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Mobile Computing Experiment-2

Title - To Study the path taken by a request and the application throughput of Mobile user.

Purpose of Experiment:

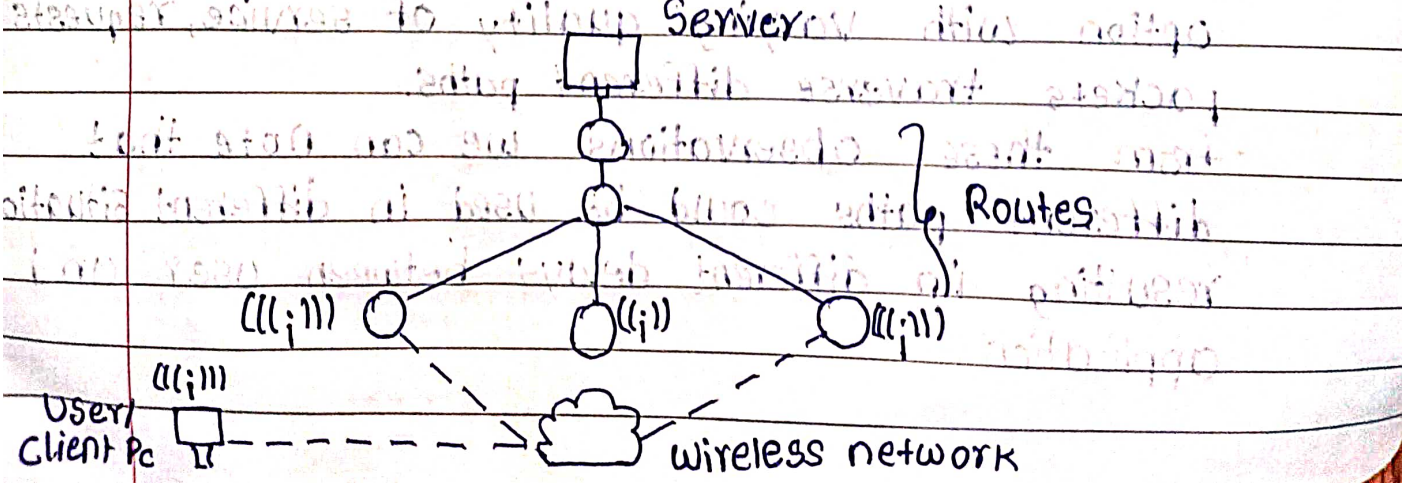
The purpose of experiment is to understand the various routes through which packets/message could be sent from one node to node and various intermediate nodes/routes involved in different paths.

The second part of experiment is indulge in learning how we can get a service/application hosted in server from own client node and what is impact of position change in getting these services from the server.

Experimental Setup

The topology used in this experiment is same as that of previous experiment involving components like Server & user, PC, MDR routes wireless network. All the actions required to start the emulator to create topology to finally starting the simulation are same as 1st experiment.

Topology Diagram:



In this experiment first start the Simulator, click on client PC. It will start the client's terminal. It will start there run command

traceroute <server-ip-address>

- This will show path between our client and server with ip-address of intermediate nodes.
- In the second part of experiment, run an application on server and try to access it from client using the command: wget <server-ip>/<file_name> and see the change in throughput achieved & time taken, by changing position of client.
- The observation of experiment can be visualized on the bias of numerical data presented on client's terminal during the simulation.

Result and observation:

- We observe that on running the trace-route command we can see the path taken by different packets to reach the client from server.
- we also observe that with multiple connectivity option with varying quality of service, requests/packets traverse different paths.
- from these observations we can note that different paths could be used in different situation resulting in different delays between user and application.

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- In the second part of experiment we see the throughput achieved when some application is accessed from client. Also throughput is changed when we try to move the user around to change the packet loss and connectivity.

- From these observations we learn that nearer the client to server, the higher is throughput and farther the client from server (or more packet loss), the lesser is throughput.