DePaul University
COLLEGE OF COMPUTING AND DIGITAL MEDIA

E-Shopping App

Object Oriented Modeling (SE 430)

Project proposal

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Group 2:

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1. Description

We've all been there: leaving the parking lot only to remember you forgot to pick up laundry detergent; the perplexity of not knowing which department marshmallows belong in; the dread of having to go shopping instead of spending time with friends. Though each store strives to provide a more convenient and delightful shopping experience for our customers, we recognize that going to any store on a daily, weekly or monthly basis takes time away from doing the things you enjoy. This is the reason for creating e-shopping application that serves customers better. E-Shopping application is an online application that allows online ordering of products. Through it, the customer will be able to view the available products, choose what he or she wants, and then pay to get what he or she has chosen. This is a very useful application as it will save customers time, money and effort.

2. Documentation of functional and non-functional requirements

- **Functional Requirements**

  - The user must be able to sign into the application
  - The user must be able to sign out of the application
  - The system must show the available products
  - The system must show a product information; such as its price
  - The system must allow the user to add the selected products to the cart
  - The system must allow the user to remove a product from the cart
  - The system must allow the user to edit a product in the cart
  - The system must allow the user to make the purchase

- **Non-functional Requirements**

  - The user must be able to sign into the application
  - All text in the user interface must have sufficient color contrast against its background
  - The product's pictures must be in a good quality
  - The application must be able to run continuously without crashing
  - The system must store passwords and payment information securely

3. Data Dictionary

Term	Definition
Cart	A place where the selected products are located
Quantity	The amount of a selected product
Price	The amount of money required in payment for products
Description	A written information about a product
Username	An identification used by a user with access to the application.
Password	Secret letters that must be used to gain admission to access the application.
Category	A class or division of things regarded as having particular shared characteristics.

Product	**A substance that is manufactured or refined for sale**

4. Initial Use Case Model, consisting of Use Case diagram and Use Case descriptions
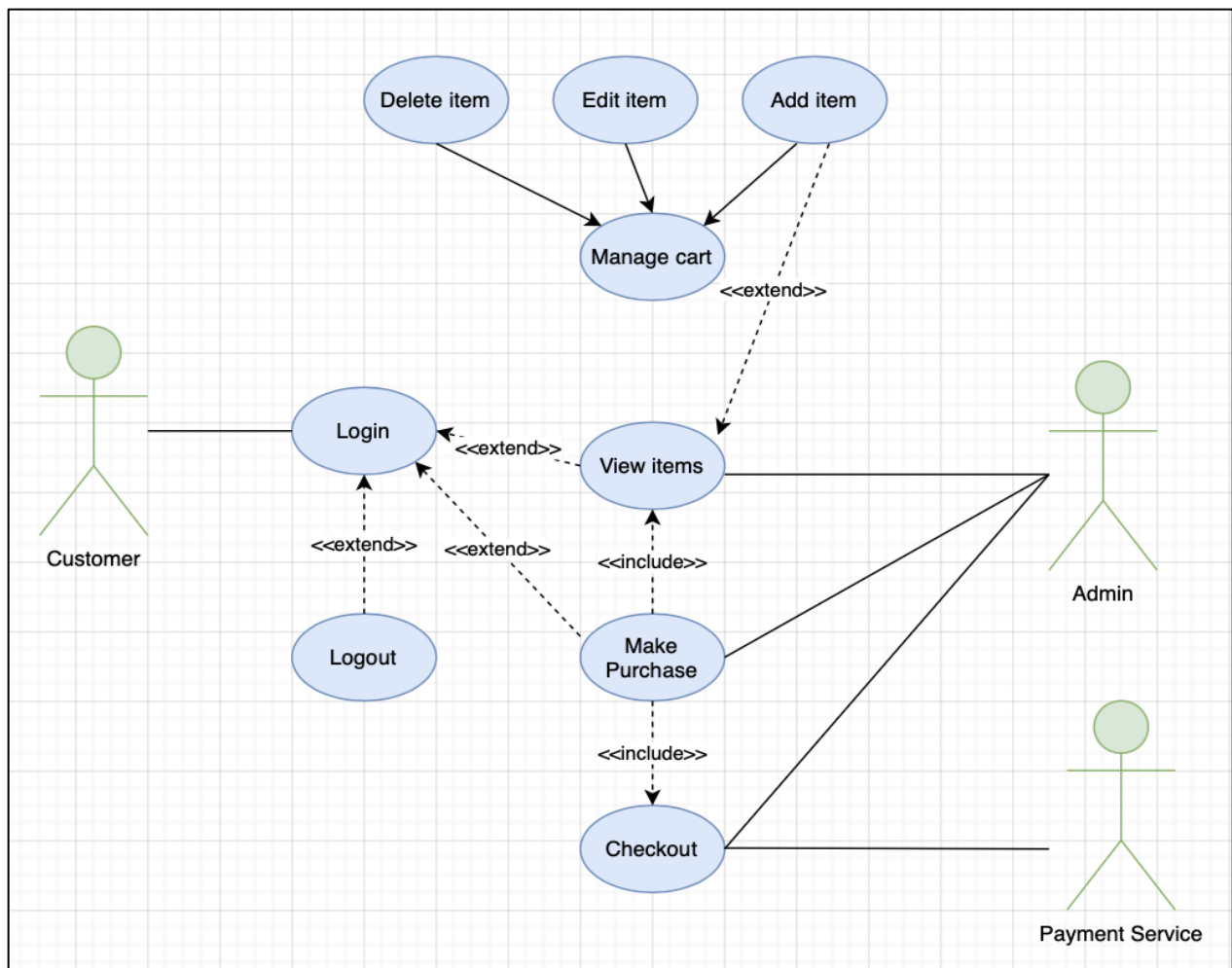
Use Case ID:	eShopping1		
Use Case Name:	Login into the system.		
Created By:	Sarah Alanqari	Last Updated By:	Sarah Alanqari
Date Created:	04/27/2022	Date Last Updated:	04/27/2022

