

# ONLINE SHOPPING MALL MANAGEMENT SYSTEM

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Date

28-02-2021

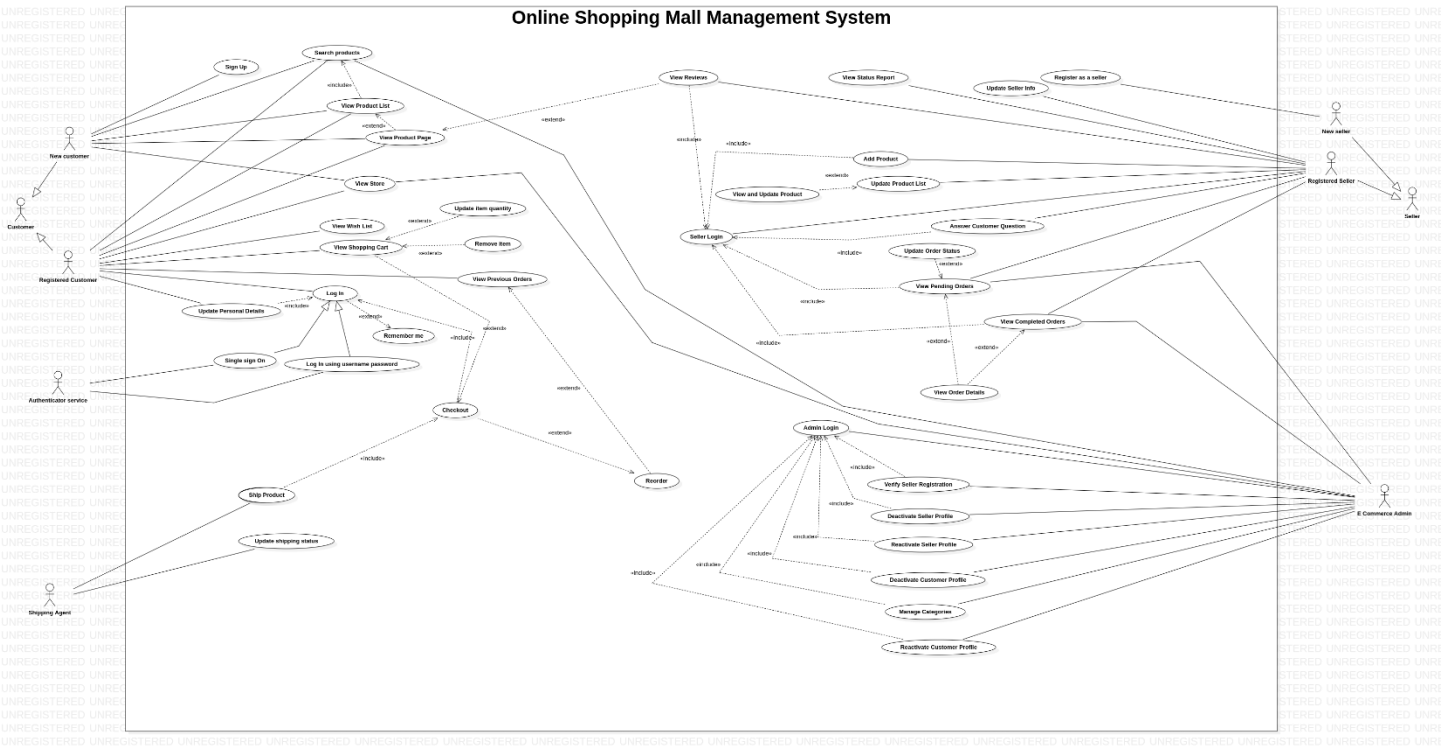
Course title

Object-Oriented Analysis and Design

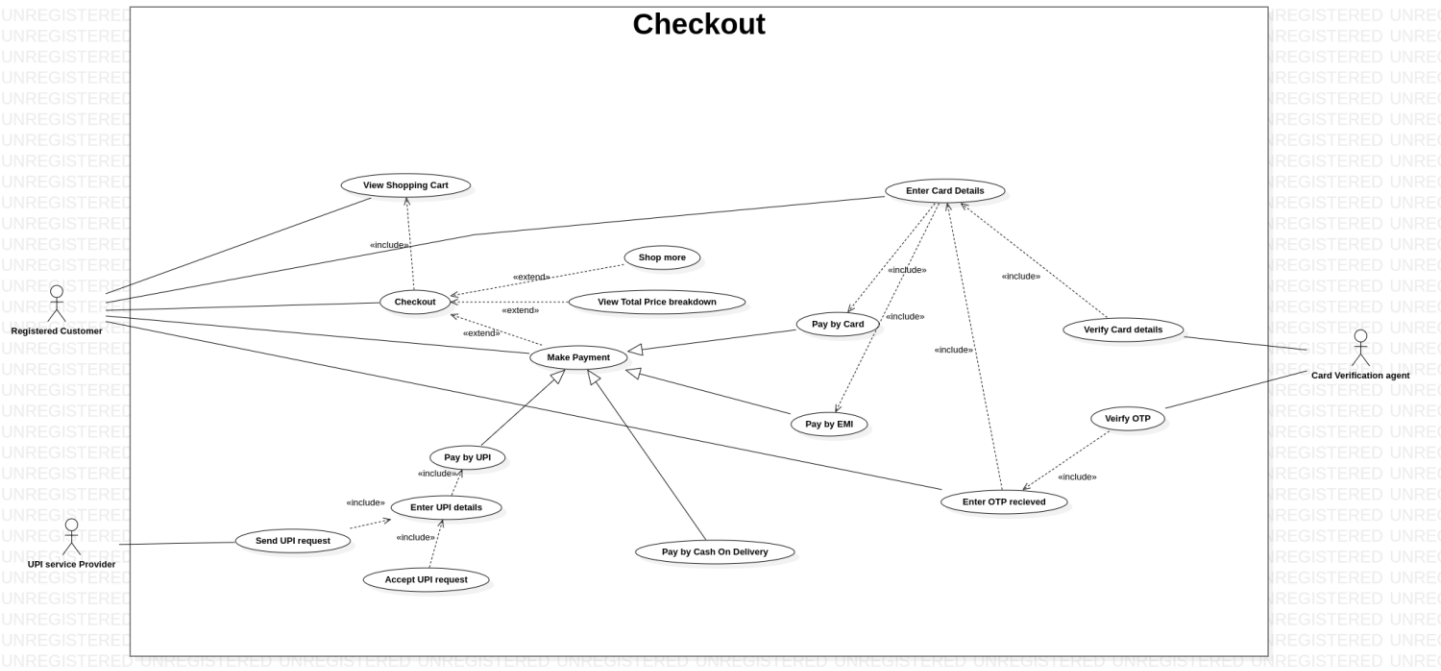
Teacher's name

Kiruba Thangam R

# Overall Key Usecase Diagram:

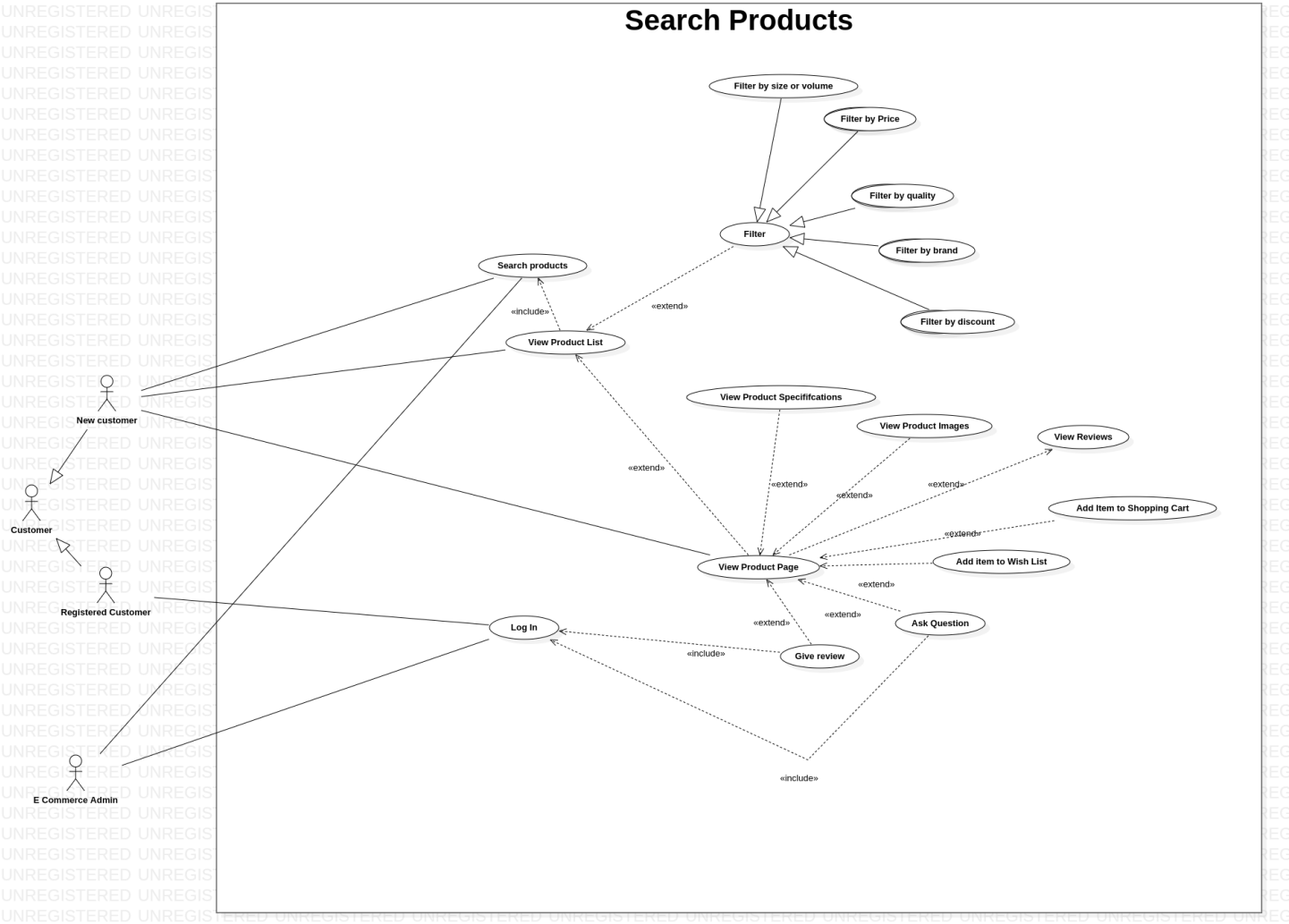


# Checkout Key Usecase:



Use-case name	Checkout
Brief Description	After adding the items to the shopping cart the user now wants to buy the items, hence he uses the checkout option.
Basic Flow	<ol style="list-style-type: none"> <li>1. The user selects to make Payment (or Shop More or View Total Price Breakdown)</li> <li>2. The system fetches the payment methods