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| ***Use case no.:*** | 1 |
| ***Use case:*** | New user visit |
| ***Requirement number:*** | 2.1 |
| ***Actor:*** | A customer |
| ***Precondition:*** | No user is logged in the current session |
| ***Parameter:*** | None |
| ***Action:*** | 1. The system presents the customer the purchase menu and an option to enter the login or register menu.  2.1 If the customer doesn’t login, and chooses to continue to the purchase menu the system treats him as a guest.  2.2 Else, it chooses to enter the login/register menu. |

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| ***Use case no.:*** | 2 |
| ***Use case:*** | Program exit |
| ***Requirement number:*** | 2.2 |
| ***Actor:*** | A customer |
| ***Precondition:*** | None |
| ***Parameter:*** | None |
| ***Action:*** | 1. The system will present the customer with an option to exit the program at the purchase menu or the admin menu.  2. If the customer chooses to exit, its client session will terminate. |

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| ***Use case no.:*** | 3 |
| ***Use case:*** | Customer registration |
| ***Requirement number:*** | 2.3 |
| ***Actor:*** | A customer |
| ***Precondition:*** | The customer is a guest and he is on the registration page |
| ***Parameter:*** | user email, password |
| ***Action:*** | 1. The system asks the user to enter an email and a password  2. The user types an email and a password.  3.1 If the user email doesn’t belong to an existing registered user. Then, a new account for the user will be created, whose email and password will match the parameters.  3.2.1 Else, the system will present an error which indicates that the email is taken.  3.2.2 Repeat step 1.  4. The system redirected the newly registered user to the purchase menu. |

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| ***Use case no.:*** | 4 |
| ***Use case:*** | Customer login |
| ***Requirement number:*** | 2.4 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A customer in the login page. |
| ***Parameter:*** | user email, password |
| ***Action:*** | 1. The system asks the user to enter an email and a password.  2. The user types an email and a password.  3.1.1 If the email belongs to an existing account, and the typed password matches that account’s password, the session will belong to that user.  3.1.2 The user is redirected to the role selection menu.  3.2 Else, the system will present an error which indicates the credentials are wrong. |

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| ***Use case no.:*** | 5 |
| ***Use case:*** | Store warehouse browsing |
| ***Requirement number:*** | 2.5 |
| ***Actor:*** | A customer |
| ***Precondition:*** | The customer is in the purchase menu |
| ***Parameter:*** | Store name (optional) |
| ***Action:*** | 1. The purchase menu will contain an option to view all the stores, or to search a store by name.  2. If the customer chooses a store from the store list, jump to 4.  3. The customer enters a store name  3.1 The system searches and presents to the customer the list of stores that matches that store name  3.2 The customer chooses a store from the search result  4. The system will present the user with the following:  4.1 Product search in the store’s warehouse.  4.2 Store information.  4.3 Products list from the store’s warehouse. |

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| ***Use case no.:*** | 6 |
| ***Use case:*** | Item search |
| ***Requirement number:*** | 2.6 |
| ***Actor:*** | A customer |
| ***Precondition:*** | The customer is in the purchase menu |
| ***Parameter:*** | One of the following: Item name, category, search keyword. |
| ***Action:*** | 1. The purchase menu will contain an option to search products by one of the following search terms:  Item name  category  keyword  2. The user enters a search term and is transitioned to an item search result menu, which contains all the items which fit the search term.  3. The system will present the user with optional filters.  3.1 The user chooses filters  3.2 The system presents to the user the list of products that match the chosen filters.  4.1 The user may choose a product.  4.1.1 The system presents the user the product page.  4.2 The user exits from the item search result menu. |

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| ***Use case no.:*** | 7 |
| ***Use case:*** | Add item to basket |
| ***Requirement number:*** | 2.7 |
| ***Actor:*** | A customer |
| ***Precondition:*** | The customer is in the product page of an item which is sold as a regular purchase. |
| ***Parameter:*** | Product to add (the current product the customer watches), amount of that product to add. |
| ***Action:*** | 1. The system will present the user with an option to save the item to the user’s basket in the store where the product is sold.  2.1 If the user chooses to add, the system will ask the user to choose an amount  2.1.1 if the store to which the item belongs to has an equal or larger amount of the item in the inventory, the item will be added to the user’s basket in the store and will be presented with an appropriate message.  2.2 Else the system will present the user an error which indicates that the store doesn’t have enough of the item in the inventory. |

