Computers everywhere

These days every single person is known with the word-computer. We can find computers at everywhere around us. In fact modern world will be incomplete without computers and their applications. It's almost impossible to even imagine the modern facilities without the use of computers. For many individuals computer means PC, on which they can see movies, play games, prepare office sheets and manage daily planners. But this is just a page of the book of computers.

Computer means much more than a PC. A computer can simply be defined as a machine which takes instructions and perform computations and operations accordingly. These commanded instructions are known as programs and computers execute these programs to do an operation. At a time, a set of instructions can be given to a computer to perform several operations, simultaneously. This feature is a point of distinction for the computers.
Many types of computers are available these days. Depending on their usage and service application they can be classified in various categories. Supercomputers are capable of doing trillions of calculations in fraction of seconds, so they are used as controlling units of banking transactions; to keep records of railway and air transportations; to conduct decent flow of telecommunication and many more complex operations can be controlled, organized and conducted by using supercomputers.
On the other hand computers are also used in conducting simple operations like billing, ticket transactions, record maintenance, security analysis etc. And even computers (PC) are also used to do home based general activities like office sheet maintenance, day planner, entertainment etc. So computers are involved in every sector of life with different forms and different applications.

In modern word everything around us like GPS, ATM machines, cell phones, petrol pumps, portable play stations and all other modern devices use computer controlling units to conduct their featured operations.

Surely computers have very elaborated role in daily day life of humans. The biggest proof is present at our surroundings. Just having a look around at our surroundings will be enough to prove the involvement of computers in everyday lives. Shopping, banking, traveling, stocking, literature, entertainment, public sector, private sector, almost everywhere computers are playing their roles efficiently. Computers can be designated as one of the most creative innovations of human beings. In coming days computers are even going to be more pervasive, because technology is getting advanced day by day.

To know more..

Read this **text**

Think about What difficulties can you find while you are working in a public places?. Write it in some words and Send it to the teacher.

Smartphone

A mobile phone (also known as a cellular phone, cell phone and a hand phone) is a device that can make and receive telephone calls over a radio link whilst moving around a wide geographic area. It does so by connecting to a cellular network provided by a mobile phone operator, allowing access to the public telephone network. By contrast, a cordless telephone is used only within the short range of a single, private base station.
In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, MMS, email, Internet access, short-range wireless communications (infrared, Bluetooth), business applications, gaming and photography. Mobile phones that offer these and more general computing capabilities are referred to as smartphones.
The first hand-held mobile phone was demonstrated by Dr Martin Cooper of Motorola in 1973, using a handset weighing around 1 kg. In 1983, the DynaTAC 8000x was the first to be commercially available. In the twenty years from

1990 to 2011, worldwide mobile phone subscriptions grew from 12.4 million to over 5.6 billion, penetrating the developing economies and reaching the bottom of the economic pyramid

A smartphone is a mobile phone built on a mobile computing platform, with more advanced computing ability and connectivity than a feature phone. The first smartphones were devices that mainly combined the functions of a personal digital assistant (PDA) and a mobile phone or camera phone. Today's models also serve to combine the functions of portable media players, low-end compact digital cameras, pocket video cameras, and GPS navigation units. Modern smartphones typically also include high-resolution touchscreens, web browsers that can access and properly display standard web pages rather than just mobile-optimized sites, and high-speed data access via Wi-Fi and mobile broadband.
The most common mobile operating systems (OS) used by modern smartphones include Apple's iOS, Google's Android, Microsoft's Windows Phone, Nokia's Symbian, RIM's BlackBerry OS, and embedded Linux distributions such as Maemo and MeeGo. Such operating systems can be installed on many different phone models, and typically each device can receive multiple OS software updates over its lifetime.
The distinction between smartphones and feature phones can be vague and there is no official definition for what constitutes the difference between them. One of the most significant differences is that the advanced application programming interfaces (APIs) on smartphones for running third-party applications can allow those applications to have better integration with the phone's OS and hardware than is typical with feature phones. In comparison, feature phones more commonly run on proprietary firmware, with third-party software support through platforms such as Java ME or BREW. An additional complication in distinguishing between smartphones and feature phones is that over time the capabilities of new models of feature phones can increase to exceed those of phones that had been promoted as smartphones in the past.