available</li> <li>3. The user selects the payment method</li> <li>4. If the user chooses to pay by card/ pay by emi: <ol style="list-style-type: none"> <li>a. The user enters card details</li> <li>b. The Card Verification Agent verifies the card details</li> <li>c. The Card Verification Agent sends verification OTP to user</li> <li>d. The User enters the OTP</li> <li>e. The Card verification Agent verifies the OTP</li> <li>f. Successful Transaction occurs</li> </ol> </li> <li>5. If the user chooses to pay by UPI: <ol style="list-style-type: none"> <li>a. The user enters his UPI id</li> <li>b. The UPI service provider verifies the UPI id</li> <li>c. The UPI service provider sends a request to the user for transaction</li> <li>d. The user gives permission for transaction</li> <li>e. Successful transaction occurs</li> </ol> </li> <li>6. If the user chooses to pay by Cash on Delivery, required data notified to shipping agent.</li> </ol>
Alternate flows	-
Special requirements	<ol style="list-style-type: none"> <li>1. Secure payment Gateway</li> <li>2.A successful payment.</li> </ol>
Preconditions	Items must be present in the cart
Post conditions	<ol style="list-style-type: none"> <li>1. The order should be saved in previous orders and must be visible to the user.</li> <li>2. Payment confirmation sent to the user</li> </ol>
Extension points	<ol style="list-style-type: none"> <li>1a. Shop more</li> <li>1b. View Total Price Breakdown</li> </ol>

