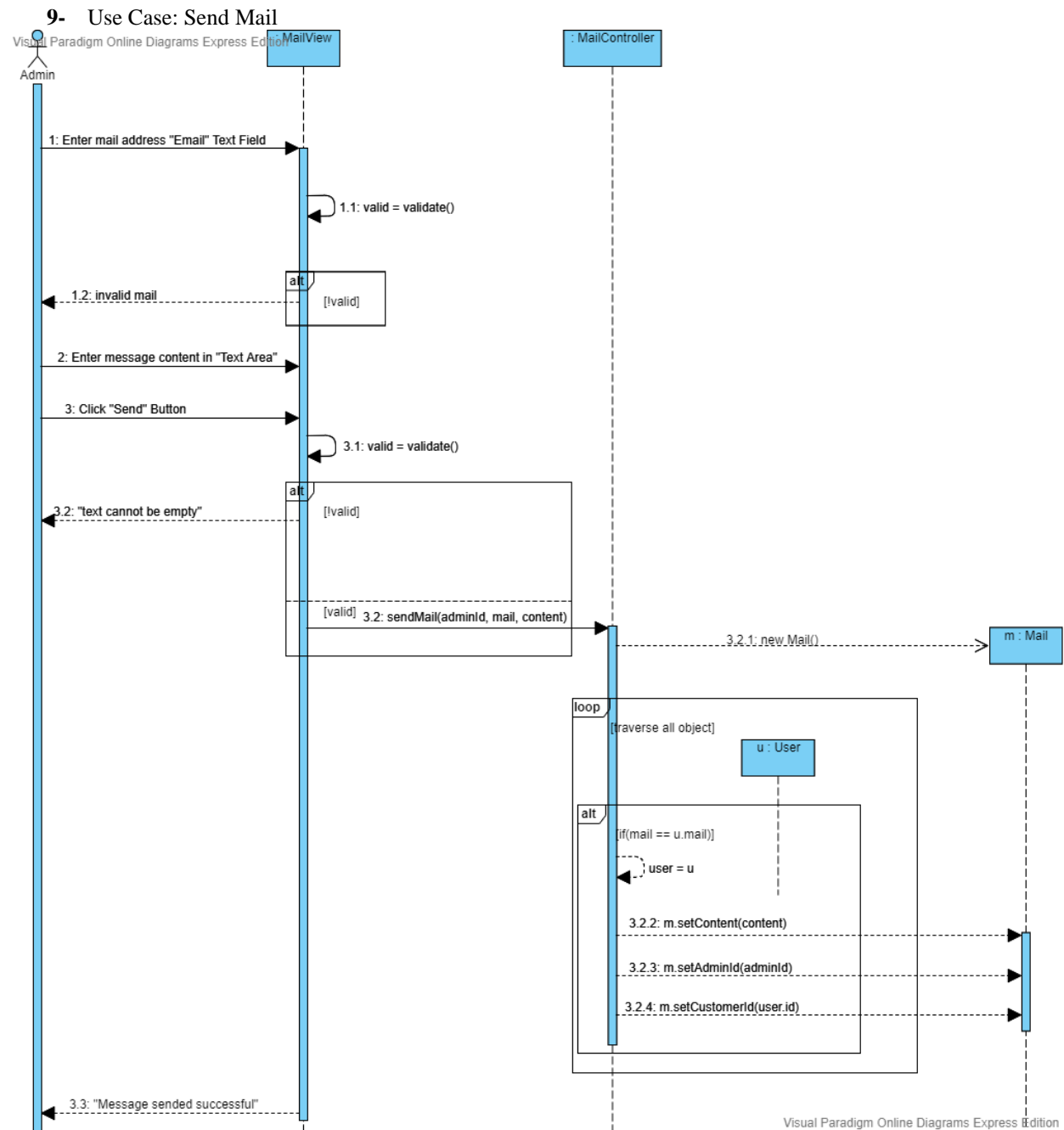




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