E-COMMERCE PLAYER ITEMSHOP

MAS project documentation

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S17040

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The system should support managing the web-store that is integrated with the MMO game. Players can buy digital goods for their virtual accounts, and they can create new accounts. Distribution of goods is processed by game. The system should also have administrative functions.

Users of the platform will be divided into administrators and players. Players are represented with user id, username, hashed password, creation date, email, role, balance. Administrators are described with user id, username, hashed password, creation date, email, role, telephone number and promotion date.
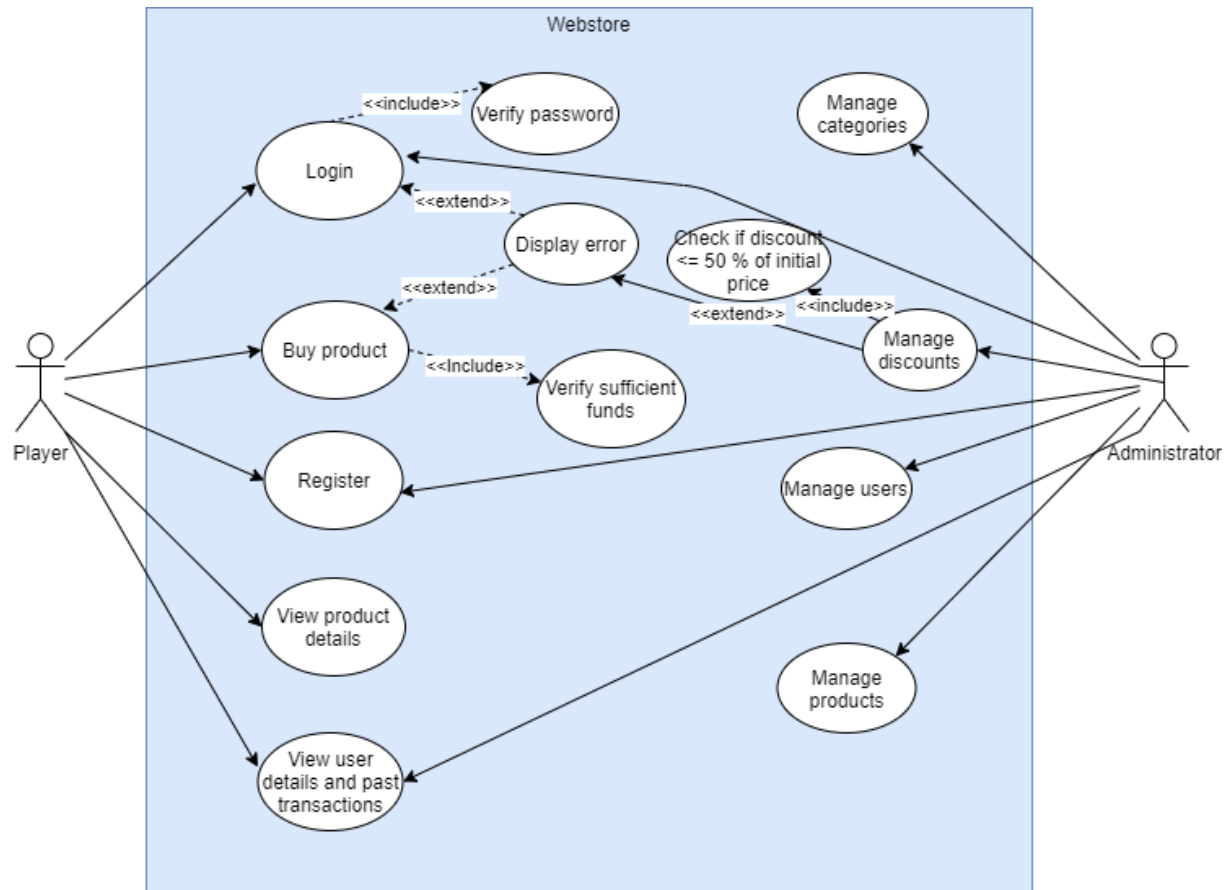
Player after authentication will have access to a product's browser that can be exchanged for in-game currency gained during gameplay. Products in the browser are grouped in categories and subcategories modifiable by the administrator.

System administrators would have access to offer creation and management tools (It's price, stock, name, description, category). Every product consists of the following fields: id, name, price, offer status ,description, stock, and user id of the creator. Offer status maybe one of the following: sold out, inactive, active, coming soon. While offer status is inactive, it is not displayed on the website, otherwise it is. Also, administrators will have access to the player management panel, with functions such as browsing, deleting users, changing players' balance, and changing users' privileges.

Once the shop user will decide what does he want to buy, he clicks a confirmation button and his game account is charged. Once the transaction is completed, its details are stored. Each transaction consists of the following fields: id, date and time of a transaction, an id of the player, an id of product, quantity, and price of the product. Administrators will be able to view all transactions, and for the selected player. Players will be able to check the history of their own purchases after authentication.

