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1. INTRODUCTION

The project will be an ambitious one semester course project called **WS-Mobile**. WS-Mobile will be a software that will help the customer find the cell phone best suited for their needs. Our software will have a dynamic database of cell phones, which will vary from simple and affordable devices to top end high quality 4G smart phones. WS-Mobile will be offering devices on a very competitive prices. WS-Mobile does not provide cell phone services (talk, text, data).

WS-Mobile will have two operating modes: owner and customer. In owner mode, after log in, the administrator (owner) will be able to manage inventory by adding products, modifying price, description and quantity of a products. In customer mode, customer will be required to create account (userid and password). Customer can navigate through a list of items, view detailed description, add to cart and check out at any time. At checkout the customer verifies the shopping cart content and pays for the goods. The application does not arrange for shipping.

Our application will include but not limited to: observer pattern (Model/View/Controller architecture), Layout Managers and Strategy pattern, Composite pattern and Decorator pattern. WS-Mobile will have its own local file database for keeping records of the login information as well as the inventory.

2. PATTERNS USED

- **MVC - Model** (Item) / **View** (Owner, Customer) / **Controller** (HomePage, Inventory, ShoppingCart)
- **Strategy** - adding user interface components to a container; using layout managers to arrange components in containers. Also class inheritance.
- **Composite** – Combining JLabel, JTextField, JButton into JPanel
- **Decorator** – enhancing frames and box appearance

3. FUNCTIONAL SPECIFICATIONS

IN CUSTOMER MODE:

- A customer logs in with a user name and password (or creates a new if none) and a window (frame) opens where he can browse through a list of available products that includes the product name, price, and available quantity.
- From this window the customer can select products and add them to the shopping cart
- The customer can add the product to the shopping cart (quantity), depending on availability.
- The shopping cart total amount is kept current on the main product browse window.
- The customer can proceed to checkout at any time. At checkout the customer verifies the shopping cart content and pays for the goods. The application does not arrange for shipping.

IN SELLER MODE:

- When the seller logs in, a window opens where the current state of the inventory is shown.
- The seller can update the inventory by adding products - specifying product name, invoice price, sell price and by updating the available quantity.
- The internal product representation includes ID, type, quantity, invoice price, and selling price. The application must keep track of all costs, revenues and profits. The seller can access this information from the application UI.

4. USE CASES

Use Case ID	UC1
Use Case Name	User Logs In
Description	A user logs in with user id and password
Pre-Condition	User need to have account created
Standard flow	<ol style="list-style-type: none">1. User enters a username and password2. Username and password get verified3. Application opens
Post-Condition	User is logged in and can review items

Use Case ID	UC2
Use Case Name	Adding items
Description	Customer adds items to shopping cart
Pre-Condition	User need to be logged in
Standard flow	<ol style="list-style-type: none">1. User clicks “add to cart” button2. Items is added to the cart3. Cart is updated
Post-Condition	User had added item to the cart

Use Case ID	UC3
Use Case Name	Review item
Description	Customer review item details
Pre-Condition	User need to be logged in
Standard flow	<ol style="list-style-type: none"> 1. User clicks on the item name button 2. A panel updates and shows item details 3. User can add item to shopping cart
Post-Condition	none

Use Case ID	UC4
Use Case Name	Review Shopping Cart
Description	User reviews the shopping cart
Pre-Condition	<ol style="list-style-type: none"> 1. User need to be logged in 2. Shopping cart must not be empty
Standard flow	<ol style="list-style-type: none"> 1. User clicks “shopping cart” button 2. Shopping cart page opens up 3. User reviews items
Post-Condition	Shopping cart was updated

Use Case ID	UC5
Use Case Name	Checkout
Description	User checks out and pays for items
Pre-Condition	<ol style="list-style-type: none"> 1. User needs to be logged in 2. Shopping cart must not be empty 3. UC4 must have been done
Standard flow	<ol style="list-style-type: none"> 1. User click on “Checkout” button 2. User confirms order 3. User pays for the items
Post-Condition	User have placed an order

