

NetFront v3.3 for S60

User Manual

6.12.2005

HTML

CSS

ECMAScript

SVG

SMIL

ECMAScript

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ABOUT NETFRONT FOR S60

NetFront for S60 is a modular, scalable, full-featured mobile browser that supports full Internet browsing and offers the most comprehensive feature set currently available in the market. NetFront for S60 includes unique technologies like Smart-Fit Rendering™, which intelligently adapts standard Web pages to the screen width of a S60 phone and eliminates the need for horizontal scrolling. Rapid-Render technology progressively renders and displays Web page content. NetFront provides S60 mobile professionals with a fast and powerful mobile Internet browsing experience.

New features in NetFront v3.3 are Smart Frame Operation for selecting and zooming individual frames, an intelligent Pop-Up Blocker, RSS/Atomfeed support, tabbed browsing, web data and password manager, and improved DHTML support.

GOING ONLINE

Configuring your Internet Access Point

For browsing with NetFront you need to define an Internet access point on your phone which is different from existing WAP or MMS access points. This is done in the phone's main menu / tools / settings / connection settings. Usually a phone comes with a number of access points predefined for several providers. Otherwise the Nokia Setting Wizard application coming preinstalled on many phones can configure your access points automatically. If all of this doesn't work, ask your provider for the Internet settings, and you also will find a list of operator's settings on our website <http://www.access-sys-eu.com/gprs.html>.



Fig. 1: Internet Access Point settings

Opening a Web page

NetFront provides several ways to open a page: From the bookmark list, by entering a URL, or open a list of previously entered URLs, go to previous or next page, use the history list, or by opening pages that have been saved to the phone's local drive. If there is no active Internet connection, the browser will try to connect and ask you, which access point to use, if you did not define a default access point.

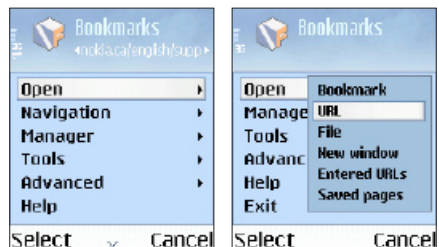


Fig. 2: Opening a web page or a local file

NAVIGATING WITH NETFRONT

Navigating within pages

Normal navigation within a web page is done by using the cursor control. Using the arrow keys in any direction moves the focus to the next link/image in that direction. The focus on anchors is highlighted. You can hold down an arrow key for fast scrolling. Scrolling speed can be controlled in the browser settings.

Selecting items

To select an item on a web page or in a menu, navigate to the respective item by using the cursor control. When you arrive at the item - usually it will be highlighted by a rectangular frame or some background color - activate it by pressing the selection key.

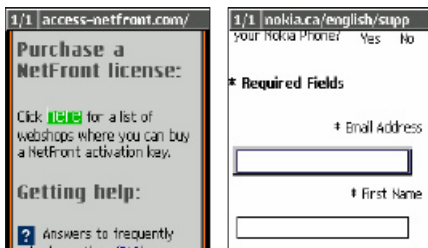


Fig. 3: Selected link and a selected form input field

Filling In Forms

To fill in a form, move the focus to an input field. After pressing the selection key you can enter your text. As in other applications you can change your input mode by pressing the edit button. Choose alphabet, number, or dictionary mode.

Frames

When displaying a website based on frames, NetFront provides a preview of each frame. Select a preview and press the selection key to open the respective frame in a separate window.

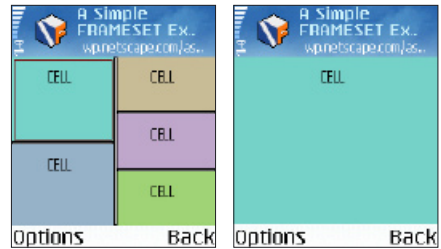


Fig. 4: Selecting and opening a frame

USING NETFRONT

Menus

Pressing [OPTIONS] takes you to the main menu of NetFront which is the control center of the application. Here you have access to all settings, commands and options. More efficient than using the menu is to make use of the **keypad shortcuts**.

View modes

Switch to **Full screen mode** to use the entire screen for displaying web pages. Toggle between different page rendering modes by using the “#” shortcut: **Desktop** setting displays the site without any screen optimization; **Smart-Fit** optimizes pages for the small screen, and **Text-Only mode** NetFront drops images to reduce memory consumption and transmitted data thus saving cost.

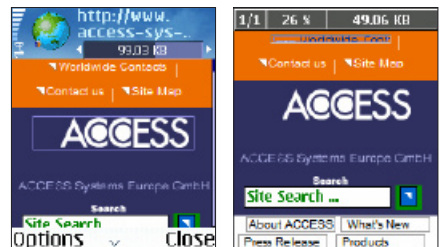


Fig. 5: Normal and Full Screen Mode

Saving images and pages

With the predefined shortcut "7" or from the Tools menu you can activate Save image mode. Scroll the page and select the image that you would like to save and press the selection key, then the left softkey. The image is saved into your phones photo album. Pressing **back** will bring you back to normal browsing mode. The **Save page** command saves the whole page including images into a single file that you can later read offline from the "Saved pages" folder.

New window

You can have up to four browser windows open at the same time. Use the Open/New window command to add one and the Next window command to switch to the next open window of your browsing session.

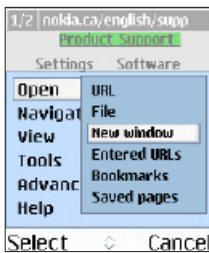


Fig. 6: New window command

Help notes

When selecting several tools or changing between different modes, information boxes will pop up and display context based help. If you press OK, the help notes are kept as reminders and will appear again the next time you choose the specific option. Permanently suppress the windows by with **Hide**.