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| ***Use case no.:*** | 8 |
| ***Use case:*** | Shopping cart information and edit |
| ***Requirement number:*** | 2.8 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A customer is in the purchase menu |
| ***Parameter:*** | None |
| ***Action:*** | 1. The purchase menu will contain an option to navigate to the shopping cart menu.  2. When the user navigates to that menu, they will be presented with their shopping cart, divided by baskets.  3. The user chooses one of his baskets.  4. The system presents the contents of the chosen basket to the customer.  5 . For each item presented, the customer may choose to modify the amount of the product, or to remove the item from the basket  5.1 If the user chose to remove the item, the system will remove the item from the basket and the user will not see it in the basket.  5.2 If the user edits the amount:  5.2.1 If the user chooses an amount larger than the current store’s inventory amount of the product, the system will produce an appropriate response and change the amount to the original value.  5.2.2 Else the amount will be updated according to the customer input. |
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| ***Use case no.:*** | 9 |
| ***Use case:*** | Product purchase of regular purchase items |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A customer in the shopping cart menu. |
| ***Parameter:*** | None |
| ***Action:*** | 1. If the cart doesn’t have any shopping baskets the system presents to the customer appropriate message  2. For each basket in the cart, the system will present the user an option to purchase all the items in the basket.  3. The user chooses a basket.  4.1 If all the amounts of items in the basket are below or equal to the store’s inventory for each item, the system will reduce the amount for each, and the user will move to the external payment system.  4.2 Else, the customer will be presented with a message which indicates which item is below the store’s inventory amount, and will transition to use case no. 8.  5.1. If the payment system indicates that a successful purchase was made, the system will save the current basket in the user’s purchase history and will remove it from the user’s cart.  5.2 Else, the user will be presented with an appropriate error message and the inventory amount for each item will revert back to its original value. |

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| ***Use case no.:*** | 10 |
| ***Use case:*** | Product bid of items sold in auctions |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A registered customer |
| ***Precondition:*** | A customer in the product page of an auction item whose auction end time is later than the current time. |
| ***Parameter:*** | Bid price |
| ***Action:*** | 1. The product page will display an option to bid an amount on the item  2.1 If the user enters an amount and the amount is not higher then the highest current bid.  2.2 The system checks if the amount is larger than the minimum bid price and the current winning bid, if not the system presents an appropriate error message to the user. Go to step 1 again.  2.3 The system will check if he bid before on the item. If he did, the system will use his previous payment method, and if he didn’t he will be asked to enter them.  2.4 The user will become the leading bidder and his offer will become the current winning bid.  2.4.1 The system will notify the last leading bidder that his bid was outbid.  2.5 If the user is not the leading bidder (caused by parallel bids) then display an appropriate message and move to step 1.  2.6 Move to use case no. 11 |

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| ***Use case no.:*** | 11 |
| ***Use case:*** | Product purchase of items sold in auctions |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A registered customer |
| ***Precondition:*** | The current time is equal or larger than the auction end time. |
| ***Parameter:*** | Product , payment information. |
| ***Action:*** | 1. The system will charge the payment method of the leading bidder.  2. Notify the customer and add the purchase to the user’s purchase history. |

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| ***Use case no.:*** | 12 |
| ***Use case:*** | Product offer purchase |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A registered customer |
| ***Precondition:*** | The user is in the product page of a product sold in a purchase offer |
| ***Parameter:*** | Product |
| ***Action:*** | 1. The system will display an option to send an offer to purchase the item.  2. If the user attempts to offer, he will be asked to enter an amount and to enter his payment method.  3. All the managers at the store will receive a notification regarding the offer. It will state the item, and the offer amount.  4.1 If the manager accepts the offer, the user’s payment method will be charged.  4.1.1 The user will receive a notification and the purchase will be saved in his purchase history.  4.2 If the manager declines the offer the user will receive a denial notification.  4.3 If the manager wants to suggest a counter offer the user will receive a notification with the product name and the requested counter offer price.  4.3.1 If the user accepts the counter offer he will be charged with his payment info and the item will be added to his purchase history.  4.3.2 Else the manager will be notified that his counter offer was rejected by the user. |

