**UNIVERSITI TUNKU ABDUL RAHMAN**

**LEE KONG CHIAN FACULTY OF ENGINEERING AND SCIENCE**

**UECS2344 SOFTWARE DESIGN**

**ASSIGNMENTS (Part 1 and Part 2(a))**

**January 2024 Trimester**

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1. **Analysis Class Diagram**

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**2.0 Use case Diagram**

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**3.0 Use case Descriptions**

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| Use Case Name**: Order Item** | | ID**: UC01** | Importance Level**: High** |
| Primary Actor**: Customer** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Staff – Can earn profit from each customer purchase** | | | |
| Brief Description**: This use case describes on how the customer make purchase one the stationary** | | | |
| Trigger**: The user want to purchase the stationary items** | | | |
| Relationships:  Association **: Customer**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. If the customer did not have an order, the customer chooses the first option in the menu to purchase item. [Alternate flow S-1] 2. The system shows the list of items available with each of the item number price and quantity. [Alternative flow S-2] 3. The user adds the item they want to purchase into their cart by key in the item number. (Perform S-3.1) 4. The user chooses the quantity of the item they want to purchase. 5. The system notifies the user the order successfully added and ask the user is there any more item to add. | | | |
| Sub-flows:  **S-3.1**   1. **The user enters the item number and item quantity which is already in the order** 2. **The system added the new quantity to the item which is already in the order** | | | |
| Alternate/Exceptional Flows:  S-1 The system display “Order is already existed” if the order is already created  S-2 The system display “No item available” if the inventory is empty | | | |

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| Use Case Name**: Edit Order Item** | | ID**: UC02** | Importance Level**: Low** |
| Primary Actor**: Customer** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Customer –modify delete or add what customer want** | | | |
| Brief Description**: This use case describes how customer edit their order** | | | |
| Trigger**: The user want to edit their order** | | | |
| Relationships:  Association **: Customer**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The customer chooses the second option in the menu to modify their order. [Alternative flow S-1] 2. The system prompts the customer whether he/her want to cancel the order or modify the item in the order 3. The customer chooses one of the options given based on their needs (Perform S-3.1 or S-3.2) | | | |
| Sub-flows:  **S-3.1**  **S-3a The user choose the option to cancel the order**  **S-3b The system display the order cancel successfully**  **OR**  **S-3.2**  **S-3a The user choose the option to modify the item**  **S-3b The system ask the user whether to delete or add item**  **S-3c The system add or delete the stationary item in the order based on the customer choice** | | | |
| Alternate/Exceptional Flows:  S-1 The system display “No order Exist” when the customer cart is empty | | | |

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| Use Case Name**: Pay Bill** | | ID**: UC03** | Importance Level**: High** |
| Primary Actor**: Customer** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Customer –pay order to receive their stationary item** | | | |
| Brief Description**: This use case describes how customer pay for item** | | | |
| Trigger**: The user has order the item** | | | |
| Relationships:  Association **: Customer**  Include **: Generate Bill Statement**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The customer checks the third option to pay for the order 2. The system prompts the statement. [UC06 Generate bill Statement] 3. The customer enters their 16-number credit or debit card detail. [Alternative flow S-1] 4. The customer enters their card csv. 5. The system informs the user the payment is successful | | | |
| Sub-flows:  **UC06 Generate Bill Statement**   1. **The system generates the bill for the order of the customer.** 2. **The bill statement consists of items in their order with the quantity, price, total price of each item, and total payment needed.** 3. **The customers check the bill.** | | | |
| Alternate/Exceptional Flows:  S-1 The system display “16 Digit only Please Try Again” when the customer enters the wrong number | | | |

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| Use Case Name**: Create User Profile** | | ID**: UC04** | Importance Level**: High** |
| Primary Actor**: Customer** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Customer – Create an account to buy items and place orders.** | | | |
| Brief Description**:**  This use case describe on how users will be able to access the system using an account created by creating a user profile. | | | |
| Trigger**:**  When customer want to use the system and they have no created user profile. | | | |
| Relationships:  Association **: Customer**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The customer wants to use the system. 2. The system asks the users create a new user profile. 3. The customer with no created user profile will be creating a user profile to access the system. 4. The customer is required to fill up the username and password as the credentials to sign up for the system. [Alternate flow S-1] 5. The customer successfully signed up for the system. | | | |
| Sub-flows:    - | | | |
| Alternate/Exceptional Flows:  S-1. If the customer username has already been taken, customer will be ask to enter another username | | | |

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| Use Case Name**: Log In** | | ID**: UC05** | Importance Level**:High** |
| Primary Actor**: User** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Customer – Log In to the system to buy items and place orders.**  **Staff – Log In to the system to generate reports regarding sales, add inventory and update inventory.** | | | |
| Brief Description**:**  This use case describes on how users will be able to access the system by logging in with an existing account. | | | |
| Trigger**:**  When users want to use the system, they will be asked to log in or create an account. | | | |
| Relationships:  Association **: User**  Include **:**  Extend **: Create User Profile**  Generalization**:** | | | |
| Normal Flow of Events:   1. The user wants to use the system. 2. The system asks the users to log in. [UC04 Create User Profile] 3. The user logs in using an existing user profile. 4. The user successfully logged in and can start using the system.[Alternative flow S-4] | | | |
| Sub-flows:  **UC04 Create User Profile**   1. **If customer has no account to login, customer must create user profile** | | | |
| Alternate/Exceptional Flows:  S-4a. If the username or password not correct, the system notify the user wrong password or username.  S-4b. User need to enter again. | | | |

