Rahan Hasan

CSCI-370

Assignment5

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1) First, a class is needed to be added which will have all the items selected by one User.

Class Name: ItemsList

Attributes: item\_ID, Quantity

Operations: addItem(), removeItem(), updateQuantity()

2) Second, a class is needed to be added which will have all the items available at store.

Class Name: Item

Attributes: Item\_ID, Name, Description

Operations: addItem(), deleteItem(), addPrice(),updatePrice()

3) In this step we describe the relation between User and Items class. Relationship needs to be added for Item and User which is already implemented.

Class Name: User

Attributes: UserID, First\_Name, Last\_Name, Address

Operations: AddUser(), UpdateUser(), ModifyUser()

4) Here, the class design will be implemented on development side where the query will be sent to database and the items will be returned to the user screen.

5) This is regarding saving the ItemsList implemented as a design of Requirement1.

Class Name: ItemsList

Method: addItem(), removeItem(), updateQuantity(), addQuantity()

6) A class is added that checks off items selected by User and under ItemsList.

Class Name: checkOffItems

Attributes: Item\_ID, Quantity

Operations: addCheckOff()

7)Here we apply the function for checkOffItems class.

Class Name: checkOffItems

Operations: deleteCheckOff()

8) This will be using the class below and the method used in step 6

Class Name: checkOffItems

Operations: addCheckOff()

9) We must categories the Items by its Type. So need the class ItemType which can have multiple items.

Class Name: ItemType

Attributes: Type\_ID, Name, Description

Operations:addCategory(), removeCategory(), addItem(), updateItem(), removeItem()

10) This is the relationship between User and ItemsList classes where one User will have multiple ItemsList. One User class instance will have multiple ItemsList.

11) This is an application UI requirement rather than a class design requirement. Thus the same is not considered.

* **Now using the requirements above, we can now create the UML diagram:**

Step 1: Identify the Classes:

· User

· ItemType

· Item

· ItemsList

· checkOffItems

Step 2: List the attributes of the classes:

· User (UserID, First\_Name, Last\_Name, Address)

· ItemType( Type\_ID, Name, Description)

· Item(Item\_ID, Name, Description,Price)

· ItemsList (List\_ID, Item\_ID , Quantity)

· checkOffItems(List\_ID,Item\_ID, Quantity)

Step 3: List the operations in the classes:

· User(AddUser(), UpdateUser(), ModifyUser())

· Item(addItem(), deleteItem(), addPrice(),updatePrice())

· ItemType(addCategory(), removeCategory(), addItem(), updateItem(), removeItem())

· ItemList(addItem(), removeItem(), updateQuantity())

· checkOffItems(addCheckOff(), deleteCheckOff())

Step 4: Relationships between the classes:

· User can have multiple ItemList

· ItemList can have one or multiple Item

· One User can have one or many ItemList whereas a ItemList belongs to one User.

· One ItemList can have none or multiple checkOffItems.