Administrators also may apply discounts for a limited time for categories, subcategories, or products. Discount will be described as amounts of currency and cannot be bigger than 50% of an initial price. Discount would also have some additional fields, such as user id of the creator and end date.

User {abstract}

-id

-username

-password

-creation_date

-email

-role

{complete, disjoint}

Transaction

-id

-date

-transaction_datetime

-product

-user

-quantity

-price

+listTransactions()

0..*   1

Player

-balance {>=0}

+calculateTransactionValue()

+listTransactions()

Administrator

-telephone_number

-promotion_date

+listCreatedOffers()

1

Administrates

Discount {abstract}

-name

-end_date

-amount {<= 50% of offer price}

+listDiscounts()

{disjoint}

CategoryDiscount

-category_id

0..1

OfferDiscount

-offer_id

0..1   1   0...*

is nested in

0..1   1

Category

-id

-name

-parent_id

1   1

Offer {abstract}

-id

-name

-price

-description

-stock

-creator_id

-category_id

+getDisplayableOffers()

0...*

{dynamic}

InactiveOffer

-deactivation_date

+activateOffer()

SoldOffer

-out_of_stock_date

ActiveOffer

-activation_date

+deactivateOffer()

+setComingSoon()

ComingSoonOffer

-restock_date

+deactivateOffer()

+activateOffer()

Use case name	Creating offer with discounted price
Author	Wiktor Jeffery
Type	Detailed
Description	Use case references to the process of creating an offer and applying discount to it
Actors	Administrator
Initial condition	Destination category already exists. Administrator is in the offer creation page.
Final condition	Offer and discount are created and linked together
Main flow	1. Administrator enters offer name, price, description, stock and chooses destination category. 2. Administrator clicks save button. 3. System creates an offer. 4. System redirects user to the offer list 5. Administrator goes to the discount creation page. 6. Administrator enters discount name, discount amount, discount end date and chooses what offer does discount apply to. 7. Administrator clicks save button. 8. System creates a discount linked to the chosen offer. 9. System redirects user to the discount list

