MOBILE COMPUTING - PRESENTATION

20PW22
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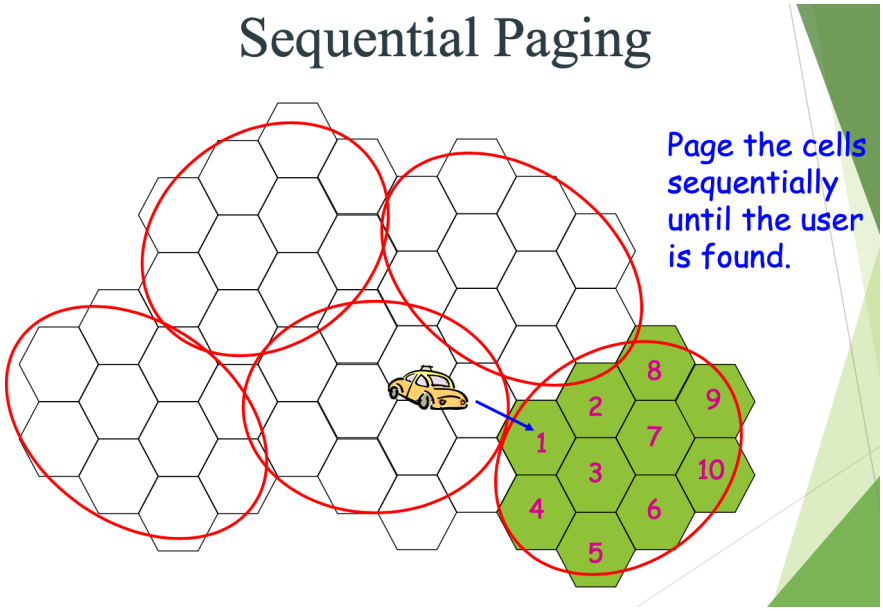
SEQUENTIAL PAGING :

Sequential paging is a process used in cellular architecture to locate a mobile device or user in a cellular network. Sequential paging involves paging the mobile devices in a sequential manner, one cell at a time, until the device is located. The process of sequential paging begins with the base station of the serving cell, which sends a paging message to the mobile device by paging the cells sequentially in a predetermined order until the device is found.

The order in which the cells are paged is usually based on the physical distance from the base station. If the device does not respond, the base station sends a paging message to the neighboring cells in a sequential manner until the device is located or the search is terminated.

Sequential paging is more efficient than blanket paging because it reduces the number of cells that need to be paged, which in turn reduces the network traffic. However, sequential paging can also be time-consuming and may result in delays in locating the mobile device, especially in areas with a large number of cells



Paging Order:

Paging order refers to the sequence in which the base station sends paging messages to the cells within a cellular network, in order to locate and communicate with a specific mobile device.

How to determine paging order?

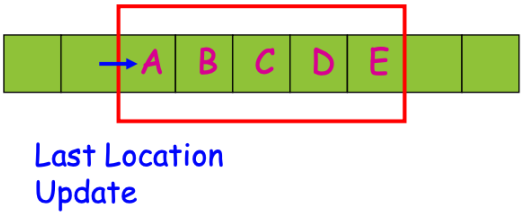
- **Method 1:** Shortest distance first
- **Method 2:** Based on Location Probability

Shortest distance first:

- Pages the user starting from the cell where user last updated his location.
- Move outward in a shortest-distance-first order.
- Ties are broken arbitrarily.

Location Probability:

- Estimate the probability that a user is located in each cell within the current LA.
- Page the cells in decreasing order of probability.



Suppose Probability Distribution is: {0.05, 0.2, 0.4, 0.25, 0.1} for A,B,C,D and E respectively then

Paging order is : C, D, B, E, A