Assignment 4

AI-TE KUO

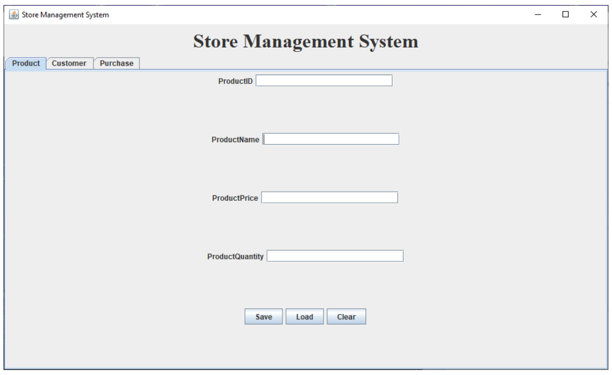
Oct 25, 2019

1. Rewrite two common use cases for each user story. Sketch the screens the system should display in each use case.
2. Design the screens (UI windows and widgets) the system should display in each use case.

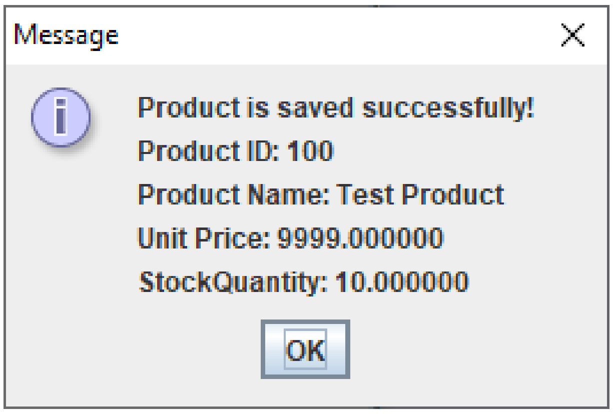
   (a) Product

   i. Common case - When a new product is arrived, the system shall be able to provide a functionality that the user can add a new product to the system.

1. The user clicks on the product tab and the system shall display the add product page.

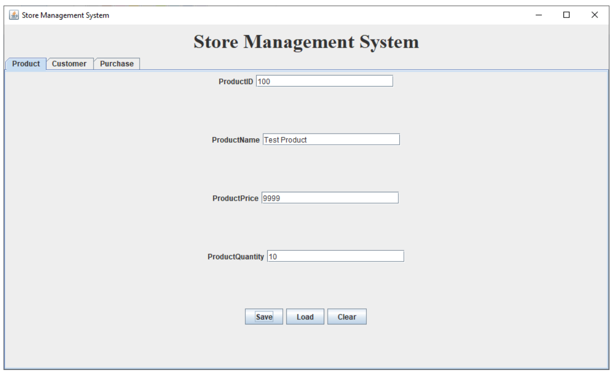


3. The user clicks on "Save" button and the system shall pop out the message showing the product has been successfully saved.



Product is saved successfully!
Product ID: 100
Product Name: Test Product
Unit Price: 9999.000000
StockQuantity: 10.000000

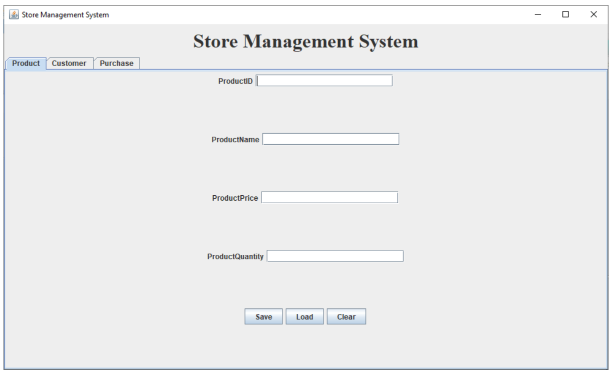
2. The user inputs all the product details.



