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| **Software Engineering and Practice**  **Assignment #1** |



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| **Group** | 10 |
| **Members** | JEON JEHUN, BOHM NATALIE BEATRICE |

1. **User Stories**

1.

As a User, I want to sign in, so I can use the website.

As a User, I want to sign out, for security reasons.

As a User, I want to sign up, so I can use the service provided by the website.

2.

As a visitor of the website, I want to see current coin price, so I know the price.

As a visitor of the website, I want to see the price trend, so I can expect where the price will go.

3.

As a website, I want to assigns newly created account 0 won and 0 coins

4.

As a marketplace, I want to have 100 coins priced at 100 won to make easier to carry out transaction

5.

As the site, I want to update the number of unsold remaining coins when a user buys a coin from the site, so I have an overview of the remining coins.

As a User, I want to sell coins, so I can make money.

As a User, I want to buy coins, so I have coins.

As a User, I want to post the number of coins and their selling price, so I can offer them to other users.

As a site, I want to make buyers buy all the coins the seller posts so I can make transaction atomic.

As a site, I want not to allow users to sell to the marketplace so I can make selling coins only occur between users.

6.

As a User, I want to add/withdraw money from my account, so I can use the money to my liking.

7.

As the site, I want to post current coin price and available coins so users can buy them. (equals to the first line of 5)

8.

As the site, I want to post the price, so it can be seen by users.

As a site, I want to post the users coin selling posts, so it can be seen by other users.

9.

As a site, I want to show the development of the coin price in a graph or table, so the changes can be traced.

1. **Use Cases**

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| **Name of Use case** | Sign Up |
| **Date Created** | 23/05/05 |
| **Description** | Users creates an account |
| **Actor** | User, Website/Marketplace, Database |
| **Precondition** | 1. Website is running 2. User has an Email |
| **Post condition** | 1. User has an account (Username, Password) 2. User has 0 won, 0 coin balance. |
| **Flow** | 1. User presses Sign Up button. 2. User has to give a Username. 3. User has to give a Password. -> Password specifications. 4. User has to give a valid Email. 5. User presses Create Account button. 6. Website checks, if the input is valid. 7. Website stores the data. 8. Website assigns the user 0 won and 0 coins. 9. Screen shows “Account created successfully” |
| **Exception** | 1. In step 6, the input is not valid:    1. Show Error message, where the input is not valid.    2. The User has to redo from step 2. 2. In step 7, if the storing fails:    1. Show message, that the account couldn’t be created.    2. End the session. |
| **Additional Requirements** | 1. All alert messages should have OK and Cancel option. |

2.

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| **Name of Use case** | Seeing the current coin price |
| **Date Created** | May 9, 2023 |
| **Description** | Users see the current coin price |
| **Actor** | User, Website/Marketplace, Database |
| **Precondition** | 1. Website is running 2. User enters the site without errors |
| **Post condition** | 1. User see the current coin price |
| **Flow** | 1. User requests site access 2. Server allow it 3. User enters the site 4. User see the current coin price |
| **Exception** | 1. In step 1,2,3, network not connected:    1. Show Error message.    2. The User refreshes the site    3. Go to step 1 2. In step 4, the website fails to post the price:    1. Retry to load the data    2. If fail to load, show error message.    3. The user refreshes the site    4. Go to step 1 |
| **Additional Requirements** | 1. The users can access to multiple sites at a time |

3.

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| **Name of Use case** | Updating remaining coins |
| **Date Created** | May 9, 2023 |
| **Description** | When user buy coin from the site, update the remaining coins |
| **Actor** | User, Website/Marketplace, Database |
| **Precondition** | 1. Website is running 2. The user is signed in 3. The user’s account balance is more than the number of coins the user wants to buy |
| **Post condition** | 1. The user receives coins. 2. The user’s account balance gets smaller by the transaction price 3. Coins the marketplace has are updated |
| **Flow** | 1. The user offers transaction to marketplace 2. The marketplace checks whether the offer is valid or not 3. The users pay the price and receive coins 4. The marketplace updates its number of coins 5. The site shows the coins marketplace has |
| **Exception** | 1. In step 2, the user doesn’t have enough money:    1. reject the transaction    2. Go to step 1 with a small-scale proposal 2. In step 2, the user requests more coins than marketplace has:    1. reject the transaction    2. Go to step 1 with a small-scale proposal |
| **Additional Requirements** | 1. Transaction occurs with an integer coin |

4.

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| **Name of Use case** | Posting selling coins |
| **Date Created** | May 9, 2023 |
| **Description** | Users want to sell coins |
| **Actor** | User, Website/Marketplace, Database |
| **Precondition** | 1. Website is running 2. The user is signed in 3. The user sells at least one coin 4. Coins held by the sellers are more than the seller wants to sell |
| **Post condition** | 1. The offer is on the site where buyer can see 2. The offer has information about number of coins and selling price. |
| **Flow** | 1. The user enters the site 2. The user presses POST button 3. The user gives a number of coins he/she wants to sell 4. The user gives the price of them 5. Website posts it sorted by price |
| **Exception** | 1. In step 3, the user doesn’t have enough coins:    1. Show error message    2. Go to step 3 with new amount input message 2. In step 5, if there are same price offers    1. Order it by date |
| **Additional Requirements** | 1. Seller posts integer number of coins |

When you test this case, please check case that user posts several offers

(e.g. user has 10coins, and sell 5coins, 5coins , 5coins. In this scenario it would work but it’s not rght)

5.

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| **Name of Use case** | Updating seller’s and buyer’s information up to date |
| **Date Created** | May 9, 2023 |
| **Description** | Users want to sell coins |
| **Actor** | Website/Marketplace, Database |
| **Precondition** | 1. Website is running 2. Transaction took place |
| **Post condition** | 1. In seller’s account, balance increase, number of coins decrease 2. In buyer’s account, balance decrease, number of coins increase 3. On post board, the offer is deleted |
| **Flow** | 1. Transaction took place 2. The website updates seller’s and buyer’s account as a transaction 3. The website deletes completed one on the post board |
| **Exception** | 1. In step 2, balance and number of coins cannot be negative:    1. If it is, reject the transaction    2. Show message transaction failed. |
| **Additional Requirements** | 1. Updating process should be done as soon as transaction take place |

6.

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| **Name of Use case** | Sign In |
| **Date Created** | 23/05/09 |
| **Description** | User signs into their account |
| **Actor** | User, Website, Database |
| **Precondition** | 1. Website is running User has an Account and knows his credentials |
| **Post condition** | 1. User is signed in and can use the account. |
| **Flow** | 1. User presses Sign In button. 2. User must type their Username. 3. User must type their Password. 4. User presses Sign in button. 5. Website checks if the input is correct and matches. 6. Website logs the User in |
| **Exception** | 1. In step 14, the input is not correct:    1. Show Error message, where the input is not valid.    2. The User must redo from step 11. |

7.

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| **Name of Use case** | Buy Coins – (from Marketplace) |
| **Date Created** | 23/05/09 |
| **Description** | The Users Buys Coins from the Marketplace |
| **Actor** | User, Website/Marcetplace, |
| **Precondition** | 1. The user is signed into their account. 2. The user has the necessary amount of money on the account. 3. There are coins left to buy from the Marketplace |
| **Post condition** | 1. The user has the desired number of coins on their account 2. The money was transferred from their account to the side. |
| **Flow** | 1. The user presses a buy button. 2. The user has to confirm the transaction. 3. The site shows a conformation of the transaction. |
| **Exception** | 1. At step 2, the transaction cannot be completed:    1. The site will show an error page.    2. The user has to try again. |

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| **Name of Use case** | Show Price Trends |
| **Date Created** | 23/05/09 |
| **Description** | The Price trend is displayed on the main page |
| **Actor** | User, Website/Marcetplace, Database |
| **Precondition** | * 1. The Prices must be stored somewhere |
| **Post condition** | 1. There is a graph shown on the website showing a graph with the price development. |
| **Flow** | * 1. The site accesses the database   2. The site displays the data |
| **Exception** | * 1. In step 1:      1. the data can’t be accessed      2. Error message on the site   2. The graph can’t be shown:      1. Error message on the site |

9.

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| **Name of Use case** | Sign Out |
| **Date Created** | 23/05/09 |
| **Description** | The User signs out of the account |
| **Actor** | User, Website, |
| **Precondition** | 1. The User is already signed into the account |
| **Post condition** | 1. The User is no longer logged into his account and can’t access his information |
| **Flow** | 1. The User presses on a sign out button 2. The User is signed out |
| **Exception** | * 1. The User can’t sign out in step 1:      1. An Error message shown      2. The side has to be reloaded |

**3. Test Cases**

1. sign up

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| **Test Case ID** | | 001 | **Test Case Description** | | Users creates an account | | | | | | | | |
| **Created By** | | Jeon Jehun | **Reviewed By** | | Natalie Böhm | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running.  User enter the website. | |  | | 1 | | - | | | | | | | |
| 2 | Username entering message is showing | |  | | 2 | | Username = ‘abc‘ | | | | | | | |
| 3 | Username entering message with username error message is showing | |  | | 3 | | Username=‘abc123qwe‘ | | | | | | | |
| 4 | Password entering message is showing | |  | | 4 | | Password=‘123456‘ | | | | | | | |
| 5 | Email entering message is showing | |  | | 5 | | Email=‘abcqwe‘ | | | | | | | |
| 6 | email entering message with email error message is showing | |  | | 6 | | Email=‘abcqwe@gmail.com‘ | | | | | | | |
| 7 | All inputs are valid | |  | | 7 | | - | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Presses Sign up | | Link to sign up page | |  | | | | | Not executed | | | |
| 2 | Enter username  already taken | | Warn for invalid username and ask reentering | |  | | | | | Not executed | | | |
| 3 | Enter valid username | | Show message  “available useranme“ | |  | | | | | Not executed | | | |
| 4 | Enter password | | Show message “available password“ | |  | | | | | Not executed | | | |
| 5 | Enter invalid email | | Warn for invalid email and ask reentering | |  | | | | | Not executed | | | |
| 6 | Enter valid email | | Show check mark | |  | | | | | Not executed | | | |
| 7 | Presses creates | | Website assigns the acount 0 won/0 coins and stores the data and show meesage “Account created successfully” | |  | | | | | Not executed | | | |

1. Sign in

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| **Test Case ID** | | 002 | **Test Case Description** | | Sign In | | | | | | | | |
| **Created By** | | Jeon Jehun | **Reviewed By** | | Natalie Böhm | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running.  User enter the website. | |  | | 1 | | - | | | | | | | |
| 2 | User know his username and password incorrectly | |  | | 2 | | Username = ‘abc‘  Password=‘121212‘ | | | | | | | |
| 3 | Username know username and password correctly | |  | | 3 | | Username=‘abc123qwe‘  Password=‘123456‘ | | | | | | | |
| 4 | Website checks and matches | |  | | 4 | | - | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Presses Sign in button | | Link to sign in page | |  | | | | | Not executed | | | |
| 2 | Enter invalid username and password, then sign in | | Warn for invalid inputs and ask reenterring | |  | | | | | Not executed | | | |
| 3 | Enter valid username and password, then sign in | | Access the account | |  | | | | | Not executed | | | |
| 4 | Logged in | | Able to access your account | |  | | | | | Not executed | | | |

1. Buy coins from marketplace

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| **Test Case ID** | | 003 | **Test Case Description** | | Buy coins from marketplace | | | | | | | | |
| **Created By** | | Jeon Jehun | **Reviewed By** | | Natalie Böhm | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running.  Marketplace has at least one coin  User is signed in  User has enough money | |  | | 1 | | Valid user account | | | | | | | |
| 2 | Quantities ordering message is showing | |  | | 2 | | Buy 101coins | | | | | | | |
| 3 | Quantities ordering message with error message is showing | |  | | 3 | | Buy 90 coins (balance is less than 9000) | | | | | | | |
| 4 | Quantities ordering message with error message is showing | |  | | 4 | | Buy 10 coins | | | | | | | |
| 5 | Confirm button enabled | |  | | 5 | | - | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Presses buy button | | Transactions page appears | |  | | | | | Not executed | | | |
| 2 | Order more coins than marketplace has | | Warn for invalid order and ask re-ordering | |  | | | | | Not executed | | | |
| 3 | Order an unaffordable amount of coins | | Warn for short of cash and ask re-ordering | |  | | | | | Not executed | | | |
| 4 | Order properly | | Enable confirm button | |  | | | | | Not executed | | | |
| 5 | Confirm order | | Show transaction result and message “your transaction has been sent with success“ | |  | | | | | Not executed | | | |
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1. Show price trends

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| **Test Case ID** | | 004 | **Test Case Description** | | Show price trends | | | | | | | | |
| **Created By** | | Jeon Jehun | **Reviewed By** | | Natalie Böhm | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running. | |  | | 1 | | Visitor comes in | | | | | | | |
| 2 | Data given | |  | | 2 | | - | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Visitor comes in | | The site access the database of price | |  | | | | | Not executed | | | |
| 2 | Show price trends | | Display the price | |  | | | | | Not executed | | | |

1. Sign out

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| **Test Case ID** | | 005 | **Test Case Description** | | The User signs out of the account | | | | | | | | |
| **Created By** | | Jeon Jehun | **Reviewed By** | | Natalie Böhm | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running.  User is signed in  Press sign out | |  | | 1 | | Valid user account | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Press sign out button | | No longer access account | |  | | | | | Not executed | | | |

1. Seeing the current coin price

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| **Test Case ID** | | 006 | **Test Case Description** | | Seeing the current coin price | | | | | | | | |
| **Created By** | | Natalie Böhm | **Reviewed By** | | Jeon Jehun | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running | |  | | 1 | | Right link to the mainpage | | | | | | | |
| 2 | User can access the site without difficulties | |  | | 2 | |  | | | | | | | |
| 3 | The site can make an connection with the database | |  | | 3 | |  | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | Access the site | | You can see the price | |  | | | | | Not executed | | | |

1. Posting selling coins

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| **Test Case ID** | | 007 | **Test Case Description** | | Posting selling coins | | | | | | | | |
| **Created By** | | Natalie Böhm | **Reviewed By** | | Jeon Jehun | | | | | | | | |
|  |  |  |  |  | |  | |  |  | |  |  |  | | |
| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running | |  | | 1 | |  | | | | | | | |
| 2 | User is signed in | |  | | 2 | | Username: abc123qwe  Password: 123456 | | | | | | | |
| 3 | The user has the desired amount they want to sell | |  | | 3 | | 2 Coins / 90 won | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | The user clicks on a button to sell coins | | Redirected site | |  | | | | | Not executed | | | |
| 2 | The user inputs the price and the amount of coins | |  | |  | | | | | Not executed | | | |
| 3 | The Website post the offer | | The offer can be seen | |  | | | | | Not executed | | | |
| 4 |  | |  | |  | | | | | Not executed | | | |

1. Updating remaining coins

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| **Test Case ID** | | 008 | **Test Case Description** | | Updating remaining coins | | | | | | | | |
| **Created By** | | Natalie Böhm | **Reviewed By** | | Jeon Jehun | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running | |  | | 1 | |  | | | | | | | |
| 2 | The user is signed in | |  | | 2 | | Create new user first:  Username: coinMaster123  Password: BestPasswordCM | | | | | | | |
| 3 | The user bougth coins | |  | | 3 | | Post is available: with 2 coins for 90 won | | | | | | | |
| 4 | The user has enough money to buy coins | |  | | 4 | |  | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | The user offers tansaction to marketplace | |  | |  | | | | | Not executed | | | |
| 2 | The users pay the price and receives coins | | The user sees a conformation and the right amount of money/coins | |  | | | | | Not executed | | | |
| 3 | The marketplace updates ist number of coins | | The correct amount of coins is shown | |  | | | | | Not executed | | | |

1. Updating seller’s and buyer’s information up to date

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| **Test Case ID** | | 009 | **Test Case Description** | | Updating seller’s and buyer’s information up to date | | | | | | | | |
| **Created By** | | Natalie Böhm | **Reviewed By** | | Jeon Jehun | | | | | | | | |
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| **Step #** | **Prerequisites:** | |  | | **Step #** | | **Test Data Requirement** | | | | | | | |
| 1 | Website is running | |  | | 1 | |  | | | | | | | |
| 2 | Post of the User was accepted by another user | |  | | 2 | | Post by User: abc123qwe  Password: 123456  Post was 2 Coins for 90 won | | | | | | | |
| 3 | User is logged in | |  | | 3 | |  | | | | | | | |
| 4 | The post disappeared | |  | | 4 | |  | | | | | | | |
| 5 | The money and coin balance is correct | |  | | 5 | |  | | | | | | | |
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| **Test Conditions** | | |  |  | |  | |  |  | |  |  |  | | |
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| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | | | **Pass / Fail / Not executed / Suspended** | | | |
|
| 1 | The post was accepted by another user | |  | |  | | | | | Not executed | | | |
| 2 | The users logs into the account | | The coins and money balance is right | |  | | | | | Not executed | | | |
| 3 |  | |  | |  | | | | |  | | | |
| 4 |  | |  | |  | | | | |  | | | |