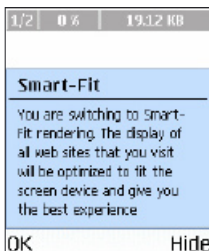


Fig. 7: Help note

Bookmarks

Pressing shortcut "6" takes you to the bookmark list. Select a page and press the cursor control to open one. To add the currently opened web page to the bookmark list press shortcut "3". If a title is defined in the web page this information will be added, too. To edit this title, or manage your bookmarks, open the bookmarks list, navigate to the desired bookmark and press [OPTIONS] **Edit**.



Fig. 8: Bookmarks

Search and find

Find in the page lets you search for an occurrence of a search string in a page. To continue the search select **Find next** or press "9". To scan the Internet for certain information with Google search choose **Find on the Web**.

File download

With NetFront you can download any type of file. File types recognized by the OS are downloaded and handed over to the respective application (e.g. .wav files go to the player) and can be saved there. If the file type is not known and no application is related you can select [OPTIONS] / **Save** and choose whether to store the file on the phone or on MMC (e.g. .xls, .doc). To display information about MIME type and related application of the file select [OPTIONS] / **Open** after download.

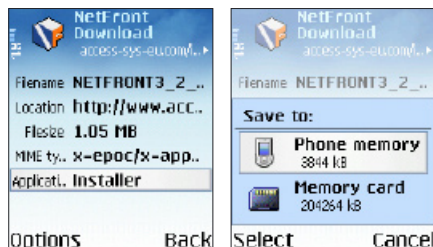


Fig. 9: Downloaded file information and save dialog

Shortcuts provide quick access to certain browser functionality. The browser comes with the following shortcuts predefined:

- 1 (Go to) Top of page
- 2 (Go to) Bottom of page
- 3 Add bookmark
- 4 Open URL
- 5 Entered URLs
- 6 Bookmarks
- 7 Save image
- 8 Next Window
- 9 Find next
- 0 NetFront settings
- * Full screen on/off
- # Change rendering mode

You can toggle using numeric keys (plus * and #) as shortcuts to browser functionality or as access keys. Access keys are used in some i-mode or WAP pages as shortcuts to items on a page. Therefore, when shortcuts are enabled, access keys on i-mode or WAP pages are not functional.

Commands and functionality can be remapped in the browser settings. When you are on the shortcuts tab press the key to which you want to assign some new functionality. A list of available commands is shown, but the current assignment may only be visible after scrolling. Select the respective command from the list. If this command was already assigned to some other key, a dialog appears asking you whether you want to reassign. If you confirm with Yes, the old assignment is cleared and set to none.

Note: You cannot assign the same command to multiple keys.



Fig. 10: Shortcuts

OPEN PAGES AND FILES

Web page

Enter the URL of a web page. You may also use shortcut “4” to open the open page dialog.

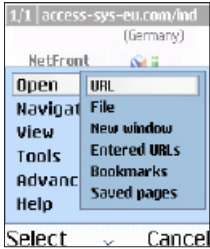


Fig. 11: Open URL command

File

This command provides you access to files (Web pages, images) that are locally stored on the phone or memory card.

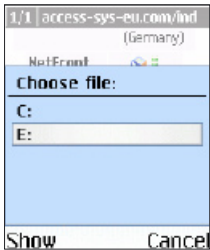


Fig. 12: Open file command

New window

Open a blank new window. To switch to another window use the **Next window** command from the Navigation menu and select a window from the list. You can open up to 4 windows at the same time.



Fig. 13: Opening a webpage in a new window; list of open windows

Entered URLs

Entered URLs keeps a list of web pages for which you manually entered the URL in the open URL dialog. Other than the history list it does not remember web pages you visited when following links. Shortcut “5” is predefined for this function.

Bookmarks

Takes you to the bookmark list, same than predefined shortcut “6”. Select a bookmark and press the cursor control to browse the web page.

Saved pages

To open a previously archived page offline, select the respective page from this list.

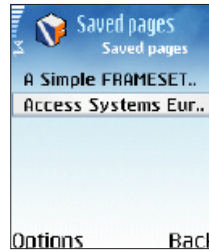


Fig. 14: Open a previously saved page

History list

This list tracks visited pages. Other than the entered URLs list the history list additionally remembers web sites which have been opened from links.

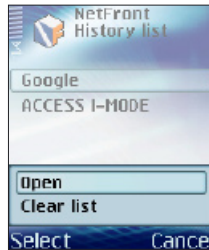


Fig. 15: History list

NAVIGATING WITH NETFRONT

Previous/Next

Previous and **Next** let you navigate back and forth within a set of pages already visited during your browser session. The menu items are only available if you have already navigated between other pages.

Next window

Switch to the next open window of your browsing session.

Refresh

Reload the page currently opened in the browser.

Window list

Choose one from a list of currently opened windows.

Add to bookmarks

Adds the currently opened web page to the bookmark list. To edit the page title which is displayed in the bookmarks list, open the bookmarks list, navigate to the desired bookmark and press [OPTIONS] **Edit**. Shortcut "3" is predefined for this function.

With an increasing number of bookmarks you might want to organize them into folders and rename some. To create a new folder select [OPTIONS] / **Add folder** in the bookmark list. A dialog will show up where you can enter a name for the new folder. The new folder is created as an additional tab that is empty in the beginning. You can now move existing bookmarks into that folder by selecting (press [OPTIONS] **Mark/Unmark**) and moving those.

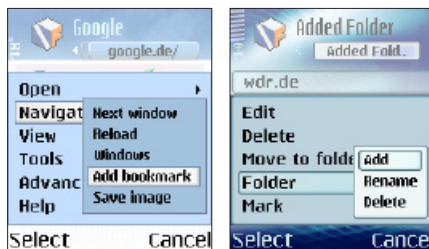


Fig. 16: Add page to bookmarks, Organizing bookmarks

VIEW OPTIONS

Full Screen

In **Full screen mode** the entire screen is used for displaying web pages. Even though soft keys are invisible all functionality remains available. Also accessible with shortcut "*".

