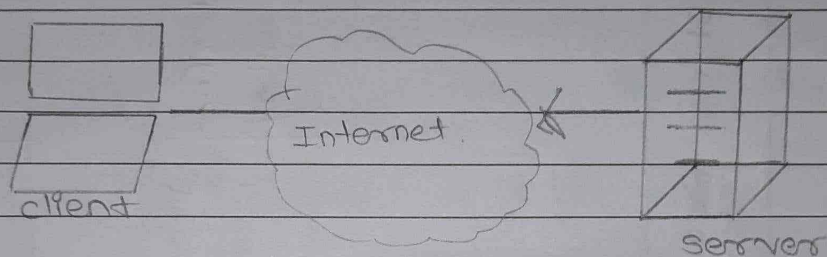1) Explain core Distributed computing Technologies

i) client / server

This is early age technologies which seperates the roles of computers as client and server. This technology is still powerful and popular amongst the network technologies to establish communication bet^n two or more machines.
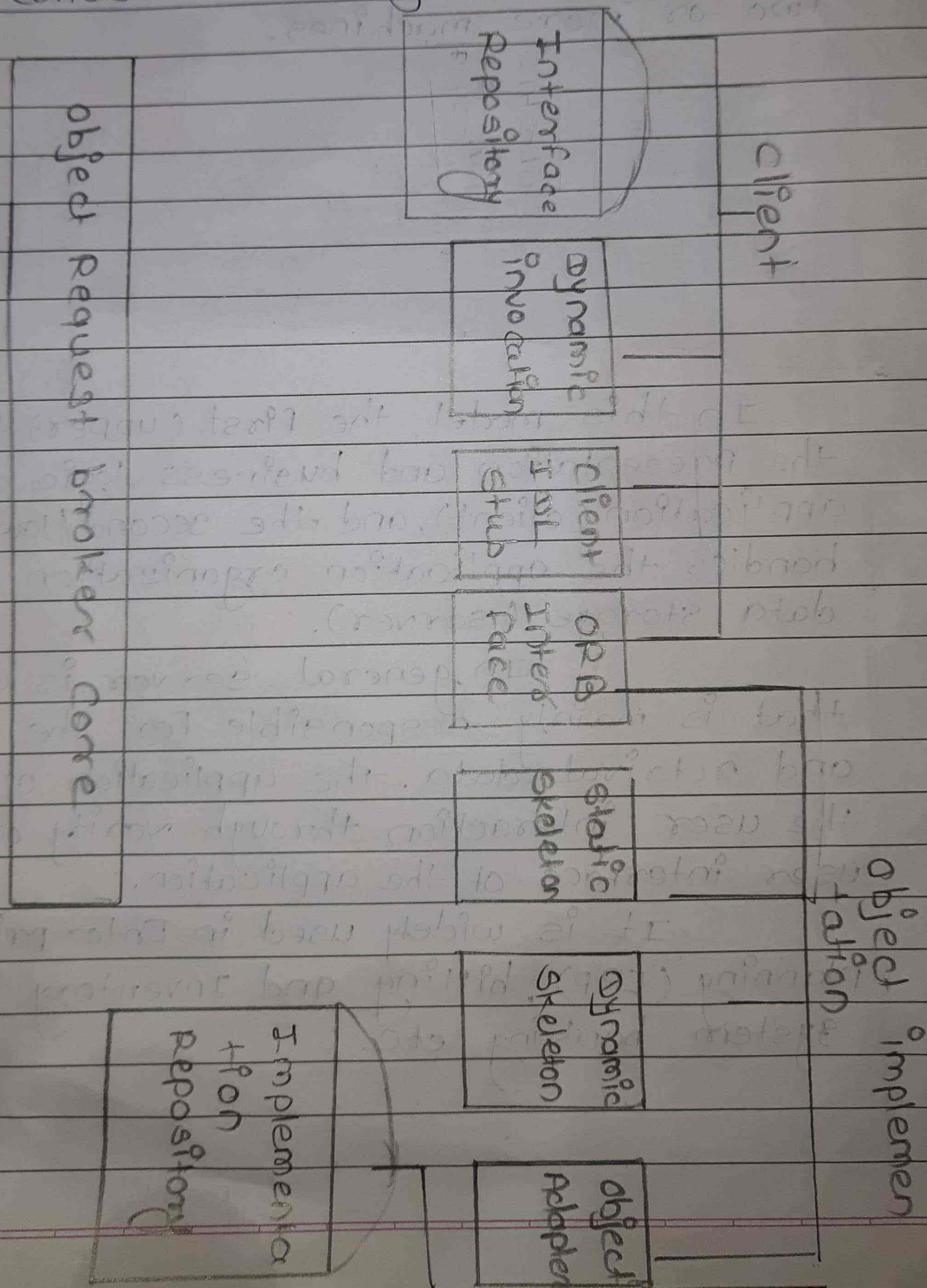

In this model, the first (upper) tire handles the presentation and business logic of user application (client), and the second / lowest tire handles the application organization and its data storage (server).