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| ***Use case no.:*** | 13 |
| ***Use case:*** | Product lottery purchase |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A registered customer |
| ***Precondition:*** | The user is in the product page of a product sold in a lottery, which hadn't reached its goal price |
| ***Parameter:*** | Submission price |
| ***Action:*** | 1. The system will display an option to pay a submission price for an item.  2.1 If the user enters a submission price which matches  [submission price <= goal price - total submissions], then he will be asked to enter his payment method and will be charged accordingly , and the total submission will accumulate his submission.  2.1.1 Jump to use case 14  2.2 Else, the system will display an appropriate message that the submission price is invalid. |

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| ***Use case no.:*** | 14 |
| ***Use case:*** | Lottery winning |
| ***Requirement number:*** | 2.9 |
| ***Actor:*** | A registered customer |
| ***Precondition:*** | A product sold in a lottery reaches its goal price or the lottery end time has elapsed |
| ***Parameter:*** | None |
| ***Action:*** | 1. If the lottery end time is reached without achieving the desired goal price.  1.1 The system will notify all the lottery participants that the lottery did not reach its goal within the end time limit.  2. Else The system will choose randomly a winner. The winner will be picked with a chance equal to the percentage of the goal price he paid for.  3. All the lottery participants will receive a notification regarding the lottery with a notification which indicates whether they won the lottery or not.  4. If the user won the lottery the product will be put in his purchase history. |

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| ***Use case no.:*** | 15 |
| ***Use case:*** | Logout |
| ***Requirement number:*** | 3.1 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A logged user in the purchase menu. |
| ***Parameter:*** | None |
| ***Action:*** | 1. The system will present an option to logout from the purchase menu.  2. If the customer chooses to logout he will be redirected to use-case 1. |

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| ***Use case no.:*** | 16 |
| ***Use case:*** | Store opening |
| ***Requirement number:*** | 3.2 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A logged user in the purchase menu. |
| ***Parameter:*** | store name, discount policy, purchase policy, bank account, payment information. |
| ***Action:*** | 1. The system will present an option to open a new store.  2. If the user chooses to open a new store the system will redirect the user to a store creation menu.  3. The system will ask the customer to choose:  Store name.  Discount policies.  Purchase policies.  Bank account.  Payment information.  4. The system will assign the customer as the store original owner.  5. The system will save the new store.  6. The system will redirect the customer to the store management menu. |
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| ***Use case no.:*** | 17 |
| ***Use case:*** | Purchase history |
| ***Requirement number:*** | 3.7 |
| ***Actor:*** | A customer |
| ***Precondition:*** | A logged user in the shopping cart menu. |
| ***Parameter:*** | None |
| ***Action:*** | 1. The system will present an option to view the customer’s purchase history.  2. If the customer chooses to view his history the system will display the purchase history. |

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| ***Use case no.:*** | 18 |
| ***Use case:*** | Add a product to a store. |
| ***Requirement number:*** | 4.1 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | An owner or a manager who has permissions to add products. |
| ***Parameter:*** | Product name, purchase type, amount, price, category, description, Shop id |
| ***Action:*** | 1. The system will present an option to add a new item to the store.  2. If the option to add an item is chosen, the actor will need to provide the following parameters:  Product name (not empty)  Purchase type.  Amount (more than 0).  Price (more than 0)  Categories  Description  Shop id  2.1 If the parameters are valid and the purchase type exists in the store’s purchase types and the purchase policy allows the item to be sold, by the system a new product will be added to the shop.  2.2 Else the system will display an appropriate error message, and return to step 1. |