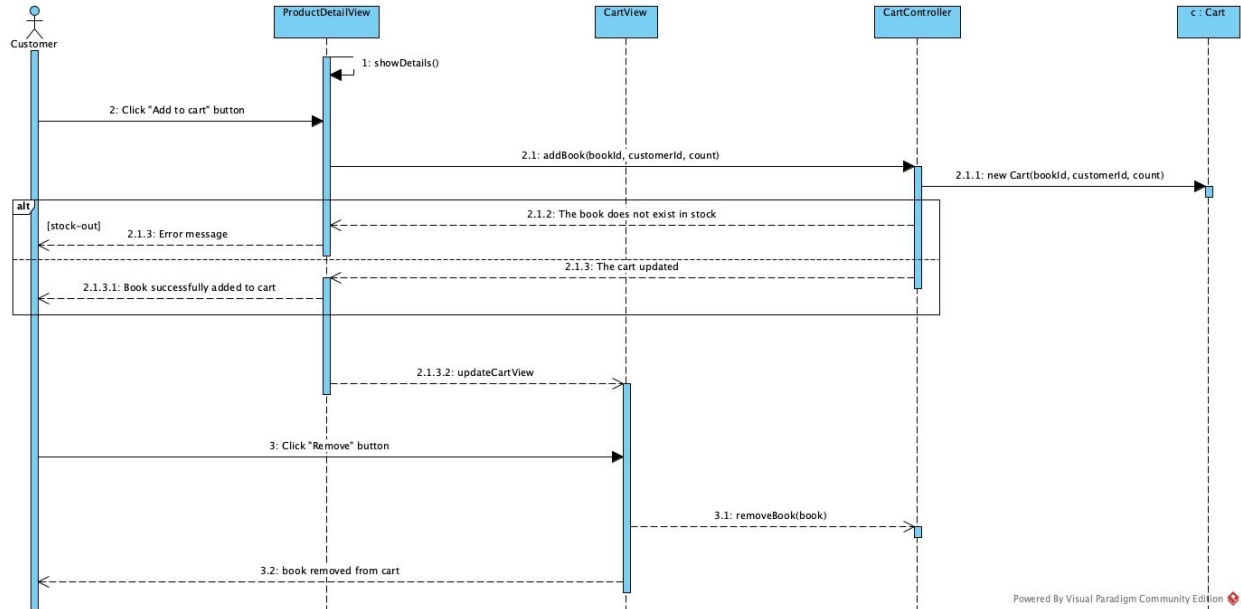


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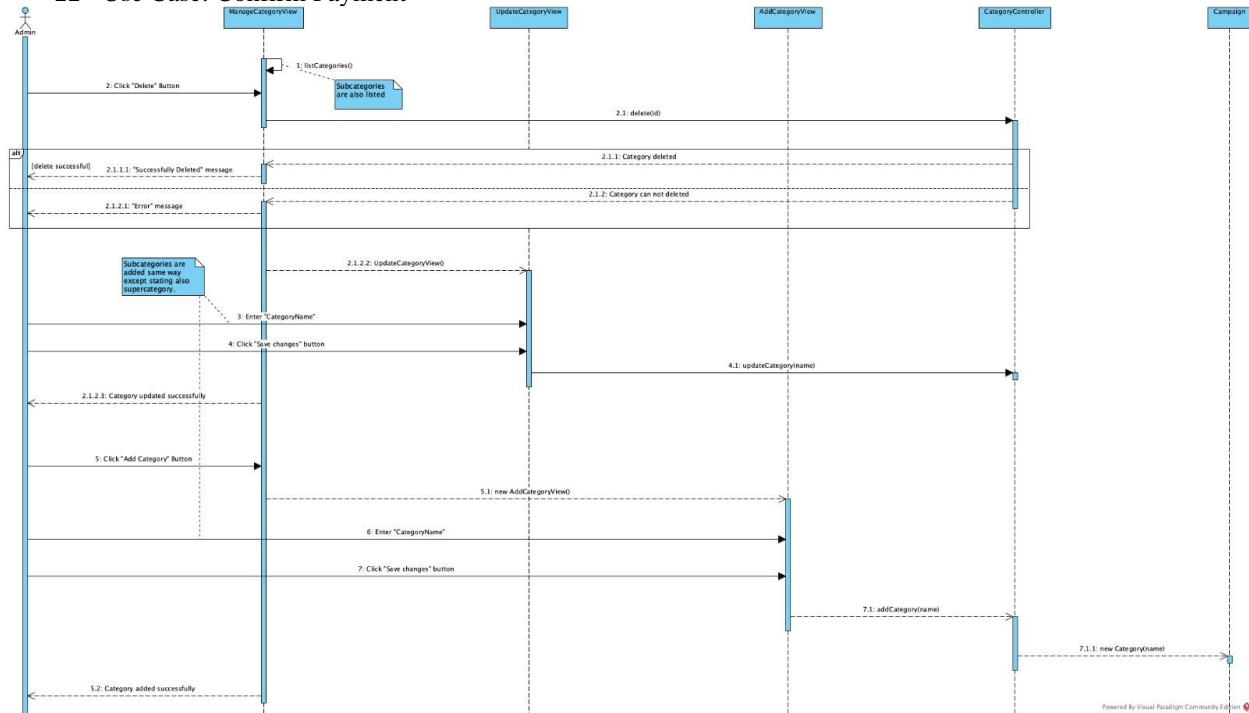