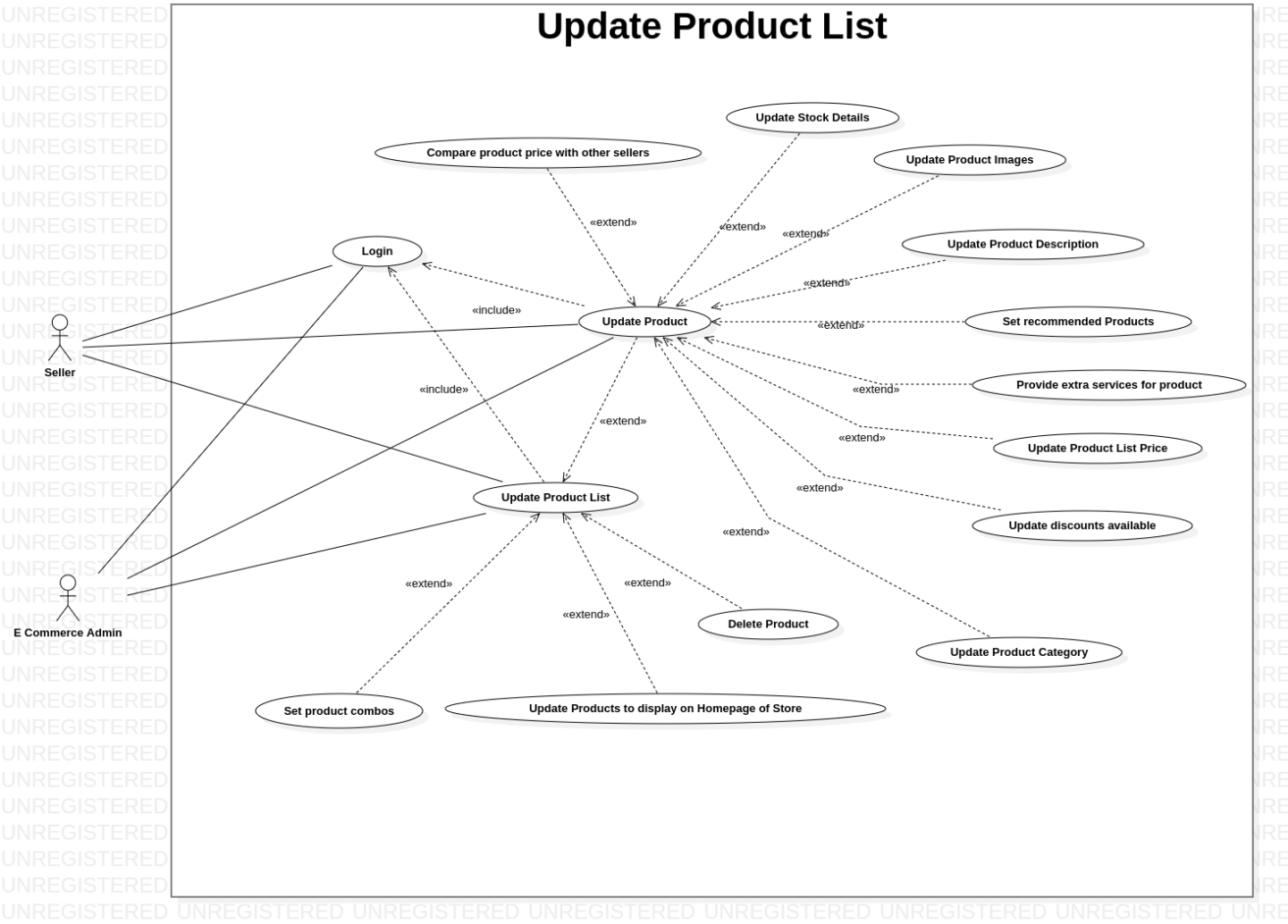
# Search Products Key Usecase:



Use-case name	Search products
Brief Description	User uses the Search option to search for products he/she wishes to buy.
Basic Flow	<div>1. The User enters his search query</div> <div>2. The system fetches the product list</div> <div>3. The system displays the product list</div> <div>4. The user selects any products he want to view</div> <div>5. The system fetches the product details</div> <div>6. The system displays the product details</div> <div>7. The user can specifically view product images, product details and all product reviews.</div> <div>8. The user can add the product to wish list or shopping cart</div>

Alternate flows	<p>3a. User applies filters</p> <ul style="list-style-type: none"> <li>(i) The user can apply filters to the fetched product list based on his preferences</li> <li>(ii) The system reconfigures the product list displayed based on filters</li> <li>(iii) Use case resumed at basic flow step 4</li> </ul> <p>7a. If user is logged in</p> <ul style="list-style-type: none"> <li>(i) The user can give review</li> <li>(ii) The user can ask a question about the product to the seller</li> </ul>
Special requirements	The required product is available.
Preconditions	The search bar is visible and easily navigable.
Post conditions	The complete detail page of the product is displayed , if the product is not found, the error page is displayed.
Extension points	<p>3a. Filter by size or volume, filter by price, filter by brand, filter by discount, filter by quality</p> <p>7. View Product Specifications, View Product Images, View Reviews</p> <p>7a. Give Review, Ask Question</p> <p>8. Add Item to Wish List, Add item to Shopping Cart</p>

