SNS COLLEGE OF ENGINEERING

(Autonomous)
DEPARTMENT OF CSE – (IOT & CS INCLUDING BCT)

19SB51X – MOBILE COMPUTING
III YEAR/ V SEMESTER

UNIT 1 – INTRODUCTION TO MOBILE COMPUTING
TOPIC – 2 : MODELS IN MOBILE COMPUTING

CLIENT-SERVER MODE

- The client-server model is a common approach used in mobile computing models. In this model, there are two main components: the client and the server.
- The client refers to the mobile device, such as a smartphone or tablet, that accesses and interacts with the server. It is responsible for sending requests to the server and receiving responses back.
- The server, on the other hand, refers to a central computer system that processes these client requests and provides the requested data or services. It is responsible for storing and managing the data, as well as performing any necessary computations.
- The client and server communicate over a network, such as the internet, using different protocols and technologies. The client sends requests to the server, specifying what data or services it needs. The server processes these requests and sends back the requested information or performs the requested actions.

PEER-TO-PEER MODEL

- In a peer-to-peer (P2P) model, computers or devices are connected directly to each other without the need for a central server.
- Each computer or device in the network is both a client and a server, allowing for equal sharing of resources and capabilities.
- Users can directly access and share files, information, and services with each other without relying on a central authority.
- P2P networks are decentralized, meaning there is no single point of failure or control.
- P2P models are often used for file sharing, distributed computing, and collaborative applications.
- Users have greater control and autonomy over their data and resources in a P2P model.
- P2P networks can be more efficient and scalable than traditional client-server architectures.
- However, P2P models can be more susceptible to security risks, as there is a higher potential for unauthorized access and malicious activity.
- Popular examples of P2P networks include BitTorrent for file sharing and blockchain technology for decentralized transactions.

CLOUD COMPUTING MODEL

- Instead of relying on local servers or personal computers, cloud computing uses internet-based services and storage.
- Cloud computing provides access to applications, data, and resources over the internet.
- Users can access and use these services from anywhere using any internet-connected device.
- The cloud provider takes care of managing the infrastructure, ensuring its availability and performance.
- Different types of cloud services are available, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).
- With IaaS, users can rent virtualized computing resources like servers and storage.
- PaaS allows developers to create, test, and deploy applications without the need for managing the underlying infrastructure.
- SaaS offers fully functional applications that users can access and use over the internet.
- Cloud computing offers flexibility and scalability, allowing users to easily scale up or down their resources as needed.

AD-HOC NETWORK MODEL

An ad-hoc network model is a decentralized type of network where each device acts as both a host and a router. Instead of relying on a central access point, devices in an ad-hoc network communicate directly with each other, forming a temporary network infrastructure. This allows users to create a network on the fly without the need for existing infrastructure.

1. Each device in the ad-hoc network is allocated a unique number.

2. The devices can be organized and addressed based on their respective numbers.

3. The numbering format helps in identifying and communicating with specific devices in the network.

4. It allows for efficient routing and data transfer between devices in the network.

5. The numbering format can be dynamic, meaning devices can be added or removed from the network without disrupting the addressing system.