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## 10- Use Case: Add Book to Cart

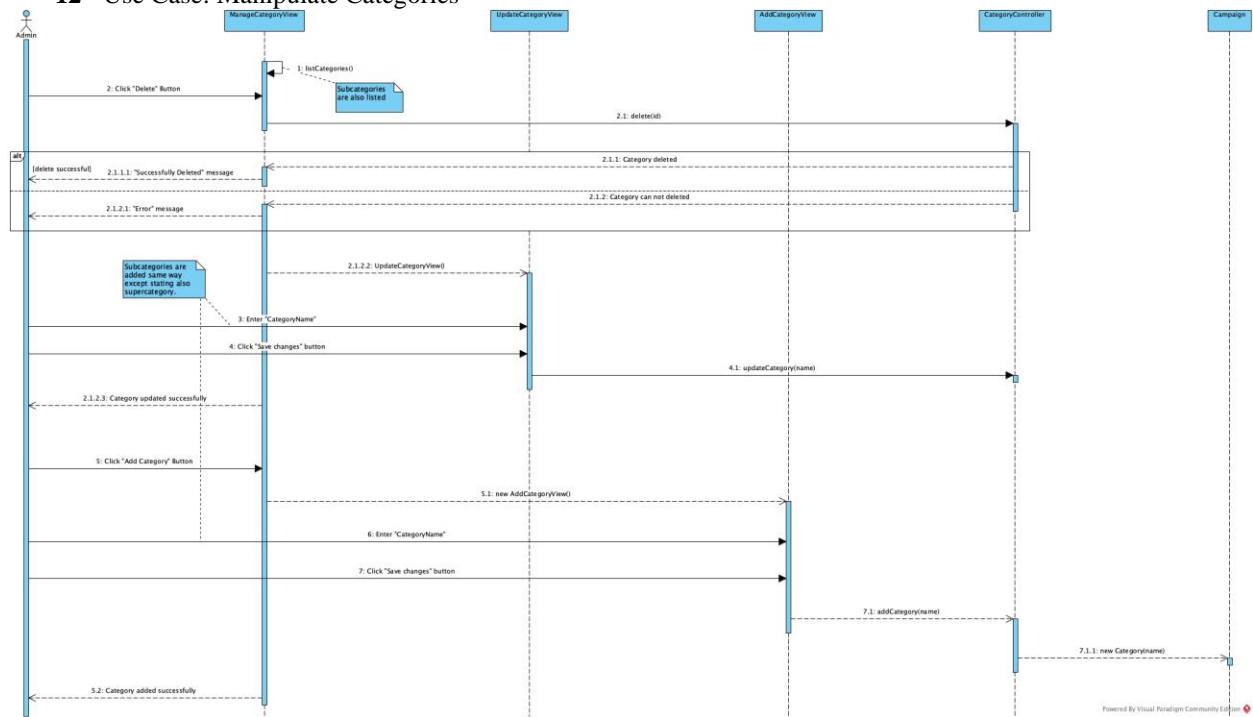


## 11- Use Case: Confirm Payment



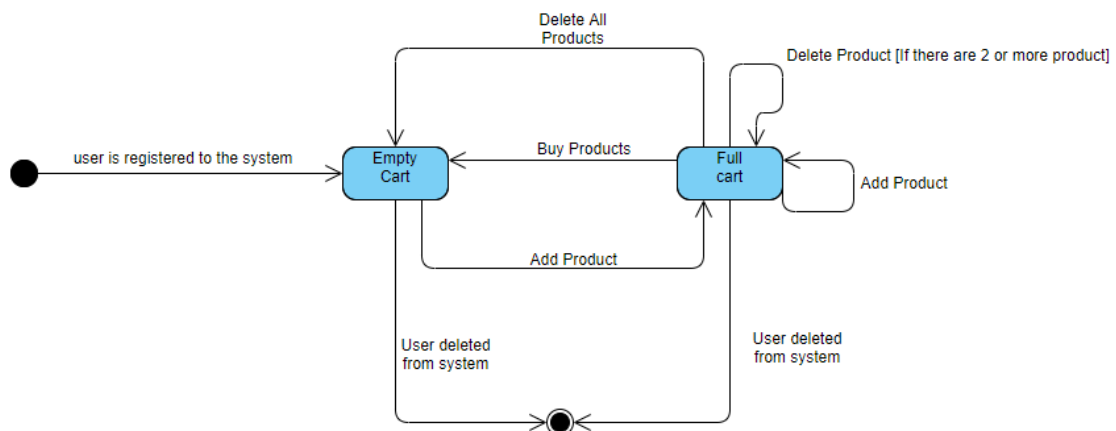
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## 12- Use Case: Manipulate Categories