Actor:	A customer.
Description:	This use case describes how a customer logs into the system.
Preconditions:	The customer is NOT logged in
Postconditions:	If the use case was successful, the actor is now logged into the system.
Priority:	Essential.
Frequency of Use:	Frequently.
Flow of Events:	This use case starts when a user wants to log into the system. 1. The system requests that the actor enter his/her username and password. 2. The actor enters his/her username and password. 3. The system validates the entered username and password and logs the actor into the system.
Alternative Flow:	Invalid Name / Password: 1. The system requests that the actor enter his/her username and password. 2. The actor enters his/her username and password. 3. The system is unable to validate the username and password (invalid credentials. 4. The system notifies the user that the entered credentials are invalid 5. The user is kept on the log-in screen and the login form fields are cleared
Exceptions:	None.

Includes:	None.
Special Requirements:	None.
Assumptions:	None.
Notes and Issues:	None.

Use Case ID:	eShopping2		
Use Case Name:	Log out of the system.		
Created By:	Sarah Alanqari	Last Updated By:	Sarah Alanqari
Date Created:	04/27/2022	Date Last Updated:	04/27/2022

Actor:	A customer.
Description:	This use case covers the customer ending their authenticated session in the application.
Preconditions:	The customer is logged in
Postconditions:	The customer is logged out and returns to the sign-in screen
Priority:	Essential.
Frequency of Use:	Frequently.
Flow of Events:	This use case starts when a customer wants to log out the system. 1. The user presses the logout button 2. The system signs the user out 3. redirects the user to the log-in screen

Alternative Flow:	None
Exceptions:	None.
Includes:	None.
Special Requirements:	None.
Assumptions:	None.
Notes and Issues:	None.

Use Case ID	eShopping3		
Use Case Name	Manage cart		
Created By	Steven Perry	Last Updated By	Steven Perry
Data Created	4/28/2022	Date Last Updated	4/28/2022

Actor	Customer
Description	This use case is for when customers would like to view a page from which they can edit or delete items from their cart
Preconditions	The customer is logged in
Postconditions	The customer is sent to a page listing their cart items and possible actions
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when customers want to manage their cart items 1. The customer presses the "Cart" button 2. The system directs the user to a page showing for each item in the cart its information, quantity and available actions

Alternative Flow	This use case begins when customers view their cart, but their cart contains no items 1. The customer presses the "Cart" button 2. The system directs the user to a page showing the message "Your cart is empty"
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping4		
Use Case Name	Add item		
Created By	Steven Perry	Last Updated By	Steven Perry
Data Created	4/28/2022	Date Last Updated	4/28/2022