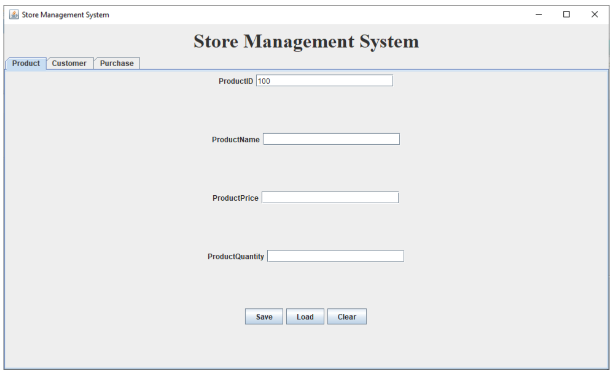
ProductID 100
ProductName Test Product
ProductPrice 9999
ProductQuantity 10

ii. Common case - It's approaching holidays and the manager would like to make some certain items on sale at 20% off, the system shall provide a functionality that the manager can change the price of items.

1. The user clicks on the product tab and the system shall display the add product page.

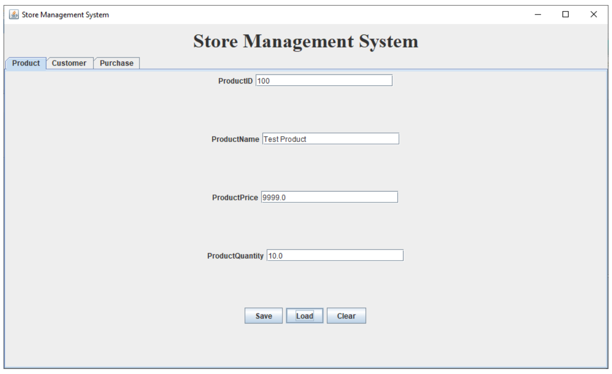


2. The user types the product id.



ProductID 100

3. The user clicks on "Load" button and the system shall load all the corresponding item details with the given id.



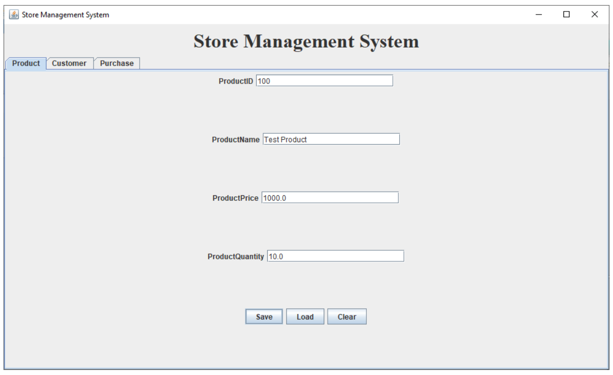
ProductID 100

ProductName Test Product

ProductPrice 9999.0

ProductQuantity 10.0

4. The user types the product details to be changed.



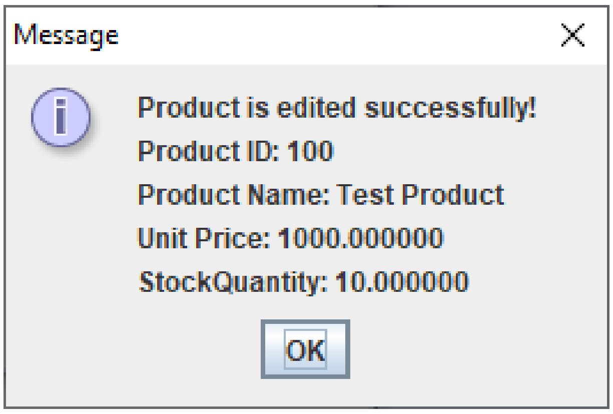
ProductID 100

ProductName Test Product

ProductPrice 1000.0

ProductQuantity 10.0

5. The user clicks on "Save" button and the system shall pop out the message showing the product has been successfully edited.