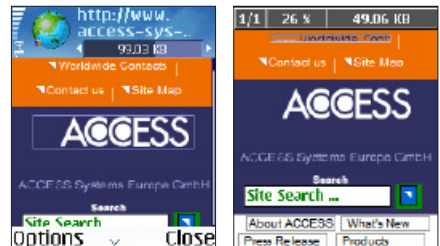


Fig. 17: Normal and Full Screen Mode

Page layout

Here you can toggle between different page rendering modes, or use the "#" shortcut to switch between the modes. You don't have to reload the page to after switching to another mode.

- The **Desktop** setting displays the site without any screen optimization.
- The **Smart-Fit** setting optimizes the display of standard web pages for a small screen.
- In **Text-Only mode** NetFront shows text only, dropping images. This mode is very useful in cases where you want to minimize data transfer, or the page you are viewing is very large and you run out of memory.

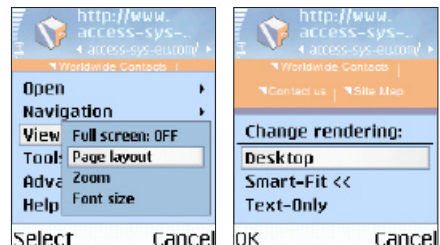


Fig. 18: Changing the page rendering mode



Fig. 19: Desktop rendering mode, Smart-Fit rendering mode, Text-Only rendering mode

Zoom

You can zoom in and out of web pages. Depending on what zoom level is activated you will find different menu items. If you selected **Zoom in**, only **Zoom out** and **Normal** will be available from the view menu.

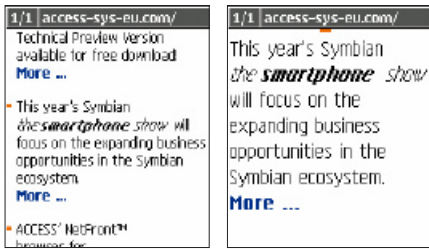


Fig. 20: Zoom into a page

Font size

Adjust the standard font size to your needs. You can choose from small, medium, and large glyphs.

TOOLS

Find

The **Find in the page** menu command lets you search for text strings within an opened Web page. Enter the search string and press Ok. If the search pattern is found, it will be highlighted within the text. To search for another occurrence select **Find next**. The default setting in shortcuts assigns the "9" key to the Find next function. To search the Internet with a Google search select "Find on the Web".



Fig. 21: Finding options

Save

Store the page currently loaded to the phone with the Save Page command to read it offline later. The archived pages will be available from the **Open/Saved Pages** menu. Saved pages can be renamed, deleted, and organized in folders with the commands from the Bookmarks menu.

To save an image, activate **Save image mode** with the predefined shortcut "7" or from the Navigation menu. Scroll the page and select the image you would like to save and press the selection key. Next press the left softkey to save the image onto your phones photo album. Press **Back** to go back to normal browsing mode

To save a link, select the specific link and apply **Tools/Save link**. The linked page URL will be available from the bookmarks list.

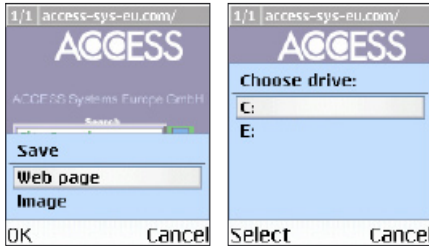


Fig. 22 : Saving a page, choosing a destination drive

Focused link info

Before following a link on a web page, you might want to know where this link will take you to. **Focused link info** displays that link, helping you to decide whether you want to follow it or not.

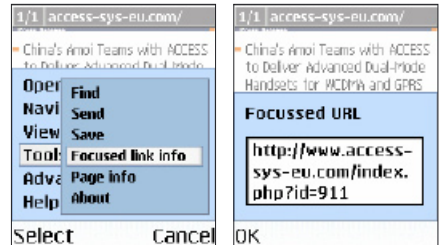


Fig. 24 : Focused link info



Page info

The Page info command displays information about the current page like title, URL, size, type, and charset.

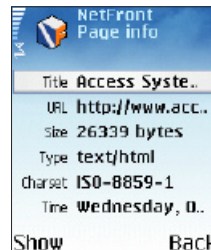


Fig. 25: Page information

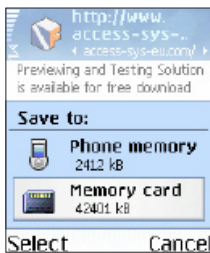


Fig. 23: Saving an image:
 1. Select image
 2. Image is displayed
 3. Choose a destination drive

About

Displays build and version number of NetFront.

ADVANCED FEATURES

RSS Manager

Open a summary of web content together with links to the full versions of the content. Once subscribed to a RSS feed, you can find the RSS bookmark in Options/Open/Bookmarks/RSS folder.



Fig. 26: Adding a RSS feed to the subscriptions

Character encoding

Force the browser to use a specified encoding for displaying a webpage by selecting an item from the list. The default and recommended setting is **Auto Detect**.

- | | |
|-----------------------------|----------------------|
| Autodetect | Cyrillic (CP 1251) |
| English (ISO-8859-1) | Cyrillic (KOI8-R) |
| Central Europe (ISO-8859-2) | Greek (ISO-8859-7) |
| Central Europe (CP 1250) | Greek (CP 1253) |
| Baltic (ISO-8859-4) | Turkish (ISO-8859-9) |
| Baltic (CP 1257) | Turkish (CP 1254) |
| Cyrillic (ISO-8859-5) | Unicode (UTF-8) |

Select connection

Here you can select a new Internet access point. Internet access points are configured in the connection settings from the phones' tools folder.