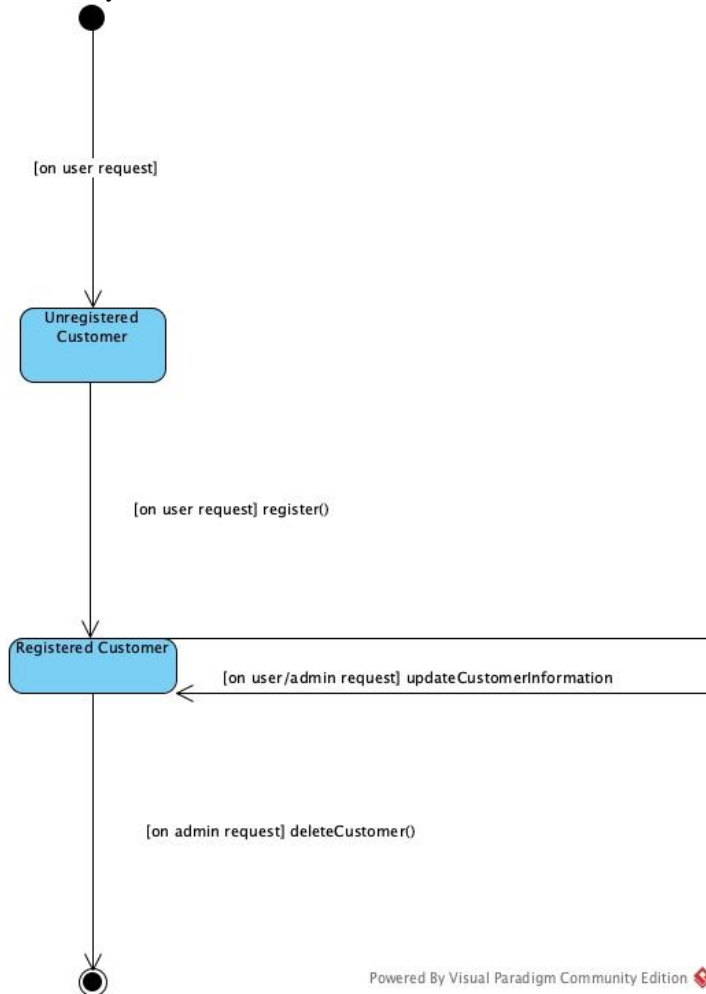
## 4.2.2 State Diagram

### 1- Entity: Cart



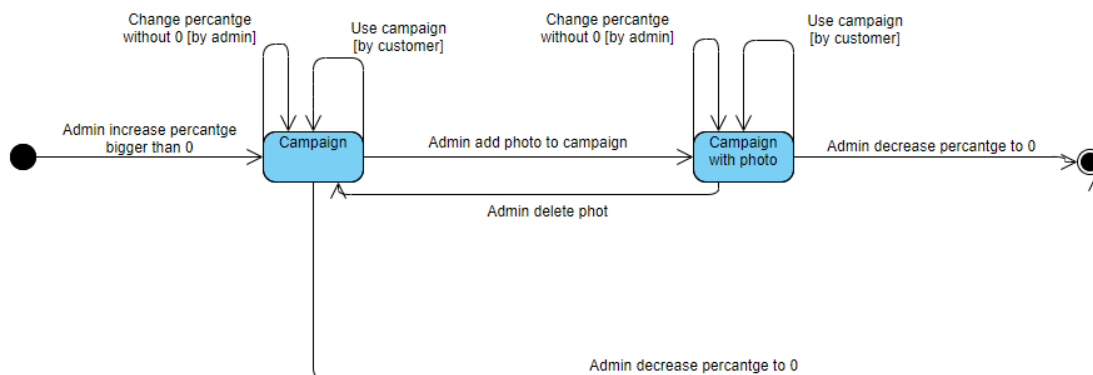
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## 2- Entity: Customer