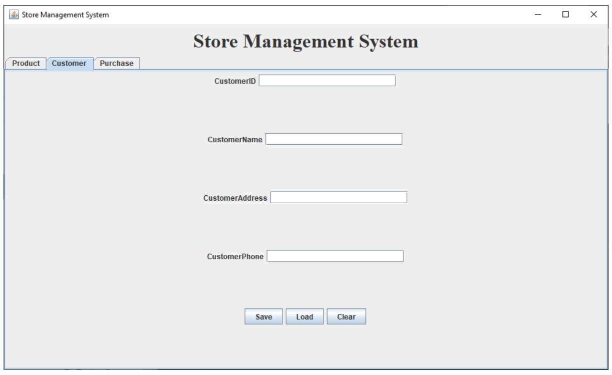


Product is edited successfully!
Product ID: 100
Product Name: Test Product
Unit Price: 1000.000000
StockQuantity: 10.000000

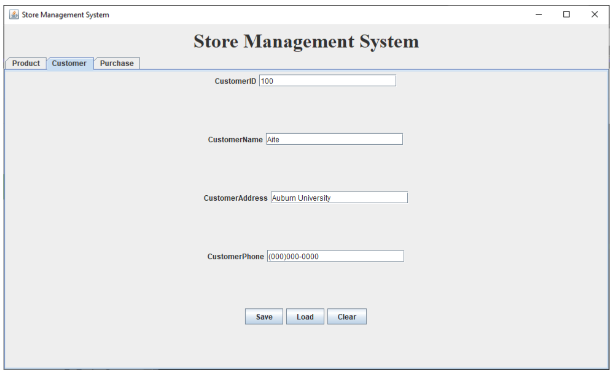
(b) Customer

i. Common case - When the customer wants to register a membership to get benefits at the customer service, the system shall provide a functionality that the employee can help the customer with their membership registration.

1. The user clicks on the customer tab and the system shall display the customer product page.



2. The user inputs all the customer details.



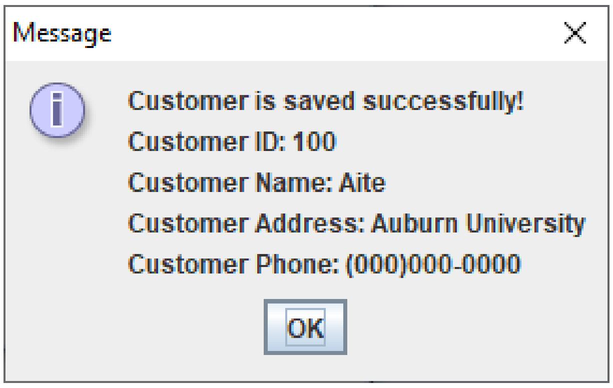
CustomerID 100

CustomerName Aite

CustomerAddress Auburn University

CustomerPhone (000)000-0000

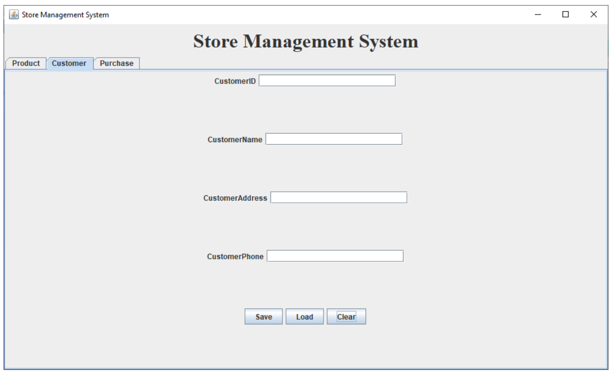
3. The user clicks on "Save" button and the system shall pop out the message showing the customer membership has been successfully registered.