Use Case ID	UC6
Use Case Name	Seller review
Description	Seller reviews and updates the item inventory
Pre-Condition	Seller must be logged in
Standard flow	<ol style="list-style-type: none"> 1. Seller reviews items 2. Seller updates item quantity
Post-Condition	Seller had updated inventory

Use Case ID	UC7
Use Case Name	Add Product
Description	Seller adds item to the inventory
Pre-Condition	<ol style="list-style-type: none"> 1. Seller must be logged in 2. UC6 must have been done
Standard flow	<ol style="list-style-type: none"> 1. Seller fills in item details form 2. Seller clicks “create item” button 3. Seller chooses a picture for the item
Post-Condition	New item has been added

5. CRC CARDS

HomePage	
Responsibilities	Collaborators
Log in - Check userid and password	Customer Owner
Register - Create a userid and password	
Opens a new window when user logs in	
Refresh window when userid and password are incorrect	

Customer	
Responsibilities	Collaborators
Add item to cart	ShoppingCart Inventory HomePage
Display Items	
Review Shopping Cart	

Owner	
Responsibilities	Collaborators
Display items	Inventory HomePage
Manage inventory	

ShoppingCart	
Responsibilities	Collaborators
Display items in cart	Customer
Update item quantity	
Checkout	

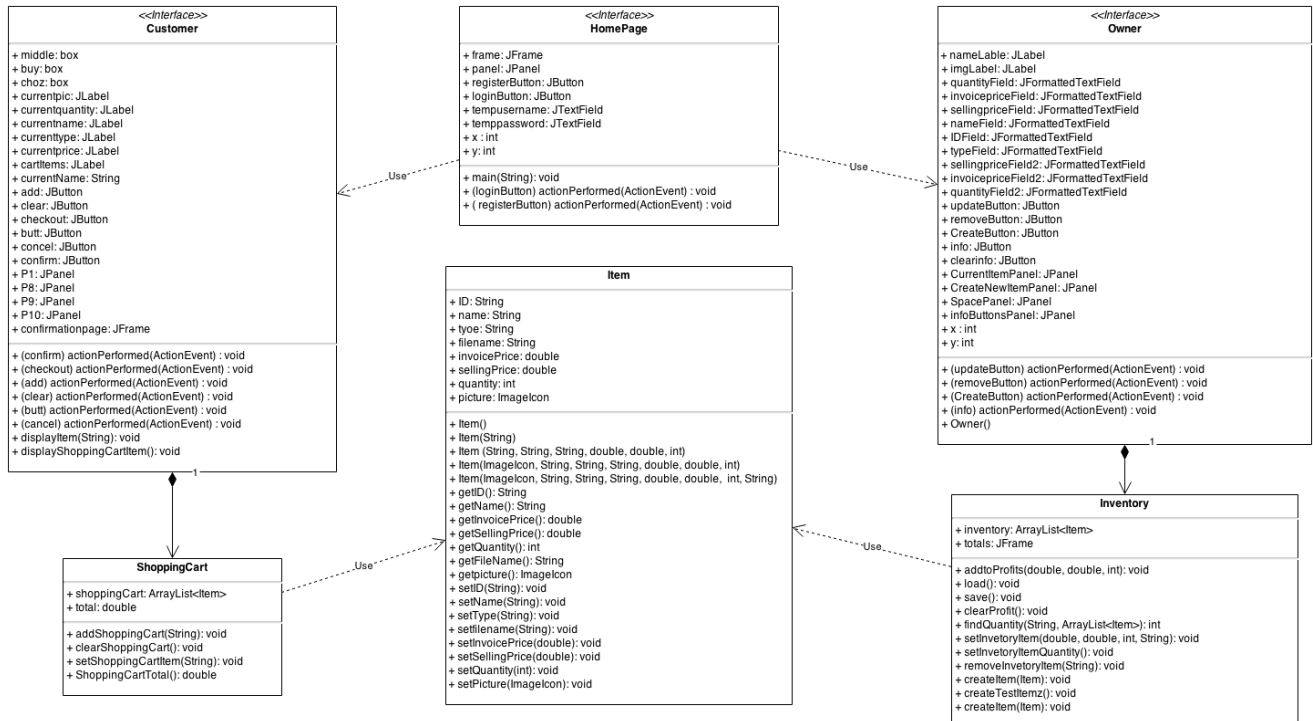
Inventory	
Responsibilities	Collaborators
Add new item to inventory	Owner
Remove item from inventory	
Update item count/availability	