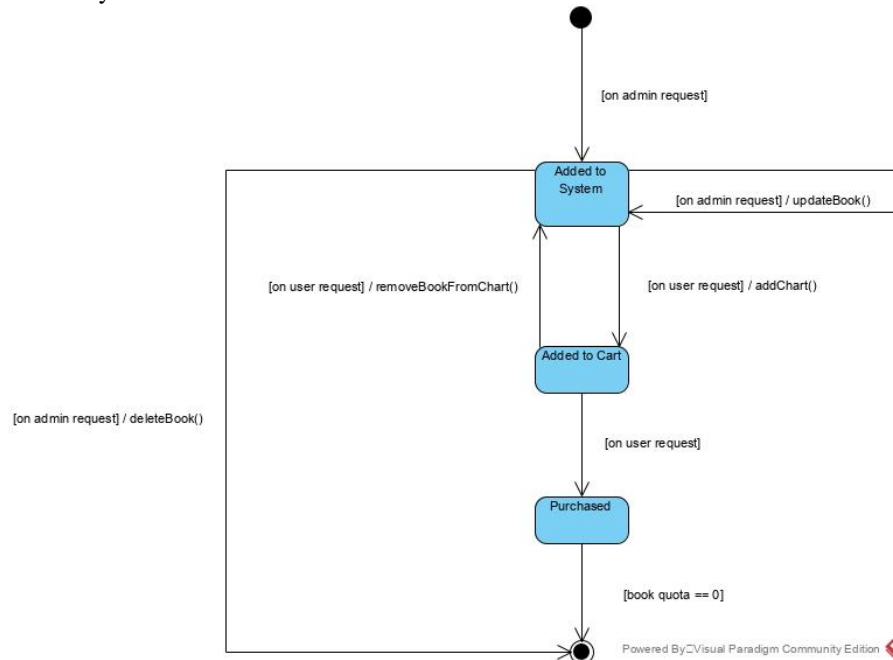
Powered By Visual Paradigm Community Edition

## 3- Entity: Campaign



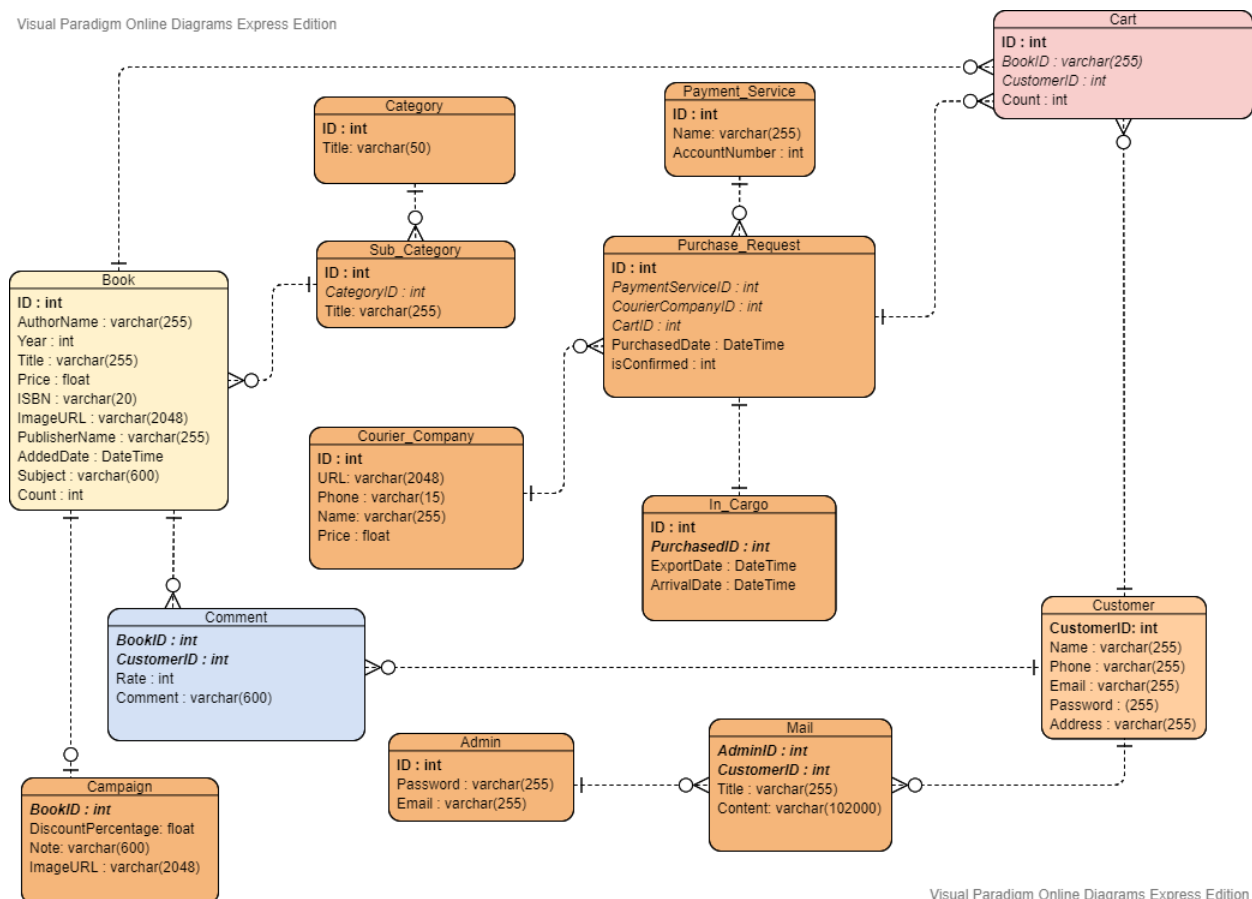
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#### 4- Entity: Book