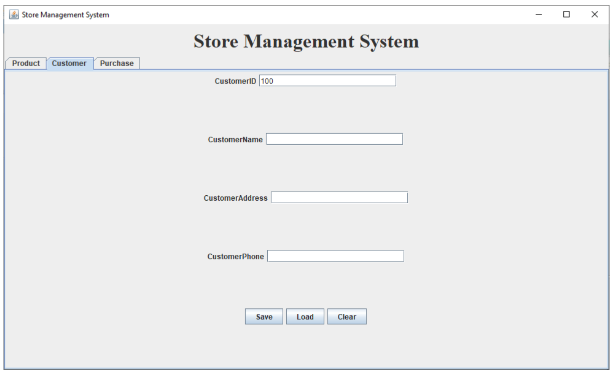
Customer is saved successfully!
Customer ID: 100
Customer Name: Aite
Customer Address: Auburn University
Customer Phone: (000)000-0000

ii. Common case - When the customer recently changed his/her address and phone, the system shall provide a functionality that the customer can change their profile data after the registration.

1. The user clicks on the customer tab and the system shall display the add customer page.

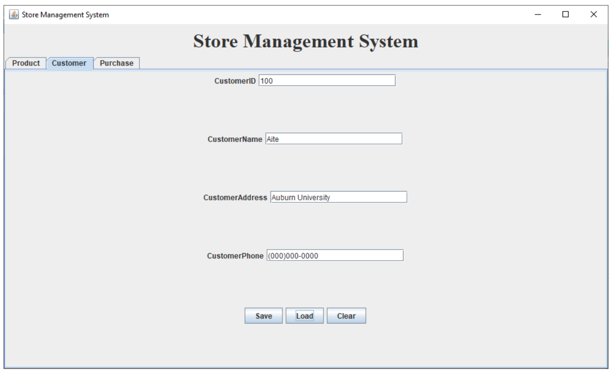


2. The user types the customer id.



CustomerID 100

3. The user clicks on "Load" button and the system shall load all the corresponding customer details with the given id.



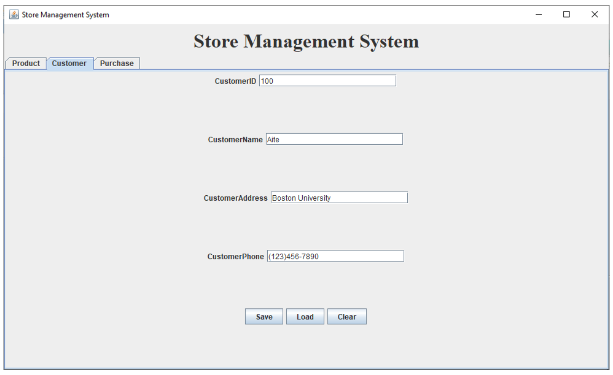
CustomerID 100

CustomerName Aite

CustomerAddress Auburn University

CustomerPhone (000)000-0000

4. The user types the customer details to be changed.



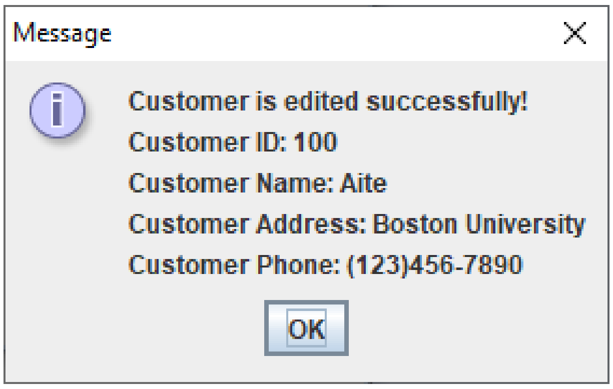
CustomerID 100

CustomerName Aite

CustomerAddress Boston University

CustomerPhone (123)456-7890

5. The user clicks on "Save" button and the system shall pop out the message showing the product has been successfully edited.

