Cairo University

Faculty of Computers and Information

CS251

Software Engineering I

Valley e-Commerce Platform

Software Design Document

Team: Pied piper

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Contents

Team

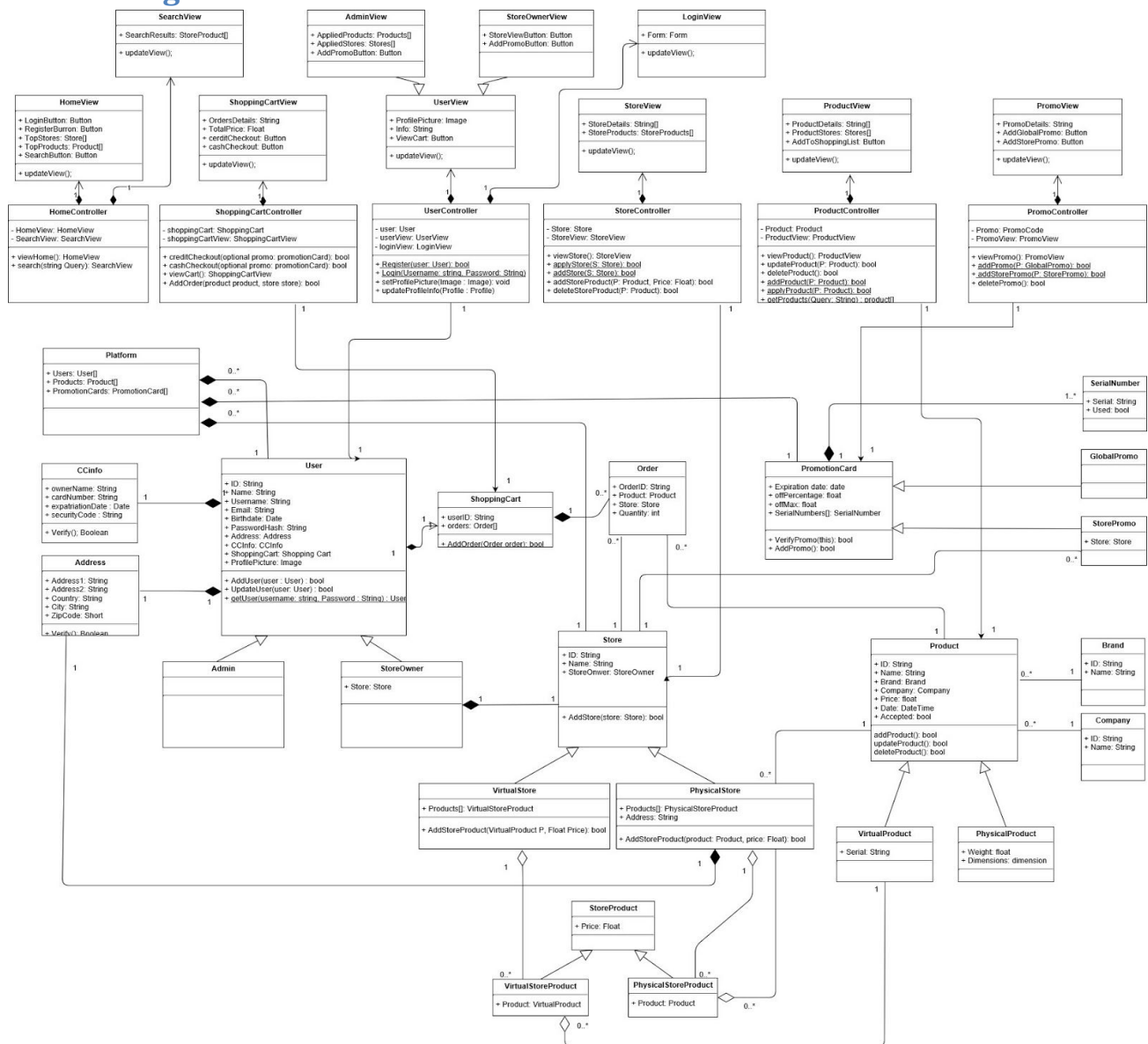| ID	Name	Email	Mobile
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Document Purpose and Audience

The purpose of this document is to provide a detailed overview over "Valley e-Commerce platform" and its outline. Also provide descriptive and detailed requirements for its classes and sequence diagrams. It illustrates and describe the software classes attributes, relationships, multiplicity, and cardinality.

