

Bruegge 99, System Design, Chapter 6**Bernd Bruegge****Quiz No. 7****October 7th, 1999**

1. Explain briefly each of these software architectures.

- **Repository Architecture:** The subsystems access and modify data from the central repository, which also serves as the communication point between them. Typical of database management systems, and is well suited for applications with constantly changing complex data processing tasks.
- **Model/View Controller:** Subsystems are classified into three different types: the models subsystems maintain the domain knowledge, the view subsystems display it to the user, and the controller subsystems manage the sequence of interactions with the user. Changes are propagated to the view via a subscribe/notify protocol, and the models do not depend on any particular view or controller subsystem. It is well suited for interactive systems, especially when multiple views of the same model are needed.
- **Client/Server Architecture:** The server provides services to instances of other subsystems called the clients, which interact with the user. It is well suited for distributed systems.
- **Peer-to-Peer Architecture:** It is a generalization of the client/server architecture in which subsystems can act both as clients and servers, because each can request and provide services. The control flow within each subsystem is independent from the others except for synchronizations on request.
- **Pipe and Filter Architecture:** Subsystems process data received from a set of inputs and send results to other subsystems via a set of outputs. The subsystems are called filters, and the associations between them are called pipes. It is well suited for systems that apply transformations to streams of data without intervention by users.

2. What is the difference between Model/View/Controller and Client/Server?

In Model/View Controller, changes in the Model (central data structure) are automatically notified to the View (users). In Client/Server, all operations are requests, which means that changes in the Server (central data structure) are not automatically notified to the Clients (users).