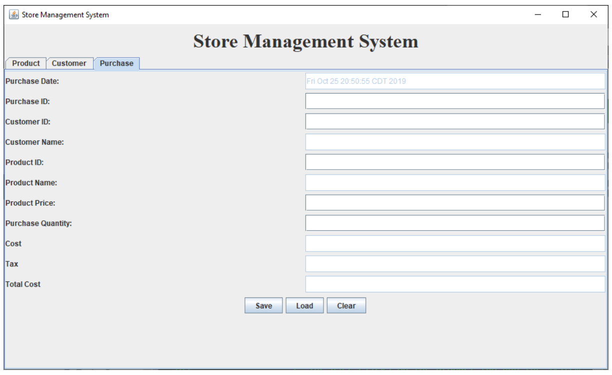


Customer is edited successfully!
Customer ID: 100
Customer Name: Aite
Customer Address: Boston University
Customer Phone: (123)456-7890

(c) Purchase

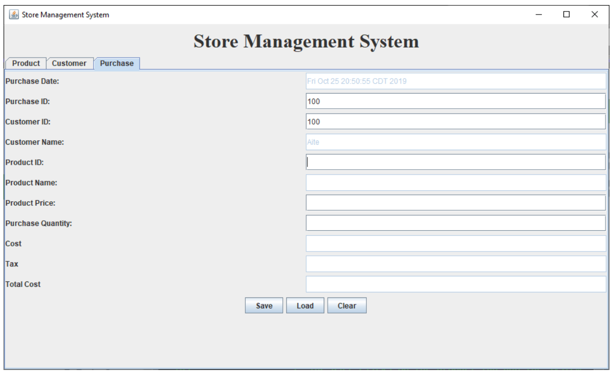
i. Common case - When the user wants to add a purchase in the system, the system shall provide a functionality that the user can record the purchase and transaction history into the database.

1. The user clicks on the product tab and the system shall display the add product page.



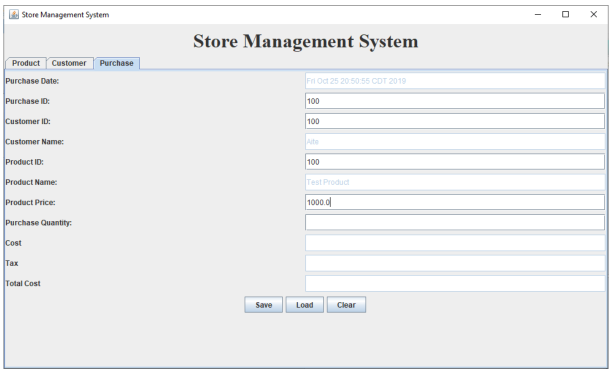
Purchase Date: Fri Oct 25 20:50:55 CDT 2019
Purchase ID:
Customer ID:
Customer Name:
Product ID:
Product Name:
Product Price:
Purchase Quantity:
Cost
Tax
Total Cost

2. When the user types the customer id, the system shall automatically display the corresponding customer name.



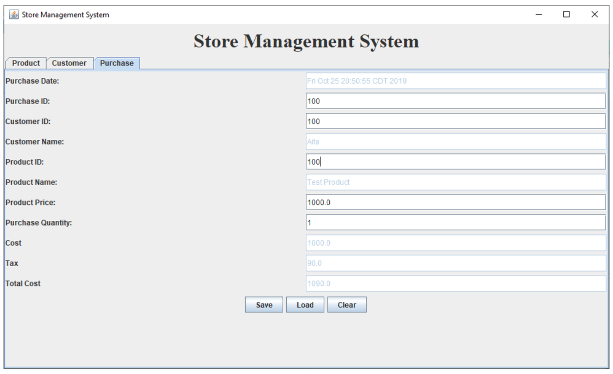
Purchase Date: Fri Oct 25 20:50:55 CDT 2019
Purchase ID: 100
Customer ID: 100
Customer Name: Aite
Product ID:
Product Name:
Product Price:
Purchase Quantity:
Cost
Tax
Total Cost

3. When the user types the product id, the system shall automatically display the corresponding product name.



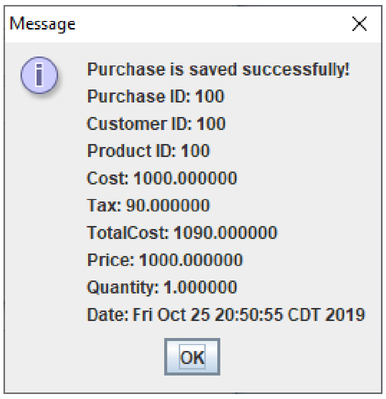
Purchase Date: Fri Oct 25 20:50:55 CDT 2019
Purchase ID: 100
Customer ID: 100
Customer Name: Aite
Product ID: 100
Product Name: Test Product
Product Price: 1000.0
Purchase Quantity:
Cost
Tax
Total Cost