ACTIVITY DIAGRAM
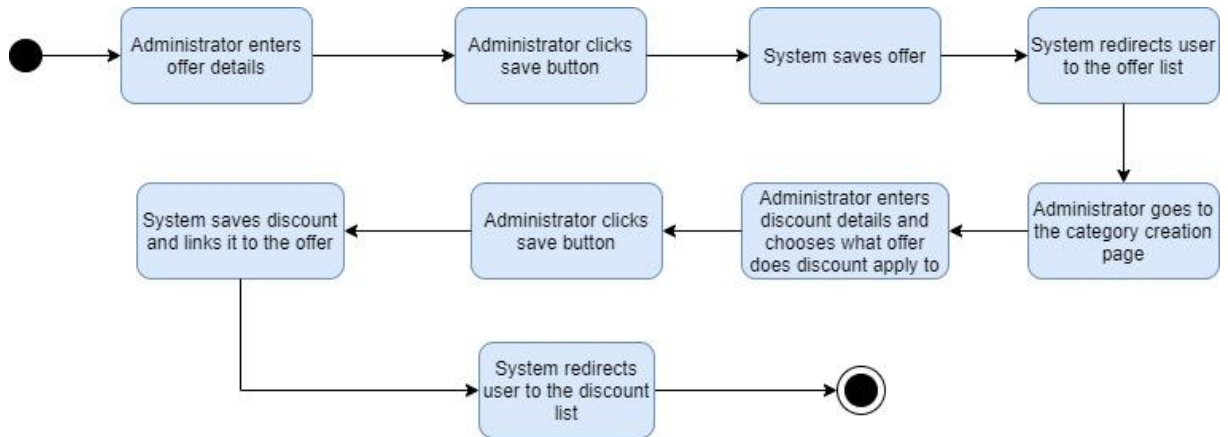
SEQUENCE DIAGRAM
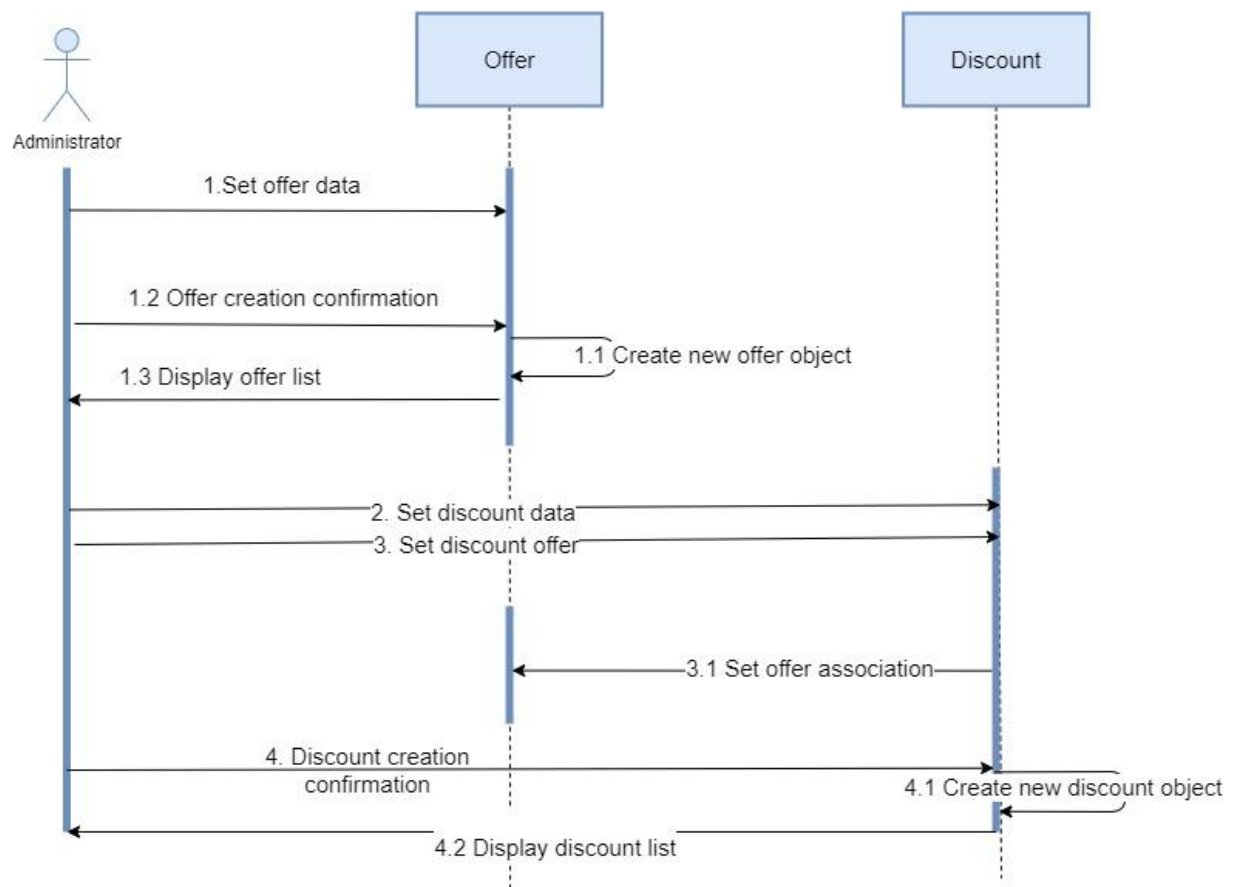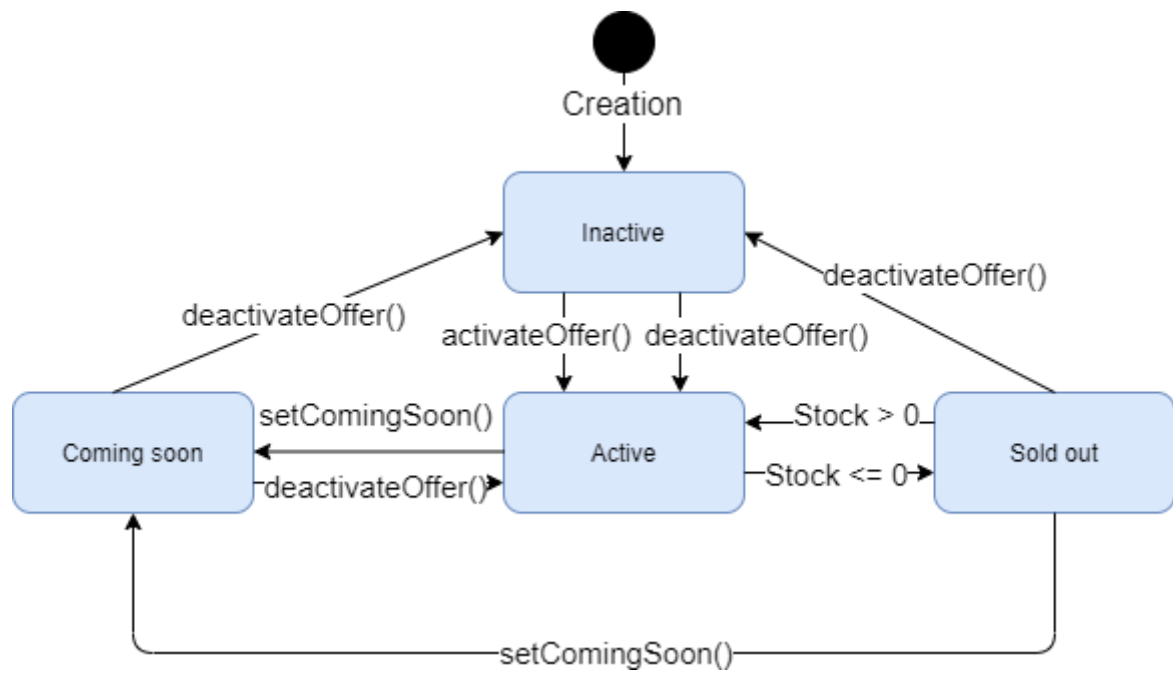
LOGIN PAGE

