Online Marketplace

This project mainly discusses about the online marketplace (E-Commerce website) and the various actions and events that related to the designing phase of the project. In this project, the client wants to have an online marketplace to provide the services or to sell the commodities to the customers all over the world, so the client reaches out to the software company that mainly develops the real-time software applications. In this process, client presents the requirements of the online marketplace and the employees in the company will take the client requirements and they consider it during the application lifecycle i.e., from starting to till the end of the application.

The client requirements are used as the blueprint of the expected application. Then, the employees of the software company should go through all the phase of the Software Application Development Process.

1. Requirement Gathering (Client requirements)
2. Analysis Phase
3. Designing Phase
4. Implementation or Development Phase (Coding)
5. Testing Phase
6. Deployment Phase
7. Maintenance.

So, primary focus of the project is to design and develop an online marketplace that has a separate views and functionalities of the actions performed by the Customer/Client and the Administrator/Employee of the software company.

Client/ Customer Administrator/Employee

1. Register and Login 1. Login
2. Browse Products 2. Update items (products)
3. Purchase products 3. Remove items
4. Add to the shopping Cart 4. Add Item
5. Payment Section 5. Add Administrator

6. Add or remove Customer Account.

The application should handle all the functional aspects of the client side and administrator views. The system should be reliable and should be tested properly without any functional or behavioral issues, i.e., the system need to throw an error message if the customer tries to make the order for the product which is out of stock, then the application will generate an error message and it shouldn’t navigate to the payment page.

After collecting all the requirements from the client and the employees should analyze the various elements required to design the architecture of the application. In this project, we are going to use the domain model and Model view controller pattern as part of the designing phase (Blueprint of the application).

1. Domain Model
2. Model-View-Controller (MVC Pattern)

Once, the designing phase of the project is done then the next step is to implement the functionalities in the code i.e., the classes and objects in the java language. The developed java code is then compiled and executed on the Java RMI.

In this project, I have used three separate classes for the Client, Server, and Controller as part of the architecture of the MVC pattern and I have used the RMI Interface for the access of the remote object.

In the RMI architecture, the MarketplaceServer methods have declared in the RMI Interface for the access of the remote object. Whereas in the MarketplaceClient I have defined and declared the methods. I have declared the controller in a separate class file to reduce the overlap of the methods.

In this architecture, the MVC pattern is implemented in the java RMI and it client and view are displayed to the customer in the marketplace website. The Model and the server are combined to serves for the local data operation. The MarketplaceController is used to control the both view and model and it acts as mediator. The RMI Interface is the interface that contains and declaration of methods that operate by the server. The marketplaceServer class implements the methods declared in the RMI Interface.

The marketplaceServer class method is the registered with the RMI registry using the method rebind();

**Naming.rebind(“marketplaceServer”, obj);**

In the MarketplaceClient class I have used the lookup method to display the view for the customer.

**RmiInterface obj= (RmiInterface) naming.lookup(); // creating the remote server object**