### 4.3 Data Model (E-R Diagram)

Visual Paradigm Online Diagrams Express Edition



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## 4.4 User Interface Design

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. The design is quite understandable, using plain colors, avoiding complications that will tire the user, using as few components as possible. [1]

### Warning Messages and Forms:

-If you fill a form, leave a field blank or enter an inappropriate data type, the system checks the functions in the view and suppresses the error message. (Add book, update book, manipulate customer)

Manage Books / Add Book

Image:  ✓

Title:  ✓

ISBN:  ✓

Author:  ✗  
Please write a valid name.

Publication Year:  ✓

Publisher Name:  ✗  
Please write a valid name.

Count:  ✓

Price:  ✓

Select Category:  ✓

Select Subcategory:  ✗  
Please select a subcategory.

Subject:  ✓

-Some of the forms will be printed as a pop up. (Update campaign, confirm cart, add category)

Select campaign percentage

Campaign Image:

Campaign Note:

Percentage:

Close Save changes

Author - Publisher	Publish Year - Added Date	Category - Subcategory	Count	Price - Campaign Percentage	Subject	Actions
H.P. Lovecraft - Atlas	1928 - 2020-05-19T00:18:11	Novel - Adventure	2	23.0\$ - 0%	Fascinating story II	Update Campaign Delete Update
Dan Brown	2001	Novel		29.99\$		Update Campaign

Manage Category

ADD CATEGORY

Close Save changes

Manage Category

Total Category

CATEGORY / SUBCATEGORIES

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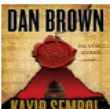
- When admin add new book add to system if ISBN number already used by another book system back to main page and print error message.

**ISBN ERROR!**

The book you are intended to add has the same ISBN number with other book

Please use "update" button to change the count of the book

**BOOKS**

#	Photo	Title - ISBN	Author - Publisher	Publish Year - Added Date	Category - Subcategory
1		The Call of Cthulhu - 1291239123	H.P. Lovecraft - Atlas	1928 - 2020-05-19T00:18:11	Novel - Adventure
2		Lost Symbol - 1291264743	Dan Brown - Gold	2001 - 2020-05-19T00:18:11	Novel - Adventure

- When you do successful job, system print message (for example successfully book added operation).

**The book added succesfully !**

Saving the book process is succesfull !

You can update the count of the book via "update" button

- The system asks for your confirmation again in critical operations such as deletion, purchase.

localhost:8080 web sitesinin mesajı

Are you sure you want to delete this employee?

Tamam
İptal



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### Admin Panel View:

While designing the admin panel, we put the navbar a side to attract attention to the transactions we use drop down navigation bar because we wanted to keep the page more usable. And we put search bar on top of page.

### Closed Navigation Bar:

#	Photo	Title ISBN	Author Publisher	Publish Year Added Date	Category Subcategory	Price Count	Subject	Actions
1		The Call of Cthulhu 1291239123	H.P. Lovecraft Atlas	1928 2020-05-19T00:18:11	Novel Adventure	23.05 2	Fascinating story !!	Update Campaign Delete Update
2		Lost Symbol 1291264743	Dan Brown Gold	2001 2020-05-19T00:18:11	Novel Adventure	29.99\$ 5	Amazing story !!	Update Campaign Delete Update
3		Angels and Deamons 1671264743	Dan Brown Gold	2003 2020-05-19T00:18:11	Novel Adventure	24.5\$ 10	Interesting story !!	Update Campaign Delete Update

