Mobile Database

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Without Abstract

Definition

A mobile database is a database that resides on a mobile device such as a PDA, a smart phone, or a laptop. Such devices are often limited in resources such as memory, computing power, and battery power.

Key Points

Due to device limitations, a mobile database is often much smaller than its counterpart residing on servers and mainframes. A mobile database is managed by a Database Management System (DBMS). Again, due to resource constraints, such a system often has limited functionality compared to a full blown database management system. For example, mobile databases are single user systems, and therefore a concurrency control mechanism is not required. Other DBMS components such as query processing and recovery may also be limited.

Queries to the mobile database are usually posed by the user of the mobile device. Updates of the database may originate from the user, or from a central server, or directly from other mobile devices. Updates from the server are communicated wirelessly. Such communication takes place either via a point-to-point connection between the mobile device (the client) and the server, or via broadcasting by the server [Acharya S., Franklin M., and Zdonik S, 1995, Dissemination-based Data Delivery Using Broadcast Disks, Personal Communications]. Direct updates from other mobile devices may use short-range wireless communication protocols such as Bluetooth or Wifi [1].

Cross-references

Mobile Ad hoc Network Databases

Recommended Reading

1. Cao H., Wolfson O., Xu B., and Yin H., "MOBI-DIC: MOBIle DIscovery of loCal Resources in Peer-to-Peer Wireless Network". Bull Comput Soc Tech Committee Data Eng, 28(3):11–18, 2005 (Special Issue on Database Issues for Location Data Management).