The document is intended for the customer review and approval, and as a reference for the developing team during the developing and testing phases.

System Models

I. Class diagram

SVG HQ Version: svgshare.com/s/48K

III. Class Table

Class ID	Class Name	Description & Responsibility
1X	User	A User is the main client that interact with the system, A User can view stores and products, add products to shopping cart and checkout orders.
1A	StoreOwner	A Store Owner is a user who has an approved store, A store owner has all user's features plus all the managerial features for the owner to manage his store such as apply product, add product to his store, issue a promo-code for his store and view his store statistics.
1B	Admin	Administrator add stores that are applied by users after s/he verifies it, add products that are applied by store owner after s/he verifies it , issue global promotional codes for the platform, view overall statistics and manage all stores and products data.
2X	ShoppingCart	A shopping cart holds all user's orders and allow the user to purchase all his orders using a single checkout.
3X	Order	An Order is Shopping Cart's main component, It holds what product, from which store, and the quantity the user wants to buy.
4X	Store	A Store is owned by a Store Owner, it has a set of products from which the user can buy products of his choice.
4A	VirtualStore	A Virtual Store is a store which has no physical location and only sells virtual products.
4B	PhysicalStore	A Physical Store is a store which has a physical location and address, it sells virtual and physical products.
5X	Product	A Product is a sellable item sold by stores, it has a Name, Company, Brand, Price and a release date.
5A	PhysicalProduct	A Physical Product is a product sold only by physical stores, a physical product has weight in KGs and Dimensions.
5B	VirtualProduct	A Virtual product is a product sold by either a physical or a virtual store, a virtual product has a serial-key.

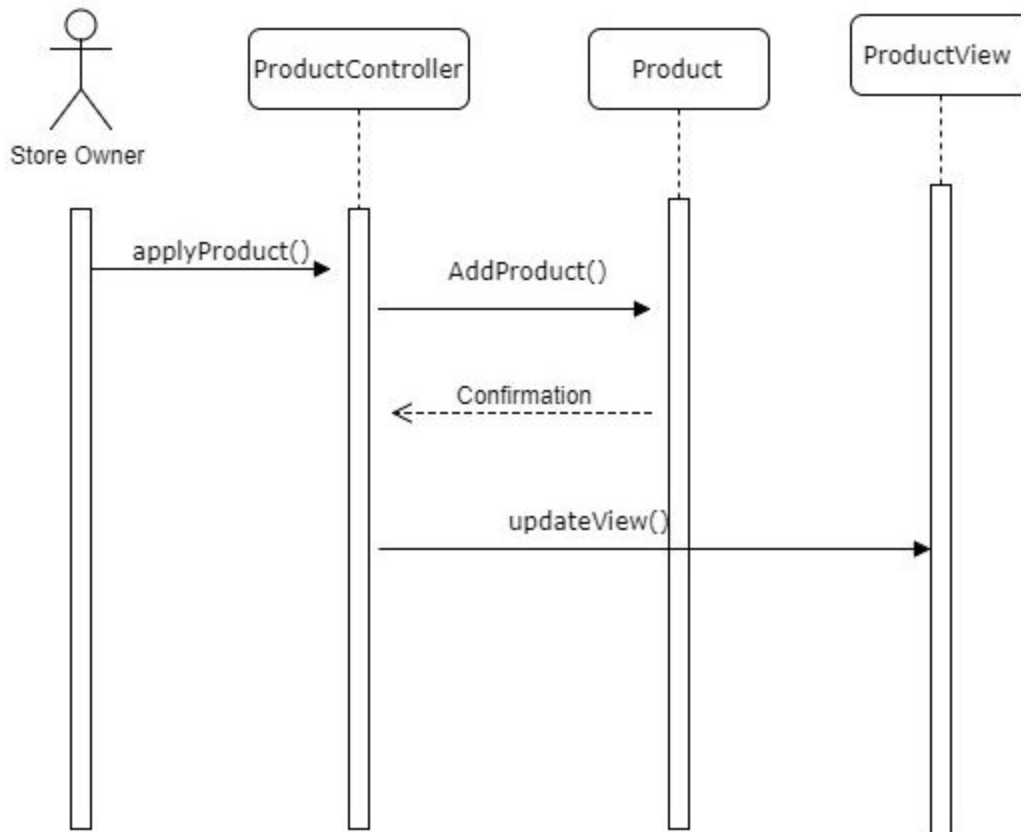| 6X	StoreProduct	A Store Product is a component that has a product registered in the system and a price set by the store owner.
6A	PhysicalStoreProduct	A StoreProduct can contain either a virtual product or a physical product.
6B	VirtualStoreProduct	A VirtualStoreProduct can contain only virtual products.
7X	PromotionCard	A Promotion Card is a card applied during checkout process that offers discounts, A promotion card has expiration date, discount percentage, and a max discount value, and a list of unique serial numbers to this promotion card.
7A	GlobalPromo	A Global Promo is a promotion card issued by the platform that applies to all different types of orders.
7B	StorePromo	A Store promo is a promotion card issued by the store owner that only applies to orders from that store.
7C	SerialNumber	A Serial Number is a unique serial number related to a single PromotionCard and is only consumable for a single time.
8X	CCInfo	A CCInfo is the user's credit/debit card informations used during checkout process.
9X	HomeController	Controller class that holds the business logic to render the homepage and chooses the hot products, popular stores and products.
9A	ShoppingCartController	Controller class that holds the business logic for checkout process and transactions, It also contain the business logic for adding order to the user's shopping Cart.
9B	UserController	Controller class that manage User's login, registration, editing profile pictures and user info.
9C	StoreController	Controller class that manages the platform stores, it contains the business logic to view store, apply for a store, add a store to the platform, add store products to the store catalog, delete store products from the store's catalog.
9D	ProductController	Controller class that manages the platform products, it contains the business logic for all products CRUD operations and for applying a product to the system.