### Opened Navigation Bar:

#	Photo	Title ISBN	Author Publisher	Publish Year Added Date	Category Subcategory	Price Count	Subject	Actions
1		The Call of Cthulhu 1291239123	H.P. Lovecraft Atlas	1928 2020-05-19T00:18:11	Novel Adventure	23.05 2	Fascinating story !!	Update Campaign Delete Update
2		Lost Symbol 1291264743	Dan Brown Gold	2001 2020-05-19T00:18:11	Novel Adventure	29.99\$ 5	Amazing story !!	Update Campaign Delete Update
3		Angels and Deamons 1671264743	Dan Brown Gold	2003 2020-05-19T00:18:11	Novel Adventure	24.5\$ 10	Interesting story !!	Update Campaign Delete Update

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-User login and register form are on same page.

-In the account menu there are three buttons, the customer can reach an update profile information page and order history from this menu.

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MY PROFILE

Profile Information

FULL NAME \*

Ahmet Deniz Guner

EMAIL ADDRESS \*

adeniz@gmail.com

PHONE NUMBER \*

5992167856

ADDRESS \*

Prague,Czech,98654

PASSWORD \*

\*\*\*\*\*

EDIT INFORMATION

SAVE

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- On the main page, there is a slider and there are submenus that keep related books.
- The navigation bar is placed on top of the page. It consists of two-part which are up and below. The upper part includes a 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. [1]
- And if you are logged in the navigation bar will be seen different.

### VISITOR VIEW



### MEMBER VIEW

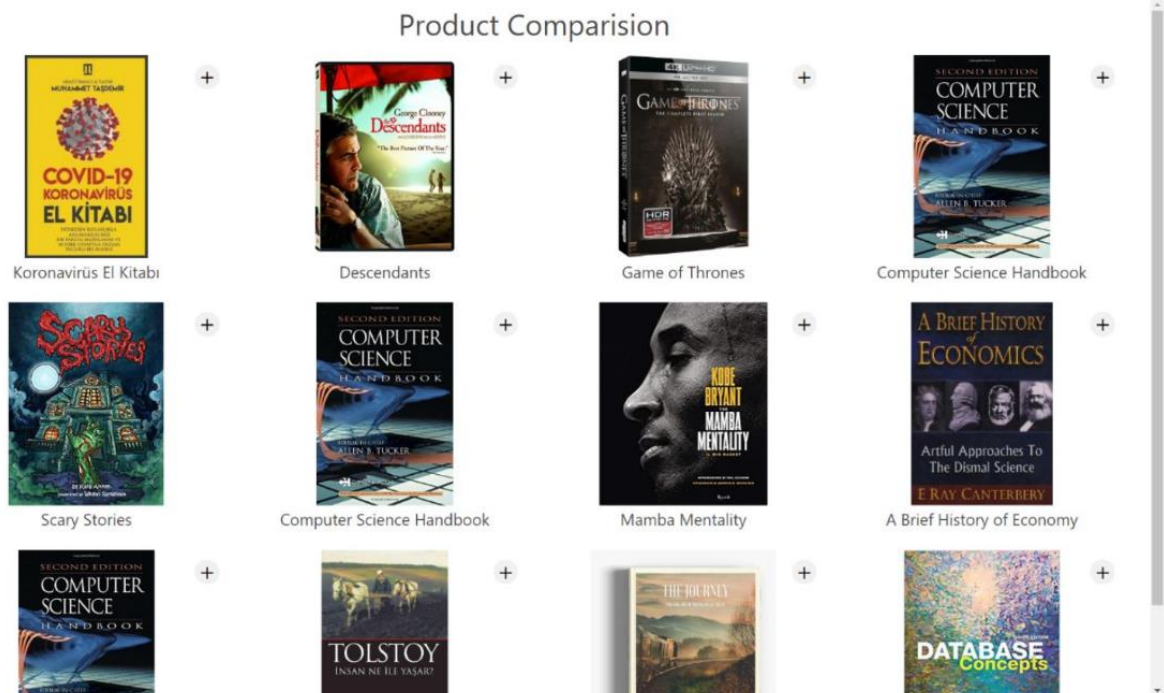
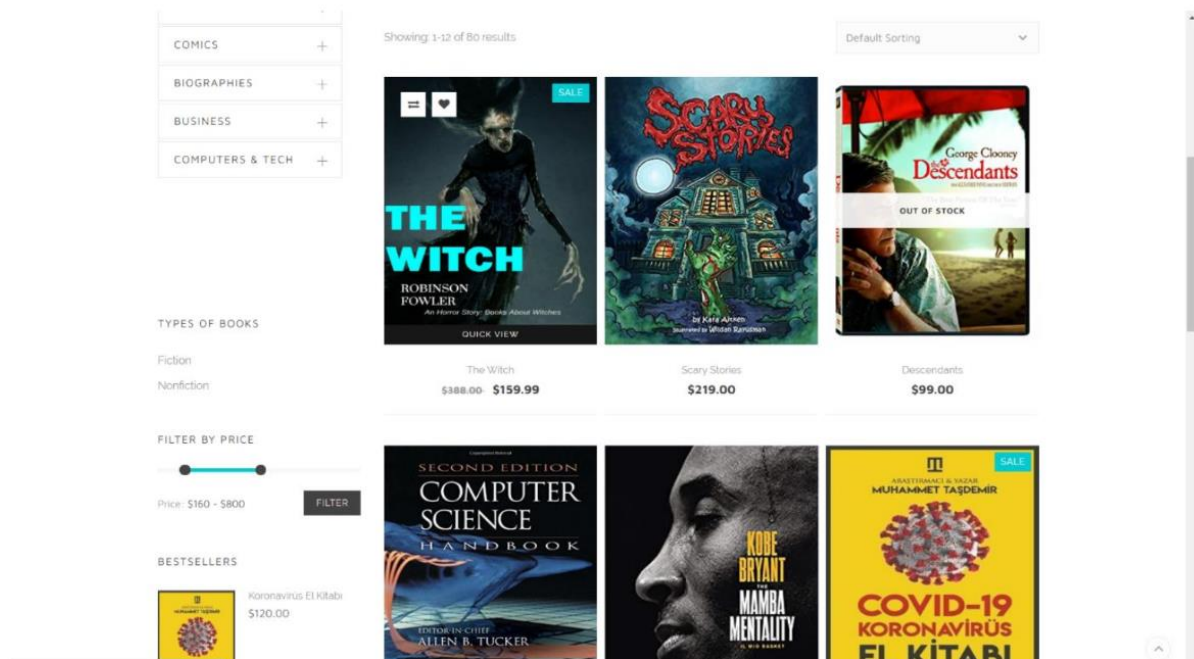


