Introduction to Connectivity

Local connectivity solutions have become more and more attractive now that mobile devices support a number of popular short-range technologies. Local connectivity technologies typically provide a low-cost solution with good bandwidth that can also be connected to the cellular network. In addition to current widely adopted technologies (Bluetooth, infrared, and WLAN), there are also many other promising technologies in development. Here are some of these technologies presented in brief with related reference information for application development.

Bluetooth

Bluetooth technology is one of the fastest-adopted technologies in history, used in hundreds of millions of mobile phones, PCs, laptops, digital cameras, headsets, and many other electronic devices for wireless data and audio communication. It is based on a low-cost, short-range, radio-based link that does not require any line-of-sight connection in order to communicate. Unique security keys and robust encryption assure reliability and confidentiality. Bluetooth devices operate in a globally available unlicensed ISM band at 2.4 GHz, making Bluetooth usable worldwide. Nokia is a founding member of the Bluetooth Special Interest Group (SIG), which has a large number of adopters worldwide. While being compatible with earlier releases, the latest developments of Bluetooth have further improved the data throughput (up to 2Mbit/s), security, and robustness.

For application developers, Bluetooth wireless technology provides almost unlimited possibilities for new kinds of applications and solutions. Besides using Bluetooth as a protocol for file transfer, developers can, for example, create exciting multiplayer games, industrial and remote-control applications, and wireless enhancements, such as global positioning system (GPS) receivers and bar-code readers. Depending on the mobile phone, Bluetooth applications can be developed in Symbian C++ or in the Java™ programming language.

More information on Bluetooth and application development:

http://www.developer.nokia.com/Develop/
http://www.developer.nokia.com/Develop/
Category:Bluetooth

Wireless Local Area Network (WLAN)

Wireless Local Area Network (WLAN), also known as Wi-Fi, is a high-speed wireless technology for accessing the Internet or corporate intranet. A remote worker can use WLAN technology to access the Internet through public access points ("hot spots") provided by service providers. When in the office, workers may access WLAN through wireless access points installed on the corporate intranet. In enterprise environments, WLAN is usually complemented by security mechanisms, such as Virtual Private Network (VPN). WLAN can also be used as a bearer for new, appealing solutions, such as voice over IP (VoIP) telephony.

More information on WLAN and application development:

http://www.developer.nokia.com/Develop/
Category:WLAN

PC Connectivity

PC connectivity enables synchronizing of a user's personal information data, such as contacts and calendar entries; installing applications; performing backup and restore; and transferring data (images, video, music, etc.) between the user's mobile device and a PC using short-range protocols such as Bluetooth, infrared, serial port, and USB. The PC Suite API is available for application developers and ISVs. The API is an integrated part of the Nokia PC Suite and it takes advantage of the suite's existing capabilities. It has been designed to free developers from the complexity of the connectivity and transmission protocols and mobile phone system architecture, thus enabling faster PC connectivity application development.

More information on PC Connectivity and application development:

Nokia PC Suite Connectivity API 1.1

Near Field Communication (NFC)

Category:Near Field Communication (NFC) is an evolution of contactless and short-range RFID technologies. NFC enables easy and intuitive ways of using mobile phones with touch-based technology — operating at a distance of only a few centimeters. For consumers, NFC offers the convenience of using multiple services without having to carry a multitude of cards in their wallet. For instance, a travel card stored in an NFC device like the Nokia 6131 NFC may be reloaded and paid for without the hassle of a journey and possible wait at the next ticket counter. In most cases, payments and ticketing will be the first encounters for consumers with NFC, but there are many different scenarios for its usage.

More information on NFC and application development:

NFC