Nokia 5800 XpressMusic

All About Symbian

www.allaboutsymbian.com

If you have any feedback please contact the author through All About Symbian or via e-mail (rafe at allaboutsymbian.com).

Version 1.1 (22nd February 2009)

Table of Contents

Rafe's Nokia 5800 Preview

Introduction

Announced at Nokia's Remix event in London, at the beginning of October, the Nokia 5800 XpressMusic is a mid-range, music focused phone, running S60 5th Edition on Symbian OS 9.4, with a 3.2 megapixel camera, integrated GPS, WiFi and HSDPA connectivity, and a 3.2 inch touch screen. It's the last item on this feature list which draws attention to what would otherwise be a fairly standard mid range phone.

For the Nokia 5800 XpressMusic is one of Nokia's most widely talked about (and leaked) phones of recent memory. There's no doubt that it is going to garner attention, coming in the wake of the recent spate of touch phones, including, of course, the Apple iPhone. While it's not Nokia's first touch phone (Nokia 7700/7110) or its first recent touch device (Nokia N810), it is the *first S60 touch enabled phone* and is a significant landmark in Nokia's mobile device story. However, it is worth noting from the start that it is not "Nokia's touch phone", instead it is the first in a portfolio of touch enabled phones from Nokia. This is an important distinction because, while the 5800 can tell us much about Nokia's touch platform generally, it can only be fairly assessed in the context of its own market positioning (music focused, cost of 279 Euro before taxes and subsidies).

General Design and Hardware

The 5800, at 111 x 51.7 x 15.5 mm, is a reasonably small package. It is similar in size to the N78 (113 x 49 x 15.1 mm), but slightly heavier at 109g versus 102g. Volume wise, the 5800 is bigger at 83 cc compared to the N78 at 76.5 cc; it does feel bigger in the hand, mainly due to the greater taper on its edges. While the 5800 is

significantly bigger than the typical mid-range phone and would do well to be thinner, it compares favourably to other smartphones and does not feel over sized.

Thanks to its relatively narrow width it is, proportionally, closer to the traditional candy bar shape (long rectangle) than most touch screen based phones (short rectangle). If you think of your typical candybar smartphone, remove the keypad and lengthen the screen and you'll get pretty close to the feel of the 5800. The key advantage of this shape is that, for most people, it will be possible to use the device with just one hand; even those with smaller fingers should be able to reach all points on the screen.

The overall design of the device, screen apart, is in line with typical mid range candy bar phones from Nokia. The materials are dominated by light plastics, chiefly black, but with a coloured highlight running around the sides of the phone. Build quality is good, with no rattles or unwelcome squeaks, and it should have good long term durability. It certainly gives the feeling of being able to stand up to quite a lot of abuse.

The front of the device is dominated by the 3.2 inch resistive touch screen, which has a resolution of 360 x 640 pixels (Nokia refer to this as nHD). This is much higher than most previous S60 devices (QVGA: 240 x 320) and has a wider aspect ratio (16:9 compared to 4:3). Touchscreens typically use resistive or capacitive technology; capacitive touchscreens (as used on the iPhone) are generally regarded as more sensitive and work better in sunlight, but only work with finger touch, whereas resistive touchscreens can work with any object (finger, stylus, when wearing gloves etc.). The 5800's screen is set behind the resistive layer and is therefore well protected.

Resistive touchscreens work by having two thin layers of conductive and resistive material which detect a 'touch' when they are pressed together; this means a physical push is required for a touch to be registered. The main concern with such screens, from a usability viewpoint, is how much of push is needed. If you're using the stylus

(easily the most accurate way to interact with any touchscreen) with the 5800 then there are no problems at all. Even with the less accurate/controllable finger touch, I was pleasantly surprised about the performance; I've only had one or two instances where a touch did not register. That's extremely good compared to other resitive touch screens I have used. Incidentally, the pre-production model I've been using is much improved over some of the models that were being used for demos at the launch.

The other typical problem with such touch screens is that the resistive layer can dull screen clarity and brightness; but again this isn't an issue with the 5800. Indeed I think the 5800's screen is one of the device's high points; Nokia were quite serious when said it was industry leading at the launch event. Colour range and accuracy is excellent for an LCD based screen and its high resolution gives it impressive detail and sharpness. Outdoor performance, in bright sunshine, is OK, although it doesn't quite measure up to the N95 8GB's transflective screen or the iPhone's capacitive touch screen in terms of visibility.

At the bottom of the screen there are three keys: a send key (green), a home key and an end key (red). The home key (the equivalent of the swirly S60 key) switches between the home screen and the application screen (or with a long press pops up the multi-tasking switcher). The inclusion of the send and end keys is a sensible addition - it allows you to quickly answer or end phone calls without looking at the screen, and, as with other S60 phones, they can also used for shortcuts in numerous places (e.g. activating the call log from the home screen, initiate calls in contacts and so on). At the top of the screen, next to the usual VGA video calling camera, is a proximity sensor which locks the screen (deactivates touch) when you hold the phone to your ear, which should prevent your cheek inadvertently ending calls or sending naughty text messages.

On the left hand side of the device are two plastic doors hiding the slots for the SIM card and microSD memory card respectively. The microSD card, which is hot-swappable, can be taken in and out easily enough (it’s on a spring), but removing the SIM card requires you to remove the back of the device, remove the battery and use the stylus to push the SIM card out. It's not a major problem, but it is a bit fiddly if you regularly swap SIM cards. The device's twin stereo speakers are housed towards the back of the left hand side at either end of the device. This positioning is intentional, the result of which is, when the device is held in landscape orientation, the speakers face towards you and your hands form part of the auditory channel improving the perceived sound quality.

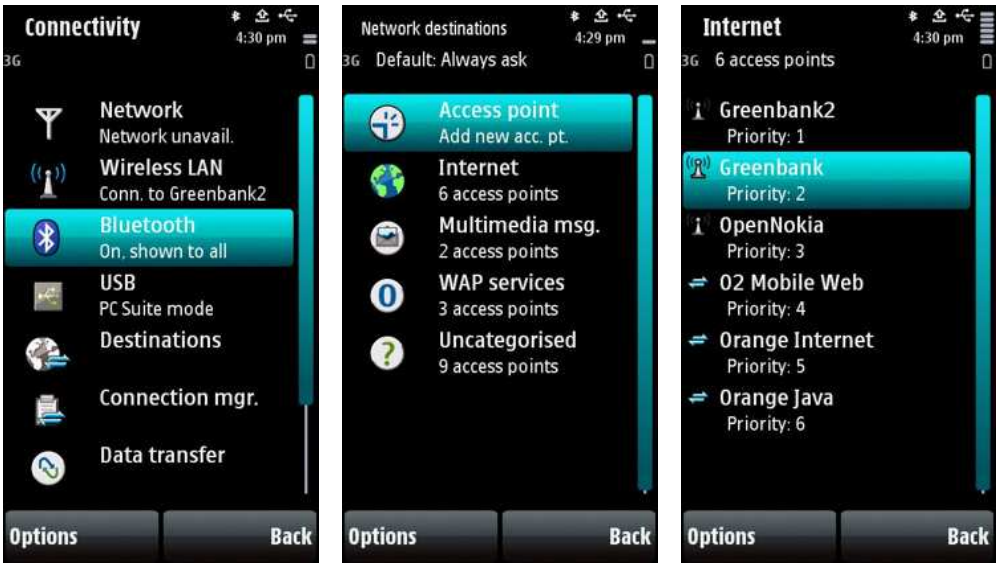

The top of the device has, from left to right, the microUSB port, the standard 3.5mm audio/TV-out port, a standard Nokia 2mm power port and the power button. It is a neat arrangement, and while the audio and USB ports are best placed here, the power port is inconveniently positioned for use with in car chargers. The right hand side, has from top to bottom, volume controls keys, a screen lock slider, and a camera capture key.


The back of the device has a 3.2 megapixel autofocus camera with Carl Zeiss optics and an accompanying dual LED flash. The LED flash has the traditional 'concentric-circle' windows rather than the enhanced 'diamond-square' windows found in the N85. The back of the device, which is removable as one piece, is made of a rubbery-plastic material which gives better grip than the shiny plastics used elsewhere on the device; it contains the device's stylus which is accessed from the lower right hand corner.

Connectivity, Battery, Memory

The 5800-1 is quad-band GSM and dual band WCDMA (900/2100MHz) with HSDPA. There will be a number of regional variants (5800-2 and 5800-3) with different WCDMA bands (850/1900) as well as a version for China without any WCDMA radio. All variants also have WiFi (802.11b/g), Bluetooth and USB for local connectivity. TV-out support is provided through the in-box cable which plugs into the 3.5mm audio port.

In software, the 5800 uses the same 'Destinations' (grouped access points) as were first seen in S60 3.2 devices. This means the phone will automatically use the most appropriate access point (e.g. WiFi hotspots, once set up, can be used in preference to the standard cellular access point). Destinations are fully implemented in S60 5th Edition; more of the in-built applications take advantage of destinations and as a result the annoying 'choose access points' dialogs are much less common. It's still not perfect, for example, it can not hand over between access points, but it does address one of the main bug bears of S60 users.



Connectivity settings, Destinations and a list of access point in the Internet grouping.

The device ships with a 1320 mAh battery and has a quoted talk time of 9 hours (WCDMA). In use, I found the device would comfortably last 2 days with typical usage, and even with heavy usage it should have no problem getting through a day. Web browsing, video playback, GPS navigation and other activities that involve leave the screen switched on and constant processor activity obviously drain the battery more quickly, but even with constant, non-stop use you should get between 3 and 5 hours, depending on what you're doing. For activities that leave the screen off, the figures are even more impressive, the 5800 is quoted as managing 35 hours of music playback and my tests would certainly support a figure fairly close to that. It is a testament to the skill of Nokia's hardware engineers and the power management capabilities of Symbian OS 9.4 that such figures are possible.

Forum Nokia specifications reveal that the 5800 has an ARM 11 processor running at 369 MHz (presumably the Freescale model as used in other recent S60 devices). The processor speed is, as ever, fairly meaningless; the overall performance of the device is very good. The 5800 has around 80 MB of internal memory available to the end user, enough for a decent number of applications and important user data. There's an 8GB microSD card in

the box, adding to the feeling of value for money, which gives a generous amount of room for maps, music, applications, videos and photos. In some markets, there will be music and videos preloaded on to the card and you can also expect to find Maps for your local country preloaded. The phone worked fine with a 16 GB card and should also be compatible with the forthcoming 32 GB cards. There's 128 MB of RAM on board, of which around 72 MB is free after switching on the device, which should be more than sufficient for even strenuous multi taskers.

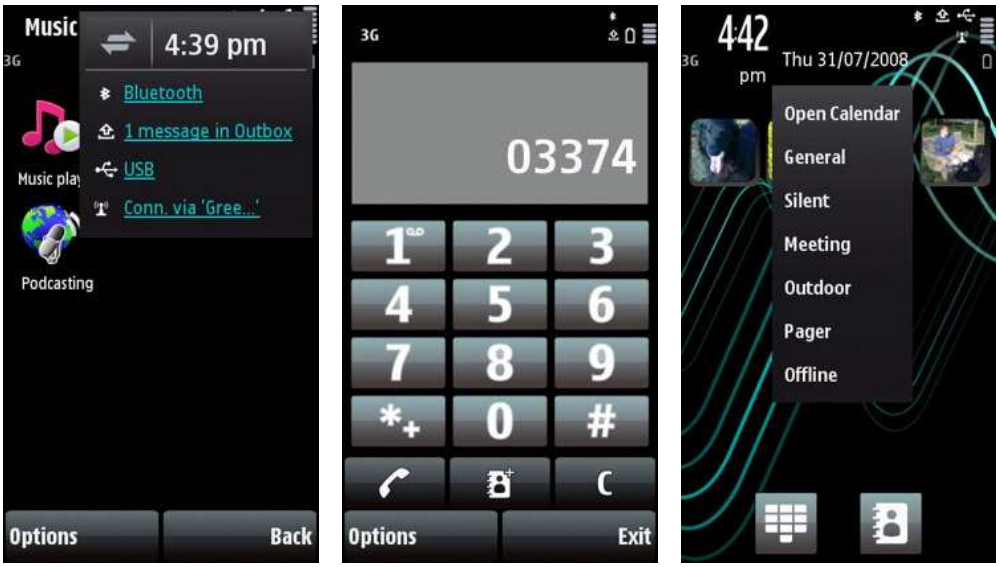
Touch

The most visible addition to S60 5th Edition is touch, and it clearly has a huge impact in the way you interact with the device. It enables both finger touch and stylus touch and supports several device configurations: those with D-pads and keypads, those which are purely touch driven (e.g. the 5800) and those which mix elements of both.

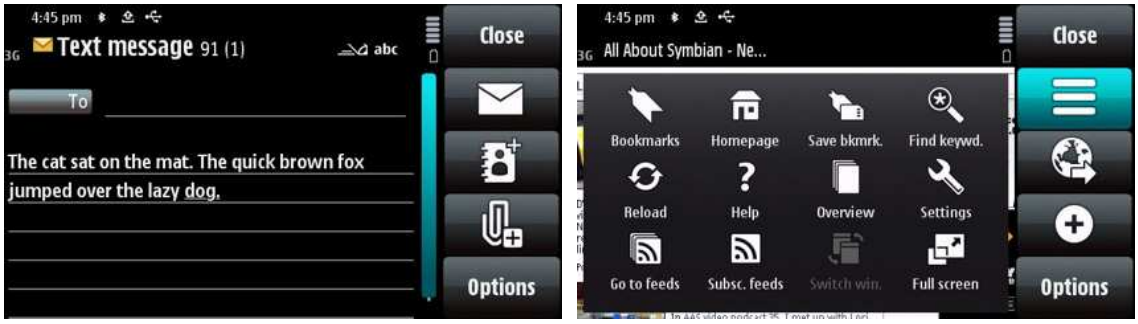
The Nokia 5800 can either be used two handed (stylus or finger touch) or one handed (with finger touch). In pure speed terms, two handed use will generally be quicker and a stylus is more accurate than a finger, but this is set against the convenience of one handed usage (finger). Having this flexibility is a real boon. After all, many short phone interactions (making a call, writing and sending a text message) are done while on the move or in parallel with another activity generally one-handed). Equally, there are times when you'll be able to use two hands and certain activities, mainly centred around multimedia creation and consumption, definitely benefit from this mode of usage.