Iphone

In 2007, Apple Inc. introduced its first iPhone. It was initially costly, priced at $499 for the cheaper of two models on top of a two year contract. The first mobile phone to use a multi-touch interface, the iPhone was notable for its use of a large touchscreen for direct finger input as its main means of interaction, instead of having a stylus, keyboard, and/or keypad, which were the typical input methods for other smartphones at the time. The iPhone featured a web browser that Ars Technica then described as "far superior" to anything offered by that of its competitors. Initially lacking the capability to install native applications beyond the ones

built-in to its OS, at WWDC in June 2007 Apple announced that the iPhone would support third-party "web 2.0 applications" running in its web browser that share the look and feel of the iPhone interface. As a result of the iPhone's initial inability to install third-party native applications, some reviewers did not consider the originally released device to accurately fit the definition of a smartphone "by conventional terms." A process called jailbreaking emerged quickly to provide unofficial third-party native applications. The different functions of the iPhone (including a GPS unit, kitchen timer, radio, map book, calendar, notepad, and many others) allowed consumers to replace all of these items.

In July 2008, Apple introduced its second generation iPhone with a lower list price starting at $199 and 3G support. Released with it, Apple also created the App Store, adding the capability for any iPhone or iPod Touch to officially execute additional native applications (both free and paid) installed directly over a Wi-Fi or cellular network, without the more typical process at the time of requiring a PC for installation. Applications could additionally be browsed through and downloaded directly via the iTunes software client on Macintosh and Windows PCs, rather than by searching through multiple sites across the Internet. Featuring over 500 applications at launch, Apple's App Store was immediately very popular, quickly growing to become a huge success.

In June 2010, Apple introduced iOS 4, which included APIs to allow third-party applications to multitask, and the iPhone 4, which included a 960×640 pixel display with a pixel density of 326 pixels per inch (ppi), a 5 megapixel camera with LED flash capable of recording HD video in 720p at 30 frames per second, a front-facing VGA camera for videoconferencing, an 800 MHz processor, and other improvements. In early 2011 the iPhone 4 became available through Verizon Wireless, ending AT&T's exclusivity of the handset in the U.S., and allowing the handset's 3G connection to be used as a wireless Wi-Fi hotspot for the first time, to up to 5 other devices. Software updates subsequently added this capability to other iPhones running iOS 4.

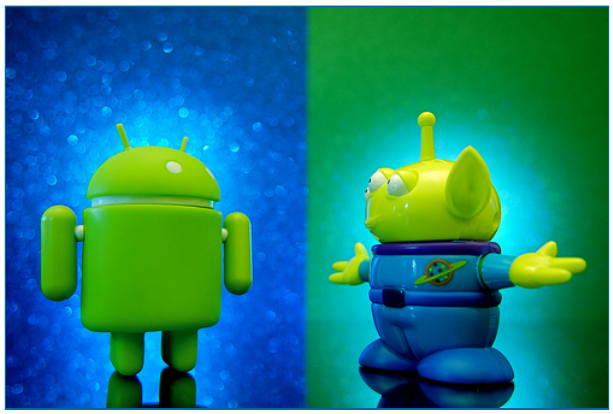
The iPhone 4S was announced on October 4, 2011, improving upon the iPhone 4 with a dual core A5 processor, an 8 megapixel camera capable of recording 1080p video at 30 frames per second, World phone capability allowing it to work on both GSM & CDMA networks, and the Siri automated voice assistant. On October 10, Apple announced that over one million iPhone 4Ss had been pre-ordered within the first 24 hours of it being on sale, beating the 600,000 device record set by the iPhone 4, despite the iPhone 4S failing to impress some critics at the announcement due to their expectations of an "iPhone 5" with rumored drastic changes compared to the iPhone 4 such as a new case design and larger screen. Along with the iPhone 4S Apple also released iOS 5 and iCloud,

untethering iOS devices from Macintosh or Windows PCs for device activation, backup, and synchronization, along with additional new and improved features.
There are about 35 percent of Americans that have some sort of smartphone. This shows that the market is spreading fast and there are also more capabilities for smartphones because of this spread.
Smartphones are also mainly valuable based on the operating system. For example, the iPhone runs on the iOS and other devices run different operating systems which makes the functionality of these systems different.

