Project architecture document for eShop

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This is a project to develop an online bookstore. It will make it easier and faster to find and buy books for their fans.

Technologies used:

Roles: Unregistered user, Registered user, Store administrator, User Administrator.

№	Role	Opportunities
1	**Unregistered user**	A person who can view the books, view news, can add books to the cart, delete books from the cart, make orders, register in the system.
		A person who can view the books, view news, can add books to cart, delete books from cart, make the order, sign-in system, sign out of the system,

2	**Registered user**	give an assessment of the book, add a comment to the book, edit and delete own comment to the book, change password, edit email and add a phone number, delete own profile from the system.
3	**Store administrator**	A person who can sign in system, sign out of system, change password, edit email and add phone number, delete own profile from system, add new books to the system, edit books, delete books, process orders, add, edit and delete news in the system.
4	**User Administrator**	A person who can sign in system, sign out of the system, change own password, edit email and add a phone number, delete own profile from the system, edit user login and email, change the user role to store administrator or user administrator, delete user from the system, block a user for invalid comments, unlock the locked user.

Functionalities:

Role	Opportunities	Description of opportunities	Action name
Unregistered user	Add item to cart	The selected book is added to the cart	AddToCart
	Remove the item from the cart	The selected book is deleted from the cart	RemoveFrom Cart
	Create order	Information about books ordered by the user is added to the system	SaveOrder
	Registration	Registration of own profile in the system	CreateUser
Registered user	Sign in	Sign in the system	SignIn

	Sign Out	Sign out of the system	SignOut
	Add item to cart	The selected book is added to the cart	AddToCart
	Remove the item from the cart	The selected book is deleted from the cart	RemoveFrom Cart
	Create order	Information about books ordered by the user is added to the system	SaveOrder
	Add a comment to the product	A comment to the relevant book is added to the system	AddComment
	Edit product comment	The comment to a certain book changes	EditComment
	Delete product comment	Data about a certain comment is deleted from the system	DeleteComme nt
	Evaluate the product	Gives a certain assessment of the book	SaveRate
	Change password	The password with which the user logs in changes	Change Password
	Edit email	The user's email is changing	SetEmail
	Add a phone number	Data on the user's phone number is added to the system	SetPhone Number
	Delete own data	The user profile is deleted from the system	DeleteUser
Store administrator	Sign in	Sign in the system	SignIn
	Sign Out	Sign out of the system	SignOut
	Change	The password with which	Change

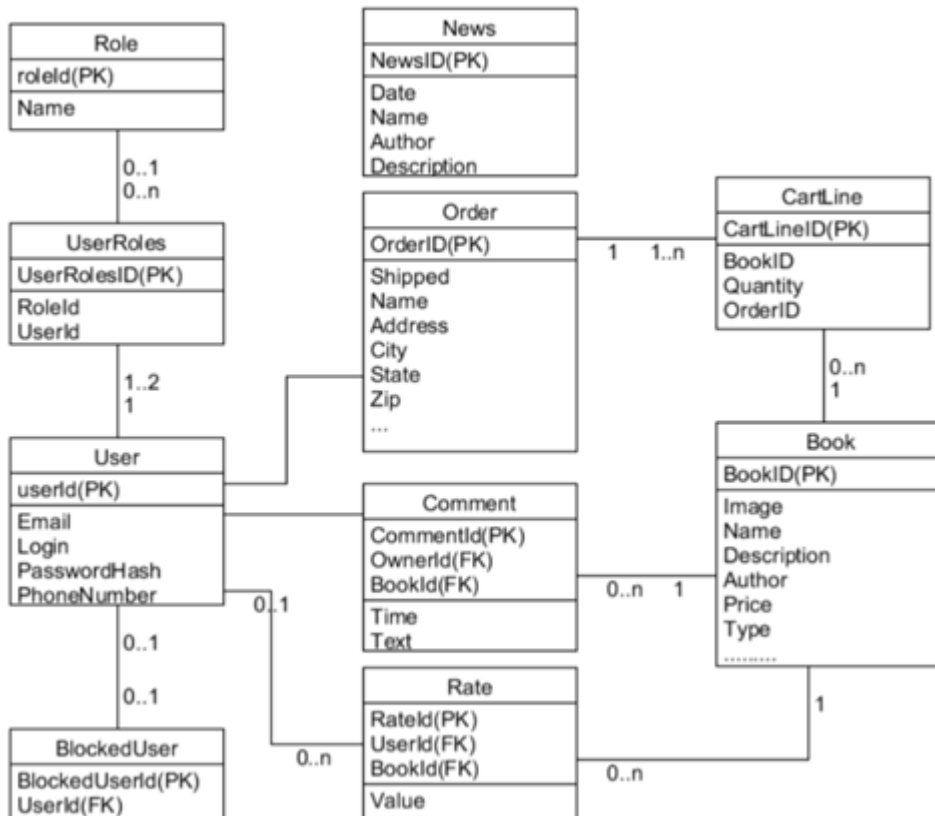|	password	the user logs in changes	Password
	Edit email	The user's email is changing	SetEmail
	Add a phone number	Data on the user's phone number is added to the system	SetPhone Number
	Delete own data	The user profile is deleted from the system	DeleteUser
	Add / Edit product	Add information about a new book to the system / Edit information about a certain book	SaveBook
	Delete product	Delete information about a specific book from the system	DeleteBook
	Add / Edit news	Adding information about news to the system / Edit information about certain news	SaveNews
	Delete news	Delete information about certain news from the system	DeleteNews
User Administrator	Sign in	Sign in the system	SignIn
	Sign Out	Sign out of the system	SignOut
	Change password	The password with which the user logs in changes	Change Password
	Edit email	The user's email is changing	SetEmail
	Add a phone number	Data on the user's phone number is added to the system	SetPhone Number