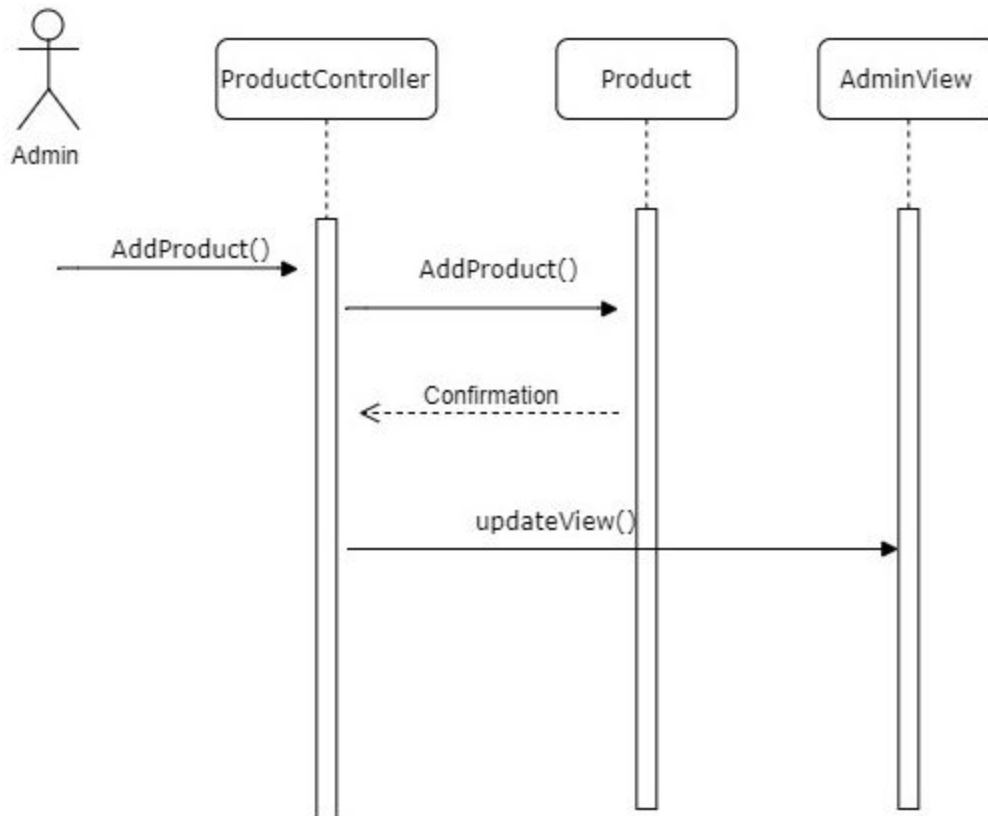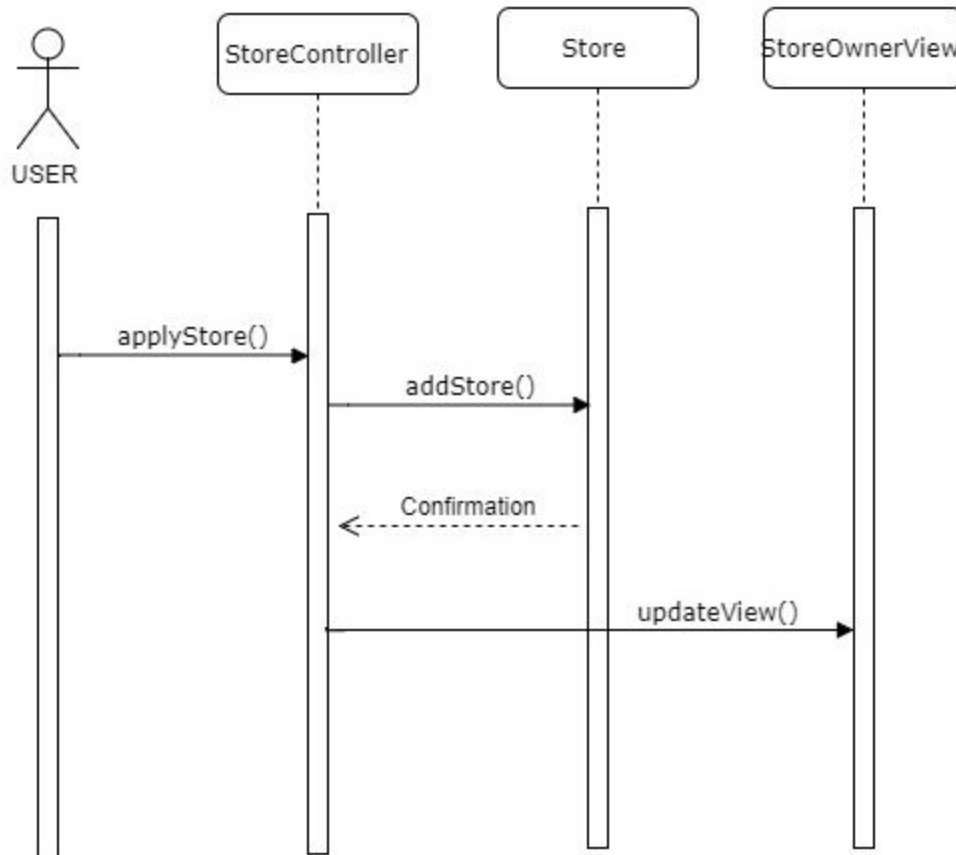| 9E	PromoController	Controller class that manages the platform promo codes, it contains the business logic for issuing store promo code or platform gloabl promo codes.
9F..9 J	- HomeView - ShoppingCartView - ProductView - UserView - StoreView	A Class that holds the view interface elements and formats to present to the user.

