E-shop

I. E-shop is a system for electronic commerce, analogy of physical buying products or services. Mostly used web browser for client interact via Internet. Aim of e-shop is to provide user-friendly UI for shopping and fast and integrity data communication with database in order to quickly respond from seller. So, it has functionalities as browsing through catalog, login, make an order, add to cart, data management, admin panel, cms, etc.

II. One-layer architecture

It's not good to use this type of architecture in e-shop, but it's possible. So, we have a monitor to display info and computer with presentation, business logic, database modules in one. It could be a computer which located in some shop, so everybody should buy goods directly from the computer.

Two-layer architecture

It's a client-server architecture. So in client application the code is written for saving the data in SQL server database (browsing, ordering, etc.). Client sends the request to server and it process the request and send back with data. The main problem of this architecture type is the server cannot respond multiple requests at same time, as a result it causes data integrity issue.

Three-layer architecture

It's a client-server architecture where three modules: user interface, business process and data access/storage developed as independent modules.
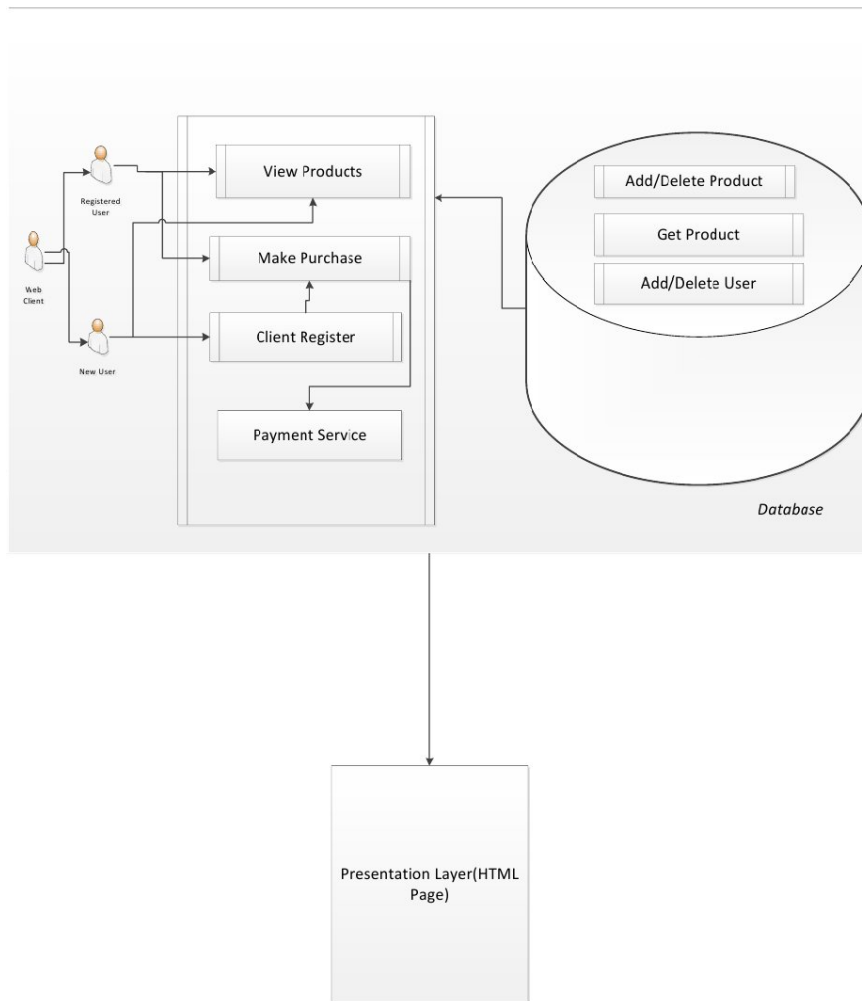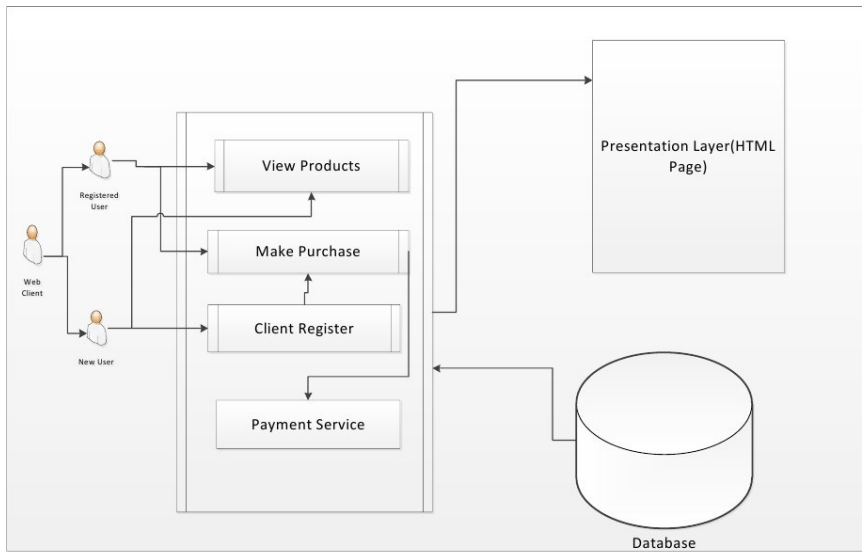
Presentation layer – contains UI part (web forms, images, etc.). Displays data, modifies/inserts data, provides all user interaction.

Business logic layer – e.g C# classes. Receives requests from client, responds to client requests, communicates with the database, applies business logic.

Data management layer – Database. Manages data interaction, enforce data integrity, does all that DB stuff.

The main advantage – easy to modify each layer separately without affecting other layers.

Main disadvantage – implementation becomes more difficult

Registered User

Web Client

New User

View Products

Make Purchase

Client Register

Payment Service

Presentation Layer(HTML Page)

Database

Registered User

Web Client

New User

View Products

Make Purchase

Client Register

Payment Service

Add/Delete Product

Get Product

Add/Delete User

Database

Presentation Layer(HTML Page)

Presentation Layer(HTML Page)

View Products

Registered User

Web Client

Make Purchase

New User

Client Register

Payment Service

Credit Payment Service

Payment by Credit

Payment

Payment by PayPal

PayPal Service

Get Product

Add/Delete Product

Add/Delete User

Database