In general server is a database that is mainly responsible for the organization and retrival data. the application client handle the user interaction through varity of graphical user interface of the application.

It is widely used in Enterprise Resource planning (ERP), billing and Inventory application system banking etc.

2) Corba (Common object request broker architecture
Written c, c++ & Java and intergrate
through idial bainding.
" A collection of system level service
for handaling low level application services
like life cycle peristatice, transaction,
Naming, security".
It consist of two system.

Labels visible in diagram: client, Interface Repository, Dynamic invocation, Client IDL stub, ORB Interface, Static Skeleton, object Request broker Core, Dynamic Skeleton, object Adapter, object implementation, Implementation Repository

It is developed by object management Group (OMG)
It provide an object oriented solution that does
not enforces any protocol or programing
Language.
Interface defination Language (IOL) is a interface
Language.

Advantages OF CORBA.

i) os and programming-Language independence.

ii) Legacy and custom application integration.

iii) Rich distributed object infrastructure.

iv) Location transparancy.

* Java RMI (Remote Method invocation)
        This is pure java solution for
handling distributed communication.
        Through RMI, object running on a client
computer can invoke Method on an object present
on server.

* Working of RMI.

i) stub object (client side)
ii) skelton object (server side)

i) stub object :- The stub object on the client machine

build an information and sends this information to the server.

The block consists of:

a) An identifier of the remote object to be used.
b) Method name which is to be invoked.
c) Parameter to the remote JVM.

ii) skeleton object

The skelton object passes the request from the stub object to follows:

a) It calls the desired method on the real object present on the server.
b) It forward the parameters received from the stub object to the method.

* Microsoft DCOM. (Distributed component object model).

It is a remote protocol designed by Microsoft to invoked RPCS. It consists of a set of extension layered on the Microsoft Remote procedure call Extension.

higher-level application

DCOM

RPC

(DCOM protocol stack):- higher - level application used the DCOM client to obtained object refernces or make ORPC calls on the object the DCOM client uses the Remote procedure call

DCOM is language & platform independent.

Q. What is the role of J2EE in distributed computing?

A distributed system is a collection of individual system that co-ordinate and communicate with each other by sharing information over the network. It works on client and server or peer to peer model.

A distributed application uses the layered approach to software developement using middleware provides a common set of services for application and has to work independent tools

J2EE Development tools.

i) Analysis and design tools
use of UML diagram help in visualizing the system. The tools like Rational Rose is used.

ii) Developement Tools
It result in faster performance of the system.
The most commercial IDEs avialble on J2EE

i) WebGain studio
ii) Borland's J Builder
iii) IBM's Visual Age.
Open source server like JBoss the Ant build tool is used. Ant integration is avilables for visual age.

iii) Build tools
onces the project build for execution and

deployment. J2EE have its own build tools to supports this phase of project developement. This process involves completing the components to relatives classes, creating deployment, descriptors and packaging the components into JAR, WAR, EAR files. This all process are very complecated and the use of built in tools supports this.

iv) source code control Tools

J2EE maintains a shared reposi tory for the code base in various phase of project developement

v) Testing Tools

Before any project is relesed a rigorous testing is done. the various utility performes various types of testing on project Component.

i) Unit / Functional testing
ii) system testing
iii) Integration testing
iv) unit / functional testing
v) user acceptance testing.

vi) problem Tracking Tools

This stools take care of integrating modules to construct the overall system.

vii) Teasting and deployement in J2EE

J2EE are difficult to test and deploy. The difficulty occure by distributed nature

Q. What is stateless and statefull services? explain with example?.

→ stateless

i) stateless services are the type of network protocols in which client send a request to the server and server and server respon ce back according to current side.

ii) In stateless service there are no tiant dependency between server and client.

iii) The stateless protocol design simplify the server design.

iv) It handles transaction very fast.

Statefull

i) In statefull protocol if client send a request to the server then it expects some kind of responce, if it does not get any responce then it resend the request.

ii) In statefull services there is tiant depen dancy between server and client.

iv) It handles transaction very slowly.

Q. Explain any one web technology in details used for implementing Web services

i) UDDI

Universal Description, Discovery and Intigration.

It provides a specification that aids in the hosting of data via Web servic es. UDDI provides a repository Where WSDL files can be hosted so that a client application can discover a WSDL file to learn about the various action that a Web services offeres.

i) It is platform independent.

ii) open Framework,

iii) UDDI uses SOAP, COARBA, Java RMI proto cols.

iv) It is an open industry intiatives that enable buisness to discover each other and define how they interact using the internet.