Webstore   Contact   Login   Register   Products ▾

Form

Email

Password

Log In

Home   Contact   Contact   Terms

REGISTER PAGE

Webstore   Contact   Login   Register   Products ▾

Username

Email

Password

Confirm password

Register

PRODUCT LISTING

Webstore Contact Products ▾ Log out **10 $ (Deposit)**

Cosmetics

Paladin Sword

75 $

~~105 $~~

Paragraph

Aenean tortor est, vulputate quis leo in, vehicula rhoncus lacus. Praesent aliquam in tellus eu gravida. Aliquam varius finibus est, et interdum justo suscipit id. Etiam dictum feugiat tellus, a semper massa.

BUY

Dragon Wings

75 $

Aenean tortor est, vulputate quis leo in, vehicula rhoncus lacus. Praesent aliquam in tellus eu gravida. Aliquam varius finibus est, et interdum justo suscipit id. Etiam dictum feugiat tellus, a semper massa.

BUY

Mystic Shield

33 $

Aenean tortor est, vulputate quis leo in, vehicula rhoncus lacus. Praesent aliquam in tellus eu gravida. Aliquam varius finibus est, et interdum justo suscipit id. Etiam dictum feugiat tellus, a semper massa.

BUY

DISCOUNT LISTING – ADMIN TOOL

Webstore Contact Manage ▾ Products ▾ Log out **10 $ (Deposit)**

Discounts

Name	End date	Amount	Action
Winter Paladin Sword Sale	10-02-2021 00:00:00	-30 $	Edit Delete
Winter Consumables Sale	10-02-2021 00:00:00	-15 $	Edit Delete

Add new discount

Home Contact Privacy Terms

Webstore

Block | Login Form Clean

Contact   Manage ▾   Products ▾   Log out   **10 $ (Deposit)**

Offers

Name	Stock	Price	Action
Paladin Sword	21	75 $	Edit Delete
Mystic Shield	30	75 $	Edit Delete

Add new offer

Home   Contact   Privacy   Terms

Company Name © 2017

Webstore

Contact   Manage ▾   Products ▾   Log out   **10 $ (Deposit)**

Users

Username	Email	Balance	Action
john	john@gmail.com	100 $	Edit Delete
karen21	karen@test.pl	30 $	Edit Delete

Home   Contact   Privacy   Terms

Company Name © 2017

Webstore

Contact   Products ▾   Log out   **10 $ (Deposit)**

$

Amout of deposit

Deposit

Home   Contact   Privacy   Terms

Company Name © 2017

Webstore

Contact   Manage ▾   Products ▾   Log out   **10 $ (Deposit)**

Categories

ID	Name	Parent id	Action
1	Cosmetics	None	Edit Delete
2	Consumables	None	Edit Delete

Add new category

Home   Contact   Privacy   Terms

Company Name © 2017

OFFER CREATION – ADMIN TOOL

Webstore　　　　　　　　　　　　Contact　　Manage ▾　　Products ▾　　Log out　　**10 $ (Deposit)**

Name

Price

Description

Stock

Category ⌄

Create an offer

CATEGORY CREATION – ADMIN TOOL

Webstore　　　　　　　　　　　　Contact　　Manage ▾　　Products ▾　　Log out　　**10 $ (Deposit)**

Name

Category ⌄

Create a category

Home　　Contact　　Privacy　　Terms

Webstore

Contact   Manage ▼   Products ▼   Log out   **10 $ (Deposit)**

Name

End date

dd.mm.rrrr

Amount

Discount type ▼

Create a discount

DESIGN DECISIONS

1. **GUI is implemented with Bootstrap library.**
2. **All webstore data would be stored in MySQL Database. It will allow all Administrators collaborate, and make users able to buy products worldwide.**
3. **Webstore will be built on top of Laravel. This framework has a huge community, what would make it easier and cheaper to maintain.**
4. **Product distribution and delivery would be on the game side.**
5. **Inactive products would return 404 HTTP codes.**
6. **Dynamic inheritance would be solved with methods creating an offer from parameters of previous offer.**