Use-Cases - 2020

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1.System

Use case name	#1.1 System initiation
Actors	SystemInitializer
Pre-conditions	Admin details.
Post-conditions	Admin exists with admin username and password UserManager was created Admin was created Purchase was created There is communications with the Shipment system There is communications with the Payment system
Input Parameters	1. Admin details.
Main success scenario	 Creates new UsersManagerInterface object. Creates new StoresManagerInterface object. Creates new PurchaseManager object. Creates Publisher object. Init instances according to "init.txt" file.
Alternatives/Extensions	
Trigger	SystemInitializer get the order to open the trade system

Action	Data	Expected Result
#1.1 - (AT1) System initiation (external systems communication)	Insert Valid communication details with Payment and Shipment external systems	Success: Trading system activated. Allows transactions including payment and shipping
	Insert invalid communication details with Payment and Shipment external systems	Failure: receive an error message that the system could not be open due to communication with the external systems.

Action	Data	Expected Result
#1.1 - (AT2) System initiation (Creates Admin user)	Valid User details	Success: The User is created and then becomes Admin
	Invalid User details	Failure: No User and Admin are created
	Missing User details	Failure: No User and Admin are created

2.Guest User

Use case name	#2.2 Registration to the system
Actors	User
Pre-conditions	The current situation is according to Use-Case 2.1
Post-conditions	The User successfully registered to the system
Input Parameters	Registration details
Main success scenario	1. User: Enter username and password 2. TradeSystem: If the information provided by the User is correct and complete, the system registers the user.
Alternatives/Extensions	~2. Registration failed - Error message presented.
Trigger	User requests to register to the system.

Action	Data	Expected Result
#2.2 - (AT1) Registration to the system	Valid registration details that do not yet exist in the system.	Success: the registration successfully completed. The user is registered with his provided details.
	Missing registration details.	Failure: The system registration was unsuccessful, no new user was added to the system
	Existing user details.	Failure: The system registration was unsuccessful, no new user was added to the system
	Invalid user details	Failure: The system registration was unsuccessful, no new user was added to the system

Use case name	#2.3 User Login to the system
Actors	User
Pre-conditions	1. The current situation is according to Use-Case 2.1
Post-conditions	1. The user is no longer in guest mode
Input Parameters	Login details.
Main success scenario	1. User: Requests to login to the system. 2. User: Enter username and password. 2. TradeSystem: If the details provided by the user are complete, proper and existing in the system, the user is logged in
Alternatives/Extensions	~2. Login failed
Trigger	GuestUser requests to login to the system

Action	Data	Expected Result
#2.3 - (AT1) User Login to the system	Valid login details that exist in the system.	Success: The system connects the user. The user is no longer in guest mode.
	Missing registration details.	Failure: User should provide all login details
	User details that does not exist in the system	Failure: The login was unsuccessful, The user stays in guest mode.
	Invalid user details.	Failure: The login was unsuccessful, The user stays in guest mode.

Use case name	#2.4 View information of store and the products of the store
Actors	User
Pre-conditions	The current situation is according to Use-Case 2.1
Post-conditions	None.
Input Parameters	Requested store details
Main success scenario	1. User : provides the requested store details. 3. TradeSystem : If the requested store exists in the system 3.a TradeSystem : Returns information about the store and its products.
Alternatives/Extensions	~3. The system will return an error / message about incorrect or missing existing store information.
Trigger	A User wants to see details about a store and its products.

Action	Data	Expected Result
#2.4 (AT1) - Search a store and view its details and products	Details of a store that exists in the system.	Success: The system returns store details and store product details.
	Missing store details.	Failure: User should provide all store details.
	User details that do not exist in the system.	Failure: The store search failed, does not return results.
	Invalid user details.	Failure: Returns error object

*System sequence diagram of 2.5 UC attached separately.