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| ***Use case no.:*** | 19 |
| ***Use case:*** | Edit/Remove a product. |
| ***Requirement number:*** | 4.1 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | Manager with edit or remove product permissions or an owner. |
| ***Parameter:*** | Shop id, product id, One of the following: amount, price, category, description. |
| ***Action:*** | 1. The system will present an option to edit/remove an item from the store.  2. If the option to remove an item is chosen, the actor will need to provide the product ID(not empty)  3. If the option to edit an item is chosen, the actor will need to provide the following parameters:  Product ID(not empty)  Amount(Optional)  Price(Optional)  Categories(Optional)  Description(Optional)  2.1 If the parameters are valid by the system the edited information will be updated. Valid information is:  Product ID exists in the system for the shop id, the product ID belongs to an item sold in a regular purchase, the amount is non-negative or the price is non-negative.  2.2 Else the system will display an appropriate error message. |

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| ***Use case no.:*** | 20 |
| ***Notes:*** | *This Use case is not complete as the store policies are yet to be set* |
| ***Use case:*** | Edit/add/display a store purchase policy. |
| ***Requirement number:*** | 4.2 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | A manager with policy modification permissions or an owner. The actor is within the store management-menu. |
| ***Parameter:*** | Store policy(Optional), shop id |
| ***Action:*** | 1. The system will display the store management-menu to the actor with the following options:  A) Add B) Edit C) Display.  2. A: The user will provide details of a new store policy.  3. B: The user will provide new values to an existing store policy.  4. C: The system will display all the store policies to the user. |

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| ***Use case no.:*** | 21 |
| ***Notes:*** | *This Use case is not complete as the discount policies are yet to be set* |
| ***Use case:*** | Edit/add/display a discount policy. |
| ***Requirement number:*** | 4.2 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | A manager with policy modification permissions or an owner. The actor is within the store management-menu. |
| ***Parameter:*** | Discount policy(Optional), shop id |
| ***Action:*** | 1. The system will display the store management-menu menu to the actor with the following options:  A) Add B) Edit C) Display.  2. A: The user will provide details of a new discount policy.  3. B: The user will provide new values to an existing discount policy.  4. C: The system will display all the discount policies to the user. |

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| ***Use case no.:*** | 22 |
| ***Use case:*** | Remove/add/display a store’s purchase type |
| ***Requirement number:*** | 4.2 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | A manager with policy modification permissions or an owner. The actor is within the store management-menu. |
| ***Parameter:*** | Purchase type, shop id |
| ***Action:*** | 1. The system will display the option menu to the actor with the following option:  A) Add B) Remove C) Display.  2. A: The user will enter the new purchase type. The purchase type will be added to the store’s allowed purchase types.  3. B: The user will provide the purchase type he wants to remove from the store. If the purchase type is allowed by the store, it will become disallowed. Any current item’s which are offered by the store with the selected purchase type will still be sold in this method.  4. C: The system will display all the purchase type’s available in the store. |

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| ***Use case no.:*** | 23 |
| ***Use case:*** | Remove/add/display a store’s discount type |
| ***Requirement number:*** | 4.2 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | A manager with policy modification permissions or an owner. The actor is within the store management-menu. |
| ***Parameter:*** | shop id, (all optional) - Discount type, Product Id, End time, discount amount, condition, coupon code |
| ***Action:*** | 1. The system will display the option menu to the actor with the following option:  A) Add B) Remove C) Display.  2. A: The user will enter the new discount type and a product Id. If the product is sold in a purchase type other than regular purchase, the system will display an appropriate message and return to step 1.  2.1 If the discount type is visible, the actor will provide the discount percentage, and the end time.  2.2 If the discount type is a conditioned discount the actor will provide the discount percentage and the discount condition and the end time.  2.3 If the discount type is a hidden discount, the actor will provide the discount percentage, the coupon code and the end time.  3. B: The user will enter the product id and the discount id. The system will remove the discount from its item, if the product id exists and it contains a discount with the given discount id.  4. C: The system will display all the active discounts in the store. |

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| ***Use case no.:*** | 24 |
| ***Use case:*** | Promote a registered user to ownership of shop |
| ***Requirement number:*** | 4.3 |
| ***Actor:*** | An owner. |
| ***Precondition:*** | The promotee is not already an owner of that shop, the owner is in the shop management menu |
| ***Parameter:*** | Shop, User (Promotee) |
| ***Action:*** | 1. The owner gives to the system the user id  2. The system assigns this user as an owner of that shop, and assigns the owner as the promoter of the new promotee. |