It is important to realise that S60 5th Edition really is the enabling of touch interaction for the existing S60 UI. If you look at screenshots side by side you see obvious commonalities; those that have used S60 devices before will find a marked feeling of familiarity as they use the new platform.

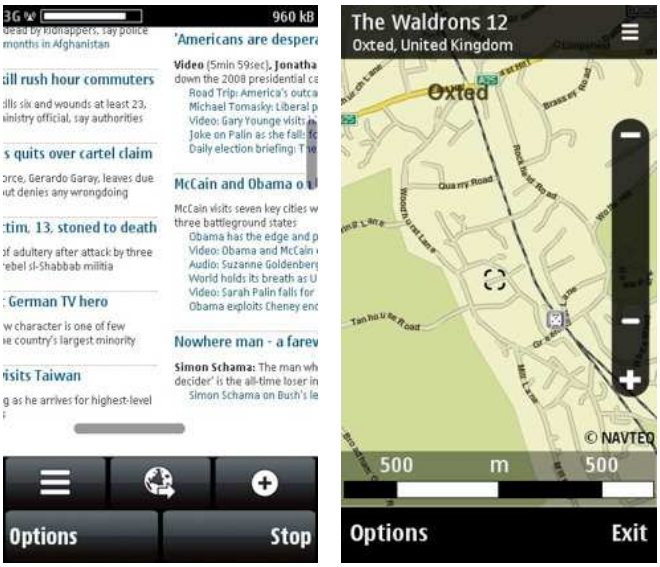
I think it is fair to say the focus has been around enabling and optimising current UI elements for touch usage, although there are also some brand new UI components. The basic elements are straight forward: applications launch when you touch their icon, menus are accessed via on screen softkeys and items are selected by a simple touch. But the implementation goes much deeper: touch the status icons and a status window opens with summary information, touch the clock and the Clock application opens, touch the profile and a profile switcher menu appears. UI components are redesigned to optimise for finger touch: icons are bigger, the softkeys and menus are fatter, lists are more widely spaced and on screen buttons are larger.



There are new UI components too: in portrait orientation a toolbar appears above the softkeys to giver quicker access to commonly used functionality, in landscape these are combined into a single toolbar/softkey, made up of five components. Web and Camera both use dialogs which pop out from the toolbar to offer multiple shortcuts to key functions. There are also the multiple new text entry options, which are discussed in more detail below.



Scrolling is harder to explain concisely. S60's scrollbars were previously visual indicators, but with a touch screen (and in the absence of a D-pad) they too become an interactive component. You can either drag the scrollbar's thumb (box) up and down to move quickly to a specific place or you can touch the scrollbar above or below the thumb to move up or down one screen at a time - and to make them easier to use, they've been made wider. It is also possible to scroll using drag methods. For lists it is drag and hold: touch centre of the screen, hold and drag up/down and hold; this scrolls, slowly, through the list. For canvases (e.g. those instances where you can scroll in both directions, such as Web, Nokia Maps and zoomed in images) it is drag and release: touch screen, hold drag to move entire canvas.

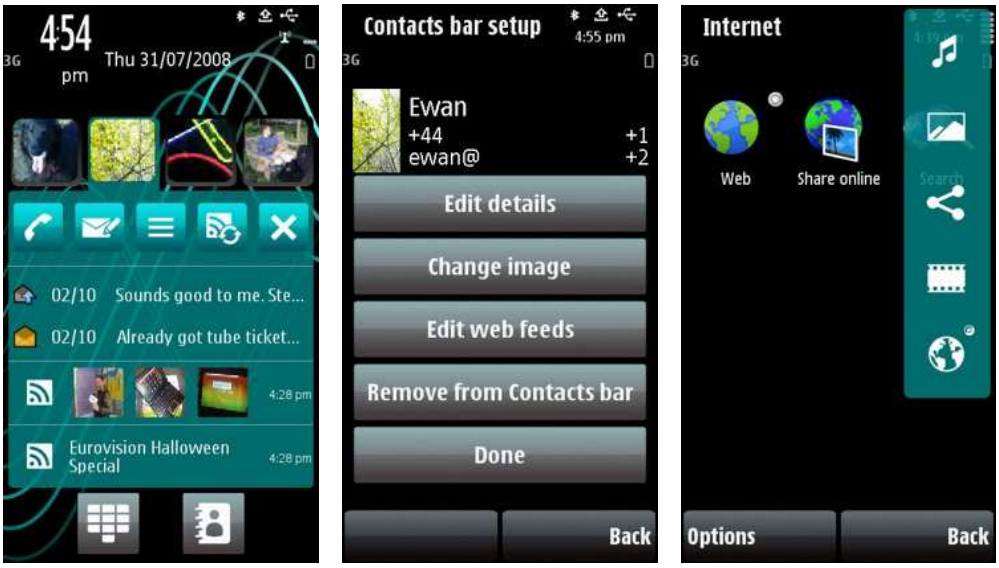


Canvas scrolling in Maps and Web

For longer lists, scrolling can be cumbersome and, as with earlier versions of S60, such lists (e.g. contacts list) have an adaptive search box towards the bottom of screen. When you start inputting text, the list shrinks to show only those items that match the search term. When you touch the search box an on screen a-z keyboard is shown, but this keyboard is also adaptive, so as you enter a letter, the number of letters on screen is reduced to only show those that will result in a match. Given that such searches usually only need 2 or 3 letters, it is far more convenient than bringing up one of the text entry methods and means that, even for long lists, most entries are just a few taps away.

The 5800 has two important additions to the standard S60 5th Edition offering. The first of these is a customised home screen, 'Contact bar', which Nokia refers to as a 'people centric UI'. It shows four contact shortcuts on the home screen; when a contact is selected, an activity log of communication and recent feed entries for that person is shown, along with shortcuts for calling and messaging. Contact bar is one of three choices for the home screen; the others are the standard basic home screen and the shortcut home screen which offers application shortcuts and notifications (previously known as the active idle screen).

The second addition is the Media bar, which is accessible, at any time, via the dedicated touch-key on the top right of the device, and offers shortcuts to key multimedia applications: Music player, Gallery, Share online and Web. Both additions are worthwhile, though the Contact bar, because it is limited to just four people, feels only skin-deep.



Contact bar and Media bar

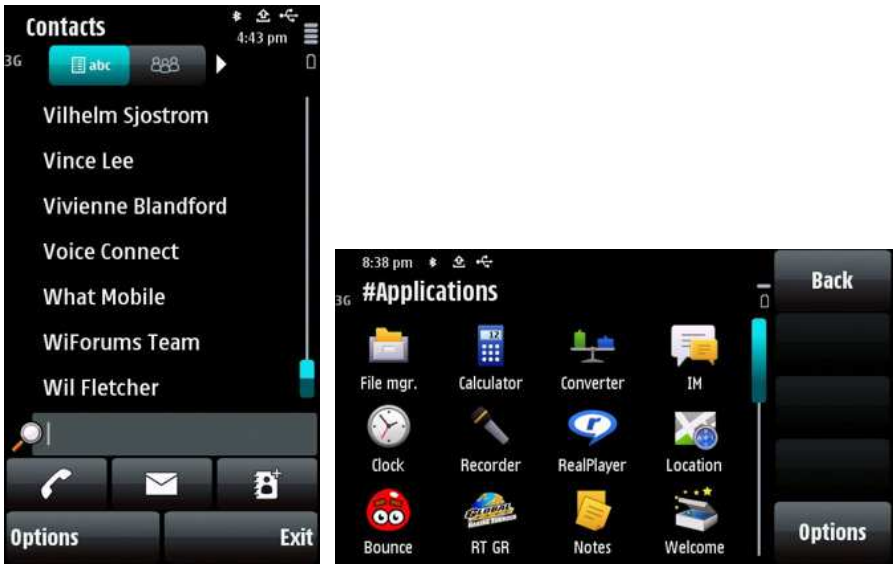
S60's touch implementation is bound to be somewhat controversial because, rather than starting from a blank slate, its origins as a softkey driven UI are clearly evident. Whether you regard that as a benefit or not is open to debate; there are advantages: user familiarity and platform compatibility, and disadvantages: some legacy elements are not well-suited for touch. Furthermore, I do expect people to say that some things have not been done in the 'right way'; an example of this is the absence of finger flick scrolling in contacts (and other lists). In this particular instance, S60 provides adaptive search fields which are arguably more functional.

I think the area that will stir most debate is the use of a focus driven UI. On the 5800, this applies particularly to lists (as used in Contacts, Settings and many other applications). In practice this means that double taps are required to carry out certain actions: the first to select the focus of an item on a list and the second to trigger the default function for the item in focus (for example, in contacts you first tap to select a contact, and then tap again to open the contact).

This contrasts with other touch UIs, where a single tap is required (non-focus driven UI). The advantage of a focus driven UI is that it works across a greater range of devices (e.g. devices with a D-pad); the advantage of non-focus driven UIs is that they tend to be more intuitive for new users. Focus driven UIs tend to have more functions accessed from a menu ('Options' in the case of S60) rather than on screen and this, arguably, allows for richer functionality (but this is a complex area and much depends on the context).

Double tap / focus driven: One touch to select focus (application settings), and another touch to open application settings.

I do think there is room for further touch optimisations. For example, many S60 applications use tabs to switch between screens (e.g. in the Contacts application you can switch between the main list and the groups list), but the tabs only take up about half the available screen space, it would be better if they used all the space, thus giving you a bigger target to hit with your finger. Similarly there are multiple instances, in landscape mode, when only two of the five buttons of the toolbar are used; in some places this is for sake of simplicity, but for others it is a wasted opportunity. There are also instances where the implementation is sub-optimal using finger touch, the best example of this is the scroll bar in landscape mode (it is too easy to inadvertently select something to right or left by mistake).



However, I would class all of these issues under quibbles; and you'll find these in any user interface system you care to name. Clearly there is room for the UI to evolve and improve, but I do not think, given the context, that there are any fundamental flaws in the UI. My overall impression after two weeks of use is very positive. Given

some of the negativity that surrounded early previews I have been pleasantly surprised by the first real world implementation of S60 5th Edition.

What impresses most is its flexibility. You can use it either with finger touch (likely most common in western markets) or stylus (likely more common in Asian market) or a combination of the two, making the UI suitable for a global audience. This flexibility is a hallmark of Nokia's platform approach to touch. In assessing the UI, it is important to understand that for Nokia it is not a question of creating one touch phone in isolation, but rather enabling touch in the platform so that there can be a whole portfolio of touch phones. This enables a single platform running on many different devices of different form factors, interaction methods and price points across which Nokia can run a single software and service platform that, through hundreds of operators, reaches across the globe, into many millions of devices.

Organising application layout, number dialer, toolbar in Calendar

Haptics

The 5800's touch implementation includes haptic feedback - when you touch the device, it vibrates. While this does not replicate the feel of touching a button, because the feedback is generalised rather than specific, it does make the device come alive and provides a confirmation that you've touched the screen. It's not perfect, but does significantly enhance the user experience and is especially useful when touching the screen multiple times in quick succession, such as when you are entering text. There are three levels of feedback, of varying strength, or you can switch it off altogether. As an alternative, you can use an audio tone, but, as with keypad tones on non-touch screen, a beep tends to get a little irritating after a while.

Text entry

There are four distinct methods of entering text on the 5800 (and five, if you include Bluetooth keyboards): on screen, virtual alphanumeric keypad with T9 or multi-tap (portrait), mini-QWERTY keyboard (portrait and landscape), full screen QWERTY (landscape) and handwriting recognition (portrait or landscape). Both the alphanumeric keypad and the full QWERTY keyboard take up the whole screen, when you touch a text entry area they'll occupy the whole screen. By contrast, handwriting recognition and mini-QWERTY appear in a 'window' floating above the active screen. You can switch between the different methods via a pop-up menu (the button with a keyboard icon).

The great benefit of the alphanumeric keypad is that it can be used one handed as you would with a physical keypad. It also works particularly well with finger touch as the on screen keys are larger. It is a complete implementation, letting you use multi-tap or predictive text (T9). Indeed the touch screen allows for some extras, including showing capitalisation, a selectable list of matching words in T9 (usually selected using the star key) and the ability to change cursor position by touch.

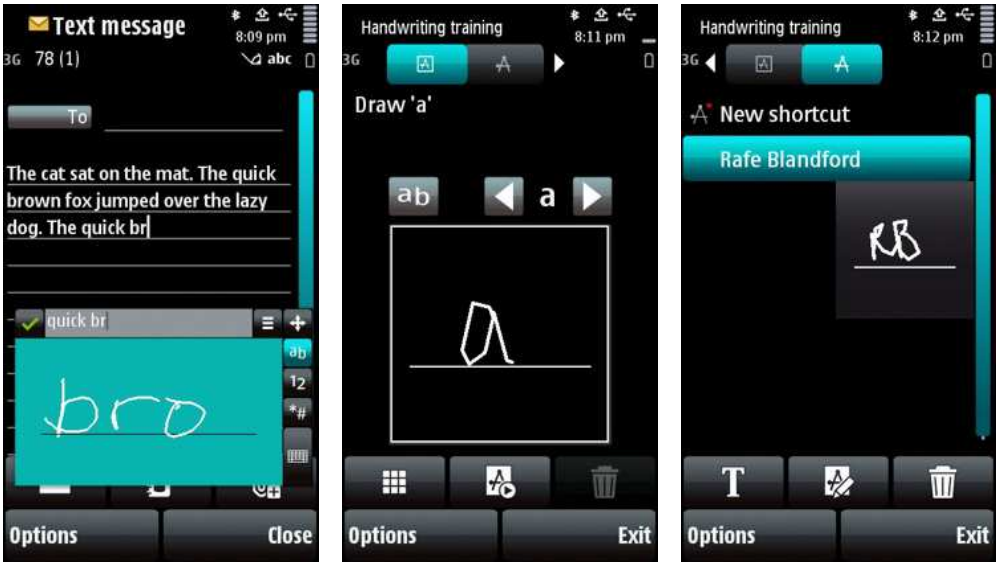
The mini-QWERTY keyboard doesn't work well with finger touch (the keys are too small), but is well suited to stylus usage. It floats above the current screen, which means it is also less intrusive than the alphanumeric keypad or full screen QWERTY and this is particularly useful when entering a large amount of text.