Iphone, more than a smartphone

Adobe Flash Player ya no está disponible

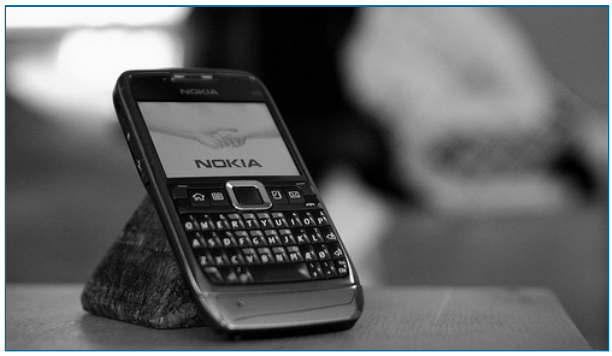
Android



The Android operating system for smartphones was released in 2008. Android is an open-source platform backed by Google, along with major hardware and software developers (such as Intel, HTC, ARM, Motorola and Samsung, to name a few), that form the Open Handset Alliance. The first phone to use Android was the HTC Dream, branded for distribution by T-Mobile as the G1. The software suite included on the phone consists of integration with Google's proprietary applications, such as Maps,

Calendar, and Gmail, and a full HTML web browser. Android supports the execution of native applications and a preemptive multitasking capability (in the form of services). Third-party apps are available via Google Play (released October 2008 as Android Market), including both free and paid apps.
In January 2010, Google launched the Nexus One smartphone using its Android OS. Although Android has multi-touch abilities, Google initially removed that feature from the Nexus One, but it was added through a firmware update on February 2, 2010.
Concerning the Xperia Play smartphone, an analyst at CCS Insight said in March 2011 that "Console wars are moving to the mobile platform". In the same month, the HTC EVO 3D was announced by HTC Corporation, which can produce 3D effects with no need for special glasses (autostereoscopy). The HTC EVO 3D was officially released on June 24, 2011

Symbian



In 2000, the touchscreen Ericsson R380 Smartphone was released. It was the first device to use an open operating system, the Symbian OS. It was the first device marketed as a 'smartphone'. It combined the functions of a mobile phone and a personal digital assistant (PDA). In December 1999 the magazine Popular Science appointed the Ericsson R380 Smartphone to one of the most important advances in science and technology. It was a groundbreaking device since it was as small and light as a normal mobile phone. In 2002 it was followed up by P800.
Also in 2000, the Nokia 9210 communicator was introduced, which was the first color screen model from the Nokia Communicator line. It was a true smartphone with an open operating system, the Symbian OS. It was followed by the 9500 Communicator, which also was Nokia's first cameraphone and first Wi-Fi phone. The 9300 Communicator was smaller, and the latest E90 Communicator includes GPS. The Nokia Communicator model is remarkable for also having been the most costly phone model sold by a major brand for almost the full life of the model series, costing easily 20% and sometimes 40% more than the next most expensive smartphone by any major producer.
In 2007 Nokia launched the Nokia N95 which integrated a wide range of multimedia features into a consumer-oriented smartphone: GPS, a 5 megapixel camera with autofocus and LED flash, 3G and Wi-Fi connectivity and TV-out. In the next few years these features would become standard on high-end smartphones. The Nokia 6110 Navigator is a

Symbian based dedicated GPS phone introduced in June 2007.
February 2009 Samsung launched the i8910hd with well working touchscreen under Symbian, 8 megapixel camera with built-in photoshop-app, HD-video and full internet on it's big size screen.
In 2010 Nokia released the Nokia N8 smartphone with a stylus-free capacitive touchscreen, the first device to use the new Symbian^3 OS. It featured a 12 megapixel camera with Xenon flash able to record HD video in 720p, described by Mobile Burn as the best camera in a phone, and satellite navigation that Mobile Choice described as the best on any phone. It also featured a front-facing VGA camera for videoconferencing.
Symbian was the number one smartphone platform by market share from 1996 until 2011 when it dropped to second place behind Google's Android OS.

First with Symbian and then with Windows Phone, Nokia tried to differentiate itself in the smartphone market but Nokia could not fight against Apple and Samsung and the other brands with Google's operating system.Bought by Microsoft in 2012, it would be dismantled until it disappeared but would come back hand in hand with HMD Global, first with an Android tablet, the Nokia N1 in 2015 and later with a new series of Nokia mobiles with Android in 2017, the year of the brand's return. to the headlines of the world of technology.