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Use case name	#2.5.a Browse for products by different options		
Actors	User		
Pre-conditions	The current situation is according to Use-Case 2.1		
Post-conditions	All the products that are presented are compatible with the chosen option.		
Input Parameters	Search options, search text		
Main success scenario	 User: Selects what to look for in the trading system and delivers the keywords according to the option. User: If User selects: by product name TradeSystem: Checks if the text that was inserted is valid TradeSystem:Returns a list of products whose name is related to the search words User: if User selects by product category: TradeSystem: Checks if the text that was inserted is valid TradeSystem: Returns a list of products that belong to the same category the user provided. User: if User selects by product keywords: TradeSystem: Checks if the text that was inserted is valid TradeSystem: Returns a list of products that belong to the same category the user provided. 		
Alternatives/Extensions	~2.1.a returns an empty list ~2.2.a returns an empty list ~2.3.a returns an empty list		
Trigger	User ask to browse for products related to different options.		

Action	Data	Expected Result
#2.5.a (AT1) Browse for products by product name	Product name that exists in the system, proper and legal.	Success: Products that are related with their names for the user's input name.
	Empty input.	Failure: User should provide a non-empty keyword.
	Keywords that do not exist in the name of any product in the system.	Failure: returns empty set of products
#2.5.a (AT2) Browse for products by category	Product category that exists in the system, proper and legal.	Success: Products that are related with their category for the user's input.
	Empty input.	Failure: User should provide a non-empty keyword.
	Keywords that do not exist in the name of any product in the system.	Failure: returns empty set of products
#2.5.a (AT3) Browse for products by keywords	Product category that exists in the system, proper and legal.	Success: Products that are related with their keywords for the user's input.
	Keywords that do not exist in the name of any product in the system.	Failure: returns empty set of products

Action	Data	Expected Result
#2.5.a (AT4) Browse for products by Spelled wrong keywords	Inserts words with grammatical or letter errors	Success: find products according to similar words.
	Inserts incorrect, missing, or nonexistent keywords.	Failure: An error message is displayed according to the type of error (incorrect or missing details or keyword does not exist).

Use case name	#2.5.b Filter results according to characteristics	
Actors	User	
Pre-conditions	The current situation is according to Use-Case 2.5.a	
Post-conditions	List of products according to the user's filtering characteristics	
Input Parameters	(2.5.a) products list, filters list	
Main success scenario	 User: Chooses the option by which he wants to filter the results. 1 User: If User selects to filter by price range: a. TradeSystem: Checks if the input that was inserted is valid b. TradeSystem: Returns a list of products that are in the price range entered as input. 2.2 User: If User selects to filter by product rating: a. TradeSystem: Checks if the text that was inserted is valid b. TradeSystem: Returns a list of products that are in the rating entered as input and above. 2.3 User: If User selects to filter by category: a. TradeSystem: Checks if the text that was inserted is valid b. TradeSystem: Returns a list of products that are in the category entered as input. . (Could be more filters and combinations of them) 	
Alternatives/Extensions	~2.1.a returns an empty list. ~2.2.a returns an empty list. ~2.3.a returns an empty list.	
Trigger	GuestUser ask to filter results (from2.5.a) by different characteristics.	

Action	Data	Expected Result
#2.5.b (AT1) Filter results by Price Range	Price range and products list when at least some of the products in the list are within the range entered.	Success: Returns a product list that includes only products that are in range.
	Price range and product list when none of the products in the list are within the range entered.	Failure: Returns an empty list.
	Empty list	Failure: User should provide a non-empty list of products.
#2.5.b (AT2) Filter results by Rating	Rating and products list when at least some of the products have ratings like the input and above.	Success: Returns a product list that includes only products that are in the rating and above.
	Rating and products list when none of the products have ratings like the input and above.	Failure: Returns an empty list.
	Empty list	Failure: User should provide a non-empty list of products.
#2.5.b (AT3) Filter results by category	Category and products list when at least some of the products in the list are within the category.	Success: Returns a product list that includes only products that are in range.
	Category and products list when none of the products are in the same category.	Failure: Returns an empty list.
	Empty list	Failure: User should provide a non-empty list of products.