The full QWERTY keyboard really needs two hands to be used effectively. I found I achieved about the same speed as with the alphanumeric keypad, but that's probably because I'm more used to using such keypads. There is no automatic text correction software, which is a shame, as mis-hits do inevitably occur; in the future, it would be good to see something similar to the Nokia E71's implementation here.

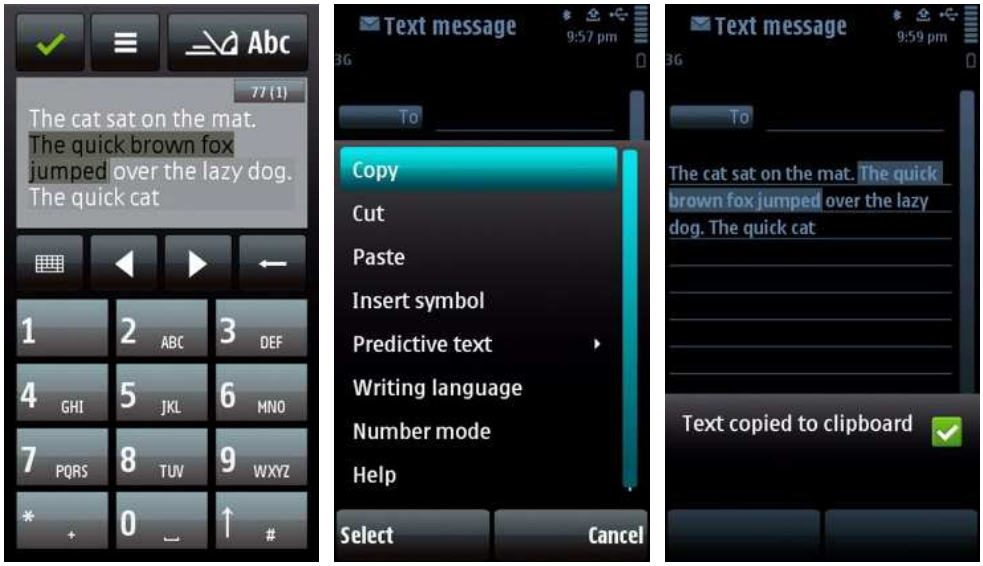
A touch screen make is easier to move the cursor or select text for

The handwriting recognition method is necessarily stylus driven and uses a floating window which can be moved around the screen. No special symbols are required; you just need to write each character individually (either lower case or upper case works fine). Recognition occurs as you enter text, with each drawn letter

remaining on screen for around half a second (enough time to cross a t or dot an i). Capitalisation occurs automatically or can be forced by an on screen button; while the recognition includes punctuation, less common characters are not as well catered for and are easy to enter via the on screen symbol/character button. Recognition was generally good and can be improved by training the recognition software in the phone's settings. You can also create your own 'character' shortcuts for regularly-used text strings.



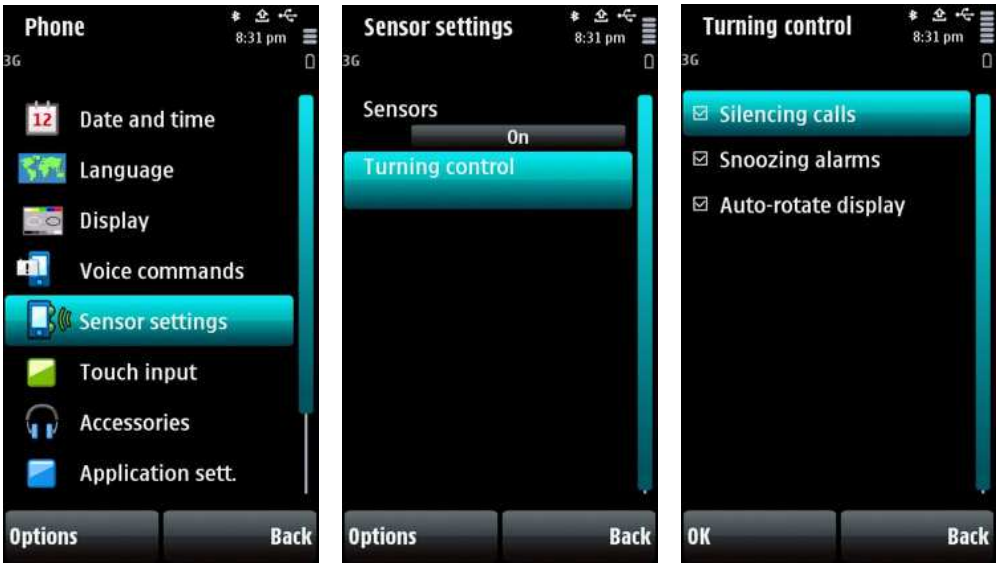
For text entry, I tended to use a mix of the alphanumeric keypad and full screen QWERTY, principally because these work best with finger touch. However, it is great to see that the user has a choice; some methods are more suited to certain markets than others, for example, handwriting recognition is likely to be popular in some Asian countries. On occasion, Nokia rightly receives criticism for having multiple ways of doing things in its UI, but in this instance it is exactly the right decision. While I suspect many users will settle on one method and forget the others are there, the critical point is that they have a choice.



Sensors

After touch, the second headline addition for S60 5th Edition was the introduction of the sensor framework. This provides a standard way for the platform and applications to query and interact with sensors that are available in

the device. Accelerometer powered functionality has been seen in earlier devices, but the framework for this varied from device to device - it's now been standardised at the platform level. The 5800 doesn't break any new ground in one sense: automatic screen rotation, flip to silence for incoming calls and alarms, but it is good to see all of this available out of the box. There is now a dedicated 'sensor settings' module in the phones' Settings application which can be used to activate or deactivate each action. Much of the potential is in how third parties might take advantage of the functionality. Now that it is standardised, developers are more likely to use it. For example, in Global Racer, a driving game bundled with the phone, you steer by tilting the phone from side to side. Again it's nothing ground breaking, but it's the starting point for a whole new set of ways of interacting with S60 devices.



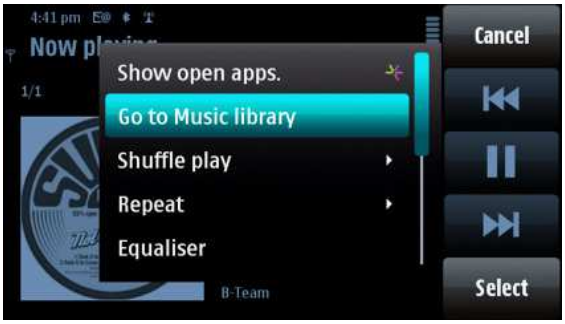
Multimedia Introduction

The 5800 maintains Nokia's reputation for creating powerful and feature-rich multimedia mobile devices. The breadth and scope of its multimedia functionality out of the box is extremely impressive, even more so considering this is a mid-tier device. The large screen and touch interaction of the 5800 are not multimedia features in themselves; they do not add any extra capabilities to the device itself. However, as we shall see in the next section of this preview, they do have a marked impact on the multimedia experience for the consumer.

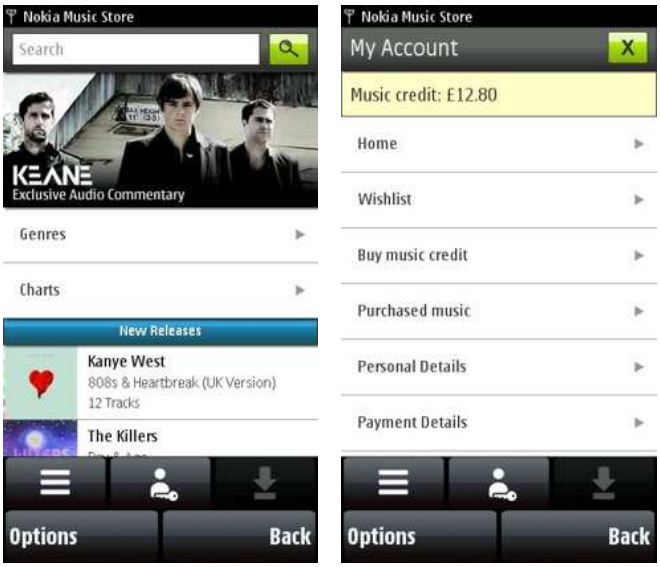
Music and Audio

With its XpressMusic moniker, it'll be no surprise that the 5800 is an extremely capable music device. It ticks the important boxes on the hardware front: 3.5 mm audio jack, fast USB transfers (Hi-speed), stereo Bluetooth (A2DP, AVRCP), stereo speakers, and decent capacity (8GB out of the box). The stereo speakers are able to output a surprising high volume, though the sound quality is best at half-volume. Sound quality is very good, though, as ever, you'll need to replace the in-box headphones to make the most of it.

Music player has been touch-enabled (toolbar buttons: back, play/pause, forward and movable track time indicator), but otherwise has the same layout as recent Nseries devices. Divided between the music library and 'now playing' section, it is a feature rich, but easy to use application. 8-channel editable equalizer presets, setting for bass booster, balance and stereo widening, comprehensive playlist management and editing, and auto-updating music library are all present. It supports a good range of formats: mp3, wma, aac, aac+, and wav which means it's easy to 'side load' existing music collections.



The 5800 ships with Nokia's equivalent of iTunes, Nokia Music (a music client for Windows), which provides comprehensive music management and transfer tools for the PC. Getting music onto a Nokia phone has never been so easy - it is a first rate program. Nokia Music also provides easy access to the Nokia Music store on the PC for downloading new music tracks. In this, it is mirrored by the Music store application on the phone which gives access on the move. With its PC client and Music Store now established, Nokia now has an excellent all round music experience for consumers and the 5800 is going to be the first S60 handset to benefit from this out of the box.



Nokia Music Store gets a a new look for touch devices

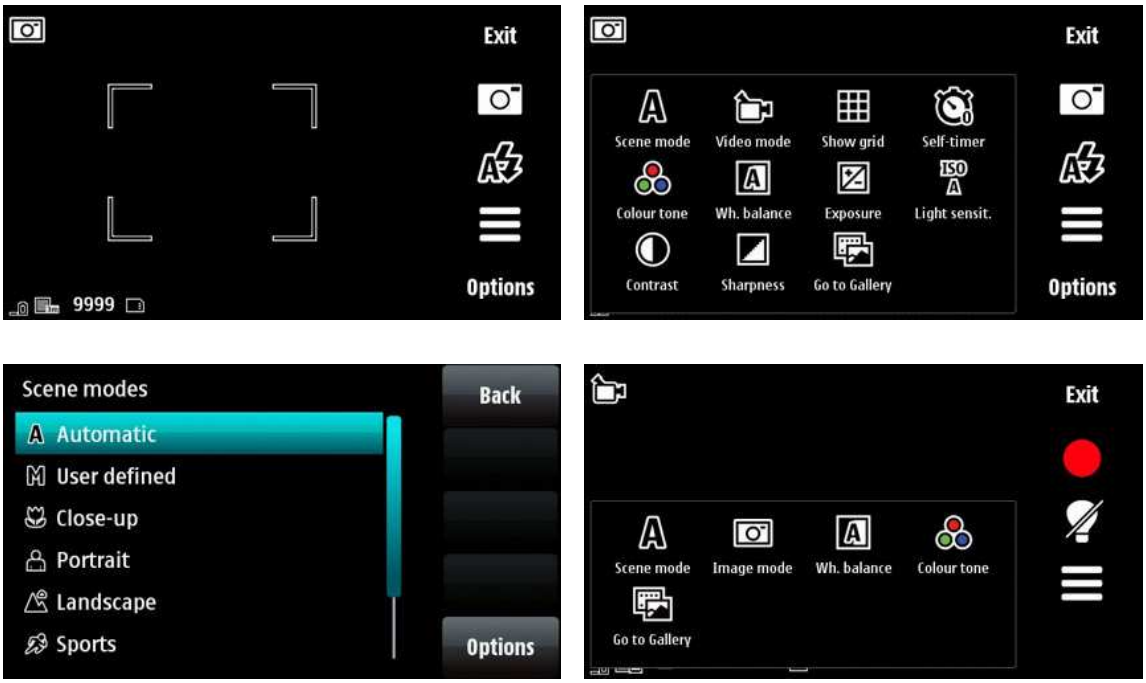
The 5800 will be available as a Comes with Music device. This gives Nokia a significant hook to lure new users to its music ecosystem. One way to look at it is this: for roughly the same price you have a choice between an iPod Touch and a Comes with Music Nokia 5800. Both would have their advantages, but the 5800 offers arguably more functionality and unlimited music downloads for a year. In a blind test (leaving aside brand and style considerations), it is obvious which solution would come out on top.

The 5800's audio credentials are further burnished by the inclusion of the Podcasting and Radio applications. Podcasting, once you have set up the podcasts you want to listen to, can be left to its own devices. You can access podcasts for playback through the podcast category in the Music player's music library. Radio is a polished application with automatic station scanning and editable presets, it has also has had a small facelift for S60 5th Edition - once you have tuned into a station, its frequency and name scroll across the screen in a mish mash pattern. It is a small thing, but is exactly the sort of visual enhancement that it would be nice to see more of in S60 devices.

