**MOBILE COMPUTING**

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**MOBILE APPLICATIONS**

**Vertical application** is a piece of software designed to fit a function part of an industry such as field sales and field service, or to specific market segment such as banking or health care.

**Horizontal applications** cater to a broader field of customers. They apply to many people across most market segments. Common types of horizontal applications include productivity/business applications such as word processing, spreadsheet, presentation, personal/business tax management, accounting and more.

**MOBILE OPERATING SYSTEM**

A mobile operating system is an operating system that helps to run other application software on mobile devices. It provides tools for application programmers to access different mobile devices and different wireless networks. A key layer to rapid growth of wireless networking and proliferation of applications.

All the mobile devices we carry with us:

* Notebook computers
* Personal Digital Assistants (PDAs)
* Cellular phones
* Combination devices

**WIRELESS WIDE AREA NETWORK (WWAN)**

The Wireless Wide Area Network (WWAN) is also called “Mobile Data”. It provides regional, nationwide and global wireless coverage. [WLAN (Wireless Local Area Network)](https://www.geeksforgeeks.org/wlan-full-form/)differs from WWAN (Wireless Wide Area Network) technology wise for example when WLAN uses [WiFi](https://www.geeksforgeeks.org/basics-of-wi-fi/) to connect and transfer data, WWAN uses telecommunication cellular network technologies such as 2G, 3G, 4G LTE, and 5G to transfer data. A general example of WWAN which we use in our daily life is a laptop installed with WWAN card establishes a secure and fastest connection and brings us to online so that we do our work from anywhere. They include Packet networks: RAM/Mobitex, ARDIS/Modacom, Paging networks, Data over cellular: CDPD (over AMPS), GPRS (over GSM), Data over satellite

**WIRELESS LOCAL AREA NETWORK (WLAN)**

A wireless local area network (WLAN) is a wireless computer network that links two or more devices using a wireless distribution method (often spread-spectrum or OFDM radio) within a limited area. The performance of WLAN is high compared to other wireless networks. It that uses radio communication to provide mobility to the network users, while maintaining the connectivity to the wired network. Most modern WLANs are based on IEEE 802.11 standards and are marketed under the Wi-Fi brand name. WLAN gives users the mobility to move around within a local coverage area and still be connected to the network.

**CHALLENGES IN MOBILE COMPUTING**

* Signal Strength fluctuates significantly
* High error rate
* Shared Channel, Access capacity is limited
* User Location Management problem
* Device Limitations : 1) Limited Memory

2) Limited Computational Power

3) Small Display

4) Limited Battery life