^{*}There are also different combinations for the filters and all tests will look similar.

Use case name	#2.6 Saving products in User's basket for specific store	
Actors	User	
Pre-conditions	The current situation is according to Use-Case 2.5	
Post-conditions	User has a basket with saved products.	
Input Parameters	Products list.	
Main success scenario	User: Choose product from products list to add to the basket TradeSystem: returns product's page User: if the User choose to add the product to the basket: a. TradeSystem: adds to the user's-store basket the chosen product b. Go back to step 1 (for more products)	
Alternatives/Extensions	~3. Returns products list.	
Trigger	GuestUser choose product from the products list.	

Action	Data	Expected Result
#2.6 Saving products in User's basket for specific store	Selects and saves a product/s to a specific store's basket	Success: The product is stored in the user-store basket during the user's current visit.
	Select product that currently not available and tries to add it to the basket	Failure: The basket remains unchanged.
	No product is selected	Failure: User should choose at least one product.

Use case name	#2.7 View and edit shopping cart
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Actors	User	
Pre-conditions	The current situation is according to Use-Case 2.1.	
Post-conditions	User's cart edited according to his actions	
Input Parameters	None.	
Main success scenario	1. User: The user wants to view the shopping cart 2. TradeSystem: returns the shopping cart of the user. 3 User: If User selects to edit the cart: a. TradeSystem: returns the edit options (delete, change quantity, and more) b. User: Choose products to edit, and how to edit them c. TradeSystem: The system makes the changes requested by the User.	
Alternatives/Extensions	~3. Cart remains unchanged.	
Trigger	User ask to edit his shopping cart	

Action	Data	Expected Result
#2.7 - (AT1) Delete product from shopping cart	Products(>=1) from the cart.	Success: The selected products are deleted from the cart and no longer appear in it.
	No products selected.	Failure: User should choose at least one product.
#2.7 - (AT2) Change quantity product from shopping cart	Product from the cart.	Success: The quantity of the product selected in the cart was changed.
	No products selected.	Failure: User should choose some product.
	Products(>1) from the cart.	Failure: User should choose maximum one product.

^{*}System sequence diagram of 2.8 UC attached separately.

Use case name	#2.8.a Purchase products according to the types of purchase	
Actors	User	
Pre-conditions	The current situation is according to Use-Case 2.1 User has a products list from Use-Case 2.5.	
Post-conditions	The store received payment from the user for the product. The user received the product for which he paid.	
Input Parameters	Products list	
Main success scenario	 User: Asks to buy a product from the productsList User: Choose: If the User choose to buy a product in immediate purchase:	
Alternatives/Extensions	~2.1.a The buying process has stopped. ~2.1.a.1 The buying process has stopped.	
Trigger	User ask to buy a product in immediate purchase.	

Action	Data	Expected Result
#2.8.a (AT1) Immediate Purchase	A product that is sold in immediate purchase, is in stock and meets the store's purchase policy from which it is sold to the user. A user who meets the store policy conditions for buying the product and has enough money.	Success: The transaction took place, the inventory in the store was updated, the money went from the buyer to the store, the product went from the store to the buyer.
	A product that is sold in immediate purchase, is not in stock and meets the store's purchase policy from which it is sold to the user. A user who meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped and continues as long as the product inventory in the store has not been updated.
	A product that is sold in immediate purchase, is in stock and does not meet store purchase policy conditions. A user who meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped.
	A product that is sold in immediate purchase, is in stock and meets the store's purchase policy from which it is sold to the user. A user who does not meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped.