Fig. 27 : Select default connection

Privacy

To delete private information that was generated during the browsing session you can choose to clear the browser cache, history, cookies, form inputs, or all items together.



Fig. 28: Deleting all private data

Settings

See next chapter for detailed explanation.

HELP

The **Help** command in the main menu brings you to the help pages stored on the phone.

EXIT

To close the browser, press [Options] and select **Exit**. While the application is closing settings are saved.

Once NetFront is installed and your access point is configured you are ready to browse the internet. However, the settings dialogs allow you to further customize NetFront.

GENERAL SETTINGS



Fig. 29: General settings

Pop-Up block

By default, NetFront allows additional windows popping up, for this is required by some web sites. You may turn pop-ups off or allow only specific ones by deciding on the certain case.

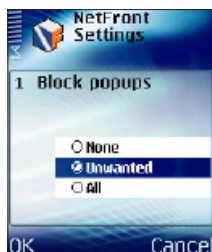


Fig. 30: Pop-Up blocker options

JavaScript

JavaScript can be enabled or disabled. Many pages on the Internet use JavaScript for dynamic features. To save memory you might want to switch off JavaScript support. In "Text-Only" mode JavaScript is disabled.

Cookies

Cookies are small files created by some Web servers to store for example user data for certain Web services so that such data does not have to be entered every time you visit the page.

If set to **Allow**, cookies will be stored on your device.

Reject disables cookies so that they cannot be stored.

Ask forces the browser to show a dialog whenever a server tries to send a cookie.



Fig. 31: Cookies options

Cache size (KB)

Allows size definition of cache, a buffering space for accessing retrieved data.

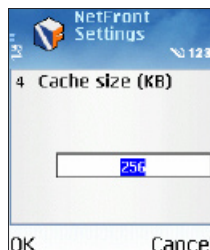


Fig. 32: Defining the cache size

Cache location

Select where cache must be located, either on phone RAM (C: and D: drive) or memory card (E: drive)

DISPLAY SETTINGS



Fig. 33 : Display settings

Load images

To reduce data traffic you might want to disable automatic downloading of images. With **Load images** set to **None**, placeholder icons are shown instead of images. With Load images set to **On scroll**, only those images that are currently visible on the screen are loaded. Other images will be loaded as you scroll through the page. Setting Load images to **All** provides the most accurate rendering but depending on the number and size of images on the page it is also the slowest mode.

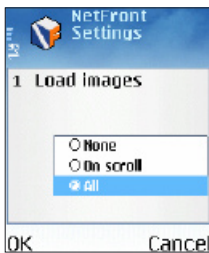


Fig. 34: Load images

Default font size

Define the default font size for normal text and choose from **Small**, **Medium**, or **Large**.

Text wrapping

If you switch text wrapping on, each last word not fitting into a line will be moved to the next line. Otherwise the last word of each line will be separated, without consideration of hyphenation rules.

Scroll speed

This switch changes the speed by which you can scroll through pages.

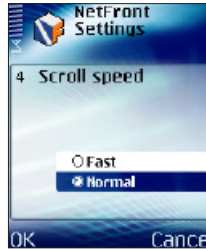


Fig. 35: Scroll speed

Use user style sheet

The user style sheet can be used to control the appearance of Web page elements as its definitions can overwrite the definitions in a Web page. For example, you may define how links or headlines look like. You can also use this switch to temporarily switch off your user style sheet without losing the information entered in the style sheet.

Style sheet data

Define the local style sheet data here. This definition concerns the appearance of a page, like color of text, hyperlinks or background, as well as different heading formats or the representation of highlighted frames.

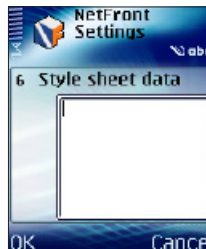


Fig. 36: Style sheet data input field

SHORTCUTS SETTINGS



Fig. 37: Predefined shortcuts

See 2. Shortcuts

CONNECTION SETTINGS



Fig. 38: Connection settings

Default Connection

Lets you define one of the internet access points as a standard that is automatically used for Internet connections. If you leave Default access point to **Off** you will always be asked which access point to use when an Internet connection needs to be established.

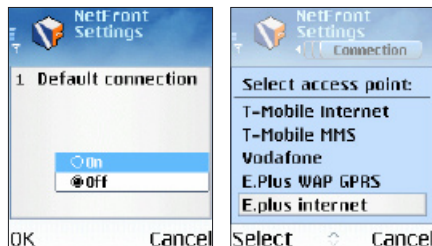
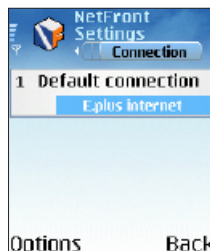


Fig. 39: Default connection



User Agent

When Internet users visit a web site, a text string is generally sent to identify the user agent to the server. NetFront user agent setting can be switched to IE5, IE6, NS4, NS/, and NetFront. Changing the default setting from **NetFront** to a different value sometimes helps passing by problems with certain websites , likes login pages.

CERTIFICATES SETTINGS

The Certificates settings allow you to view details of a certificate and change its validity status.



Fig. 40: Certificates settings

Visit www.access-netfront.com for updates and the latest information on the browser.