Activities

Actividad de Espacios en Blanco

Fill in the gaps

A mobile phone is a device that can make and receive calls over a radio link whilst moving around a wide geographic area.

In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, MMS, email, Internet access, short-range communications (infrared, Bluetooth), business applications, gaming and photography.
Mobile phones that offer these and more general computing capabilities are referred to as .

The first smartphones were devices that mainly combined the functions of a personal digital assistant ( ) and a mobile phone or camera phone.

Modern smartphones typically also include high-resolution , web browsers that can access and properly standard web pages rather than just mobile-

optimized sites, and high-speed data access via and mobile broadband.

Tablet

A tablet computer, or a tablet, is a mobile computer, larger than a mobile phone or personal digital assistant, integrated into a flat touch screen and primarily operated by touching the screen rather than using a physical keyboard. It often uses an onscreen virtual keyboard, a passive stylus pen, or a digital pen.The term may also apply to a variety of form factors that differ in position of the screen with respect to a keyboard. The standard form is called slate, which does not have an integrated keyboard but may be connected to one with a wireless link or a USB port. Convertible notebook computers have an integrated keyboard that can be hidden by a swivel joint or slide joint, exposing only the screen for touch operation. Hybrids have a detachable keyboard so that the touch screen can be used as a stand-alone tablet. Booklets include two touch screens, and can be used as a notebook by displaying a virtual keyboard in one of them.
Early examples of the information tablet concept originated in the 19th and 20th centuries mainly as prototypes and concept ideas; prominently, Alan Kay's Dynabook of 1968. The first commercial portable electronic devices based on the concept appeared at the end of the 20th century. During the 2000s Microsoft attempted a relatively unsuccessful product line with Microsoft Tablet PC, which carved a niche market at hospitals and outdoor businesses. In 2010, Apple released the iPad, which used touch screen technology similar to that used in their iPhone and became the first mobile computer tablet to achieve worldwide commercial success.
Besides having most PC computer capabilities, popular, typical tablet computers purchased in the last year include wireless Internet browsing functions, potential cell phone functions, GPS navigation, and video camera functions, weigh around two or three pounds (1-1.5 kilograms) and typically have a battery life of three to ten hours. In many ways the functions and purposes of laptops and tablets and smartphones are drawing closer.

Advantages and disadvantages

The advantages and disadvantages of tablet computers are highly subjective measures. What appeals to one user may be exactly what disappoints another. The following are commonly cited opinions of tablet computers versus laptops:

Advantages

▪ Usage in environments not conducive to a keyboard and mouse such as lying in bed, standing, or handling with a single hand.
▪ Lighter weight, lower power models can function similarly to dedicated E-book readers like the Amazon Kindle.
▪ Touch environment makes navigation easier than conventional use of keyboard and mouse or touch pad in certain contexts such as image manipulation, musical, or mouse oriented games and for people with certain disabilities.
▪ Digital painting and image editing are more precise and intuitive than painting or sketching with a mouse.
▪ The ability for easier or faster entry of diagrams, mathematical notations, and symbols.
▪ Allows, with the proper software, universal input, independent from different keyboard localizations.
▪ Some users find it more direct and pleasant to use a stylus, pen or finger to point and tap on objects, rather than use a mouse or touchpad, which are not directly connected to the pointer on screen.
▪ Current tablets typically have longer battery life than laptops or netbooks.

Disadvantages

▪ Higher price - convertible tablet computers can cost significantly more than non-tablet portable PCs although this premium has been predicted to fall.
▪ Slower input speed - handwriting or typing on a virtual keyboard can be significantly slower than typing speed on a conventional keyboard, the latter of which can be as high as 50-150 WPM; however, Slideit, Swype and other technologies are offered in an effort to narrow the gap. Some devices also support external keyboards (e.g.: Most tablets can accept Bluetooth keyboards and USB keyboards through Dock Connector-to-USB adapter.)
▪ Less user-friendly ergonomics - a tablet computer, or a folded slate PC, does not provide room for a wrist rest. In addition, the user will need to move his or her arm constantly while writing.
▪ More knowledge of the programs is needed - because, for example, information on icons is not obtained by pointing at them. (The Compaq Concerto from 1992 did not have this weakness.)
▪ Weaker video capabilities - Most tablet computers are equipped with embedded graphics processors instead of discrete graphics cards. In July 2010, one of tablet PCs with a discrete graphics card was the HP TouchSmart tm2t, which has the ATI Mobility Radeon HD5450 as an optional extra.
▪ Business-oriented tablet personal computers have been slower sellers from 2001 to date.
▪ Higher screen risk - Tablet computers are handled more than conventional laptops, yet many are built on similar frames; in addition, since their screens also serve as input devices, they run a higher risk of screen damage from impacts and misuse.
▪ Higher hinge risk - A convertible tablet computer's screen hinge is often required to rotate around two axes, unlike a normal laptop screen, subsequently increasing the number of possible mechanical

