QUIZ 1

What defines a distributed system? Explain your answer with a suitable example.

Distributed System, is system with multiple resources sharing (Software system connected to network).

In layman's term, a common resource is shared across big network, to accept multiple request and response, in big load.

Example in millennial, Facebook is an online social network hosted application that attracts users with variety of features. Facebook interconnect users by synchronous and asynchronous communication service provided, such as text and multimedia. These services attract the users and will be main reason for a huge traffic that flow Facebook system. Only distributed system architecture help such high traffic flow application system to use the cluster for the database, load balancing (F5), web servers and application server, are responsible for replying the high traffic.

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QUIZ 2

We received an email from the DVC Research and Innovation office saying that UM has subscribed to Microsoft Azure Cloud. What do you understand about Cloud Computing? One of the top challenges of adopting Cloud Computing is the security issues. Do you agree? Justify your answer.

Cloud computing is allowing an application to be use through online service, through only internet connection with any devices. This means the user doesn't require to take care of their own costly infrastructure at their location.

Yes, security issues is undoubtedly is one of the top challenges of adopting Cloud Computing. The security issue can be spilt two part :

I. **Password Security** – Password supervision plays significant role. The more individual, have access to the cloud account, the less secure it is. The information stored will be open to anyone aware of the password. Example, the password must change periodically, when staff resign. Only those who need access the privileges related to passwords and username should be assigned to.

II. **Data Privacy** - Sensitive and personal data stored in cloud must be used for internal use only not exposed to third parties. Example, any information of clients or customers should not be exposed.

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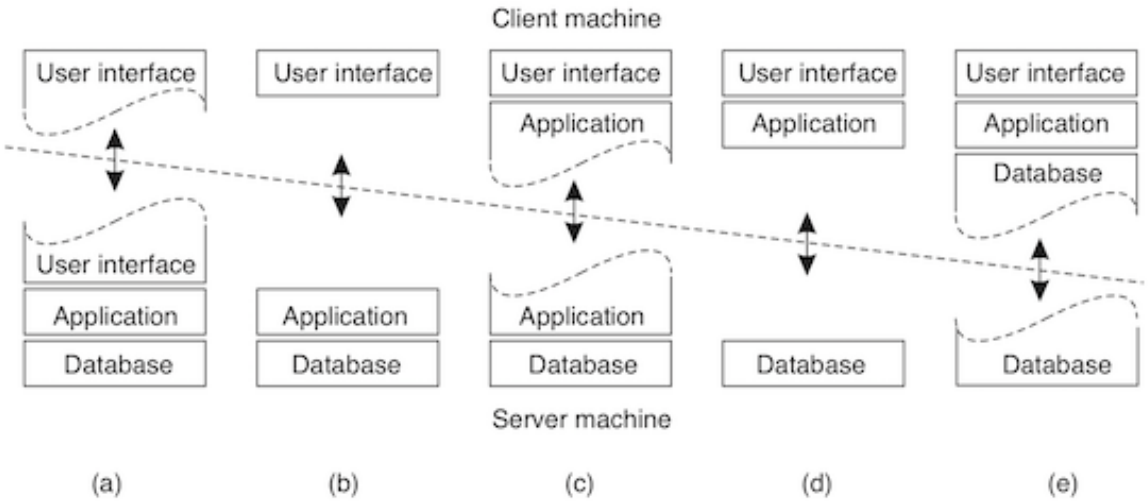
QUIZ 3

Multi-tiered architectures



The diagram above shows five variations of three-tiered architecture. Explain model (a), (c), (d) and (e) with a suitable example.

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Model (a) : One possible companies is to have only the terminal-dependent part of the client machine's user interface and have remote control over the presentation of their data to the applications.

Model (b) : Installing the entire user-interface software on the client side is an alternative. In such cases, we practically split the application into a graphical front end, which communicates through an application-specific protocol with the rest of the application. In this model, client software does not do any other processing than is required to display the interface of the application.

Model (c) : An example where this makes sense is where a form that needs to be filled in completely before it can be processed is being used by the application. The front end can then verify the accuracy and consistency of the shape, and communicate with the user if necessary. Another example of a company is a word processor in which the basic editing functions are executed on the client side, running on locally cached or in-memory data.

Model (d) : These companies are used where a PC or workstation is the client machine, linked to a distributed file system or database via a network. Supposedly, much of the programme runs on the client computer, but all file or database entry operations go to the server. For instance, several banking applications run on the computer of an end-user where transactions are planned by the user and such. The application contacts the database on the bank 's server after completion and uploads the transactions for further processing.

Model (e) : Similarly as **Model (d),** where represents the situation where part of the data is stored on the client's disk drive. For example, when browsing the Web, a client may gradually create a huge cache on local disc of most recent inspected Web pages.