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| Use Case Name**: Generate Bill Statement** | | ID**: UC06** | Importance Level**:High** |
| Primary Actor**: Customer** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Customer – Generates the bill for what the customer has ordered.** | | | |
| Brief Description**:**  This use case describe on how the staff will generate a bill for the customers to make payment after customers has made an order. | | | |
| Trigger**:**  When the customer makes an order. | | | |
| Relationships:  Association **: Customer**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The system generates the bill for the order of the customer. [Alternate flow S-1] 2. The bill statement consists of items in their order with the quantity, price, total price of each item, and total payment needed. 3. The customers check the bill. | | | |
| Sub-flows: | | | |
| Alternate/Exceptional Flows:  Alternate Flow S-1  S-1a. If there are no order existed, the system notify the user there are no order existed. | | | |

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| Use Case Name**: Update Inventory** | | ID**: UC07** | Importance Level**: Low** |
| Primary Actor**: Staff** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Staff – Can check availability of stationary items in inventory** | | | |
| Brief Description**: This use case describes on how staff update or delete availability of stationary items in inventory** | | | |
| Trigger**: The user wants to update or delete availability of stationary items** | | | |
| Relationships:  Association **: Staff**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The staff chooses the second option in the menu to update inventory 2. The system shows the list of available items in inventory 3. The user choose option either update or delete the available items in inventory list (Perform S-3.1 or S-3.2) 4. The system shows the updated inventory list | | | |
| Sub-flows:  **S-3.1**  **S-3a The user choose the option to update an item in the list inventory**  **S-3b The system display the list updated successful**  **OR**  **S-3.2**  **S-3a The user choose the option to delete an item in the list inventory**  **S-3b The system display the list updated successful** | | | |
| Alternate/Exceptional Flows:  1a. There are no inventory existed, and the system display no inventory existed | | | |

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| Use Case Name**: Generate Report** | | ID**: UC08** | Importance Level**: High** |
| Primary Actor**: Staff** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Staff –see total sales report** | | | |
| Brief Description**: This use case describes on how the staff generate sales report** | | | |
| Trigger**: The user want to generate report** | | | |
| Relationships:  Association **: Staff**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The staff choose second option in the menu to generate report 2. The system records every sale paid 3. The system prompts every bill statement with every total 4. The system totals the sales of every bill | | | |
| Sub-flows: | | | |
| Alternate/Exceptional Flows:    1a. There are no sales in the system, and the system show no sales existed. | | | |

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| --- | --- | --- | --- |
| Use Case Name**: Create Inventory** | | ID**: UC09** | Importance Level**: High** |
| Primary Actor**: Staff** | Use Case Type**: Detailed, Real** | | |
| Stakeholders and Interests**:**  **Staff –create stationary item to show to customer** | | | |
| Brief Description**: This use case describes on how the staff create inventory list** | | | |
| Trigger**: The user wants to create a new stationary items into the inventory** | | | |
| Relationships:  Association **: Staff**  Include **:**  Extend **:**  Generalization**:** | | | |
| Normal Flow of Events:   1. The staff chooses the first option in the menu to create inventory 2. The staff enter the item number, name, price, cost, quantity. [Alternative flow S-1] 3. The system adds the item into the inventory 4. The system notifies the staff the item is successfully added to the inventory | | | |
| Sub-flows: | | | |
| Alternate/Exceptional Flows:  Alternate flow S-1  S1a. If the item number has existed, system will show” Item number already exist.”.  S1b. staff will try another item number again. | | | |

**4.0 Sequence diagram**

**Edit Order**

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A screenshot of a computer program

Description automatically generatedA diagram of a project

Description automatically generated

A screen shot of a diagram

Description automatically generatedA screenshot of a computer screen

Description automatically generated

A white sheet of paper with lines and text

Description automatically generatedA grid of lines on a white surface

Description automatically generated

**Edit Order (showItem)**

A close-up of a diagram

Description automatically generated

**Edit Order (addItems)**

**A screenshot of a computer screen

Description automatically generated**

**A screen shot of a computer

Description automatically generated**

**A screen shot of a computer

Description automatically generated**

**A diagram of a project

Description automatically generated**

**A diagram with lines and dots

Description automatically generated with medium confidence**

**Edit Order (addItems 🡪 showItem)**

A close-up of a diagram

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**Pay Bill**

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Description automatically generated

**Pay Bill (Calculate Bill)**

A screenshot of a computer

Description automatically generated

**Pay Bill (Calculate Bill 🡪 Get Item Price)**

A computer screen shot of a computer

Description automatically generated

**Pay Bill (Save Inventory)**

A screenshot of a computer program

Description automatically generated

**Generate Bill Statement**

A screenshot of a computer program

Description automatically generated

**Login**

A screenshot of a computer program

Description automatically generated

**Create User Profile**

A screenshot of a computer

Description automatically generated

**Update Inventory**

**A screenshot of a computer

Description automatically generated**

**A diagram of a diagram

Description automatically generated**

**Update Inventory (Case 1)**

A diagram of a project

Description automatically generated

**Update Inventory (Case 2)**

A diagram of a project

Description automatically generated with medium confidence

**Generate Report**

A diagram of a project

Description automatically generated

**Create Inventory**

**A screenshot of a computer program

Description automatically generated**

**A screenshot of a computer program

Description automatically generated**

**5.0 Design Class Diagram**

**Difference for Analysis class diagram and design class diagram**

**Analysis Class Diagram**

A diagram of a computer

Description automatically generated with medium confidence

**Design Class Diagram**

A diagram of a computer flowchart

Description automatically generated

**6.0 Package Diagram**

A diagram of a computer flow

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