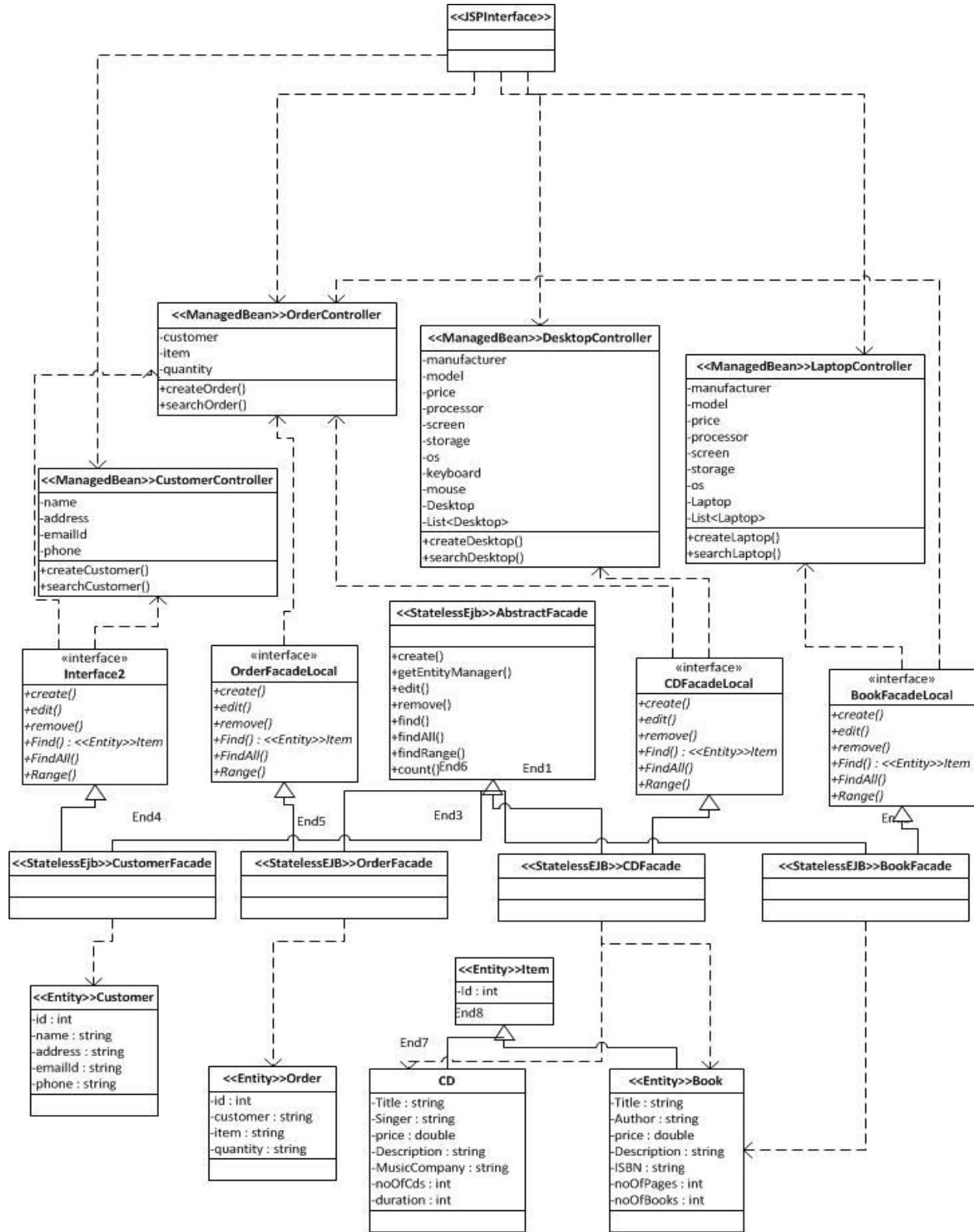


Architecture Diagram



Page Navigations

Main Page

E-Business: Product, Customer, and Order Management

Products

[Create Book](#) | [Stock of Books](#) | [Search Book](#)
[Create CD](#) | [Stock of CDs](#) | [Search CD](#)

Customers

[Create Customer](#) | [Customers List](#) | [Search Customer](#)

Orders

[Create Order](#) | [Orders List](#) | [Search Order](#)

Create Book Page

Create Book

Title:	<input type="text"/>
Author:	<input type="text"/>
Price:	<input type="text" value="0.0"/>
Description:	<input type="text"/>
ISBN:	<input type="text"/>
Number Of Pages:	<input type="text" value="0"/>
Number Of Books:	<input type="text" value="0"/>