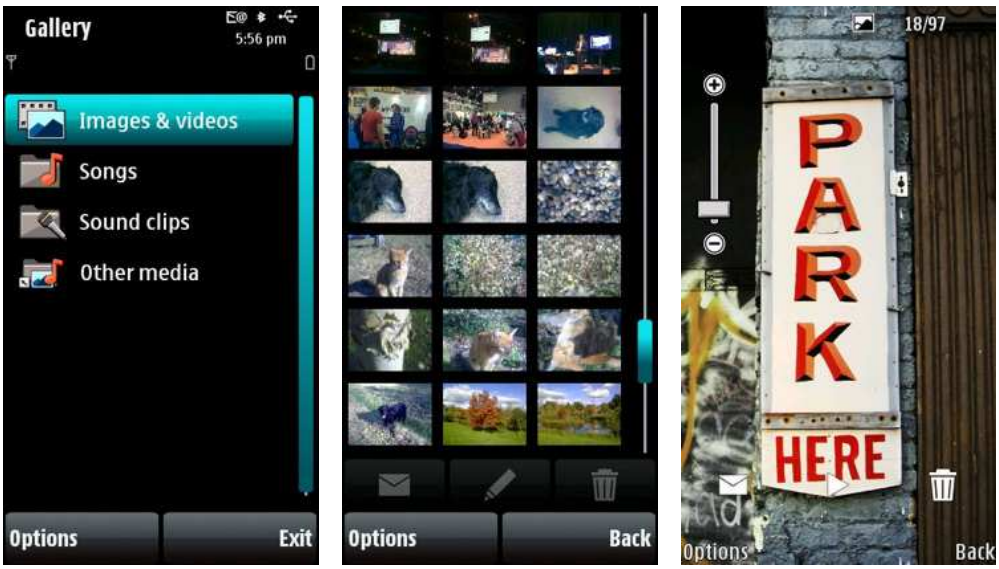
Camera and Video

The 5800 has a 3.2 megapixel camera with autofocus and Carl Zeiss optics. It's not fair to draw definitive conclusions from early hardware, but in general the overall performance is very much middle of the road. It is perfectly sufficient for the odd shot, but not enough to satisfy those looking for more. The dual LEDs provide a reasonable amount of illumination, but as with other camera phones you get the best results in well lit conditions. Video recording at a nominal VGA resolution (640 x 480) at around 30 frames per second is impressive for a device at the 5800's price point, but plainly is unable match the performance of optics in higher end devices, such as the N82 and N95.

The camera is activated using the capture key on the side of the device. Start up time is just over a second with the auto focus lock taking another second or so. The camera software takes full advantage of the touch screen; the majority of settings are accessible from a pop out box from the toolbar. It’s the usual selection of scene mode, colour tone, white balance, exposure light sensitivity, contrast and sharpness. With most settings just a few taps away, they're more accessible than on softkey driven devices, but most of the time the fully automatic mode is perfectly sufficient. The most common setting (flash on/off) is on the toolbar, together with a capture shortcut, a bit pointless given the dedicated button - a shortcut to scene mode would have been more useful. In video mode, the settings are sparser, but I was very happy to see that the universal symbol for record, a red spot, has been used as the shortcut icon on the toolbar. A good example of where iconography can make things more intuitive than a text labeled shortcut.

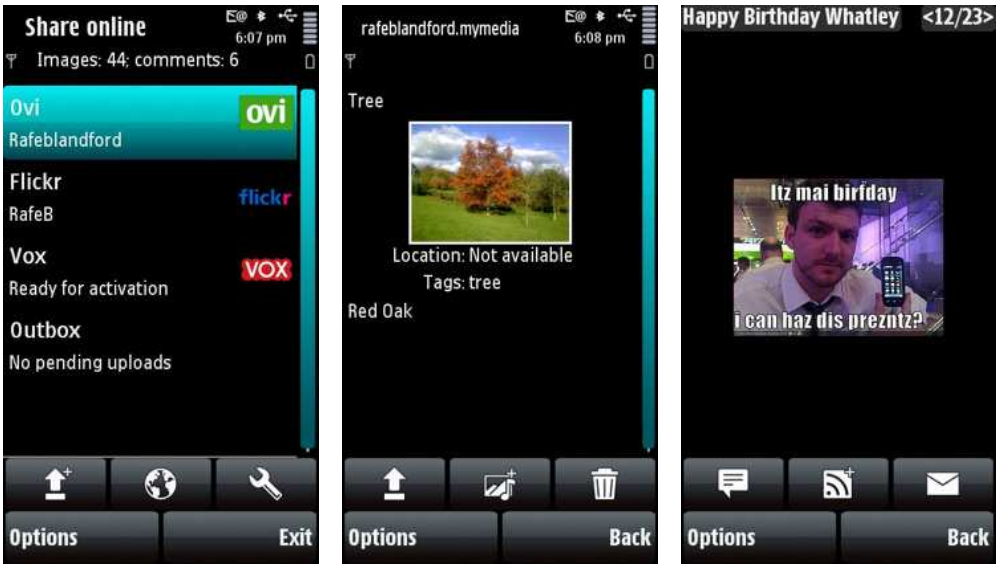


For media management and viewing, the 5800 uses the Gallery application. It uses the top level hierarchy (images and videos, songs, sound clips and other media), as in previous S60 implementations. Photos and videos are shown as thumbnails in a grid. Touching on a selected image shows it full screen and, as you might expect, you can flick through the images in sequence by sliding your finger or stylus over the screen. Touch the screen again and a number of shortcuts and controls appear. There's a zoom bar (the volume keys, on the side of the device, can also be used), plus shortcuts for sending the media item (via email, mms or web upload), playing the media (video or slideshow) and deleting the media. The options menu gives access to further actions, including editors (now standard in 5th Edition) for both images and videos. Gallery does get the job done and has a good range of features, but its top level hierarchy is antiquated and it can be a little slow to load or switch between images so there's definitely room for improvement.

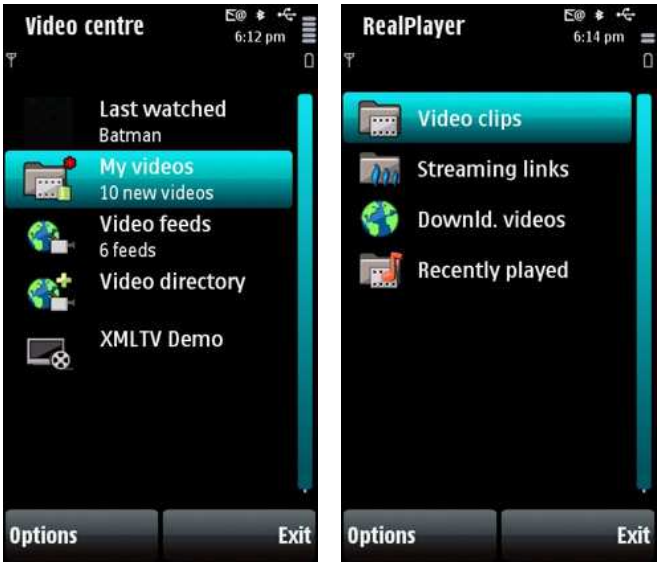


An area where the 5800 impresses is its ability to easily upload captured media to online services (Flickr, Share on Ovi and more) through the Share online application. Both the Gallery and Camera applications integrate with the Share online application via the send shortcut (web upload). In the case of the camera, this means you can

capture media and be uploading it to the web just a handful of seconds later. The Share online application does a great deal more too, you can use it to view images your contacts have themselves recently uploaded to the sharing sites and read or add comments to them. While the functionality is broadly the same as earlier versions, the bigger screen size and touch interaction makes it less fiddly to use. At the recent Symbian Smartphone Show I carried both the N78 and 5800 to post 'live' images to the front page; I ended using the 5800 almost exclusively because it was quicker and easier. There is one important feature addition in Share online in 5th Edition (and in v4.0 on selected handsets as a standalone download - Ed); it now has an outbox and you can line up as many uploads (posts) as you wish, whereas previously you had to let the last upload finish before you could start a new one.



For video playback there's Real player, which does a good job; it'll happily play videos, either locally or via streams, either diectly or those that are passed to it by other applications. It supports a wide array of formats including H.263 and H.264 codecs (3gp/mp4), wmv and flv, and is not as fussy about access points, resolution or bit rates as previous versions. The 5800's large, high resolution screen makes for an excellent video playback experience and, coupled with Real player, there's a lot of potential here.



The Video centre application provides a way to download video on the phone (via RSS feeds), but there is a limited selection of generic content available. You can also copy video directly from your PC (side loading), but there's a good chance it will need re-encoding to achieve optimum playback. Video centre does make it easy to access videos stored on the phone, but the overall experience is much less slick than that for music; side loading content is less straight forward, nor is there a video store for commercial or premium content. These limitations are likely to be partly offset by regional variants being pre-loaded with local content feeds and applications (e.g. the BBC iPlayer widget which provides a way for British users to view BBC content in a hassle free way). As Steve recently found out, with the UK variant of the N96, this can be very effective and the media-centric Nokia 5800 is an obvious candidate for this kind of local customisation.

GPS and Nokia Maps

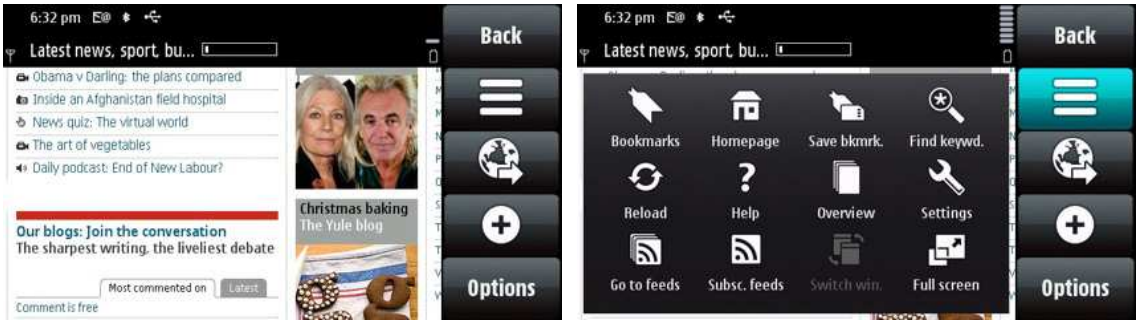
The 5800 has an integrated GPS with assisted positioning support. GPS is slowly becoming standard, but it is still relatively unusual to see them in devices in the 5800's price bracket. Along with GPS comes Nokia Maps. As usual, mapping and location is free of charge, but you'll have to pay an extra fee for turn by turn car or pedestrian navigation. The Maps application works well with touch: you can drag the maps around the screen and there's an on screen slider for zooming in and out. Unsurprisingly, it is one of the applications that benefits most from the higher resolution screen.

The wide screen is similar, in size, to that used by some PND (Personal Navigation Device) units and, together with the touch input, effectively matches the hardware experience. The extra size (compared to most previous S60 phones) means that it is easier to see directions and touch interfaces are generally easier to use when driving. In the same vein, the 5800's loud stereo speakers make it easy to hear turn by turn directions. The version of Nokia Maps on our pre-production unit isn't the final one so we'll revisit Nokia Maps, in more detail, in our review of the retail version.

Web

As with other S60 applications, Web has been 'touch enabled' - you can scroll around a page by dragging your finger or stylus across the screen. There's an on-screen control for zooming, or a double tap switches between two different zoom levels, iPhone-style. From the toolbar, a pop out dialog containing shortcuts allows quick

access to many of the most commonly used browser functions. Web is one of the applications that makes the best use of the new toolbar UI component in S60 5th Edition. Shortcuts on the toolbar are context sensitive - for example, if you're browsing, there's the shortcut button, 'go to page' button and zoom button, if you're looking using visual history then the toolbar has backwards and forwards buttons. This means that there's rarely any need to go into the full options menu, since most actions can be accessed from the toolbar shortcuts.



Web on S60 5th Edition uses a more recent version of WebKit (the open source rendering engine), but the difference this makes is not immediately obvious. It is, however, able to run Acid3 (a test page that checks how well a browser follows web standards) and scores 47/100; previous versions of Web were unable to load the test page fully. 47/100 is a decent score for a mobile browser, but it is beaten by the most recent versions of Opera (73/100) and iPhone's Safari (74/100). However, all three of these browsers comfortably out perform 'standard' mobile browsers.

In real world situations, the difference in the respective browsers' rendering ability is not as large as these scores would suggest; mainly because the upper end of the Acid3 test checks for compliance on standards that are not yet widely used by web developers. Each of these browsers are capable or rendering the vast majority of web pages - there may be a few visual glitches, but these are more likely to come from limited screen resolution or the browser attempting to change the text flow of a page to 'fit to screen'. From a technical point of view, for the average user, there is little to choose between them. The inclusion of Flash support on the 5800 does give it an advantage over its competitors in this area, although performance for Flash sites is a mixed bag. Flash video generally works well, for example, clicking on a video will load it up full screen, which makes for a great web video experience.

However, technical capabilities are only one side of the coin, performance and usability are the other. The 5800 performs very well on small pages, but on some larger pages (on our preproduction firmware unit) Web starts to feel sluggish and page rendering can take a few seconds. This is especially noticeable if you're using a speedy WiFi connection. Moving around the page is easy, thanks to the touch screen, but it is fair to say, that for finger touch use, the capacitive technology used in the iPhone is better than the resistive technology used in the 5800; it is better suited to drag and glide movements typical used when scrolling around a page. Once learnt, the multi-touch 'contract and expand' gestures make zooming easier on the iPhone than the on-screen control on the 5800.

The 5800's browsing experience fails to match Safari on the iPhone; it's mostly down to performance, but there's also an ease of use element too. Despite this, it is still impressive and, thanks principally to the higher resolution screen, is a large step forward compared to most earlier S60 devices. Plus in some areas, such as handling RSS feeds and bookmark handling, it does a better job than the iPhone. You might forgive the difference in the browsing experience for the 5800 (since it's half the price of the iPhone), but this version of Web will be used across all of Nokia's touch devices so saying that is a bit of a cop out. Moreover, both browsers are built on WebKit so it is not unreasonable to expect a similar level of performance. On the other hand, if you compare the 5800 with anything other than the iPhone then it is going to come out in a much better light. It should also be noted that there may be improvements in the retail release software version, so again, we'll revisit this area in a future review.

The mobile Internet experience is not just about what goes on inside the browser. Other areas such as widgets and rich internet applications (RIA) are becoming increasingly important and here S60 is the market leader. In S60 5th Edition, Flash Lite and Web Runtime (widgets) have both added platform services, which means that they both have the ability to integrate more deeply with the device (e.g. access location from the GPS, edit and add contacts). The full impact of this will not be felt until developers take advantage of the new capabilities, but it does underline S60's credentials as an open platform for Internet based services. There's also Nokia's standard Search application which gives quick access to Internet results. The search engines available vary by country; in the UK you can choose from Google, Yahoo or Microsoft.