FAQ LIST

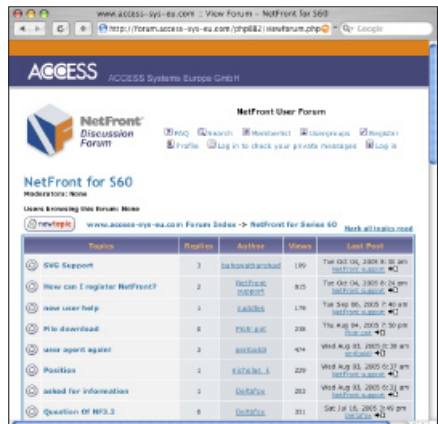
Find answers to frequently asked questions here:
http://www.access-sys-eu.com/s60_faq.html

CONTACT FORM

Use our contact form for support enquiries and other questions:
<http://www.access-sys-eu.com/contact.html>

NETFRONT FOR S60 ONLINE FORUM

At the online discussion forum you can find information, ask questions and write what you think about the ACCESS browser. Enter the forum here:
<http://forum.access-sys-eu.com/phpBB2/>



ACCESS ON THE INTERNET

ACCESS Co., Ltd.
www.access.co.jp/english

ACCESS Systems Europe
www.access-sys-eu.com

ABOUT NETFRONT

To display release information about this application please open the [Options] menu and select Tools/About.

SUPPORTED STANDARDS

Compliance to all important internet and OMA standards:

- HTML 4.01, XHTML 1.1, WML
- XHTML Mobile Profile, cHTML, iHTML
- CSS1, CSS2 (including CSS Mobile Profile)

Dynamic Internet

- Dynamic HTML, DOM 1, 2
- ECMAScript (JavaScript 1.5)

Secure Internet

- SSL (128-bit encryption), authentication, DRM

NETFRONT FEATURES

Smart-Fit Rendering™:

Adapts the data to fit into the screen width, eliminating the need for horizontal scrolling

Zoom:

Allows for the quick display of web pages at different zoom levels

File Download:

Program and image download

Character Copy/Paste:

Copy and paste characters

Image Save:

Image select mode for conveniently saving images

Scroll bar:

visualizes your position in the page while scrolling

Search and Find

within pages and on the Internet

Contents Settings:

On/off control of various settings (Image display, GIF, animation, JavaScript, CSS, etc.)

Full screen mode:

Switches on/off the display of the title and menu bar

File explorer dialogue:

Browse your local files to find pictures or HTML files

Configurable shortcuts:

For quick access to most often used functionality

Different scrolling modes:

- Jump from link to link
- Image select mode
- fast scroll

Integration with other S60 applications:

Enables the invocation of external applications such as MP3 Audio player, MPEG4 Videoplayer

Symbian Signed

The “for Symbian OS” logo means the product has been successfully tested in Symbian Signed. For more information visit www.symbiansigned.com

NEW IN NETFRONT V3.3

Intelligent Pop-Up Blocker

RSS/Atomfeed Support

Web Data and Password Manager

(Automatically complete text input)

Improved DHTML support

Multiple browser windows

3G is short for third-generation mobile telephone technology, and generally refers to wideband mobile services and applications which feature high, always-on data rates. The world has split into three, 3G camps: UMTS (WCDMA) in the GSM world; CDMA2000 in the non-GSM parts of the Americas, Korea and Japan; and TDSCDMA in the People's Republic of China.

3.5G Upgrade of 3G mobile telecommunications networks to higher data transmissions speeds. Also called HSDPA / High-Speed Downlink Packet Access) which is a packet-based data service enhancement to W-CDMA (Wideband Code Division Multiple Access), the technology behind UMTS.

3GPP (3rd Generation Partnership Project) is a collaboration agreement that was established in December 1998. The collaboration agreement brings together a number of telecommunications standards bodies which are known as "Organizational Partners". Current Organizational Partners are ARIB/TTC (Japan), CCSA (China), ETSI (Europe), ATIS (North America), and TTA (South Korea). <http://www.3gpp.org/>

4G is short for fourth-generation the successor of 3G a wireless access technology. 4G describes two different but overlapping ideas: High-speed mobile wireless access with a very high data transmission speed, in an order of magnitude that is the same as a local area network connection (10 Mbps and higher), and pervasive networks, in which a user can be simultaneously connected to several wireless access technologies and can seamlessly move between them. These access technologies can be WiFi, UMTS, EDGE or any other future access technology. Included in the 4G concept is software radio technology to efficiently manage spectrum use as well as the use of mesh routing protocols to create the pervasive network.

ARPU (Average Revenue per User) is a common business metric used by network operators to measure success. It is the revenue generated by a customer on mobile phone services over a period of time.

ARIB (Association of Radio Industry and Businesses) is a Japanese standardization organization whose members are eligible to join the 3GPP and 3GPP2. <http://www.arib.or.jp/english/>

Bluetooth is a wireless data transmission technology using the free 2.4 GHz frequency band. Therefore it offers a reliable and permanent connection. A Bluetooth device supports up to a 10m coverage.

BREW (Binary Runtime Environment for Wireless) is an application development platform created by Qualcomm for CDMA-based phones which competes with Java and allows developers to build programs which end users can download to their mobile phones.

Broadcast refers to the simultaneous transmission of data or voice to a number of stations or receivers.

cHTML (compact HTML), a subset of HTML for small information devices.

CLDC (Connected Limited Device Configuration) is a framework for J2ME applications targeted at devices with very limited resources such as pagers and mobile phones.

CDMA (Code Division Multiple Access) is a multiple access technique, which uses code sequences as traffic channels within common radio spectrum. Under the CDMA access method, the spectrum is divided into wider frequency bands (1.25 MHz or more). All users communicate on the wideband simultaneously; however, they encode and decode their data using special codes which are unique to the cell. Thus, each user is assigned a shared wideband frequency and a unique code on that frequency band. Frequently confused with W-CDMA, here are a few quick facts to help out: CDMA (the multiplexing technique) is used as the principle of the W-CDMA air interface. The W-CDMA air interface is used in the global 3G standard, UMTS, and Japanese 3G standards, FOMA by NTT DoCoMo. The CDMA family of standards (including CDMAOne and CDMA2000) is not compatible with the W-CDMA family of standards.