#2.8.b Purchase products according to discount types	
User	
The current situation is according to Use-Case 2.1 User has a products list from Use-Case 2.5.	
The store received payment from the user for the product. The user received the product for which he paid.	
Products list	
~2.1.a The buying process has stopped. ~2.1.a.1 The buying process has stopped.	
User ask to buy a product with visible discount	

Action	Data	Expected Result
#2.8.b (AT1) Visible Discount	A product that is sold at a visible discount, is in stock and meets the store's purchase policy from which it is sold to the user. A user who meets the store policy conditions for buying the product and has enough money.	Success: The transaction took place, the inventory in the store was updated, the money went from the buyer to the store, the product went from the store to the buyer.
	A product that is sold at a visible discount, is not in stock and meets the store's purchase policy from which it is sold to the user. A user who meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped and continues as long as the product inventory in the store has not been updated.
	A product that is sold at a visible discount, is in stock and does not meet store purchase policy conditions. A user who meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped.
	A product that is sold at a visible discount, is in stock and meets the store's purchase policy from which it is sold to the user. A user who does not meets the store policy conditions for buying the product and has enough money.	Failure: The shopping process has stopped.

<u>Differences between GuestUser and RegisteredUser.</u>

Use Case **2.4** performs the same for RegisteredUser.

Use Case **2.5** performs the same for RegisteredUser.

Use Case **2.6** performs differently for RegisteredUser: the Basket and the cart has been saved in his watch list for later date.

Use Case 2.7 performs the same for RegisteredUser.

Use Case **2.8** performs the same for RegisteredUser.

3.Registered User

Use case name	#3.1 Logout
Actors	RegisteredUser
Pre-conditions	Have valid registration, User state- Logged in.
Post-conditions	User state become GuestUser
Input Parameters	None.
Main success scenario	TradeSystem ask: "are you sure" If you press yes, the system logs out the RegisteredUser, the RegisteredUser becomes unlogged.
Alternatives/Extensions	User press cancel, the RegisteredUser stays logged in.
Trigger	The RegisteredUser wanted to logout.

Action	Data	Expected Result
#3.1 AT - Logout	None	User Logged out
	None	

Use case name	#3.2 Open store
Actors	RegisteredUser
Pre-conditions	Begin logged in. Store name doesn't exist.
Post-conditions	New store opens to buy the RegisteredUser. Registered RegisteredUser become the main StoreOwner.
Input Parameters	1. Store name.
Main success scenario	1. RegisteredUser: enter new store name 2. TradeSystem: checks Store name doesn't exist. 2.1 TradeSystem: askes RegisteredUser's identifications. 2.2 RegisteredUser: enter the identifications. 3. New Store opens in the system 4. RegisteredUser becomes a StoreOwner in this store.
Alternatives/Extensions	1. RegisteredUser: enter same StoreName that exists already 1.1 TradeSystem: Display Error ("Store name already exists") 1.2 TradeSystem asks RegisteredUser for new store name.
Trigger	RegisteredUser want to open a store.

Action	Data	Expected Result
#3.2 AT - Open Store	Valid details are inserted	New Store opens with the chosen name and unique store id
	Missing name is inserted	Failure: open store process has stopped.
	The user that wanted to open the store.	Failure: open store process has stopped.

Use case name	#3.7 Purchase history
Actors	RegisteredUser
Pre-conditions	None.
Post-conditions	None.
Input Parameters	RegisteredUserID, specific dates of purchase history
Main success scenario	RegisteredUser asks the system his purchase history. TradeSystem displays the user's purchase history.
Alternatives/Extensions	RegisteredUser purchase history is empty.
Trigger	RegisteredUser asks to view his own purchase history.

Action	Data	Expected Result
#3.7 AT - Purchase history	Valid user's purchase history	Display Purchase history
	User is a Guest User	Failure: Guest User can't watch is purchase history

4.Store Owner

Use case name	#4.1 Inventory Managing
Actors	Store Owner
Pre-conditions	None.
Post-conditions	Store Storage changes.
Input Parameters	1. StoreOwner
Main success scenario	StoreOwner Add new product to store. StoreOwner Delete exists product from the store. StoreOwner Edit product details.
Alternatives/Extensions	1.There are no items to delete. 2.The store is empty, no items to edit.