Gaming

The games Bounce and Global Racer are both pre-installed on the phone. While both have been seen before on previous Nokia phones, the control mechanisms have been re-worked for the 5800. Bounce is a 3D platform game where you control a red rubber ball moving along a predefined course and overcoming obstacles. The same game is available through Nokia's N-Gage platform, but on the 5800 everything is controlled through touch. You can slow down or speed up the ball's movement by dragging your finger up or down, steer by moving your finger from side to side and jump by double tapping. With a bit of practise, the touch control works well, though I found I needed the accuracy of the stylus on the trickier parts of the harder levels. Global Racer is an arcade racing game which is controlled by tilting the phone from side to side; it uses the 5800's accelerometer

to do the steering and acceleration is automatic. Getting the 'right' level of tilt takes practise and the game feels more like a technology demonstrator than an entertainment add-on.

There are likely to be many more games on the way too. At the 5800's launch, some phones had a touch version of Gameloft's Rock Band music game installed; this game will ship with the phone in some markets. With many more S60 5th Edition devices on the way, games publishers will be looking to port across existing games and create new ones that take full advantage of the touch and sensor capabilities.

Nokia also recently mentioned that it is planning to add touch to its N-Gage gaming platform next year, although there was no definitive statement on whether those plans include the 5800. The hardware of the device should be sufficient, but the lack of physical keys may be more of an issue.

TV Out

The 5800's TV out capability, which as with earlier devices is analog composite video based, allows the 5800's screen to be replicated on a TV or a monitor. The output resolution is the same as that of the screen (640 x 360); in some circumstances, such as viewing images in Gallery, the output resolution is increased slightly to VGA. The supplied TV out cable can also be used to connect the phone to stereos with auxiliary inputs (fairly common), providing an easy way to play back music using the speakers in a home audio system.

The TV-out functionality is good for showing captured images and videos particularly, when showing them to a group of people. There are also obvious benefits to 'super sizing' the screen when playing games or couch-

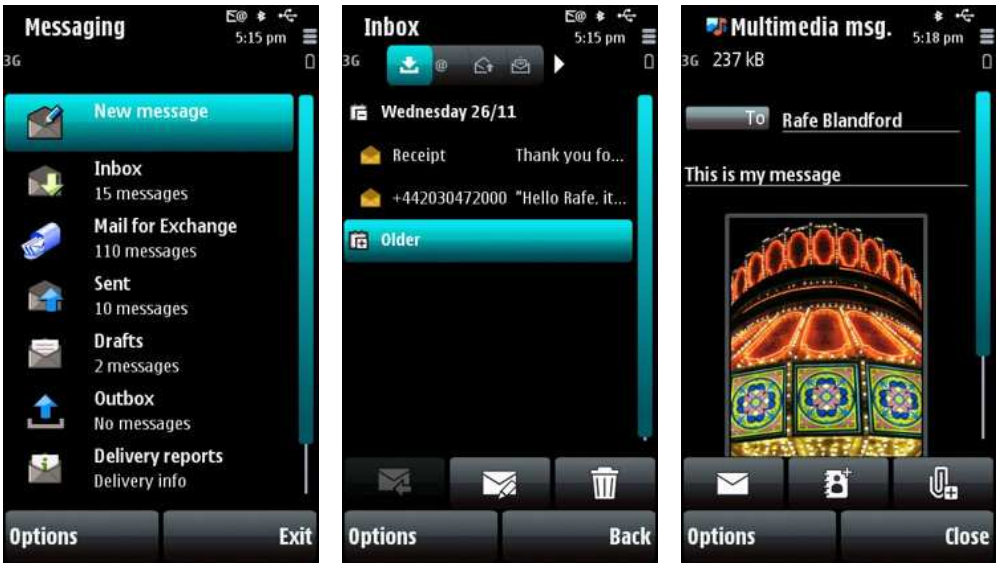
surfing. The limited resolution and inherent quality issues of analog video do mean there are limits to its utility as a computer replacement, but for many tasks it is more than sufficient and is an unusual function to see on a device at this price point.

PIM and other software

The 5800's Contacts, Messaging and Calendar applications will be instantly familiar to any S60 user. There is little new functionality, but all three applications take advantage of the touch enablers and larger screen resolution.

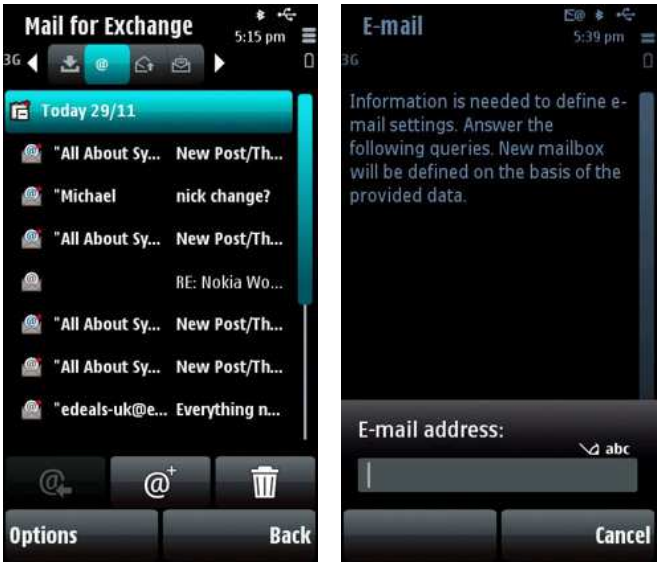
Contacts uses the adaptive search I mentioned in the first part of this review, which means, even with large contacts lists (I tested 500+), individual contact entries are only a few taps away. Despite the bigger screen you'll still only see seven contacts displayed on screen at a time in the list view (because the bigger screen is offset by the need to make each contact 'fat' enough to touch), but you can see more information at a glance in the individual contact view. The on screen toolbar in list view also means fewer interactions are needed for the most common actions - making a call, sending a message and adding a contact. The 5800 supports voice dialing; it is activated by holding down the green call key for a second or so and is speaker independent (requires no training).

It’s a similar story for Messaging, where the extra screen real estate is especially welcome when reading email messages and the toolbar, again, reduces the number of interactions for key functions. Messaging has the same unified SMS/MMS composer which was first introduced in S60 3.2; MMS composition is easy with the touch screen, and regular texters will find the T9 text input provides a familiarity often absent from other touch-based devices.



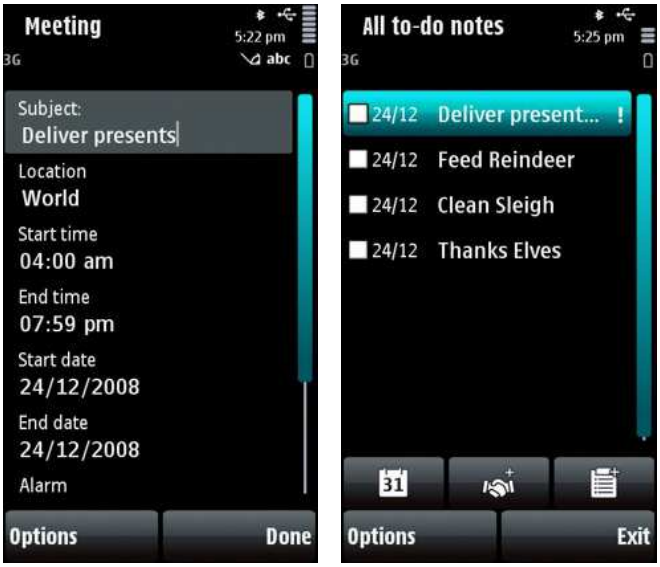
The 5800 also has the new email set up wizard which makes on-device email set up much easier (assuming your provider is in the database). Usually all that is required is your email address and password, the rest is done for you. There's still no support for HTML email, which is disappointing, but basic email functionality is very solid.

Mail for Exchange, which adds support for Microsoft Exchange email and sync, is available from the Download! application and seamlessly integrates into Messaging. I would expect other push email systems to follow in due course. While mobile email is not going to be a primary use case for most 5800's users, it is still an important secondary feature point and the solidity of the 5800's implementation underlines the value of a platform approach.



Calendar gets the biggest benefits from the UI makeover and larger screen resolution. For example, in the month and week views the screen is divided in two: the top half shows the usual overview, the bottom half shows details for the currently selected date or time. Previously most S60 devices, with their small screens, would only show the equivalent of the top half of the screen. In terms of information displayed, the 5800's Calendar implementation is similar to that found in the more recent Eseries devices, although the look follows the standard style of S60 rather than the Intellisync-inspired style found on the Eseries.

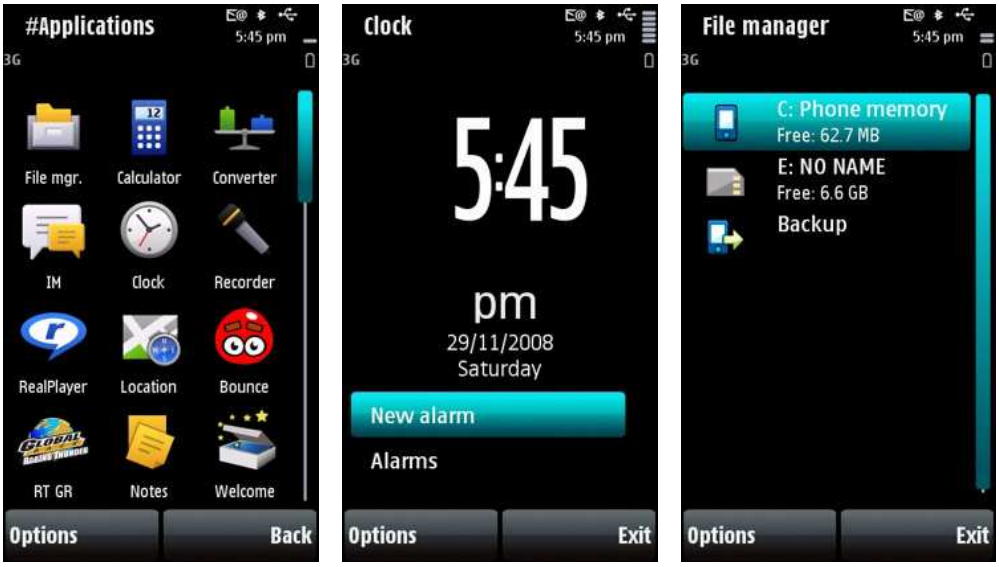
Calendar is particularly well suited to touch interaction. In most cases, the key actions can be accessed from the toolbar, or via on screen selection (e.g. dates and appointments behave like hyperlinks, moving you between views), which means the application feels smoother and more intuitive. It is a strong contrast with D-pad driven usage, which typically required frequent key presses to navigate around the application. As with previous versions, Calendar will leave power users underwhelmed (e.g. the lack of category support is a common complaint), but for the majority of people it will be more than sufficient and adding extra functionality has to be offset against the extra complexity it would add.



The Notes application is a basic port from non-touch S60; with no toolbar implementation, there's little in the way of touch extras. Later devices (or later firmwares) may get a version of Active Notes and some kind of scribble pad, but for now the implementation is underwhelming. It seems like a missed opportunity to take advantage of the touch screen.

Other S60 stalwarts (Clock, Converter, Calculator, Recorder, Location etc.) are also present and some of these, notably Clock and Calculator, have received significant visual overhauls. Clock finally takes advantage of the bigger screen, but looses its useful world clock view in the process (though it is present in the S60 5th Edition emulator). The 'helper' applications have made the jump to S60 5th Edition too; the Welcome, Switch and

Settings wizard applications don't have the glamour of multimedia, but are still key ingredients in the early days of a users device ownership.



Application compatibility

As the first touch enabled S60 5th Edition device, the 5800 will face compatibility issues with older S60 software. However, unlike the move from S60 2nd to 3rd Edition, S60 5th Edition is binary compatible with S60 3rd Edition. This means that applications developed for S60 3rd Edition will run on S60 5th Edition. To be more accurate, applications which use standard S60 framework and UI components should run completely unmodified, but others may require changes. S60 5th Edition will automatically add touch control and haptic feedback (e.g. in a list component) to existing UI components, but applications will not be optimised for touch (e.g. they will not use new touch API functions such as the toolbar). While some software falls into this 'fully compatible' category (far-sighted developers will have considered this during development), much does not and thus the reality is more complex than the binary compatibility might suggest.

The first problem people are likely to face is when installing a SIS file. Installing software designed for S60 3rd Edition will trigger a strongly worded warning message: 'software is incompatible with your device', during the installation process. In most cases this can safely be ignored and has very little bearing on reality, but is probably enough to put off the novice user.

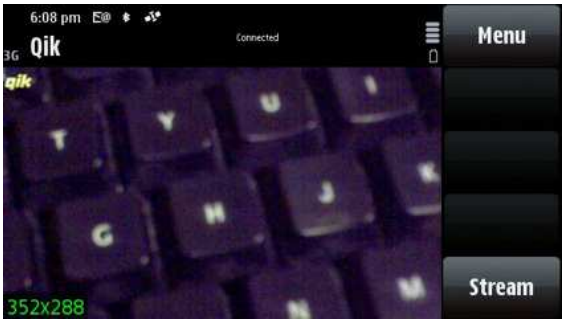
Many applications make assumptions that certain keys, most commonly the D-pad, are present on every phone, which, in the case of the 5800, is not the case. This means that many applications will run, but it might not be possible to make full use of them. A good example of this is the current version of Google Maps (no * and # keys means no zooming). Another common issue is that applications are designed to run at a specific resolution (games are often in this category). There are also some applications where changes in the APIs may render a portion of an application inoperable; although to be fair, the only example of this that most users will come across is that of accelerometer-based applications. The accelerometer is now accessed, programmatically, through the sensor framework (which is integral to the platform) rather than being a plug-in (which is device specific).