CDMA2000 1x EVDO (Evolution Data Only) is the second step in the Qualcomm 3G evolution to CDMA2000 1X EVDO it offers data speeds of up to 2.4 Mbps.

CSS (Cascading Style Sheets) is a style sheet language used to describe the presentation of a document written in a markup language. Its most common application is to style web pages written in HTML and XHTML, but the language can be applied to any application of XML, such as SVG or XUL. The CSS specifications are maintained by the World Wide Web Consortium (W3C).

DoJa i-appli is an extension of the CLDC implementation of Java2 but is not compatible with J2ME/MIDP. It was co-developed by DoCoMo and Sun Microsystems. DoJa is a profile defined by NTT DoCoMo to provide communications and other input-output processing, user interface (GUI) and other features/functions unique to i-mode, and extension libraries defined by individual phone terminal makers to add original functions.

DECT (Digital Enhanced Cordless Telecommunications) is an ETSI standard for digital portable phones, commonly used for domestic or corporate use. DECT can also be used for wireless data transfers. DECT is (like GSM) a cellular system. A major difference between the systems is the cell radius - DECT cells have a radius of 25 to 100 meters, while GSM cells are 2 to 10 km.

DHTML (Dynamic HTML) refers to HTML extensions that enable a Web page to react to user input without sending requests to the Web server.

DoCoMo is the predominant mobile phone operator in Japan. The name is officially an abbreviation of the phrase Do Communications Over the Mobile Network, but also means „everywhere“ in Japanese. DoCoMo was spun off from its parent company Nippon Telephone and Telegraph (NTT) in August 1991 to take over its mobile cellular operations. www.nttdocomo.co.jp/english

DOM (Document Object Model), the specification for how objects in a Web page (text, images, headers, links, etc.) are represented.

DVB (Digital Video Broadcasting) is a suite of internationally accepted, open standards for digital television maintained by the DVB Project, an industry consortium with more than 300 members. Its several sub-standards cover data distribution by satellite (DVB-S), cable (DVB-C) and terrestrial television (DVB-T), and terrestrial television for handhelds (DVB-H). Besides audio and video transmission, DVB also defines data connections (DVB-DATA) with return channels (DVB-RC) for several media (DECT, GSM, PSTN/ISDN etc.) and protocols.

DVB-H is based on DVB-T, and is fully backwards compatible. It gives additional features to support handheld portable and mobile reception, like battery saving, mobility with high data rates, increased general robustness, and support for seamless handover.

ECMAScript is a standard, internationally accepted scripting language specification announced by the European Computer Manufacturers Association (ECMA). JavaScript is an implementation of the ECMAScript specification.

EDGE (Enhanced Data rates for GSM Evolution) is a 2.5G technology which boosts the speed of GPRS devices without having to fully upgrade to UMTS up to 384kbps. EDGE is a superset to GPRS and can function on any network with GPRS deployed on it.

ETSI (European Telecommunications Standard Institute) is a standardization organization of the telecommunications industry (equipment makers and network operators) in Europe, with worldwide projection. ETSI has been successful in standardizing the GSM cell phone system. A significant ETSI standardization body is 3GPP (for UMTS networks). <http://www.etsi.org/>

EVDO (Evolution Data Only) is the common name for the second step in the Qualcomm 3G evolution to CDMA2000 and offers data speeds of up to 2.4 Mbps.

FOMA (Freedom of Mobile Multimedia Access) is the brand name for the 3G services based on WCDMA being offered by Japanese mobile phone operator NTT DoCoMo.

Frames are HTML elements which allow web authors to divide their browser display area into two or more sections (frames). With frames certain information can be kept visible, while other views are scrolled or replaced.

GIF Graphics Interchange Format is a bit-mapped graphics file format. Animated GIF combines multiple files into one to show content animated.

GPRS General Packet Radio Service enables GSM networks to offer 'always-on', packet-based data services.

GSM (Global System for Mobile Communications) is the most popular and open standard for mobile phones in the world. Developed by the 3GPP, GSM differs significantly from its predecessors in that both signaling and speech channels are digital, which means that it is seen as a second-generation (2G) mobile phone system.

Hotspot is a WiFi (Wireless Fidelity) access point or area, in particular for connecting to the Internet.

HSDPA (High-Speed Downlink Packet Access) is a mobile telephony protocol, sometimes referred to as 3.5G. HSDPA is a packet-based data service in W-CDMA downlink with data transmission up to 8-10 Mbps (and 20 Mbps for MIMO systems) designed to work with UMTS.

HTML (Hypertext Markup Language) is a markup language designed for the creation of Web pages and other information viewable in a browser or other applications. HTML is used to structure information - denoting certain text as headings, paragraphs, lists and so on.

HTTP Hyper Text Transfer Protocol, the underlying protocol used by the World Wide Web.

IDEN (Integrated Digital Enhanced Network) is a mobile communications technology, developed by Motorola, which provides its users the benefits of both a trunked radio and a cellular telephone. IDEN places more users in a given spectral space, compared to analog cellular systems, by using time division multiple access (TDMA). Up to six communication channels share a 25 kHz space; some competing technologies place only one channel in 12.5 kHz.

IM (Instant Messaging) is the act of instantly communicating to two or more people over a network such as the Internet. There are many IM standards existing including AIM (AOL Instant Messenger), Yahoo Instant Messenger, OMA Wireless Village, Skype, MSN Messenger, Jabber, Google Talk and ICQ.

IMEI (International Mobile Equipment Identity) is a unique number associated with every GSM and UMTS mobile phone, usually found printed underneath the phone's battery and can also be found by dialing the sequence *#06# into the phone. It is used by the GSM network to identify valid devices and therefore can be used to stop a stolen phone from accessing the network.

i-mode is NTT DoCoMo's brand name for their wireless Internet service popular in Japan and increasingly elsewhere. It uses a set of tightly defined standards to reduce the issues of handset diversity.