IV. Sequence diagrams
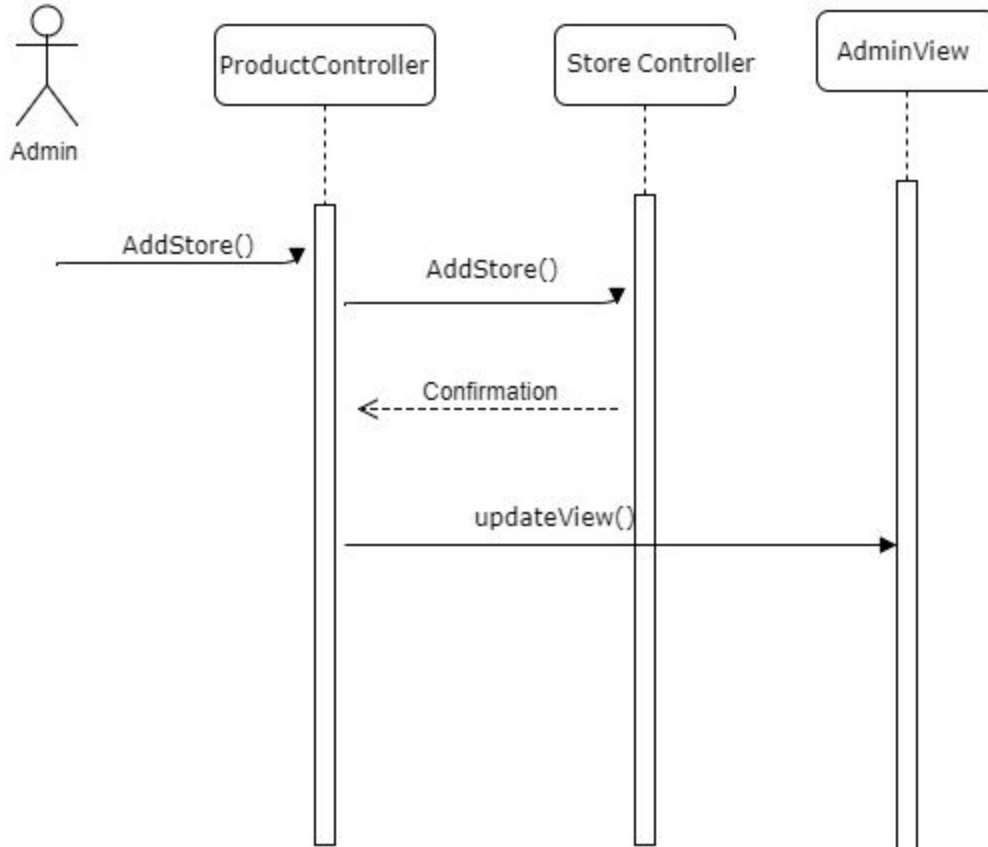