# Update Product List Key Usecase:



Use-case name	Update product list
Brief Description	The seller manages his entire product catalogue. The seller can delete products, update product stocks, and set manual product recommendations.
Basic Flow	1. The system fetches the product list for the seller 2. The system displays the product list 3. The seller can select a specific product 4. The system fetches the product details 5. The system displays the product details



	6. The seller can compare his product with other sellers selling the same product. The seller can update product details like stock, description, recommended products, extra services the seller provides with the product, list price, discount, category of product.
Alternate flows	2a. The seller can also make modifications on the product list level like, delete a product, update products to be displayed on the homepage of the seller store, set product combos by combining products.
Special requirements	The product list should not be empty.
Preconditions	The seller must be a registered seller and logged in to his account.
Post conditions	The updates made by the seller are updated on the shop and visible to the user.
Extension points	<p>6. Compare product price with other sellers, Update Stock Details, Update Product Images, Update Product Description, Set Recommended Products, Provide extra services for product, Update Product List Price, Update Discounts Available, Update Product Category</p> <p>2a. Set Product Combos, Update Products to display on homepage of store, Delete Product</p>

```

classDiagram
    class Seller {
        +name: String
        -Id: Long
        +Rating: Int
        #Address: String
        +Email: String
        +addProduct(Pro_name: string, Pro_price: float): Void
        #updateProductList(product_id : long): Void
        +viewReviews(product_id: long): void
        #ViewCompletedOrders()
        #viewPendingOrders()
        +answerQuestion(ques_Id: long, product_Id: long, answer: string): void
    }
    class RegisteredSeller {
        #Login()
        -updateSellerInfo()
        #viewStatusReport()
    }
    class NewSeller {
        #registerSeller()
    }
    class ShippingAgent {
        #Customer_Id: Long
        #Agent_Id: Long
        +shipProduct()
        #updateShippingStatus()
    }
    class Admin {
        -Id: Long
        -Name: String
        -reactivateProfiles()
        -deactivateProfiles()
        -manageCategories()
        -verifySellerRegistration()
        -manageDelivery()
    }
    class Product {
        +Name: String
        -Id: Long
        +Category: String
        +Product_Details: String
        +Price: Float
    }
    class Cart {
        #Number_of_Products: Int
        #Products[]: Product
        #Total: Float
        #checkout()
    }
    class Orders {
        +Order_Id: Long
        +Items[]: Product
        #viewPreviousOrders()
        #reorderItem()
    }
    class Payment {
        #Payment_Id: Long
        #Customer_Id: Long
        -Card_Type: String
        -Card_No: Long
        -verifyCard()
    }
    class Filters {
        +Price
        +Quality
        +Brand
        +Discount
        +filterBySize()
        +filterByPrice()
        +filterByQuality()
        +filterByBrand()
        +filterByDiscount()
    }
    class Customer {
        +Name: String
        #Id: Long
        #Address: String
        #Phone No: Integer
        #Email: String
        +buyProducts()
        +viewProducts()
        +makePayment()
        +manageCart()
        +viewStore()
        +viewReviews()
        +searchProduct(filters f): Product
        +viewSellerProduct(seller s): Product
        +giveReview(Product p, review: string): Void
        +viewShoppingCart()
        +viewWishlist()
    }
    class NewCustomer {
        #signUp()
    }
    class RegisteredCustomer {
        #Login()
        #updatePersonalDetails()
    }

    Seller "1" --> "1..*" Product : #Manage
    Seller "1" --> "1..*" ShippingAgent : #Initiate
    Seller <|-- RegisteredSeller
    Seller <|-- NewSeller
    ShippingAgent "1" --> "1..*" Admin : #Manage
    Admin "1" --> "1..*" Product : #Add
    Admin "1" --> "1..*" Customer : #Manage
    Product "1..*" --> "1..*" Customer : #Buy
    Product "1..*" --> "1..*" Cart : #Has
    Cart "1..1" --> "1..1" Orders : -Place
    Orders "1..1" --> "1..1" Payment : #Does
    Orders "1..1" --> "1..1" Filters : -Makes
    Filters "1..1" ..> "1..1" Customer : +Uses
    Customer <|-- NewCustomer
    Customer <|-- RegisteredCustomer

```