Some of these missing key and resolution issues are addressed by the provision of a compatibility mode: In the 5800's settings, there's an option to 'open non-touch applications' in either 'compatibility mode' or 'normal mode'. In compatibility mode, applications are restricted to a QVGA resolution sized area at the top of the screen and accompanied by an on screen virtual keypad. This adds to the number of applications that are 'compatible' with the 5800. In practise, compatibility mode provides a clumsy user experience, but it’s better than nothing. Unfortunately, it is an 'all or nothing' setting, i.e. it applies to all non-touch applications or to none. This is annoying because some non-touch applications (those that use standard S60 UI components and framework), such as Handy Safe, run correctly in 'normal' mode. It would be better if this setting were available on an application by application basis. It is also worth noting that some applications seem to ignore this setting (e.g. Google Maps), presumably because they declare themselves as being compatible even when they're not - which, again, makes something of a mockery of the current compatibility system.

Nokia Friend View running in compatibility mode.

In real world usage, leaving aside SIS installation issues and device specific requirements, I've found that about 25% of applications run without any problems, 15% or so have minor problems (but are still usable), another 40% run in compatibility mode and 20% do not run or have a major failure. Of course, this will vary depending on the type of applications you use (power users may find a higher failure rate in beta and hobbyist applications). In any case, the compatibility issue will diminish in time as developers optimise their applications for touch and S60 5th Edition. Even for applications are 'fully compatible', its going to make sense for developers to repackage SIS files and to optimise for touch by taking advantage of the new enablers offered in S60 5th Edition (the toolbar component is the most visible, but not the only, example).

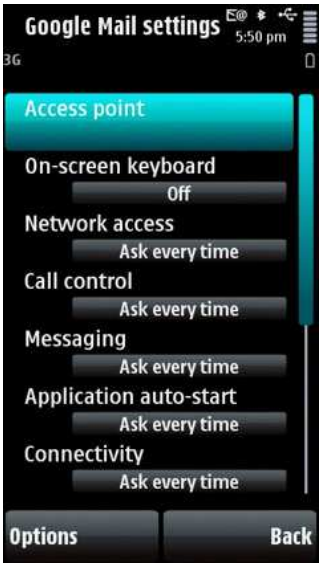
A number of developers have already released S60 5th Edition versions of their applications and some of these are available via Nokia's Download! application. Once the device is on the market I would expect this trend to accelerate. Developers wishing to test their software can take advantage of the documentation and remote device access available via Forum Nokia.



For Java software, the main compatibility issue is around the touch screen; relatively few Java applications are specifically enabled for touch. As with Symbian applications, the standard Java UI 'widgets' have touch control and haptic feedback added automatically by S60 5th Edition (i.e. a developer can use a list control without worrying about how an item on that list is selected), but custom controls (fairly common, especially in Java games) must be specifically enabled for touch.

Nokia have also added a compatibility layer for Java applications that shows an on screen D-pad, softkeys and game keys. Unless specified otherwise in the JAD (manifest) file, this virtual compatibility keypad will be shown automatically. However users do have the option of turning it on or off manually via the settings in the Application manager. This means that these, unlike Symbian applications, can have the compatibility layer

turned on or off on an application by application basis, making it much more useful. This means that most Java applications will run on the 5800, but those with custom controls will need modifying to take advantage of the full screen resolution and the rest need to take compatibility mode into account. In practise this means that most Java applications work well, even in full screen mode, but Java games tend to need to run with the compatibility controls in place.



Web Run Time widgets and Flash Lite applications will run on the 5800, unchanged but, depending on how they are written, may not take advantage of the full screen. For example, most applications on this type are written for QVGA screen in portrait orientation. The same will apply to other runtime-based applications (e.g. Python) when these are released for S60 5th Edition.

Availability

The 5800 will be available in selected markets (Indonesia, United Arab Emirates, Hong Kong, Taiwan, Russia and Spain) from the beginning of December. It will become more generally available in the first quarter 2009; it is expected to arrive on the UK high street at the end of January and will likely reach the US sometime in February. There will be a US 3G variant as well as a Chinese variant (no 3G, EDGE connectivity instead).

The price point is based around 279 Euros before taxes and subsidies, but the street price will vary considerably. For example, in the UK it will be available as a Comes with Music phone which will add around £50 to the price of the vanilla model. In Spain it is being released at 429 Euros, but that includes a 100 Euro music voucher and a number of other extras.

Conclusions

For many, the immediate temptation with the Nokia 5800 is to compare it with devices like the iPhone, T-Mobile G1 or HTC's Touch range. But, while this is instructive to a certain degree, it rather misses the point. The most significant thing about the 5800 is not in its hardware, but in its price. With a SIM-free street price of around £270 (279 Euros, before taxes and subsidies), it is an impressive value proposition and is around a third to a half of the (all in) price of the high end touch devices to which it is being compared. This means that the 5800 is really in a completely different market segment to devices like the iPhone, G1 and Samsung Omnia. However,

it’s not really this simple as media and marketing (and the current absence of other Nokia touch devices) will force a certain amount of direct comparisons.

Moreover, device subsidies add to the complexity of the picture. Even the highest priced devices are generally available in the UK for free on a contract, which dilutes the impact of price differences in high end mobile devices. However, it is likely that the 5800 will be available for free on the lower price tiers of monthly contracts (£25), which will give it a bigger addressable market. Perhaps more significantly, it will also mean better margins for operators who might be more inclined to spend all important marketing funds on the device (though this is offset by the aggressive Nokia services drive that is an integral part of the 5800's offering).

Up to this point, the market for touch based phones has been relatively roomy. Nokia's absence has seen success for a number of companies including HTC, Apple, Samsung and LG. However, with Nokia's entry into this space, even with a widening of the marketplace, 2009 will see much fiercer competition. For the 5800 offers Nokia's competitors a glimmer of what is to come. It is a point that is worth underlining - in terms of strategy, the 5800 should not be seen in isolation - Nokia will release a number of touch-based devices across a whole range of price points in 2009. The canny consumer might be well advised to wait a few months to see what is offered at Mobile World Congress 2009.

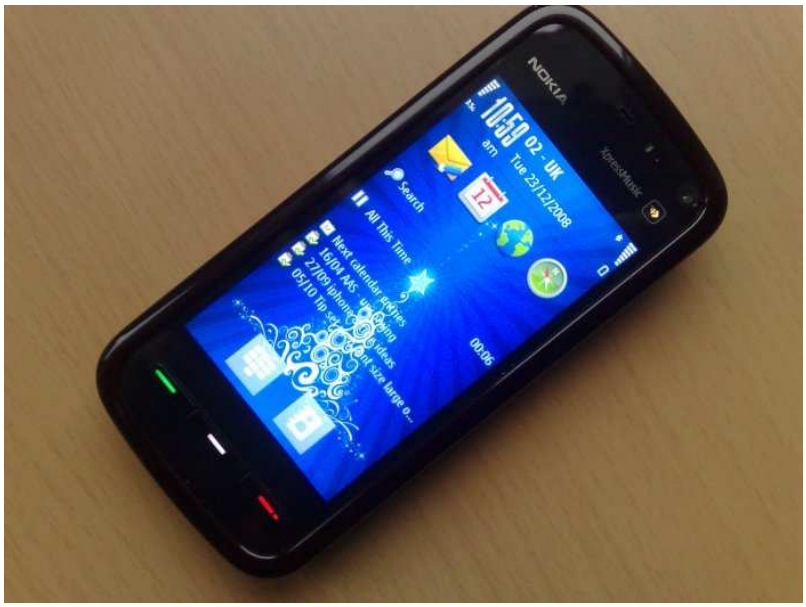
Despite their relative importance in 2009, touch devices are still something of a distraction from where the real battle for the future will be happening - in software and services. Hardware will, of course always be important, but, for the most part, any of the major manufacturers are now capable of producing similar hardware. Instead, software and services will continue their trend of playing a more important role in product differentiation. This is not to say that technical innovation is unimportant, but I think it will, at the macro level, take at least equal billing with other factors such as design, economies of scale and service implementation. Price will remain a significant factor, especially given the economic circumstances, and as open platform-based devices continue to drive into the mid tier. This is an area where Nokia, with devices like the 5800 and E63, has been particularly aggressive towards its competitors of late.

It is also worth emphasising that, despite the excitement around touch, the vast majority of phones being sold are still softkey-driven non-touch devices. Even if you restrict your view to the open platform space, the majority of devices sold do not have a touch screen (though a higher proportion do). This is a trend I fully expect to continue in the future; pure touch devices will make up a minority portion of the overall market.

It is also instructive to compare the 5800 to Nokia's existing Nseries portfolio. Its hardware specifications limit its multimedia creation capabilities, although it is still a reasonably capable device. Significantly, however, its high resolution screen makes for a better multimedia consumption, especially when watching videos or browsing the web; one that is, arguably, better than higher priced QVGA equipped Nseries devices. This makes the Nokia 5800 one of Nokia's best all round multimedia devices ever.

Nokia has led the mobile industry in creating the market for converged multimedia devices, but has recently faced an increasing amount of competition. While it has maintained much of its leadership in mobile multimedia content creation, it has, arguably, seen its rivals, with their touch screen devices, steal a lead in the multimedia consumption area. The 5800, despite being a mid-range device, goes a long way to addressing this. No doubt the touch-enabled Nseries devices that are on the way will provide an even stronger response.

Steve Litchfield's alternative Nokia 5800 review



Size and Design

Held in the hand, the 5800 is almost identical in size to the N78 and N82. Or indeed to any other phone-sized smartphone from the last year or so. In other words, it feels ***great*** in the hand to non-geeks, whereas the likes of the N95 8GB and N96 (let alone wider devices like the Apple iPhone and HTC Touch versions) are on the chunky side for use by a 'normob' (normal mobile user). The size alone is a big clue as to who the 5800 is aimed at.

There's a demographic that is currently trying the likes of the LG Viewty and Samsung Tocco (among others), wanting a touch screen phone but not willing to stump up for a heavyweight contract in order to acquire a wider-than-they'd-really-like iPhone. This demographic (and I've talked to a fair few people in it) finds the current phone-sized touch devices too clunky, too slow and too hard to read in daylight. And they also rather wish they could have similar aspirations but with the Nokia brand name across the top. Well, now they can.

Although unashamedly a plastic 'tablet', build quality is good and the 5800 XpressMusic looks the business with its luminescent colour strips on each side:

A curious ridge all round the battery cover becomes clear when you spot that at two points on the left side are the speaker apertures, blasting sound from within the ridge. With the apertures on the left, rather than on the right (as on the N82 and other devices), I can only assume that Nokia have discovered that playing sound to reflect off a desk or lap is more effective than playing it off vertically into the air.

(with cover popped off slightly so that you can see grille and speaker aperture)

I liked the camera shutter key, which is nicely positive, I liked the tethered microUSB port cover and I *loved* the keyguard toggle. This makes for a supremely quick and handy way of turning the screen off and locking the device in a fraction of a second. And unlocking it again later.

Display

The 5800's display is perfectly sized (for the form factor), is bright (even outside in sunshine, it fares better than resistive touch screens of yesteryear) and fairly responsive. We're not talking iPhone visibility and response here, but it does the job pretty well. One of the pillars behind the iPhone's conception (and, to be fair, behind full screen PDAs since about the year 2000, including, notably Nokia's own 7710, several years before the iPhone) was the idea that very little frontal real estate was used for buttons that got in the way, i.e. the screen itself could adapt, to show graphics or maps or a full qwerty keyboard, as needed at any one moment. The 5800 means that Nokia are now in the same field with a current, fairly future-proof phone - and, to be honest, I've been quite impressed.

One downside of touch-based phones is that they're soon bedecked with fingerprints and the 5800's no exception here. Having said that, the screen is *slightly* recessed, as is the camera glass, so at least you don't then pick up *every* last piece of dust on top of the finger grease when you lay the phone down. Maybe we should all just wash our hands more?(!)

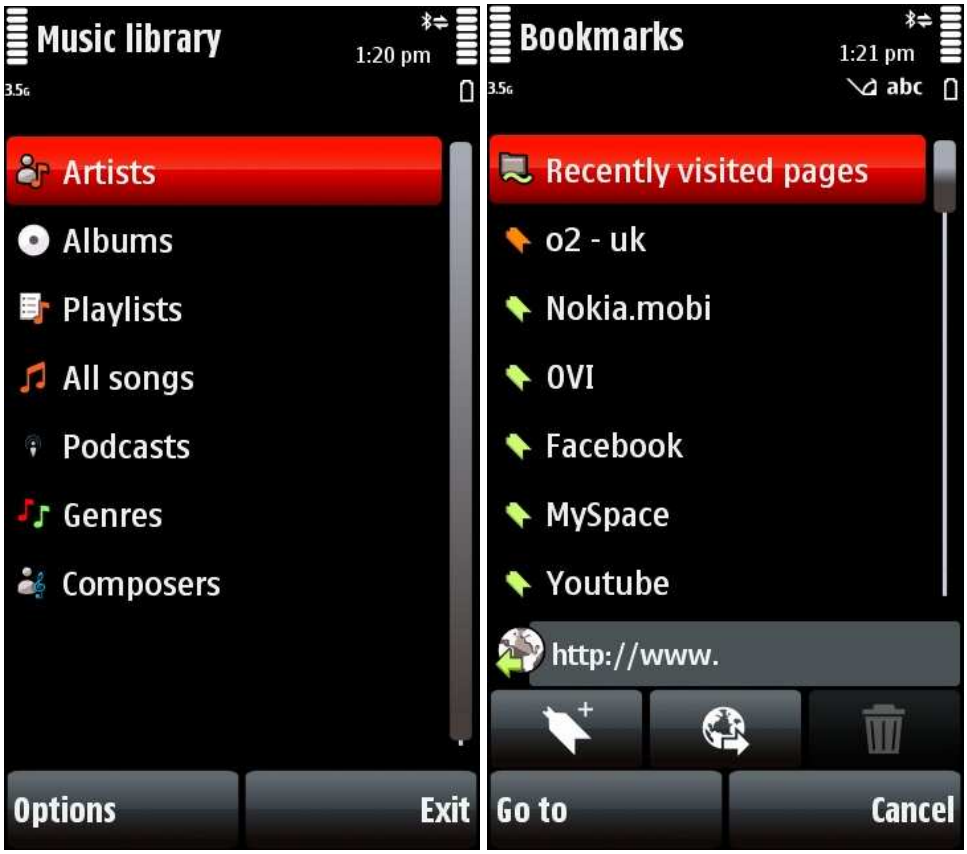
Speed

S60 now scales up or down to suit a variety of screen sizes, of course - I wasn't expecting any difficulties here. The speed of S60 5th Edition, even with 'Theme effects' turned off, isn't great yet - there's a *slight* lag in everything that happens. From the 50ms or so delay after tapping the screen while the haptic vibration system works, to the second or so while some application screens switch in and out, you wouldn't say that the 5800 is blindingly fast yet. However, it's clear that there is still optimsation to be done and I'd expect speed increases in many areas over the next few firmware versions. And as it stands, the 5800 XpressMusic is fast enough for the man in the street.