4. When the user types the purchase quantity, the system shall automatically show the cost, tax and total cost.



Purchase Date: Fri Oct 25 20:50:55 CDT 2019
Purchase ID: 100
Customer ID: 100
Customer Name: Aite
Product ID: 100
Product Name: Test Product
Product Price: 1000.0
Purchase Quantity: 1
Cost 1000.0
Tax 90.0
Total Cost 1090.0

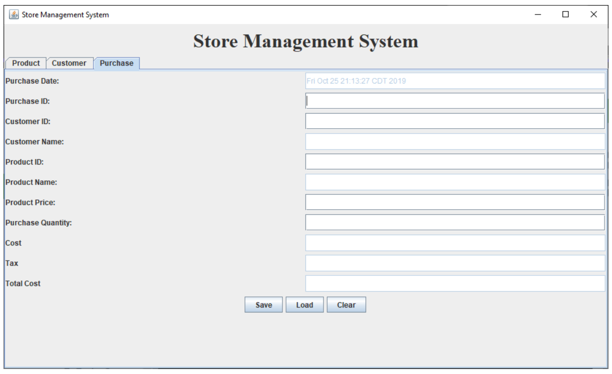
5. The user clicks on "Save" button and the system shall pop out the message showing the purchase is saved.



Purchase is saved successfully!
Purchase ID: 100
Customer ID: 100
Product ID: 100
Cost: 1000.000000
Tax: 90.000000
TotalCost: 1090.000000
Price: 1000.000000
Quantity: 1.000000
Date: Fri Oct 25 20:50:55 CDT 2019

ii. Common case - When the user types in the wrong quantity in the system, the system shall provide a functionality that the user can edit afterwards.

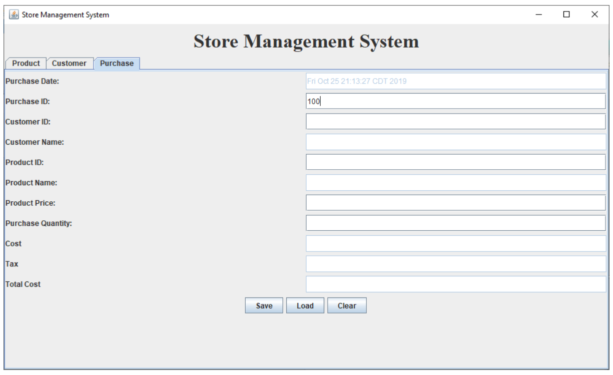
1. The user clicks on the product tab and the system shall display the add purchase page.



Store Management System

Purchase Date:	Fri Oct 25 21:13:27 CDT 2019
Purchase ID:	
Customer ID:	
Customer Name:	
Product ID:	
Product Name:	
Product Price:	
Purchase Quantity:	
Cost	
Tax	
Total Cost	

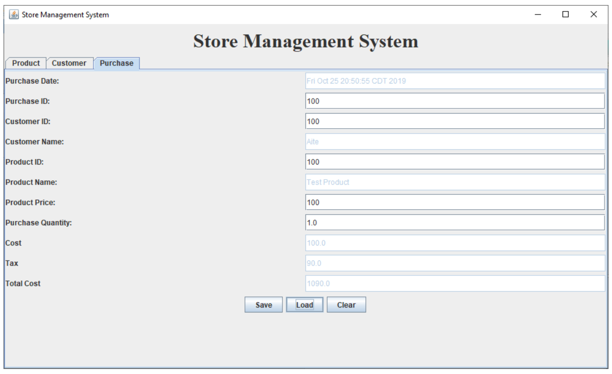
2. The user types the purchase id.