	Delete own data	The user profile is deleted from the system	DeleteUser
	Change the user role	Change the user role to store administrator or user administrator	EditUserRoles
	Edit user information	Change user email and login	EditUser
	Delete user	Delete information about a specific user from the system	DeleteUser
	User lock	Block user for invalid comments	BlockUser
	Unlock user	Unlock locked user	UnblockUser

Entity Relationship Diagram:

The basis of the catalog is the table Book, which registers the entire product range and its description. Books are sorted by type of publications and fixed in the Type field. Because each book can be evaluated by different users, a Rates table is formed. The cart is created and stored using 2 tables Order and CartLine (Implements a many-to-many relationship between Order and Book).

To work with users, there are 4 tables User, UserRoles, Role, BlockedUser. The table News has no links.
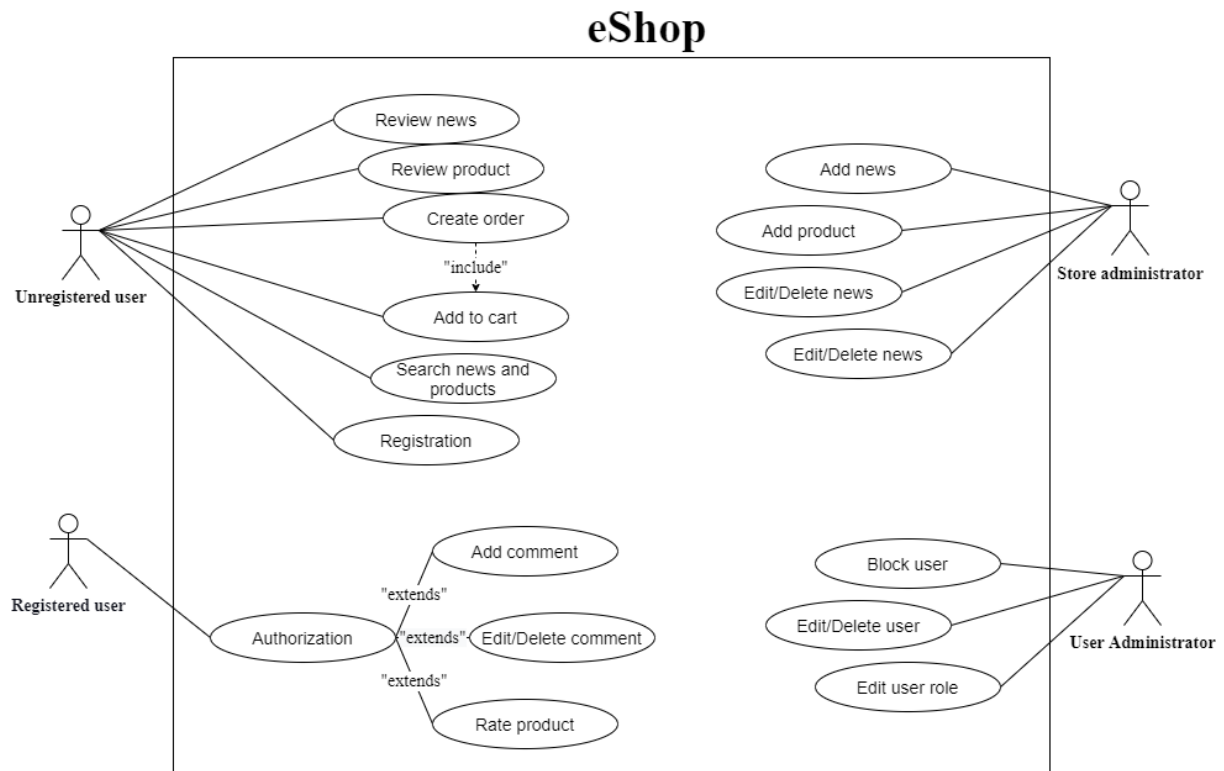
Role
roleId(PK)
Name

News
NewsID(PK)
Date
Name
Author
Description

Order
OrderID(PK)
Shipped
Name
Address
City
State
Zip
...

CartLine
CartLineID(PK)
BookID
Quantity
OrderID

UserRoles
UserRolesID(PK)
RoleId
UserId

0..1
0..n

1   1..n

0..n
1

User
userId(PK)
Email
Login
PasswordHash
PhoneNumber

1..2
1

Comment
CommentId(PK)
OwnerId(FK)
BookId(FK)
Time
Text

Book
BookID(PK)
Image
Name
Description
Author
Price
Type

0..1

0..1

0..1

Rate
RateId(PK)
UserId(FK)
BookId(FK)
Value

0..n   1

BlockedUser
BlockedUserId(PK)
UserId(FK)

0..n

0..n

1

Use-case Diagram:

As can be seen from the figure, the actors of the system will be users of the online store. They are divided into 4 types: site administrator (users), store administrator, registered and unregistered users.

The system will perform the following functions:
● Product creation
● Create news
● Edit / Delete product
● Edit / Delete news
● Use authorization and authentication to access your profile
● Administrator editing user roles
● Feedback
● Creation of comments to the product by the user
● Edit / Delete comments

eShop

Sequence Diagram: