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Python OOP and Modelling

group 00

Use Case Description

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**Use Case <UC-1> description**

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| **Use Case name:** | Checking nearby fuel prices |
| **Actors:** | Driver |
| **Intent:** | To Check and display fuel prices from nearby gas stations. |
| **Short description:** | Driver goes into the app to check fuel prices |
| **Type:** | Basic use |
| **Cross-references:** | Use case “Authorisation” must be completed successfully for Admin role |

**Typical order of events:**

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| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
| 1 | Opens app | 2 | Opens start menu |
| 3 | Chooses “Check Nearby Fuel Prices” | 4 | Asks permission to use users’ location |
| 5 | Gives permission | 6 | Uploads GPS location |
|  |  | 7 | Turns on GPS if it’s disabled |
|  |  | 8 | Uploads data from database about nearest stations and prices |
|  |  | 9 | Displays uploaded data |

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| **Alternative sequence of events:**  5. User doesn’t give the permission to give his location to the app | |  |
| **Error events:**  6. No GPS location available  7. System cannot turn on GPS |  | |

**Use Case <UC-2> description**

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| **Use Case name:** | Update Fuel Prices |
| **Actors:** | Driver |
| **Intent:** | Uploads/update prices in the database |
| **Short description:** | Driver uploads/updates their prices |
| **Type:** | Basic Use |
| **Cross-references:** | Pre-action of “Update All Fuel Prices”, Use case “Authorisation” must be completed successfully for Admin role |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
|  |  | 1 | Opens start menu |
| 2 | Chooses “Update Fuel Price” | 3 | Validates that user is allowed to update fuel price |
| 4 | Enters new value for the fuel price | 5 | Validates if input is numeric |
|  |  | 6 | Validates if input is within reasonable price range of the fuel |
| 7 | Saves entered fuel price | 8 | Saves entered data in main database |
|  |  | 9 | Indicates that data is saved |
| 10 | Close input form |  |  |

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| **Alternative sequence of events:**  3. User is not allowed to update the price  6. Input is out of value range | |  |
| **Error events:**  5. Input is not numeric |  | |

**Use Case <UC-3> description**

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| **Use Case name:** | Update My Fuel prices |
| **Actors:** | Fuel station/Network operator |
| **Intent:** | To update the actors fuel price in the system |
| **Short description:** | The use case begins when the actor indicates the intent to update its fuel price in the system. Use case is terminated once fuel price is updates or update process is cancelled by the actor. |
| **Type:** | Basic Use |
| **Cross-references:** | Use case “Authorisation” must be completed successfully for Admin role |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
| 1 | Actor presents intent to update specific locations fuel price. | 2 | Validates that this user is allowed to update this fuel price. |
| 3 | Enters new value for the fuel price. | 4 | Validates if input is numeric, |
|  |  | 5 | Validates if input is within reasonable price range of the fuel. |
| 6 | Saves entered fuel price. | 7 | Saves entered data to the main database |
|  |  | 8 | Indicates that data is saved |
| 9 | Closes the input form | 10 | Use case is closed |

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| **Alternative sequence of events:**  NONE |  | |
| **Error events:**  2. Actor tries to edit other fuel station/network fuel prices  4. Actor enters non-numeric value for the fuel price  5. Entered fuel price is outlier and can not saved to the main database  7. Database cannot be reached | |  |

**Use Case <UC-4> description**

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| **Use Case name:** | Confirm Fuel Price |
| **Actors:** | Driver |
| **Intent:** | To confirm if current price in the system is accurate to the real-life situation |
| **Short description:** | System based on the current user position asks actor to confirm prices nearby. |
| **Type:** | Basic Use |
| **Cross-references:** | Use case “Authorisation” must be completed successfully for Admin role |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
|  |  | 1 | Compares user location with known fuel station locations that have fuel price registered in the system |
|  |  | 2 | If match is found push notification to the user |
| 3 | Clicks confirm or reject according to the real-life situation | 4 | Sends data to the database |
|  |  | 5 | Closes notification and use case ends |

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| **Alternative sequence of events:**  1. No match is found  3. User dismisses notification |  | |
| **Error events:**  1.1 No GPS data available  1.2 Location data usage is not allowed  1.3, 4 No network available | |  |

**Use Case <UC-5> description**

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| **Use Case name:** | System maintenance |
| **Actors:** | System administrator |
| **Intent:** | System update and reboot |
| **Short description:** | System is updated to a new version and/or is restarted after experiencing problems |
| **Type:** | Admin use |
| **Cross-references:** | Use case “Authorisation” must be completed successfully for Admin role |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
| 1. | Request update and reboot | 2. | System checks if update is available |
|  |  | 3. | System reboots for update |
|  |  | 4. | End of use case. |

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| **Alternative sequence of events:** 2. No updates available. |  |
| **Error events:** |  |

3. System could not reboot.

**Use Case <UC-6> description**

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| --- | --- |
| **Use Case name:** | Authentication |
| **Actors:** | Driver, Fuel Station/Network operator, System Administrator |
| **Intent:** | Login or register to the system |
| **Short description:** | This use case starts once actors want to authenticate into the system, if actor has account, login is performed, if not registration. Use case ends once user cancels the authentication or is logged in. |
| **Type:** |  |
| **Cross-references:** |  |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
| 1 | User starts authentication process | 2 | System asks to enter username (email) and password |
| 2 | User inputs both variables | 3 | System validates email input if email is provided |
| 4 | User proceeds to login | 5 | System performs login action |
|  |  | 6 | User is logged in and use case is closed |

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| **Alternative sequence of events:**  4. User cancels authentication process  5. Username is not recognized, system offers to register |  | |
| **Error events:**  3. Something that isn’t email format is entered into the field  5.1 User is offline  5.2 User entered wrong password | |  |

**Use Case <UC-7> description**

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| --- | --- |
| **Use Case name:** | Update All Fuel Prices |
| **Actors:** | System |
| **Intent:** | Update all Fuel prices into database |
| **Short description:** | System verifies newly acquired data and updates it. |
| **Type:** |  |
| **Cross-references:** |  |

**Typical order of events:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actors’ activities** |  | **System’s reaction** |
| 1. | Shows notification, that entered data is being updated | 2. | Takes new data from user input |
|  |  | 3. | Verifies data |
|  |  | 4. | Updates database |
| 5. | Shows notification, that prices are updated |  |  |

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| **Alternative sequence of events:**  None |  | |
| **Error events:**  3. Data is not valid | |  |