Action	Data	Expected Result
#4.1 AT - Inventory Managing	Edit an exist item in store The user is the owner of the store	Item successfully added
	Wrong store id input	Failure: error message
	User is not signed in	Failure: Guest User can't watch is purchase history

Use case name	#4.3 Add new Store Owner.
Actors	StoreOwner
Pre-conditions	The StoreOwner should be StoreOwner in his Store.
Post-conditions	An exist RegistertUser become StoreOwner.
Input Parameters	Store owner, RegisterdUserID of the new StoreOwner.
Main success scenario	1.StoreOwner: enter the user's details. 2.RegisteredUser: become StoreOwner.
Alternatives/Extensions	1.The User is already StoreOwner.
Trigger	StoreOwner asks to change an RegisteredUser to StoreOwner.

Action	Data	Expected Result
#4.3 AT – Add new StoreOwner	An existing user in the system that is not already an owner and an existing store.	Success: The user is now a store's owner.
	The user does not exist in the system.	Failure: Appoint store owner process stopped
	The store does not exist in the system.	Failure: Appoint store owner process stopped
	The user is a Guest	Failure: Guest user Cannot see this option

Use case name	#4.5 Add new StoreManager.
Actors	StoreOwner
Pre-conditions	The user should be StoreOwner in his Store.
Post-conditions	An exist RegisteredUser become StoreManager.
Input Parameters	Store owner and RegisteredUserID of the new StoreManager.
Main success scenario	StoreOwner enter the RegisteredUser's details. RegisteredUser become StoreManager.
Alternatives/Extensions	1.The User is already StoreManager
Trigger	StoreOwner asks to change an RegisteredUser to StoreManager.

Action	Data	Expected Result
#4.5 AT- add new store manager	An existing user in the system that is not already an owner or a manager and an existing store.	Success: The user is now a store's owner.
	The user does not exist in the system.	Failure: Appoint store manager process stopped
	The store does not exist in the system.	Failure: Appoint store manager process stopped
	The user is a Guest	Failure: Guest user Cannot see this option

Use case name	#4.6 Change StoreManager permissions.
Actors	StoreOwner
Pre-conditions	StoreManger exists.
Post-conditions	StoreManager permissions changed.
Post-conditions	
Input Parameters	StoreManagerId, Store owner, New permissions to add, permissions to delete.
	StoreOwner Enter StoreManagerID.
Main success scenario	1.1 StoreOwner Adds permissions
	1.2 StoreOwner Deletes permissions.
	There is no StoreManager in the store.
Alternatives/Extensions	1.1 Display Error("No manager found")
Trigger	StoreOwner asks to change the StoreManager permissions.

Action	Data	Expected Result
#4.6 AT - Add store's permissions to manager.	Store owner and store manager that he appointed a valid permission that is not part of the user's manager permissions	Success: New permissions added to the StoreManager.
	Store owner does not exist	Failure: Add permission to manager process is stopped
	Store manager does not exist.	Failure: Add permission to manager process is stopped
	The user is a Guest user	Failure: Guest user Cannot see this option

Use case name	#4.7 Remove StoreManager
Actors	StoreOwner
Pre-conditions	At least 1 Store manager in the store.
Post-conditions	StoreManager becomes RegisteredUser.
Input Parameters	StoreManagerID, Store owner.
Main success scenario	StoreOwner Enter StoreManagerID 1.1 StoreOwner deletes RegisteredUser.
Alternatives/Extensions	The StoreManager is not created by this StoreOwner
Trigger	StoreOwner asks to delete a StoreManger from his store.

Action	Data	Expected Result
#4.7 AT - Remove StoreManager	Store owner and Store manager that was appointed by the store owner.	Store manager is no longer one of the managers of the store .
	Store owner does not exist.	Failure: Add permission to manager process is stopped.
	Store manager does not exist.	Failure: Add permission to manager process is stopped
	The user is a Guest user	Failure: Guest user Cannot see this option

Use case name	#4.10 Watch Store purchase history
Actors	StoreOwner
Pre-conditions	None
Post-conditions	None
Input Parameters	None
Main success scenario	TradeSystem: show a list of all purchase history StoreOwner: choose to see all history or part of it.