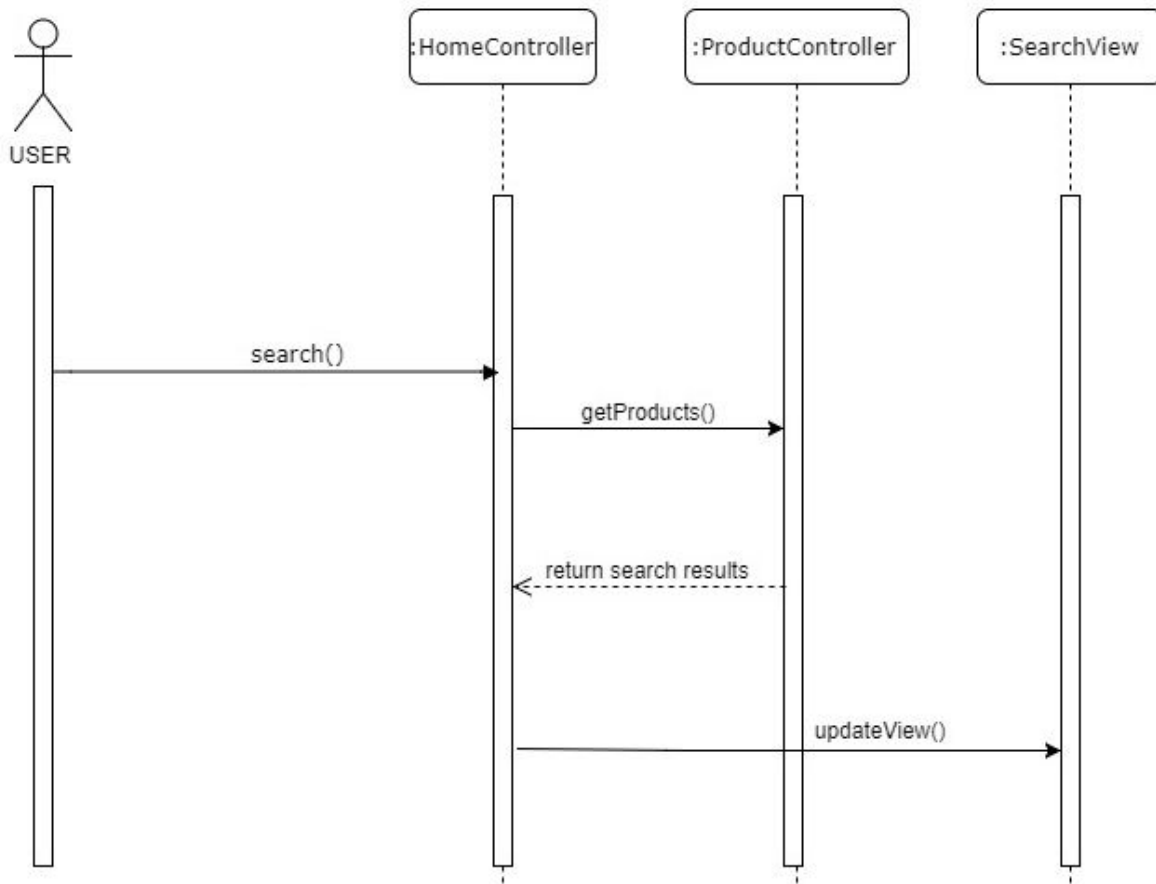**1- Applying a product**