Store Management System

Purchase Date:	Fri Oct 25 21:13:27 CDT 2019
Purchase ID:	100
Customer ID:	
Customer Name:	
Product ID:	
Product Name:	
Product Price:	
Purchase Quantity:	
Cost	
Tax	
Total Cost	

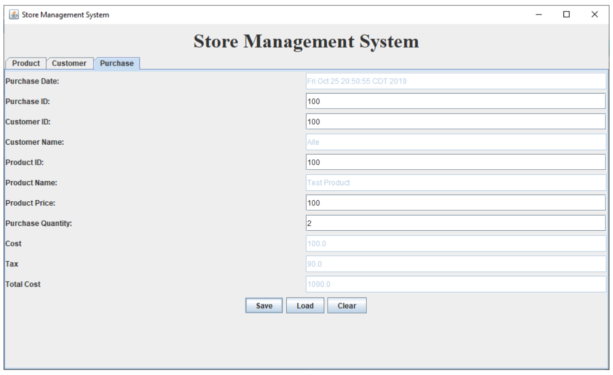
3. The user clicks on "Load" button and the system shall load all the corresponding purchase details with the given id.



Store Management System

Purchase Date:	Fri Oct 25 20:50:55 CDT 2019
Purchase ID:	100
Customer ID:	100
Customer Name:	Aite
Product ID:	100
Product Name:	Test Product
Product Price:	100
Purchase Quantity:	1.0
Cost	100.0
Tax	90.0
Total Cost	1090.0

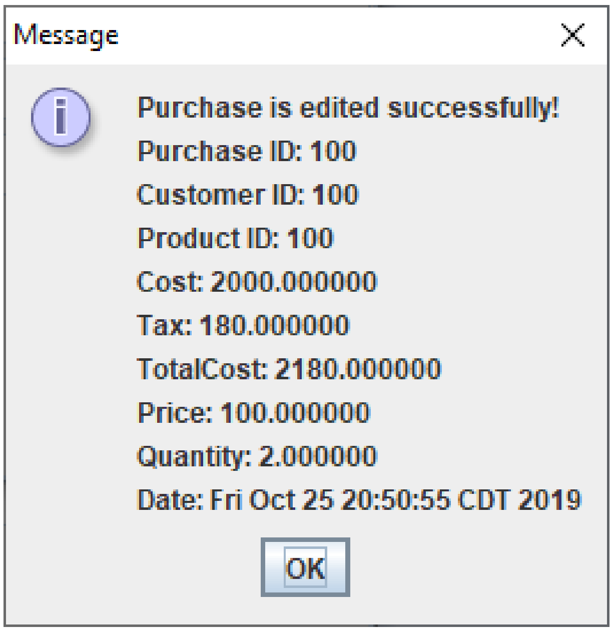
4. The user types the purchase details to be changed.



Store Management System

Purchase Date:	Fri Oct 25 20:50:55 CDT 2019
Purchase ID:	100
Customer ID:	100
Customer Name:	Aite
Product ID:	100
Product Name:	Test Product
Product Price:	100
Purchase Quantity:	2
Cost	100.0
Tax	90.0
Total Cost	1090.0

5. The user clicks on "Save" button and the system shall pop out the message showing the purchase has been successfully edited.



Message

Purchase is edited successfully!
Purchase ID: 100
Customer ID: 100
Product ID: 100
Cost: 2000.000000
Tax: 180.000000
TotalCost: 2180.000000
Price: 100.000000
Quantity: 2.000000
Date: Fri Oct 25 20:50:55 CDT 2019

3. Describe the protocol for two sides: client and server.

   Answer:
   The client encodes the request code and data in a JSON format and sends the JSON text to the server. After the server receives the data, the server starts to processes the request. It first decodes a JSON string, obtains the request code, delegates the request to the corresponding method according to its code, and finally gets the returned result. Afterwards, the server sends back the answer to the client including an error code (status code) and the response data. The client then are able to handle the response according to its error code and data.

   Video Demo: `https://www.youtube.com/watch?v=RdtJq7_CYNw`