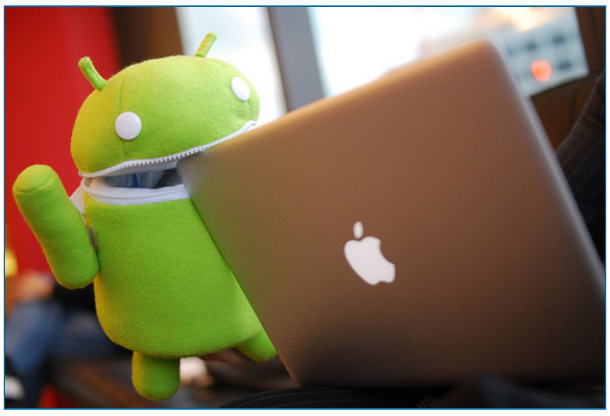
and electrical (digitizer and video cables, embedded Wi-Fi antennas, etc.) failure points.

APPLE

The iPad runs a version of iOS which was first created for the iPhone and iPod Touch. Although built on the same underlying Unix implementation as MacOS, the operating system differs radically at the graphical user interface level. iOS is designed for finger based use and has none of the tiny features which required a stylus on earlier tablets. Apple introduced responsive multi touch gestures, like moving two fingers apart to zoom in. iOS is built for the ARM architecture, which uses less power, and so gives better battery life than the Intel devices used by Windows tablets. Previous to the iPad's launch, there were long standing rumors of an Apple tablet, though they were often about a product running Mac OS X and being in line with Apple's Macintosh computers. This became partially true when a 3rd party offered customized Macbooks with pen input, known as the Modbook.
Previous to Apple's commercialization of the iPad, Axiotron introduced at Macworld in 2007 an aftermarket, heavily modified Apple MacBook called Modbook, a Mac OS X-based tablet personal computer. The Modbook uses Apple's Inkwell for handwriting and gesture recognition, and uses digitization hardware from Wacom. To get Mac OS X to talk to the digitizer on the integrated tablet, the Modbook is supplied with a third-party driver called TabletMagic; Wacom does not provide driver support for this device.

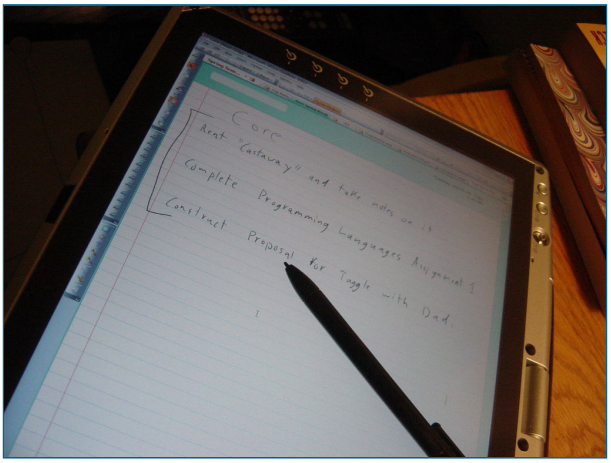
ANDROID

Google's Linux-based Android operating system has been targeted by tablet manufacturers following its success on smartphones due to its open nature and support for low-cost ARM systems much like Apple's iOS. In 2010, there have been numerous announcements of such tablets. However, much of Android's tablet initiative comes from manufacturers as Google primarily focuses its development on smartphones and restricts the App Market from non-phone devices. Toshiba's AC100 laptop also runs on Android.
There is talk of tablet support from Google coming to its web-centric Chrome OS.