IMT-2000 (International Mobile Telecommunications 2000) is the global standard for 3G wireless communications as defined by the International Telecommunication Union., it consists of:

IMT-2000 CDMA Direct Spread (also known as WCDMA or UTRAFDD as used in UMTS);

IMT-2000 CDMA Multi-Carrier (also known as CDMA2000, the successor to 2G CDMA);

IMT-2000 Time Code (also known as UTRATDD and TDSCDMA);

IMT-2000 TDMA Single Carrier (also known as EDGE, an intermediate 2.75G technology); and

IMT-2000 FDMA/TDMA also known as DECT.

IrSimple is a high-speed wireless communications protocol using infrared. IrDA (Infrared Data Association), an industry organization that develops and standardizes specifications for infrared communications, has decided to formally adopt the protocol as its standard. Main features are faster data transmission speeds (at least 4 to 10 times faster than existing protocols), improved efficiency, and backward compatibility with existing IrDA-enabled communications incorporated into devices or equipment.

IPv6 IP version 6, a set of standards designed to replace IP version 4. IP addresses in IPv6 are lengthened from IPv4's 32 bits to 128 bits, providing support for an almost unlimited number of networks and systems.

IPv4 Internet Protocol, that specifies the format of packets, also called datagrams, and the addressing scheme. Most networks combine IP with a higher-level protocol called Transmission Control Protocol (TCP), which establishes a virtual connection between a destination and a source.

ITU (International Telecommunications Union) is the United Nations organization responsible for coordinating global telecommunications standards setting, radio spectrum allocation and regulation. <http://www.itu.int/>

Java is a platform independent programming language developed by Sun Microsystems.

J2ME (Java 2 Micro Edition) is a collection of Java APIs targeting embedded consumer products such as PDAs, cell phones and other consumer appliances.

JPEG (Joint Photographic Experts Group), a lossy compression technique for color images.

Location Based Service is a service that tracks a cellular phone user's location within the mobile network by use of triangulation between the known geographic coordinates of the base stations through which the communication takes place. Examples of location based services might include finding the closest Italian restaurant, or emergency services when dialing an emergency telephone number, so that the operator can dispatch emergency police or firefighting services to the correct location.

MIDI (Musical instrument digital interface), a standard adopted by the electronic music industry for controlling devices, like synthesizers and sound cards that emit music.

MIDlet is a Java program for embedded devices, more specifically the J2ME virtual machine. Generally, these are games and applications that run on a cell phone.

MIDP (Mobile Information Device Profile) is a specification put out by Sun Microsystems for the use of Java on embedded devices such as cell phones and PDA's. MIDP is part of the J2ME framework.

MIME (Multipurpose Internet Mail Extensions) is an Internet standard for the formatting of multimedia email. Virtually all Internet email is transmitted via SMTP in MIME format. Internet email is so closely associated with the SMTP and MIME standards that it is sometimes called SMTP/MIME email.

MMS (Multimedia Messaging Services) allows sending of different media, like graphics, clips or sounds from a mobile phone.

MPEG (Moving Picture Experts Group), a high compression format for video. There are three major MPEG standards: MPEG-1, MPEG-2 and MPEG-4.

MVNO (Mobile Virtual Network Operator) is a company that does not own a licensed frequency spectrum and buys network capacity from a licensed network operator to offer its own branded mobile subscriptions and value added services.

ODM (Original Design Manufacturer) is a company that designs and manufactures a product such as a mobile phone that is then sold under other brand names.

OMA (Open Mobile Alliance) is a standards organization which was previously called the WAP Forum. The mission of the OMA is to provide interoperable service enablers working across countries, operators and mobile terminals. OMA maintains, among other things, the WAP specification for providing Web like access to mobile phones. <http://www.openmobilealliance.org/>

PDC (Personal Digital Cellular), a 2G cellular technology used in Japan.

PIM (Personal Information Manager) is a software application which keeps track of personal information such as Emails, task lists, notices, appointments, and address book entries. PIM applications now ship with most mobile phones and have the ability to synchronize the information on your PC PIM with your mobile phone PIM.

PNG (Portable Network Graphics) and pronounced ping, a bit-mapped graphics format similar to GIF.

POC (Push-to-talk Over Cellular) is the technology in which a mobile phone acts like a digital walkie-talkie by providing a half duplex voice channel. The talker is required to keep a switch operated while talking.

RSS (Really Simple Syndication) is a family of XML file formats for Web syndication used by (among other things) news Websites and Weblogs. RSS formats provide Web content or summaries of Web content together with links to the full versions of the content, and other meta-data.

SAT (SIM Application Toolkit) is a set of commands which defines how the SIM card should interact with the outside world and extends the communication protocol between the card and the handset. With SIM Application Toolkit, developers can build handset independent programs which can interact and perform transactions with the network. In 2G networks, SIM Application Toolkit (SAT) was defined in the GSM 11.14 standard. GSM 11.14 has been updated to 3GPP 31.111 which also includes specifications of USIM Application Toolkit (USAT) for 3G networks.

SIM (Subscriber Identity Module) is a smartcard securely storing the key identifying a mobile subscriber. The card also contains storage space for text messages and a phone book.

SIP (Session Initiation Protocol) is an IETF proposed standard for initiating, modifying, and terminating an interactive user session that involves multimedia elements such as video, voice, instant messaging, and online games. It is currently the leading signaling protocol for Voice over IP, gradually replacing H.323 in this role.