Alternatives/Extensions	StoreOwner have no purchase history. StoreOwner: choose specific time to view TradeSystem Display Error("no purchase history")
Trigger	StoreOwner asks to view the purchase history in his own store.

Action	Data	Expected Result
#4.10 AT - Watch Store purchase history	History of specific exist date	Display the purchase history of the store on the specific date
	History of specific non exists date	Failure: an error message about invalid Specific date to view.

5.Store Manager

Use case name	#5.1 Manage Store
Actors	User
Pre-conditions	User was appointed in use-case 4.5 User was given permission in use-case 4.6
Post-conditions	None
Input Parameters	None
Main success scenario	User carries out management action. Store is successfully updated
Alternatives/Extensions	~1. User is not authorized to carry out management action.
Trigger	Appointed User attempts to update store

Action	Data	Expected Result
#5.1 Manage Store	User attempts to carry out management action he is authorized to do	Success: Action is carried out
	User attempts to carry out management action he is not authorized to do	Failure: an error message about attempting unauthorized action
	User is not a manager	Failure: an error message about attempting unauthorized action

6.Admin

Use case name	#6.4 View Purchase History
Actors	Admin
Pre-conditions	1. User appointed in use-case 1.1
Post-conditions	Purchase history is displayed
Input Parameters	StoreID or Username
Main success scenario	1.1If Admin provides storeID a. TradeSystem: checks if the storeID exists b. TradeSystem: Displays store's purchase history 1.2 If Admin provides Username a. TradeSystem: checks if the Username exists b. TradeSystem: Displays user's purchase history
Alternatives/Extensions	Purchase history is not displayed ~1.1.a. StoreID not found ~1.2.a. Username not found
Trigger	User looks up purchase history

Action	Data	Expected Result
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#6.4 View Purchase History using Username	Valid Username	Display User's purchase history
	Invalid Username	Failure: an error message about invalid Username.
#6.4 View Purchase History using StoreID	Valid StoreID	Display store's purchase history
	Invalid StoreID	Failure: an error message about invalid StoreID.
#6.4 View Purchase History	Null	Failure: an error message about invalud input.

Use case name	#7 Payment Collection
Actors	PaymentCollection

Pre-conditions	Transaction details are valid
Post-conditions	Payment processed for exact amount written in transaction details
Input Parameters	Transaction details
Main success scenario	PaymentCollection charges user's account PaymentCollection returns confirmation of payment.
Alternatives/Extensions	~1. Payment cannot be processed due to:
Trigger	A Transaction has taken place, need to charge user

Action	Data	Expected Result
#7 Payment Collection happy	Valid Transaction details	Confirmation that package shipment request was received by Shipment
sad	Invalid Transaction details	Failure: an error message about invalid Transaction details.
bad	External system is not connected	Failure: transaction cannot be fulfilled and must be canceled
bad	External system crashed during transaction	Failure: transaction cannot be fulfilled and must be canceled

Use case name	#8 Package Shipment
Actors	Shipment
Pre-conditions	Package details are valid User details are valid
Post-conditions	none
Input Parameters	Package details, User details
Main success scenario	 Shipment verifies package and user details. Shipment returns confirmation that shipment request has been accepted.
Alternatives/Extensions	~1.:Shipment process is canceled ~ User's info is incorrect ~ Package details are insufficient
Trigger	A transaction has taken place need to ship package to user

Action	Data	Expected Result
#8 Package Shipment happy	Valid User and Package details	Confirmation that package shipment request was received by Shipment
sad	Invalid User details and valid package details	Failure: an error message about invalid User details.
sad	Valid User details and invalid package details	Failure: an error message about invalid Package details.
bad	External system is not connected	Failure: transaction cannot be fulfilled and must be canceled

bad	External system crashed during transaction	Failure: transaction cannot be fulfilled and must be canceled
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