Some vendors such as Motorola and Lenovo are delaying deployment of their tablet computers until after 2011, after Android is reworked to include more tablet features. Android 3.0 (Honeycomb) is optimized specifically for devices with larger screen sizes, mainly tablets, and has access to the Google Play service. Android is the software stack for mobile devices that includes operating system, middleware and key applications.

Other Tablets



Microsoft

Following Windows for Pen Computing, Microsoft has been developing support for tablets runnings Windows under the Microsoft Tablet PC name. According to a 2001 Microsoft definition of the term, "Microsoft Tablet PCs" are pen-based, fully functional x86 PCs with handwriting and voice recognition functionality. Tablet PCs use the same hardware as normal laptops but add support for pen input. For specialized support for pen input, Microsoft released Windows XP Tablet PC Edition. Today there is no tablet specific version of Windows but instead support is built in to both Home and Business versions of Windows Vista and Windows 7. Tablets running Windows get the added functionality of using the touchscreen for mouse input, hand writing recognition, and gesture support. Following Tablet PC, Microsoft announced the UMPC initiative in 2006 which brought Windows tablets to a smaller, touch-centric form factor. This was relaunched in 2010 as Slate PC, to promote tablets running Windows 7, ahead of Apple's iPad launch. Slate PCs are expected to benefit from mobile hardware advances derived from the

success of the netbooks.
Microsoft has since announced Windows 8 which will have features designed for touch input, while running on both PCs and ARM architecture. Microsoft states multiple builds are needed, with 1 build for x86 processors and with 3 builds for ARM; ARM targets are defined for NVIDIA, Qualcomm, and TI processors.
While many tablet manufacturers are moving to the ARM architecture with lighter operating systems, Microsoft has stood firm to Windows. Though Microsoft has Windows CE for ARM support it has kept its target market for the smartphone industry with Windows Mobile and the new Windows CE 6 based Windows Phone. Some manufacturers, however, still have shown prototypes of Windows CE-based tablets running a custom shell. Windows 8 will come a new line of Microsoft OS called Windows on ARM(WOA) which will be windows designed for ARM.Both Windows 8 and WOA will use Metro UI and is designed for both touch and keyboard\mouse.

Linux
One early implementation of a Linux tablet was the ProGear by FrontPath. The ProGear used a Transmeta chip and a resistive digitizer. The ProGear initially came with a version of Slackware Linux, but could later be bought with Windows 98. Because these computers are general purpose IBM PC compatible machines, they can run many different operating systems. However, the device is no longer for sale and FrontPath has ceased operations. It is important to note that many touch screen sub-notebook computers can run any of several Linux distributions with little customization.
X.org now supports screen rotation and tablet input through Wacom drivers, and handwriting recognition software from both the Qt-based Qtopia and GTK+-based Internet Tablet OS provide promising free and open source systems for future development. KDE's Plasma Active is graphical environments for tablet.
Open source note taking software in Linux includes applications such as Xournal (which supports PDF file annotation), Gournal (a Gnome based note taking application), and the Java-based Jarnal (which supports handwriting recognition as a built-in function). Before the advent of the aforementioned software, many users had to rely on on-screen keyboards and alternative text input methods like Dasher. There is a stand alone handwriting recognition program available, CellWriter, which requires users to write letters separately in a grid.
A number of Linux based OS projects are dedicated to tablet PCs, but many desktop distributions now have tablet-friendly interfaces allowing the full set of desktop features on the smaller devices. Since all these are open source, they are freely available and can be run or ported to devices that conform to the tablet PC design. Maemo (rebranded MeeGo in 2010), a Debian Linux based graphical user environment, was developed for the Nokia Internet Tablet devices (770, N800, N810 & N900). It is currently in generation 5, and has a vast array of applications available in both official and user supported repositories. Ubuntu since version 11.04 has used

the tablet-friendly Unity UI, and many other distributions (such as Fedora) use the also tablet-friendly Gnome shell (which can also be installed in Ubuntu if preferred). Previously the Ubuntu Netbook Remix edition was one of the only linux distibutions offering a tablet interface with all the applications and features of a desktop distribution, but this has been phased out with the expansion of Unity to the desktop. A large number of distributions now have touchscreen support of some kind, even if their interfaces are not well suited to touch operation.
Canonical has hinted that Ubuntu will be available on tablets, as well as phones and smart televisions, by 2014.