Touch/S60

The most interesting aspect of S60, as implemented here with a touch screen, is the way screen taps are mapped through to each application. I think Nokia have gotten this wrong in several places, with the result that double-taps are needed where single taps would be quicker and less confusing. How I *think* this should work is that, when faced with a screen of icons or a list of items, a single tap should behave the same as if you'd highlighted the item with a phone d-pad and then pressed in 'Enter'.

For example, in Music Library, you see the usual 'Artists', 'Albums', etc. list. If I tap on 'Albums', I want it to bring up the list of albums, not merely highlight the item, awaiting a second tap. Now, in some *very specific* places, lists like this have a whole string of context-sensitive options appropriate to each item and in these cases it's probably reasonable to just highlight the item and wait for the user to tap on 'Options', to decide what to do with it, e.g. in File manager or editing Access points. But in well over half the places where S60 5th Edition presents screens full of items, a double tap is needed where it's not really necessary. The end result is that the user taps once and waits. After about a second or so, when it's obvious that nothing's happening, the user sighs and taps again.



Another example: the list of bookmarks in Web. As a user, you bring up the list and expect to tap on a bookmark to go to that site. After all, what else would you want to do? In fact, there's a small chance that you might want to edit the bookmark or move it around - but this would be better handled by an 'Options' Bookmark editor function. S60's UI designers are rather caught between a rock and a hard place here - they want to keep as much

of existing S60 in place as possible, yet also to embrace a new way of doing things. Something's got to give, in the interests of keeping things intuitive.

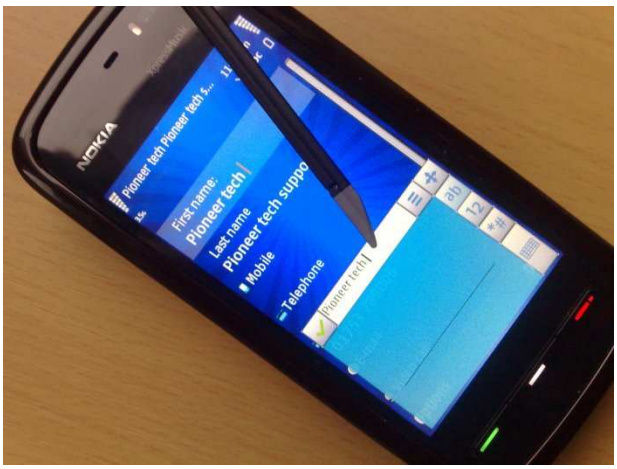
I accept the fact that there will be some inconsistency in the interface - after all, this is bolting on a whole new means of interaction onto an interface designed for one thumb. But the current situation frustrates as often as it delights.

Text entry

In most cases in the 5800 XpressMusic, tapping on a text field (in order to add or edit text) will pop up your default keyboard, i.e. the one you chose to use last. This is mostly true, though there are a few apps which insist on just the simplified alphanumeric keypad. See Rafe's preview articles (links at top) for more on the text input options. The one that interested me though was the 'Full Screen QWERTY' keyboard - even the Apple iPhone can't currently put up a wide-screen keyboard in landscape mode.

The keyboard layout itself (barely smaller than that on the huge E90) key highlighting mechanism and haptic (vibration) feedback all work rather well, your fingers will soon be *trying* to fly across the virtual keys. But there's a problem, in that, due to physical restrictions in the resistive touch screen, key presses have to entered below a certain minimum speed, i.e. go too fast and your keystrokes get missed. This is a shame, since I for one had harboured dreams of mastering the layout and letting my fingers work up a decent speed. Yet the faster you get the more keys are missed.

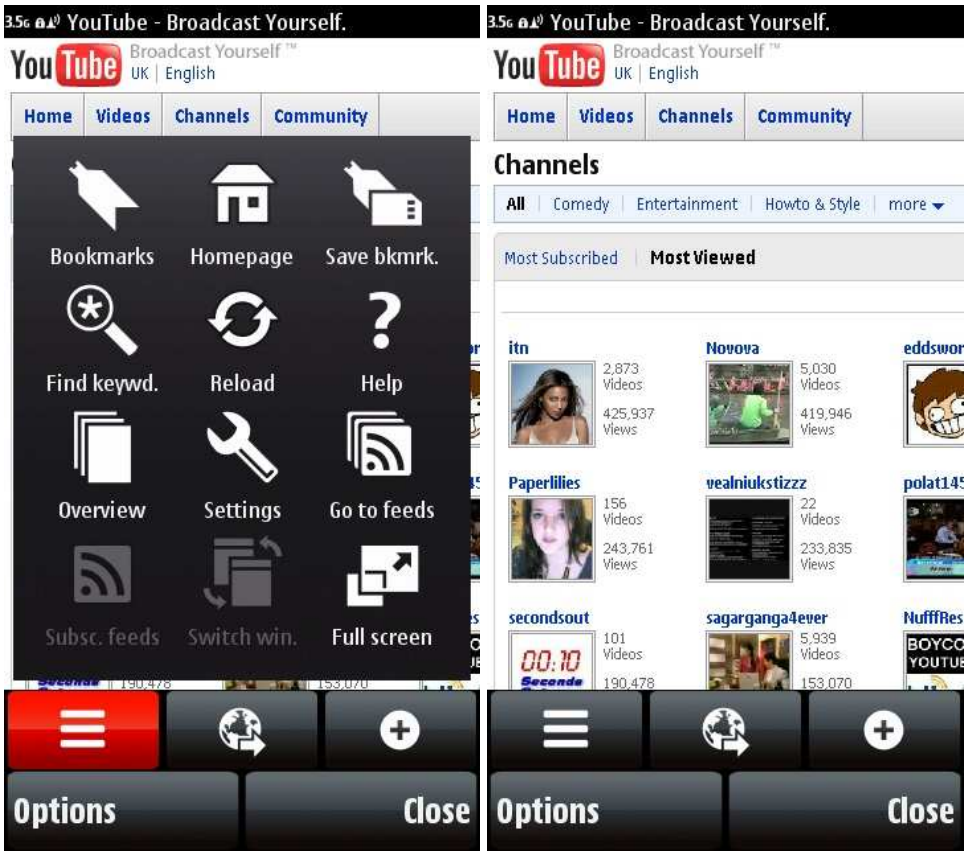
If you have access to a 5800 XpressMusic you can test this yourself. Press a virtual key and then press another while keeping the first one pressed. The second one is the only character registered, even though the screen knows where you first made contact. I'm hoping, really, really hoping that some clever screen drivers can help out to interpret the pattern of a user's taps here, to increase typing speeds for everybody.



Web

S60 Web hasn't changed much under the hood from the familiar beast on older, non-5th Edition S60 devices, although there have been some optimisations that help it turn in a faster performance, subjectively perhaps 30% faster on some byte-rich pages. The biggest change is of course in the user interface, with the old d-pad-driven, Options-led system now changed to a touch-driven, largely-toolbar-led system. The end result is something that's more functional than it is beautiful, with some functions on the pop-up tools panel, some on the traditional Options menu, and some on both.

Pages can sometimes only be dragged around with a finger once they've been fully rendered, depending on the mix of graphics and Flash objects. This latter restriction does causes problems sometimes. Once rendered, dragging the web image around isn't as smooth as on the capacitively-screened iPhone, but it's not a million miles off. There's no multi-touch here, of course, so zooming is done by double-tapping to cycle between appropriate zoom levels or by using the on-screen zoom control. I found that I was continually using the tool panel 'Full screen' function, in order to be able to see more of my page - a single tap shortcut to this function would have been handy. In landscape mode, particularly, a lot of the screen is taken up by the title bar and toolbar, rather foiling the point in having such a large screen in the first place.



As demoed in The Phones Show 72, watching Flash video 'inline' in web pages is slightly quicker and more streamlined than doing the same on older S60 devices - maybe the Flash Lite code got itself an overhaul? I was initially bemoaning the fact that YouTube clients like Mobitubia and emTube don't work on the 5800 XpressMusic (yet), but in fact it's not that painful looking for videos and watching via the full YouTube site - just steer clear of the incredibly-Flash-heavy front page if possible.

Camera/Multimedia

In *good lighting*, the 5800's stills and video cameras are up with the very best of Nokia's Nseries phones - the use of Carl Zeiss optics mean that things are kept crisp. *However*, the internal CMOS sensor is obviously quite a bit smaller, since low light photos have an order of magnitude more digital noise than the equivalents on flagships like the N95 and N96. The 5800 counters slightly, with dual LED flash keeping light levels up in dark situations and by being able to shine out the LEDs when doing video recordings, but there's no substitute for more sensor pixels at the end of the day. Anything taken indoors will end up a disappointment.

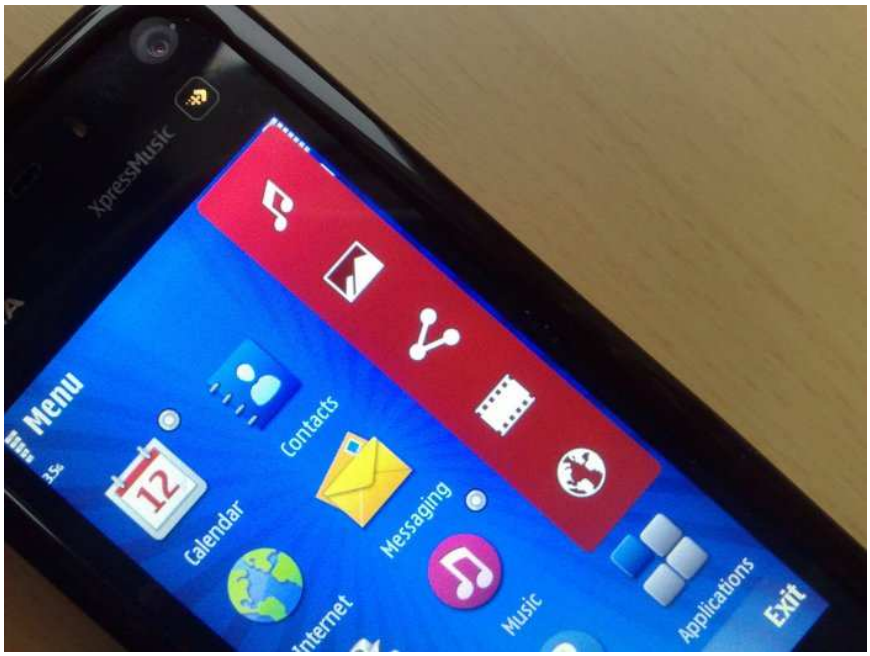
Camera samples, click each to download or bring up in your browser:

The exposed camera glass also rather collects fingerprints, given that this is a touch screen phone and fingers will need to brace (on the underside) against finger taps on the front of the device - so you'll need to wipe the camera glass before any important shots!

Still, for a lower priced phone with so many other unique selling points, the camera will please many, especially if used outdoors in daylight. As demonstrated recently, there's one novelty here in that one of the video capture resolution options is wide-screen, effectively created by cropping the middle 640 by 352 pixel slice from the larger VGA video frame in its highest quality mode.

As with stills, it's vital to emphasise that the smaller and cheaper sensor means lots of digital noise when taking videos indoors, *dramatically* more than on the N82 and N95, for example.

As with most recent S60 phones, Nokia hasn't been able to resist putting in a 'multimedia' key. This time in yet another different format, dropping down from the top-right of the interface at any point and simply offering shortcuts to Music player, Gallery, Share online, Video centre and Web. As usual, the multimedia menu doesn't offer anything new and only really serves to confuse people. In my opinion - hey, maybe new users will love it.....



I had no problems whatsoever with video playback, with even raw FLV (Flash video) files being played back well at full-screen size, it seems that despite the lack of video hardware, enough has been optimised in software to fill in as needed. Photo browsing was on the slow side, with only one image 'either side' of the current one being cached - it's quite easy to get ahead of the display software and end up seeing several circular 'loading' icons. In addition, even bringing a photo up for editing results in a wait of up to ten seconds - surely this will be sorted out in future firmware.

Music playback was superb, both in terms of quality, library speed and stereo speaker volume. This last is just extraordinary - the 5800 XpressMusic has the loudest speakers of any phone that I've ever tried. And there are the usual Nokia extras, such as stereo Bluetooth support (A2DP) and also TV out, for playing back music via a Hi-Fi or video/photos via a TV.

Mapping and Navigation

I ran Maps 2.0 on the 5800 over the course of a day's car navigation and had no problems whatsoever - Maps 2.0 arguably works better here than on any previous S60 device. There's the larger screen for clearer maps, plus the touch screen interaction, bringing to mind PNDs like the TomTom GO. And all on your phone, etc. The loud speakers (sic) also helped here, for spoken directions.

Gaming

It's really way too early to call the 5800 XpressMusic a success in respect of games. The device comes with a version of Global Race, an arcade driving game that unfortunately suffers from lack of hardware graphics acceleration (it flies on the N95, E90, etc) and an annoying platform puzzler 'Bounce' (though my daughter enjoyed this!). More than any other application genre, games will need to be rewritten to take into account the

new screen size, lack of d-pad and touch-screen layer. N-Gage-compatibility is promised, so there are games on the way from this direction, at least.

Whether the large screen, combined with lack of graphics oomph, will be a problem remains to be seen. At worst case, it might just mean an absence of 3D/sports games. At best, the extra flexibility of having a touch screen will make new genres a possibility for the first time under S60.