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| ***Use case no.:*** | 25 |
| ***Use case:*** | Promote a registered user to management the shop |
| ***Requirement number:*** | 4.5 |
| ***Actor:*** | An owner. |
| ***Precondition:*** | The promotee is not already an owner or a manager of that shop, the owner is in the shop management menu |
| ***Parameter:*** | Shop ID, User ID (Promotee) |
| ***Action:*** | 1. The owner gives to the system the user id  2. The system assigns this user as an manager of that shop, and assigns the owner as the promoter of the new promotee.  3. The system assigns the default permissions to the promotee. |

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| ***Use case no.:*** | 26 |
| ***Use case:*** | Manager permission management |
| ***Requirement number:*** | 4.6 |
| ***Actor:*** | An owner. |
| ***Precondition:*** | The owner is in the shop management menu. |
| ***Parameter:*** | User ID, permissions. |
| ***Action:*** | 1. The system displays the available permission in the system.  2. The owner enters the User ID of the manager whose permissions he wants to edit and selects the permissions he wants the manager to have.  3. The system checks if the User ID belongs to a manager of the store and the Owner is the promoter of the mentioned manager.  4. The system updates the permissions in case of valid input.  5. Else the system displays an appropriate error message. |

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| ***Use case no.:*** | 27 |
| ***Use case:*** | Remove the manager of a selected store. |
| ***Requirement number:*** | 4.7 |
| ***Actor:*** | An owner. |
| ***Precondition:*** | The owner is in the shop management menu. |
| ***Parameter:*** | User ID. |
| ***Action:*** | 1. The system asks the owner to enter a user id which he wants to remove from the store.  2. The owner enters an ID.  3. If the provided User ID belongs to a manager of the current store and the promoter of the manager is the current actor the system will remove the User ID from the store management. In addition, The system will end any session the manager had in the system.  4. Else the system will display an appropriate error message. |

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| ***Use case no.:*** | 28 |
| ***Use case:*** | Display information about the store managers. |
| ***Requirement number:*** | 4.9 |
| ***Actor:*** | A manager/owner. |
| ***Precondition:*** | Manager with store management information permission or an owner. The actor is in the store management menu. |
| ***Parameter:*** | None |
| ***Action:*** | 1. The system displays the option to display store management data.  2. The actor chooses to see the store management data.  3. The system displays all the Owners and managers of the current store and their permissions. |

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| ***Use case no.:*** | 29 |
| ***Use case:*** | Display the current store order history. |
| ***Requirement number:*** | 4.11 |
| ***Actor:*** | An owner/Manager. |
| ***Precondition:*** | Manager with display store purchase history permissions or an owner. The actor is in the store management menu. |
| ***Parameter:*** | Shop ID. |
| ***Action:*** | 1. The system displays the option to display store purchase history data.  2. The actor chooses to see the store purchase history.  3. The system displays all the past orders of the current store. |

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| ***Use case no.:*** | 30 |
| ***Use case:*** | See a user’s purchase history - admin view |
| ***Requirement number:*** | 6.4 |
| ***Actor:*** | System admin |
| ***Precondition:*** | The admin is in the admin-menu |
| ***Parameter:*** | User id |
| ***Action:*** | 1. The system will present the actor with an option to view a user’s purchase history.  2. The admin will enter the User id. If the id belongs to an existing user, it will display the user’s purchase history.  3. If the id doesn’t belong to an existing user, the system will display an appropriate message. |

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| ***Use case no.:*** | 31 |
| ***Use case:*** | See a store’s purchase history - admin view |
| ***Requirement number:*** | 6.4 |
| ***Actor:*** | System admin |
| ***Precondition:*** | The admin is in the admin-menu |
| ***Parameter:*** | Shop ID |
| ***Action:*** | 1. The system will present the admin with an option to view a store’s purchase history.  2. The admin will enter the store id. If the id belongs to an existing store, it will display the store’s purchase history.  3. If the id doesn’t belong to an existing store, the system will display an appropriate message. |