[Book Stock](#) | [Main Page](#)

Book Stock Page

Book Stock

Title	Author	Price	Description	ISBN	Number Of Pages	Number Of Books
Book	Author	50.0	a book	1234	500	100

Total Books: 1

[Create Book](#) | [Main Page](#)

Search Book Page

Search Book

ISBN:

[Book Stock](#) | [Main Page](#)

Create CD Page

Create CD

Title:

Singer:

Price:

Description:

Music Company:

No Of CDs:

Duration:

[CD Stock](#) | [Main Page](#)

CD Stock Page

CD Stock

Title	Singer	Price	Description	Music Company	Total Number Of Cds	Duration
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Total CDs: 0

[Create CDs](#) | [Main Page](#)

CD Search Page

Search CD

Title:

[CD Stock](#) | [Main Page](#)

Create Customer Page

Create Customer

Name:

Address:

Email Address:

Phone Number:

[Customer List](#) | [Main Page](#)

Customer List Page

Customers List

Name	Address	Email Id	Phone	Orders
Customer	433	email@serviceprovider.com	1111111111111	0

Total Customers: 1

[Create Customer](#) | [Main Page](#)

Customer Search Page

Search Customer

Model:

[Customer List](#) | [Main Page](#)

Create Order Page

Create Order

Customer:

Item:

Quantity:

[Order List](#) | [Main Page](#)

Order List Page

Orders List

Customer	Item	Quantity	Action
customer	1234	10	<input type="button" value="Delete"/>

Total Customers: 0

[Create Customer](#) | [Main Page](#)

Search Order Page

Search Order

Item:

[Order List](#) | [Main Page](#)

Test Instruction

When the application start the home page appears into the desktop.

E-Business: Product, Customer, and Order Management

Products

[Create Book](#) | [Stock of Books](#) | [Search Book](#)
[Create CD](#) | [Stock of CDs](#) | [Search CD](#)

Customers

[Create Customer](#) | [Customers List](#) | [Search Customer](#)

Orders

[Create Order](#) | [Orders List](#) | [Search Order](#)

Add a Book

To add a book click on the 'create book' link and the following page will open. Enter all the information about the book and then press Create Book.

Create Book

Title:	<input type="text" value="Book"/>
Author:	<input type="text" value="Author"/>
Price:	<input type="text" value="50.0"/>
Description:	<input type="text" value="a book"/>
ISBN:	<input type="text" value="1234"/>
Number Of Pages:	<input type="text" value="500"/>
Number Of Books:	<input type="text" value="100"/>
<input type="button" value="Create Book"/>	

[Book Stock](#) | [Main Page](#)

Add Customer

To add a customer, click on the 'create customer' link in the home page, and then the following page will appear. Enter all the information and then press create customer, to create the customer and

persist its data to the database.

Create Customer

Name:

Address:

Email Address:

Phone Number:

[Customer List](#) | [Main Page](#)

Creating Order

To create an order, first there needs to be some items and a customer. Select the customer and the items from the drop down menus shown in the Image below. And then enter the quantity of the item that you want to order. After that press create order, if the quantity of the item is available then the order will be created.

Create Order

Customer: ▼

Item: ▼

Quantity:

—

[Order List](#) | [Main Page](#)

Viewing Customer, Order and Item List

To view all the books in the database, click on 'book stock' on the homepage, and the following page will appear with the table of all the books. Similarly click on 'CD stock' to view the stock of CDs, and orders.

Book Stock

Title	Author	Price	Description	ISBN	Number Of Pages	Number Of Books
Book	Author	50.0	a book	1234	500	90

Total Books: 1

[Create Book](#) | [Main Page](#)

Orders List

Customer	Item	Quantity	Action
Customer	1234	10	<input type="button" value="Delete"/>

Total Customers: 0

[Create Customer](#) | [Main Page](#)

Managed Beans Design

Managed beans have been created for all the entities that are present in this system. One managed bean is present for each entity i.e. Book, CD, Customer, Order. The managed beans take the data from the JSF pages and then pass this data to the Business tier. Different methods of the managed beans return the address of the next page to be opened, using which the navigation between the pages has been performed.

Design of EJBs

Enterprise java beans have been created for each separate entity. And each EJB has a separate interface, which can be used on a local machine. This tier takes the information from the managed beans, and then transfers this information using JPQL to the persistence layer.