Item	
Responsibilities	Collaborators
Hold a description of an item	Inventory ShoppingCart

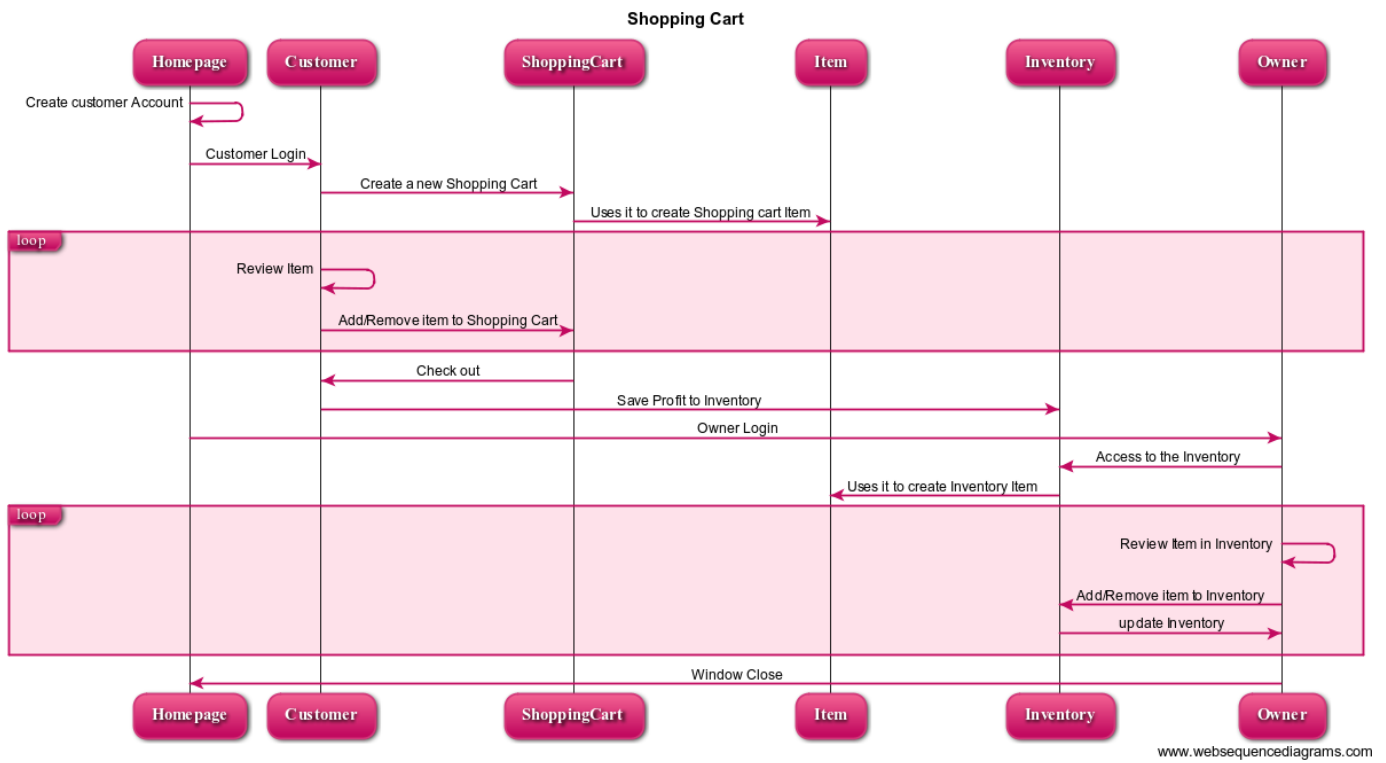
6. DIAGRAMS

(View attached file for better resolution)

➤ UML



➤ SEQUENCE



➤ STATE

