# BLOOD BANK MANAGEMENT SYSTEM

Abstract:

Application for Blood Bank Management System is a way to synchronize Blood banks and Hospitals with the help of Internet. It is a Web Application and distributed system through which Registered Hospitals can check the availability of required Blood and can send Request for blood to the nearest blood bank or donor matching with blood requirement and can be ordered online as and when required. Blood bank can also send a request to another blood bank for unavailable blood. Person willing to donate blood can find out nearest blood banks using Blood Bank Management Android Application. The location of the blood bank can also be traced using maps. The Android application can be accessed only by the donors to search the blood donation centers and the requesting blood banks and hospitals to search the nearest blood banks and donors.

Blood Bank for Distributed System:

Client/Server Architecture and types

Client : A client is someone who request for a service.

Server : A server is the one who delivers the service to client.
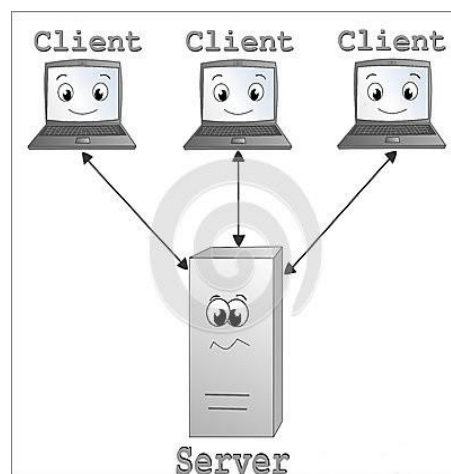
Client/Server Architecture : This is a network of nodes(PC/laptop/any other device) in which a node can act as either SERVER or CLIENT . Servers are powerful computers dedicated to managing disk drives(file servers), printers(print servers), or network traffic(network severs) etc. Clients are nodes on which user run application and request for services provided by server such as printing or storing file There are two types of client server architecture

Speed Up And Scale Up

To measure the performance of parallel processing we can use two important properties SPEEDUP and SCALEUP

Speedup is the extent up to which more hardware can reduce the overall time for execution of a task by executing the same task parallel y or Speedup is execution of a task in less time by increasing degree of parallelism.

speed-up = time_original / time_parallel

time_original : time taken to complete a task by original system

time_parallel : time taken to complete a task with multiple parallel executing systems.

for eg if original system to complete a task is 60sec and two parallel systems is 30sec then the value of speedup = 60/30 that is 2.

Modular Development : If we want to expand same system on different locations then we just need to add nodes to the current network and these nodes do not interrupt the current network functionalities.

Increases Reliability : If one node on a network fails then its work can be distributed between other nodes on the network, failing of one node does not stops the system.

Improves Performance : a small database is always easy to handle compared to a large database, so in distributed database a large database is distributed into small database across various locations which are easy to handle with better performance.

Increase Availability : failure of one node does not affect data availability as data can be obtained from various other nodes on network.

Faster Response : the data is available locally so data retrieval becomes efficient.

Data Allocation

The data allocation decides the locations of different data for storage.

Centralized : when data is stored at a single site and there is no data distribution.

Partitioned : The database get divided into multiple fragments and stored at multiple sites

Replicated : Copies of one or more database fragment are stored at various sites.