### RECOMMENDED FOR YOU



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-Searching and compare books view.



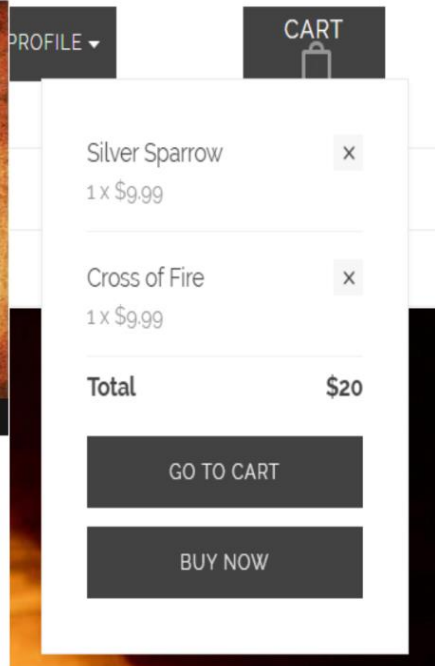
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-Add to cart and purchasing process view.

Adding a Book to the Cart



View of Cart



CHECKOUT

Returning Customer? [Click here to login](#)

#### BILLING ADDRESS

FULL NAME \*

John Doe

ADDRESS \*

1600 Amphitheatre Parkway in Mountain View, California, United States.

PHONE \*

534234234

IDENTIFICATION NUMBER \*

11231231231231

☐ Create an account?

☐ Ship to a different address

#### SHIPPING COMPANY

Please select a shipping company:

Shipping Companies

- ☒ MNG Kargo
- ☐ Yurtici Kargo
- ☐ UPS Kargo

#### YOUR ORDER

The Da Vinci Code x 2	120.0€
Nutuk x 1	50.0€
Cart Subtotal	180.0€
Shipping	Free Shipping
<b>Order Total</b>	<b>180.0€</b>

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## 5. Requirements Traceability <sup>[3]</sup>

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USE CASE ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CampaignController							√		√						
CommentController												√		√	
BookController				√		√				√					
CategoryController							√		√						
SubcategoryController									√						
PurchaseRequestController											√				
PaymentServiceController									√						
MailController													√		
CargoFirmController															√
InCargoController											√				
CustomerController			√									√		√	
AdminController			√	√	√	√	√				√	√	√	√	√
CardController								√							
Book				√		√				√					
Campaign									√						
Subcategory									√						
Comment												√		√	
Cart								√							