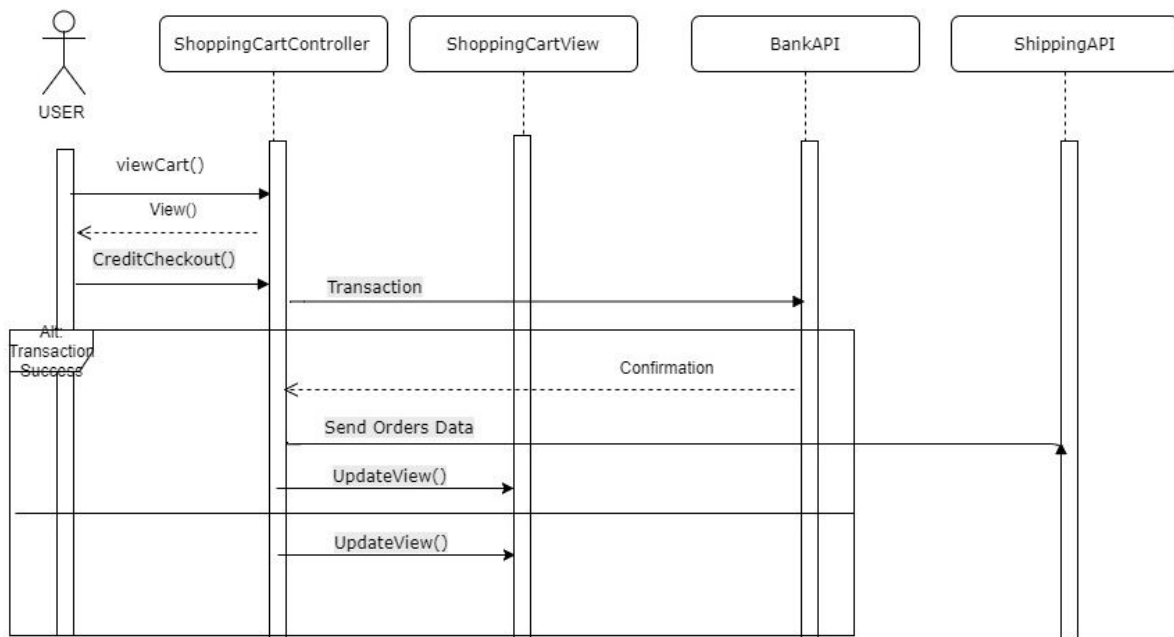**2- Add Product**

3- Applying a store.
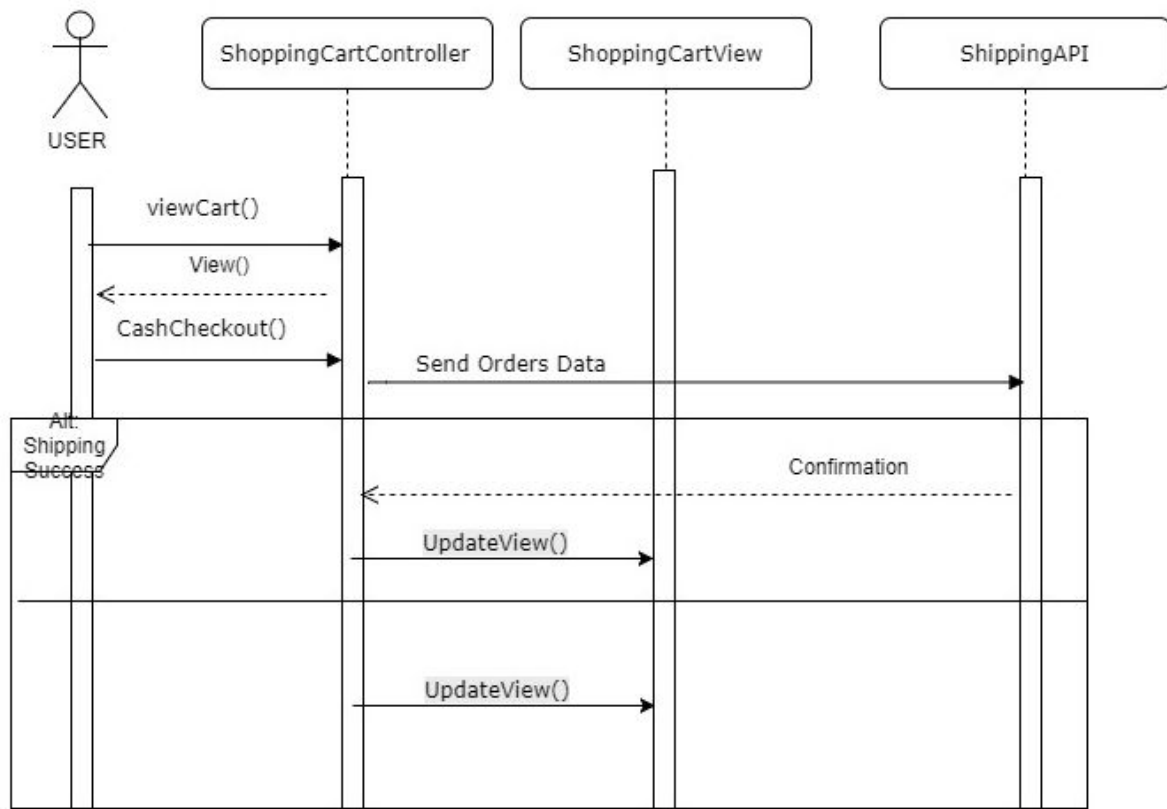
4- Add Store

5- Search
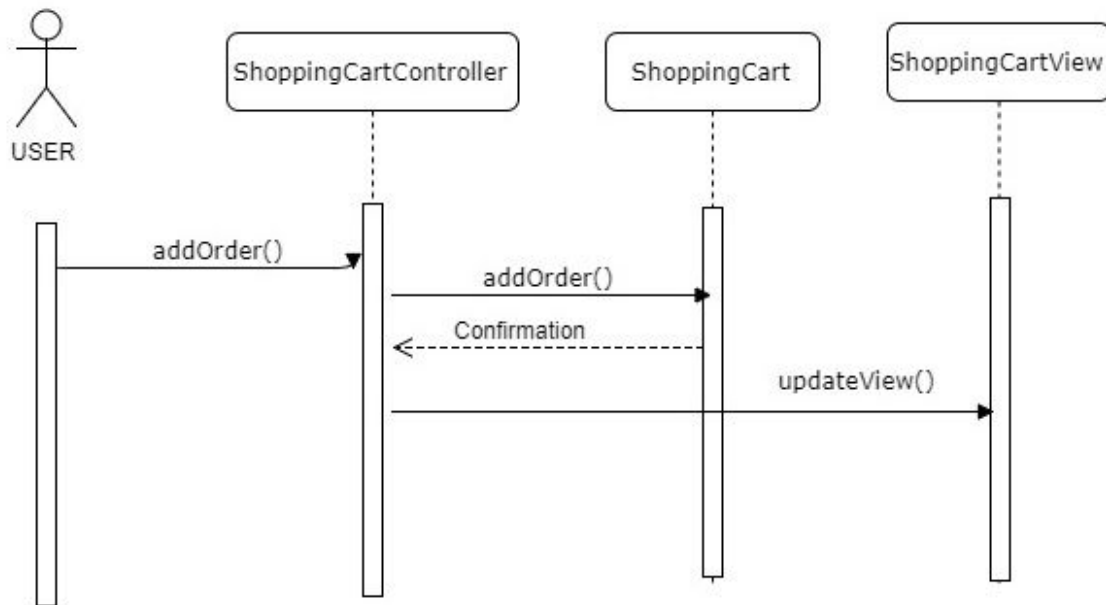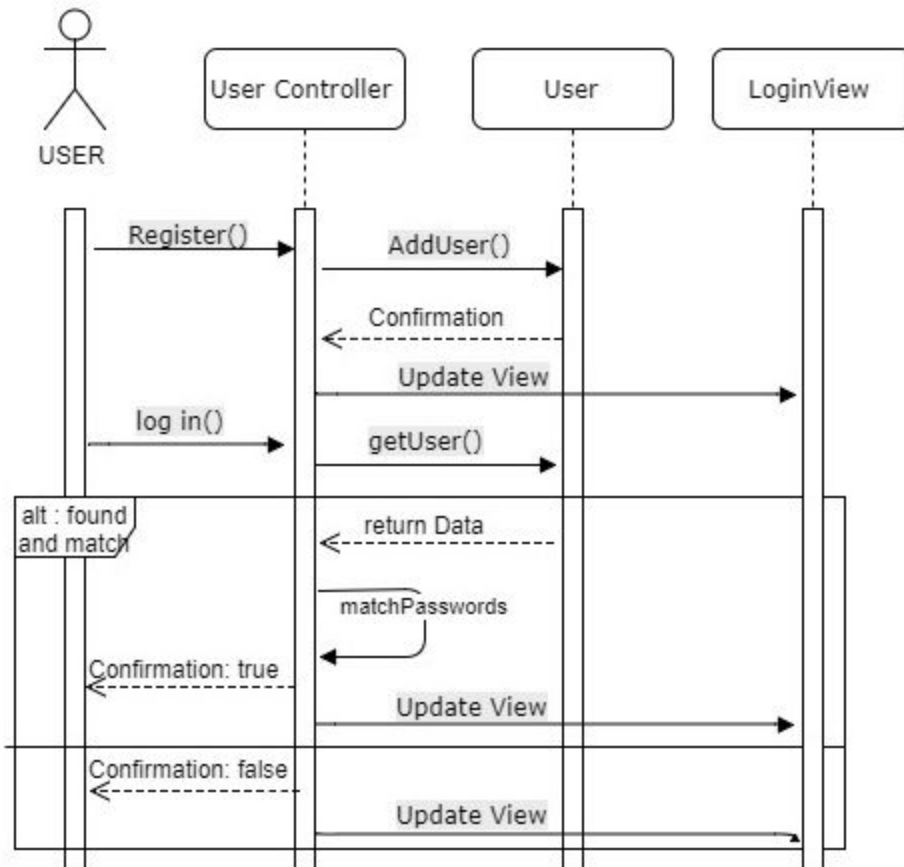
6- Credit Checkout

7- Cash Checkout

8- Add Order

9- Registration and Login

V. Class - Sequence Usage Table

Class Name	Sequence Diagrams	Overall used methods
UserController	Registration & Login , ProductView , AddOrder	login, register, userView
User	Registration&Login	addUser , getUser
HomeController	Search	search
ShoppingCartController	ProductView, cashCheckout, creditCheckout, addOrder	addOrder, Cashcheckout, CreditCheckout, updateView
ShoppingCart	ProductView, cashCheckout, creditCheckout, addOrder	addOrder
StoreOwnerView	applyStore, apply product	Update View
StoreController	applyStore, addStore	addStore, UpdateView
Store	applyStore, addStore	applyStore, addStore
ProductController	applyProduct, addProduct	addProduct, UpdateView
ProductView	applyProduct	UpdateView
Product	applyProduct, addProduct	addProduct, applyProduct, updateView
StoreOwnerView	applyStore	updateView
AdminView	addProduct, addStore	UpdateView
LoginView	Registration&Login	UpdateVIew

Ownership Report

Item	Owners
Class Diagram	*20150309,20150204,20150221, 20150101*
Class Table	*20150309,20150101*
Sequence Diagram	*20150204,20150221*
Sequence Table	*20150204,20150221*