Actor	Customer
Description	This use case is for when a customer would like to add an item to their cart
Preconditions	Customer must be logged in
Postconditions	The customers cart will be updated to include the item added at the quantity allocated
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when a customer is viewing a product and would like to add it to their cart 1. The customer presses the "Add item" button 2. The customer enters the quantity they would like of the

	item
	3. The customer's cart is updated to reflect the new item
	4. The customer is redirected to the "Cart" page
Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping5		
Use Case Name	Edit item		
Created By	Steven Perry	Last Updated By	Steven Perry
Data Created	4/28/2022	Date Last Updated	4/28/2022

Actor	Customer
Description	This use case is for when a customer is on the "Cart" page and would like to edit the quantity of an item in their cart
Preconditions	The customer must be logged in and there must be an item in their cart
Postconditions	The customers cart will be updated to reflect the new quantity of the selected item
Priority	Essential
Frequency of Use	Not often
Flow of Events	This use case begins when a customer has an item in their cart and is viewing the "Cart" page 1. The customer presses the button labeled "Adjust

	quantity" 2. The customer enters their desired value into the box 3. The customer's cart is updated to reflect the new quantity of that item 4. The "Cart" page is refreshed and displays the new cart information
Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping6		
Use Case Name	Delete item		
Created By	Steven Perry	Last Updated By	Steven Perry
Data Created	4/28/2022	Date Last Updated	4/28/2022

Actor	Customer
Description	This use case is for when a customer is on the "Cart" page and would like to delete an item from their cart
Preconditions	The customer must be logged in and there must be an item in their cart
Postconditions	The customers cart will be updated to reflect the absence of the item
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when a customer has an item in their cart and is

	viewing the "Cart" page
	1. The customer presses the button labeled "Remove product"
	2. The customer's cart is updated to reflect the absence of the desired item
	3. The "Manage cart" page is refreshed and displays the new cart information
Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping7			
Use Case Name	View item			
Created By	Haodong Wu	Last Updated By	Haodong Wu
Data Created	04/28/2022	Date Last Updated	04/28/2022

Actor	Customer
Description	This use case is for when a customer is on the "Home" page and would like to look deep into an item
Preconditions	The customer must be logged in
Postconditions	None
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when a customer sees an item on the "Home" page

	1. The customer presses the button labeled "View product" 2. An information page about the product will appear
Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping8		
Use Case Name	Checkout		
Created By	Haodong Wu	Last Updated By	Haodong Wu
Data Created	04/28/2022	Date Last Updated	04/28/2022

Actor	Customer
Description	This use case is for when a customer is on the "Payment information" page and would like to checkout
Preconditions	The customer must be logged in and there must be an item or more in their cart
Postconditions	None
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when a customer is in "Payment information" page 1. The customer enters the payment information of his or her choice 2. The customers press the checkout button

Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

Use Case ID	eShopping9		
Use Case Name	Make Purchase		
Created By	Haodong Wu	Last Updated By	Haodong Wu
Data Created	04/28/2022	Date Last Updated	04/28/2022

Actor	Customer
Description	This use case is for when a customer is on the "Cart" page and would like to checkout an item or items from their cart
Preconditions	The customer must be logged in and there must be an item in their cart
Postconditions	The customers cart will be updated to directed to the payment information page
Priority	Essential
Frequency of Use	Frequent
Flow of Events	This use case begins when a customer has an item or a few items in their cart and is viewing the "Cart" page 1. The customer presses the button labeled "Checkout" 2. The "Cart" page is directed to the "Payment information" page and asks the customer to make payment

Alternative Flow	None
Exceptions	None
Includes	None
Special Requirements	None
Assumptions	None
Notes and Issues	None