SMIL (Synchronized Multimedia Integration Language) pronounced „smile“ is a W3C recommendation for describing interactive audiovisual presentations using the Extensible Markup Language (XML). It defines timing markup, layout markup, animations, visual transitions, and media embedding, among other things. ACCESS is the author of a SMIL player for advanced 3G push services with rich multimedia content.

SSL (Secure Sockets Layer) is a cryptographic protocol to provide secure communications on the Internet.

TCP (Transmission Control Protocol), one of the main protocols in TCP/IP networks. TCP enables two hosts to establish a connection and exchange streams of data.

TD-SCDMA (Time Division Synchronous CDMA) is special transmission method for UMTS co-developed by Siemens, Datang, and the China Academy of Telecommunications Technology (CATT). TD-SCDMA is to be used for setting up UMTS mobile phone networks in China, combining the SCDMA technique developed by CATT with the TD-CDMA method proposed by Siemens and other manufacturers. The S in ‚SCDMA‘ refers to the special synchronous mode: All radio base stations transmit and receive synchronously: they prevent unavoidably occurring feedback interferences with asynchronous radio methods.

UAProf (User Agent Profile) is a specification that extends WAP1.X to enable end-to-end flow of User Agent Profile between WAP client, intermediate network points, and the original server.

UDP (User Datagram Protocol) is one of the core protocols of the Internet protocol suite, a minimal message-oriented transport layer protocol that is currently documented in IETF RFC 768. In the TCP/IP model, UDP provides a very simple interface between a network layer below and an application layer above. UDP provides no guarantees for message delivery and a UDP sender retains no state on UDP messages once sent onto the network.

UICC (Universal Integrated Circuit Card) is smart card, which contains a chip used in mobile terminals in 3G telecom networks systems. The UICC is an essential component for UMTS, just as the SIM is for GSM. Extending the concept of the SIM card, the UICC contains the USIM application and also provides a platform for other IC Card applications. It ensures the integrity and security of all kinds of personal data, enabling secure support for all kinds of multi-application schemes.

UMTS (Universal Mobile Telecommunications System) is one of the third-generation (3G) mobile phone technologies, generally based on WCDMA (Wideband Code Division Multiple Access) technology. UMTS supports up to 1920 kbit/s data transfer rates, although at the moment users in the real networks can expect performance up to 384 kbit/s - in Japan upgrades to 3 Mbit/s are in preparation.

Unicode is a standard for representing characters as integers with 16 bits rather than 7 bits (ASCII) or 8 bits. Commonly used for expressing Chinese and Japanese, which requires two bytes.

URI (Uniform Resource Identifier), the generic term for all types of names and addresses that refers to objects on the World Wide Web.

URL (Uniform Resource Locator), the global address of documents and other resources on the World Wide Web.

User Agent is the client application used with a particular network protocol. When Internet users visit a Web site, a text string is generally sent to identify the user agent to the server. This forms part of the HTTP request, prefixed with User-agent: or User-Agent: and typically includes information such as the application name, version, host operating system, and language.

UTF-8 UTF is a short for "Universal Transformation Format", a method of converting Unicode characters, which are 16 bits each, into 7- or 8-bit characters. UTF-8 converts Unicode to 8-bit characters thus enabling the use of Unicode (needed for languages such as Chinese, Greek, Japanese) in environments that were designed around ASCII.

VoIP (Voice over Internet Protocol) is an IP based technology used to transmit voice calls over the Internet or any other IP network using IP packets.

W3C (World Wide Web Consortium) is an international consortium where Member organizations, a full-time staff, and the public work together to develop Web standards. W3C's mission is: "To lead the World Wide Web to its full potential by developing protocols and guidelines that ensure long-term growth for the Web." <http://www.w3.org/>

WAP (Wireless application protocol) is a standard by OMA (formerly WAP Forum) for the way in which wireless technology is used for Internet access. WAP 1.x requires a WAP gateway that converts protocols and content for the mobile devices. WAP 2.0 specifies an environment that permits wireless devices to utilize existing Internet technologies.

WBMP (Wireless BitMap) is a graphic format optimized for mobile computing devices.

W-CDMA (Wideband Code Division Multiple Access) is one of three 3G standards that makes use of a wider spectrum than CDMA and therefore can transmit and receive information faster and more efficiently. WCDMA is the technology behind UMTS and FOMA is being backed by NTT DoCoMo and the European mobile industry and is expected to compete with CDMA2000 to become the de facto 3G standard.

WCSS (Wireless CSS) See above for CSS definition.

WiFi (Wireless Fidelity) is the nickname for a set of product compatibility standards for wireless local area networks (WLAN) based on the IEEE 802.11 specifications.

WiMax (Worldwide Interoperability for Microwave Access) is the nickname given to IEEE 802.16 protocol which is a way of networking computing devices together; for example to provide Internet access, in a similar way to Wi-Fi. WiMAX is both faster and has a longer range than Wi-Fi. However, WiMAX does not necessarily conflict with Wi-Fi, but is designed to co-exist with it and may indeed complement it.

WML (Wireless Markup Language) is an XML based language used to specify content and user interface for WAP devices.

WTLS (Wireless Transport Layer Security) is the security layer of WAP, providing privacy, data integrity and authentication for WAP services.

XHTML (Extensible HyperText Markup Language), is a markup language that has the same expressive possibilities as HTML, but a stricter syntax. Whereas HTML was an application of SGML, a very flexible markup language, XHTML is an application of XML, a more restrictive subset of SGML. XHTML is the successor to HTML — HTML is no longer being developed, while refinement of XHTML is ongoing.

XML (Extensible Markup Language) is a W3C-recommended general-purpose markup language for creating special-purpose markup languages. It is a simplified subset of SGML, capable of describing many different kinds of data. Its primary purpose is to facilitate the sharing of data across different systems, particularly systems connected via the Internet.

HTML

CSS

ECMAScript

SVG

SMIL

ECMAScript