TabletKiosk currently offers a hybrid digitizer / touch device running openSUSE Linux. It is the first device with this feature to support Linux.

Intel and Nokia

The Nokia N800
Nokia entered the tablet space with the Nokia 770 running Maemo, a Debian-based Linux distribution custom-made for their Internet tablet line. The product line continued with the N900 which is the first to add phone capabilities. The user interface and application framework layer, named Hildon, was an early instance of a software platform for generic computing in a tablet device intended for internet consumption. But Nokia didn't commit to it as their only platform for their future mobile devices and the project competed against other in-house platforms. The strategic advantage of a modern platform was not exploited, being displaced by the Series 60.
Intel, following the launch of the UMPC, started the Mobile Internet Device initiative, which took the same hardware and combined it with a Linux operating system custom-built for portable tablets. Intel co-developed the lightweight Moblin operating system following the successful launch of the Atom CPU series on netbooks. Intel is also setting tablet goals for Atom, going forward from 2010.

MeeGo
MeeGo is a Linux-based operating system developed by Intel and Nokia that supports Netbooks, Smartphones and Tablet PCs. In 2010, Nokia and Intel combined the Maemo and Moblin projects to form MeeGo. The first tablet using MeeGo is the Neofonie WeTab launched September 2010 in Germany. The WeTab uses an extended version of the MeeGo operating system called WeTab OS. WeTab OS adds runtimes for Android and Adobe AIR and provides a proprietary user interface optimized for the WeTab device. On 27 September 2011 it was announced by the Linux Foundation that MeeGo will be replaced in 2012 by Tizen, an open source mobile operating system.

Post-PC operating systems

Tablets not following the personal computer (PC) tradition use operating systems in the style of those developed for

PDAs and smartphones.

Blackberry
The BlackBerry PlayBook is a tablet computer announced in September 2010 which runs the BlackBerry Tablet OS. The OS is based on the QNX system that Research in Motion acquired in early 2010. Delivery to developers and enterprise customers is expected in October 2010. The BlackBerry PlayBook was officially released to US and Canadian consumers on April 19, 2011.

HP
Hewlett Packard announced the TouchPad, running webOS 3.0 on a 1.2Ghz Snapdragon CPU, would be released in June 2011. On August 18, 2011, HP announced the discontinuation of the TouchPad, due to sluggish sales. HP has announced that they will release webOS as open-source.

Activities

Actividad de Espacios en Blanco

Read the paragraph below and fill in the missing words.

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is a Linux-based operating system developed by Intel and Nokia that supports Netbooks, Smartphones and Tablet PCs.

The BlackBerry is a tablet computer which runs the BlackBerry Tablet OS.

Hewlett Packard announced the , running webOS 3.0 on a 1.2Ghz Snapdragon CPU.

Apps

mobile application

Also called mobile apps, it is a term used to describe Internet applications that run on smartphones and other mobile devices. Mobile applications usually help users by connecting them to Internet services more commonly accessed on desktop or notebook computers, or help them by making it easier to use the Internet on their portable devices. A mobile app may be a mobile Web site bookmarking utility, a mobile-based instant messaging client, Gmail for mobile, and many other applications.

App Development

Mobile application development is the process by which application software is developed for small low-power handheld devices such as personal digital assistants, enterprise digital assistants or mobile phones. These applications are either pre-installed on phones during manufacture, downloaded by customers from various mobile software distribution platforms, or web applications delivered over HTTP which use server-side or

client-side processing (e.g. JavaScript) to provide an "application-like" experience within a Web browser.

Execution environments

Android, iOS, BlackBerry, HP webOS, Symbian OS, Bada from Samsung, and Windows Mobile support typical application binaries as found on personal computers with code which executes in the native machine format of the processor (the ARM architecture is a dominant design used on many current models). Windows Mobile can also be compiled to x86 executables for debugging on a PC without a processor emulator, and also supports the Portable Executable (PE) format associated with the .NET Framework. Windows Mobile, Android, HP webOS and iOS offer free SDKs and integrated development environments to developers.Mobile application testing

Mobile applications are first tested within the development environment using emulators and later subjected to field testing. Emulators provide an inexpensive way to test applications on mobile phones to which developers may not have physical access. The following are examples of tools used for testing application across the most popular mobile operating systems.