5. UI Mockups

[Note: figma tool is used here to create the UI]
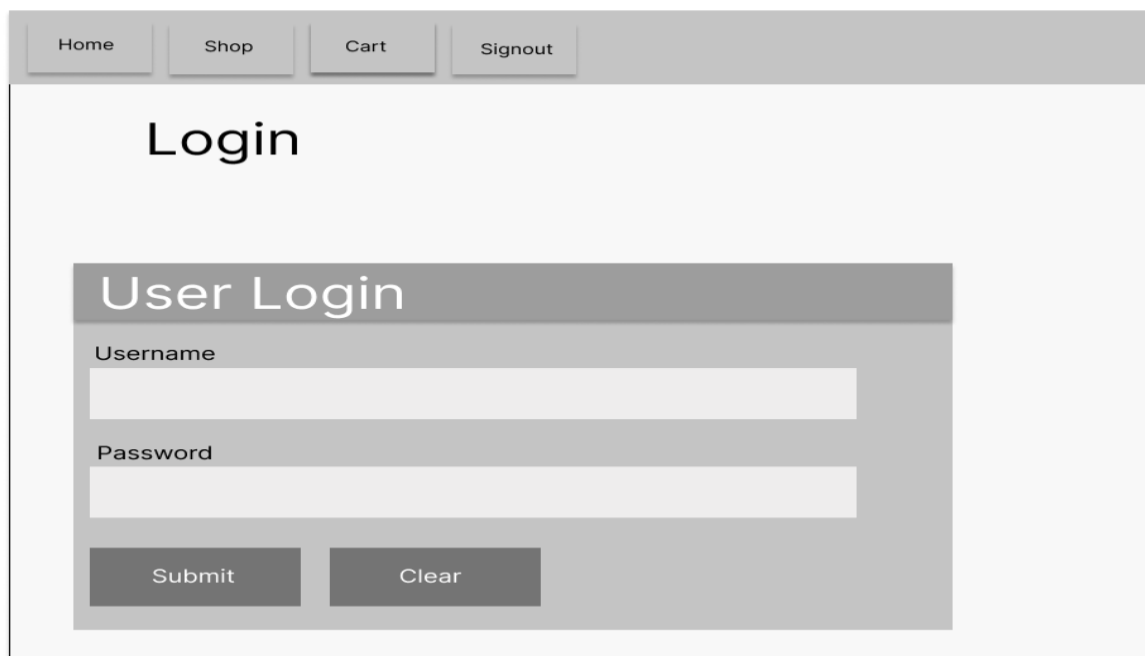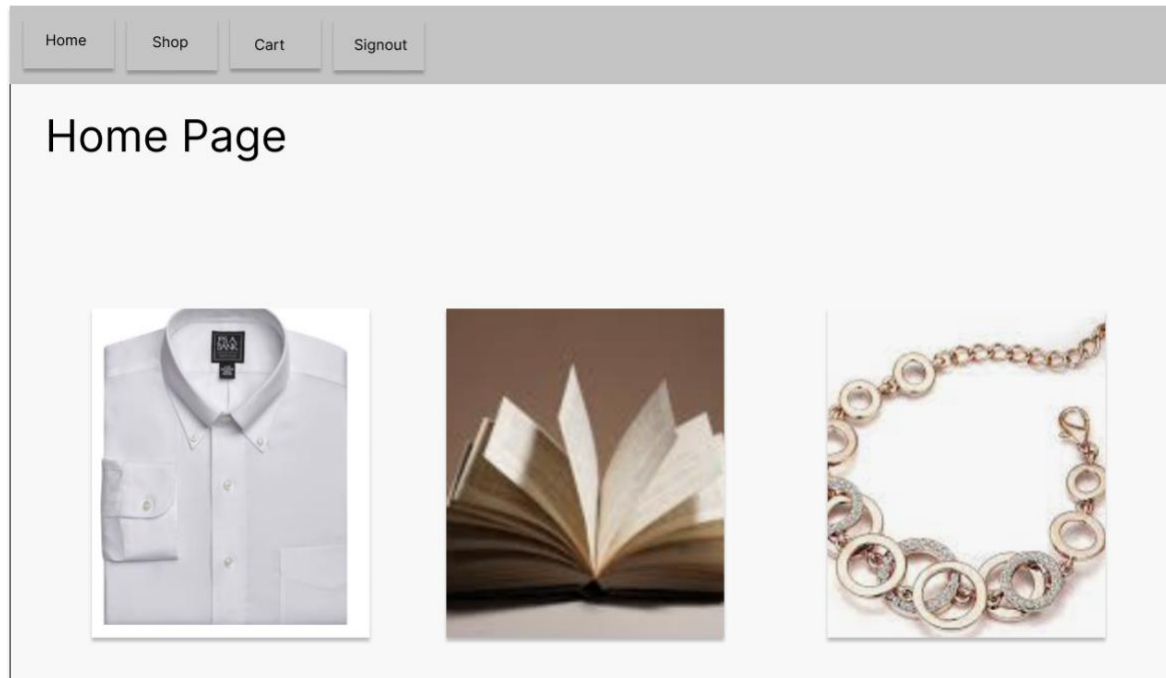
Cart

Product

Price	$ 100

Quantity	1

Remove

Home   Shop   Cart   Signout

Add Product

Name

Price

Description

Category

Photo

Choose File

Add