▪ Google Android Emulator

It is Android Emulator which is patched to run on a Windows PC as a standalone app without having to download and install the complete and complex Android SDK, and can be even installed and Android compatible apps can be tested on it.

▪ Official Android SDK Emulator

It includes a mobile device emulator which mimics all of the hardware and software features of a typical mobile device (without the calls).

▪ eggPlant for mobile testing:eggPlant delivers a robotic solution to mobile testing across all operating systems and devices.

▪ MobiOne

MobiOne Developer is a mobile Web IDE for Windows that helps developers to code, test, debug, package and deploy mobile Web applications to devices such as iPhone, BlackBerry, Android, and the Palm Pre.

▪ TestiPhone

It is a web browser based simulator for quickly testing iPhone web applications. This tool has been tested and works using Internet Explorer 7, Firefox 2 and Safari 3.

▪ iPhoney

It gives a pixel-accurate web browsing environment and it is powered by Safari. It can be used while developing web sites for the iPhone. It is not an iPhone simulator but instead is designed for web developers who want to create 320 by 480 (or 480 by 320) websites for use with iPhone.iPhoney will only run on Mac OS X 10.4.7 or later.

▪ BlackBerry Simulator

There are a variety of official BlackBerry simulators available to emulate the functionality of actual BlackBerry products and test how the BlackBerry device software, screen,

keyboard and trackwheel will work with application.
▪ ZAP-fiX for Mobile Application Testing:ZAP-fiX delivers a universal solution to mobile application testing across all operating systems and devices.

Tools

▪ elusivestars.com: This is a crowdsourced service for Android and iPhone applications, offering application testing by real users with real devices.
▪ FoneMonkey: This is a free Mobile Application Testing tool for iPhone applications
▪ Robotium: This is an automation tool for Android Mobile Application
▪ Sikuli: This is a visual technology to automate and test graphical user interfaces (GUI) using images.
▪ Deviceanywhere: This is an automation tool for Mobile Application across all platforms, all devices.
▪ MITE: A Mobile content testing and validation tool for Mobile Web application.
▪ Monkey Runner: A Mobile application testing tool for Android.
▪ ZAP-fiX: enhances test automation by allowing enterprise testing of mobile applications. It provides modular test coverage across multiple operating systems and supports testing on multiple devices simultaneously. Supported platforms are iPhone, iPad, Android, BlackBerry, webOS and Windows Mobile.

Application stores

Several initiatives exist both from mobile vendor and mobile operators around the world. Application developers can propose and publish their applications on the stores, being rewarded by a revenue sharing of the selling price. Most famous is Apple's App Store, where only approved applications may be distributed and run on iOS devices (otherwise known as a walled garden). With extraordinary speed Google's Android Market counting (at the moment) the 2nd largest number of apps and which are running on devices with Android OS. HP / Palm, Inc have also created the Palm App Catalog where HP / Palm, Inc webOS device users can download applications directly from the device or send a link to the application via a unique web distribution method. Recently, mobile operators such as Telefonica Group and Telecom Italia have launched cross-platform application stores for their subscribers. Additionally, mobile phone manufacturers such as Nokia has launched Ovi app store for Nokia smartphones.

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Intelligent Home

Home

automation is the residential extension of "building automation". It is automation of the home, housework or household activity. Home automation may include centralized control of lighting, HVAC (heating, ventilation and air conditioning), appliances, and other systems, to provide improved convenience, comfort, energy efficiency and security. Home automation for the elderly and disabled can provide increased quality of life for persons who might otherwise require caregivers or institutional care.
A home automation system integrates electrical devices in a house with each other. The techniques employed in home automation include those in building automation as well as the control of domestic activities, such as home entertainment systems, houseplant and yard watering, pet feeding, changing the ambiance "scenes" for different events (such as dinners or parties), and the use of domestic robots. Devices may be connected through a computer network to allow control by a personal computer, and may allow remote access from the internet. Through the integration of information technologies with the home environment, systems and appliances are able to communicate in an integrated manner which results in convenience, energy efficiency, and safety benefits.

Although automated homes of the future have been staple exhibits for World's Fairs and popular backgrounds in science fiction, complexity, competition between vendors, multiple incompatible standards and the resulting expense have limited the penetration of home automation to homes of the wealthy or ambitious hobbyists. Possibly the first "home computer" was an experimental home automation system in 1966.