Services and third party applications

In recent times, I've had cause to talk quite a bit about Samsung's latest S60 smartphones, in the context of their firmware taking a while to be finalised, but also focussing on support for such newcomers from software developers and service providers. Having a top end phone or smartphone is about much more than just the features you get out of the box.

Such is the case with the Nokia 5800 XpressMusic, with many of Nokia's own services and addons still not recognising the 5800, even after it's been out on the streets in some parts of the world for almost a month. Mind you, I'd expect the pace of compatibility with the rest of the world to be much faster than with the slightly more 'niche' Samsungs - this is the mighty Nokia, after all, with huge resources being thrown at their new device and platform (S60 5th Edition) from all directions, plus the popularity of the 5800 XpressMusic is more or less guaranteed, ensuring a constant stream of attention from developers.

Rafe has already talked a lot about backwards compatibility for S60 5th Edition and this big touch-screen. Among applications that I was particularly interested in, Google's Java Gmail client installed but was very clunky to use - it's based around the assumption that a d-pad is present and on the 5800 you have to use the on-screen virtual d-pad. Best ScreenSnap worked brilliantly for capturing the images in this review, Google Maps 2.3 worked brilliantly as well, with Street View looking great in landscape mode and controllable using touch - on S60, a real novelty. Quickoffice is in the 5800's Download! Catalog (as opposed to being in ROM), which is fair enough for the target market - this also seemed to work well, although I didn't upgrade it to 'editing' status.

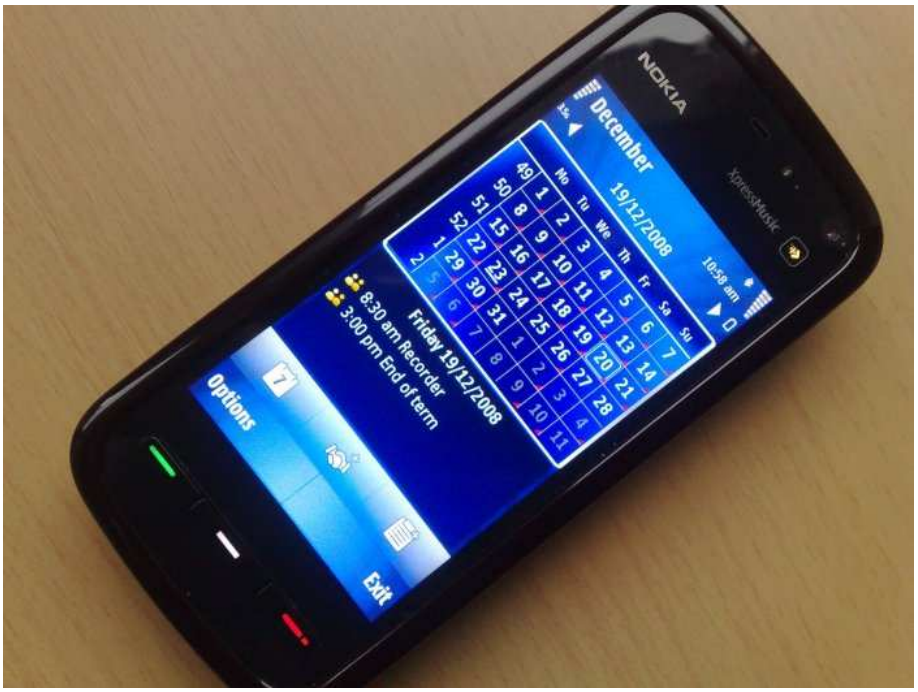
Verdict

The hardware team have done a cracking job on the 5800 XpressMusic, it looks and feels like a high quality product. It even feels sexier than the Apple iPhone, although it can't match the latter's speed, graphical prowess or breadth of applications. But then it ***is*** a lot cheaper, both SIM-free and on contract. And, in its own way, has some very appealing features: the genuinely phone-width form factor, the widescreen video recording, the application of touch to Web, Nokia Maps and Google Maps, the reasonable quality stills camera (light permitting), the terrific music playback and loud output. Plus the usual Nokia telephony and connectivity strengths.

Bottom line: if I was handed a 5800 XpressMusic, an Apple iPhone 3G and a HTC Touch HD, and was asked to pick one, all costs covered, I would probably still pick the 5800, even though it's by far the cheapest [though I'd take an N95 8GB over all of these without a second thought, if I'm honest]. The 5800 XpressMusic is already a competent contender in the phone world - with some TLC (Tender Loving Care) from Nokia's firmware department over the next few months, it should rise to become a mid-tier flagship.

Steve Litchfield, All About Symbian, 23 Dec 2008

PS. And, of course, the entire 5800 software development experience is paving the way very nicely for the N97, which should arrive with significant polish and a turn of speed, thanks to six months of firmware iterations on the 5800 XpressMusic...



Nokia 5800 Announced

This is a reproduction of the news announcement of the Nokia 5800 on All About Symbian on October 2nd.

Nokia 5800 - touch-enabled, mid-range, music-focussed S60 phone

The Nokia 5800 XpressMusic, a mid-range music-focussed phone, was launched today in London. It is Nokia's first touch enabled S60 phone. It runs S60 5th Edition on Symbian OS 9.4, has a 3.2" nHD (360 x 640) touch screen, WLAN and 3G connectivity, a 3.2 megapixel auto-focus camera, integrated A-GPS and accelerometer and proximity sensors. To underline its music potential, the 5800 has a standard 3.5mm audio jack, stereo speakers, ships with a 8GB microSD card and will be one of the first phones to support Comes with Music (Q1 2009). It will be available worldwide in Q4 for 279 Euros (£215) before taxes and subsidies. Read on for much more.

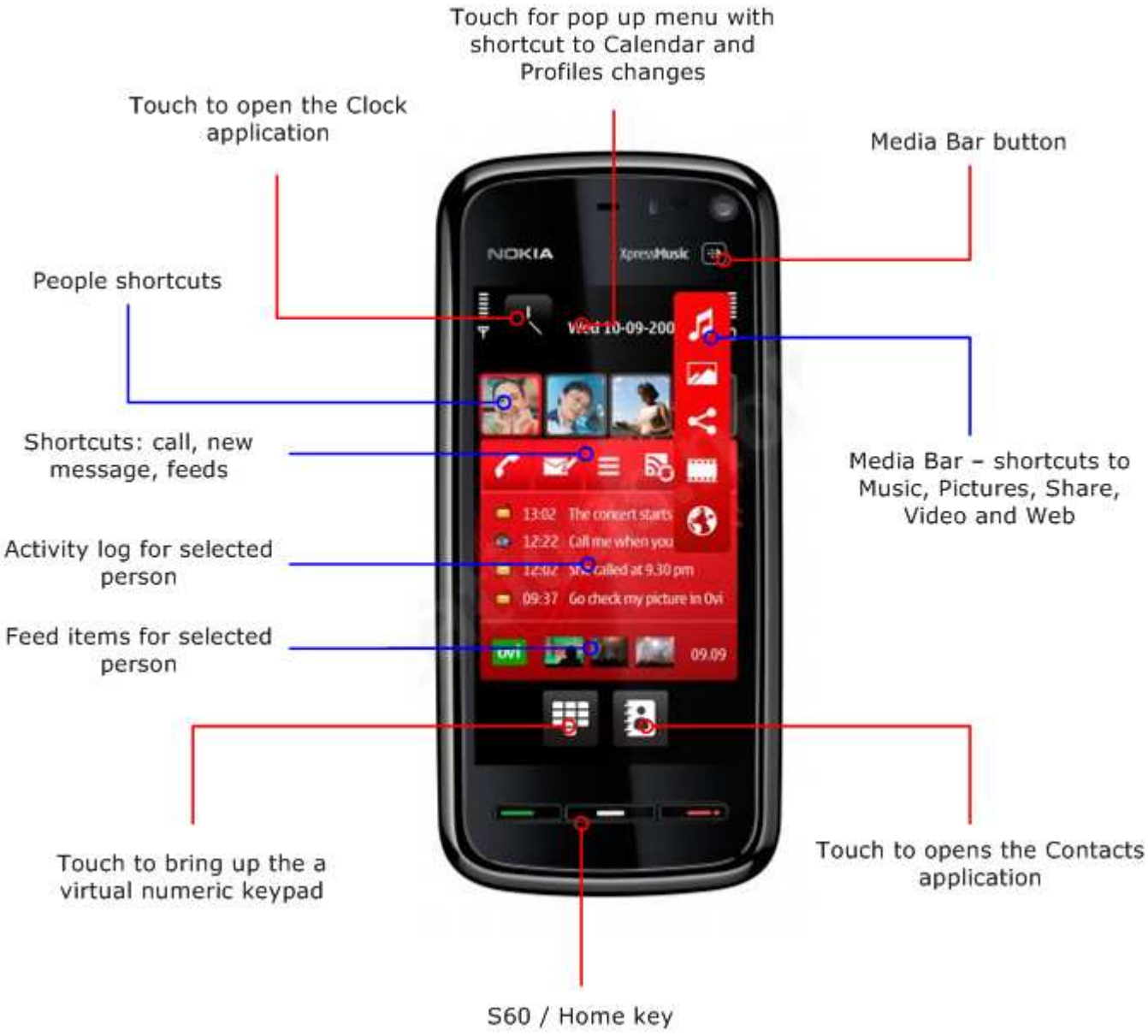
The front of the device is dominated by the 3.2 inch nHD screen, there are three buttons along the bottom (right to left: end key, S60/home key, and send key) and a single button on the top right of the device which activates the media bar (a similar arrangement to the multimedia key on Nseries devices). The left hand side of the phone has a microSD card slot, the top of the phone houses a miniUSB connector, 3.5mm audio port, 2mm power port and the power button. The right hand side of the device has volume keys, a key-lock slider and camera capture button. The back of the device houses the 3.2 megapixel auto focus camera which boasts Carl-Zeiss optics and an accompanying dual LED flash.

The physical shape of the 5800 is closer to a typical phone than the wider tablet form favoured by many touch devices (e.g. iPhone). At 111 x 51.7 x 15.5 mm, it is about the same size as the Nokia N78 (113 x 49 x 15.1). The crucial difference is that the touchscreen takes up the majority of the front of the device and there is no numeric keypad.

The S60 5th Edition UI is designed to be used with either finger touch or with a stylus. While the UI has a familiar S60 feel, it has been optimised for touch. In portrait mode, two enlarged 'softkey labels' work as virtual keys for accessing menus (i.e. Options) and other common actions; in landscape mode, there are four virtual buttons (making up a toolbar) which do the same thing. On screen icons and menus all respond to touch interaction.

The familiar S60 applications are all available - PIM (Contacts, Calendar and Messaging), Media (Music player Gallery, Video centre, Web), services (Maps, Download!, Share online, Search) and a number of tools and utilities. Many applications have been optimised to take advantage of touch interaction and the extra screen space available. Web allows you to scroll around a page and select links using your finger, Calendar has a split screen view in landscape mode, Gallery lets you flick through media using your finger and so on.

The 5800 has a number of extra touch-related customisations. Firstly, the Media Bar, which gives quick access to the key multimedia applications. This is a drop down menu-bar that appears on the right hand side of the screen when you press the dedicated Media Bar key. Second is the Contact Bar (see image below) which lets you put your favourite contacts on your homescreen and displays information about them. Nokia call this a 'human interface that truly puts people first'.



The Nokia 5800 XpressMusic's Contact Home Screen

Key features of the phone:

Software:

- Runs S60 5th Edition on Symbian OS 9.5. It supports both finger and stylus touch. The 5800 has a stylus built in that is stored in a holder on the back left hand side of the device (although you can use any other instrument too).

- Contact bar, a customised home screen which offers a people centric user interface. It lets you have four contacts/people on the home screen. When a person is selected, an activity log of communication and recent feed entries is shown, along with action shortcuts for calling and messaging. Contact bar is one of three choices for the home screen (idle screen), the others are the standard basic home screen and the

shortcut home screen which offers application and function shortcuts (previously known as the active idle screen).

- Media bar (drop down menu), which is accessible, at any time, via a dedicated key on the top right of the device. It offers shortcuts to the media functionality of the phone (music, pictures, share, video and web).

- There are three text input methods available. First, via a virtual on screen QWERTY keyboard which is available in both landscape mode (suitable for finger touch) and portrait mode (better suited to the stylus). Secondly, via a virtual on screen numeric keypad, including T9, in portrait mode (suited to both finger touch and stylus). Thirdly, via hand-writing recognition (stylus by necessity). You can also use Bluetooth (HID profile) keyboards with the 5800.

- The phone will ship with the new Nokia Music PC client, which can be used to synchronize music to and from the device. It can also be used to buy and download music from the Nokia Music Store. Alternatively, you can use Windows Media Player 11 or any other software which supports MTP (Media Transfer Protocol).

- The 5800 ships with two games, a version of Bounce (a 3D platform/puzzle game) and a version of Global Racer. In Global Racer, you steer your car by tilting the phone from side to side, using the built-in accelerometer.

Hardware:

- Physical dimensions: 111 x 51.7 x 15.5 mm; weight: 109g.

- 3.2 inch, 360 x 640 resolution, touch screen (resistive). You can use the touch screen using your finger, stylus or plectrum. A stylus is built into the device and the phone will ship with one spare stylus and a plectrum (musical gadget used to puck strings) which is attached to the included lanyard.

- Haptic feedback when you touch the screen. This is provided via general vibra feedback (i.e. it is not specific to the area of the screen you touch).

- Proximity sensor (to prevent accidental screen touches) and an accelerometer sensor which is used to automatically rotate the screen, orientate photos and can be addressed via third party developers via Sensor APIs in the SDK.

- 3.2 megapixel camera with Carl-Zeiss optics and a dual LED flash. Photos and videos can be uploaded to Share on Ovi, Flickr and Facebook using the embedded Share online application. The camera can also be used to record videos at up to VGA resolution (640x480) at 30 frames per second.

- Integrated A-GPS, which is used by the Nokia Maps application to provide turn-by-turn, voice guided car navigation as well as pedestrian navigation. The GPS is also used to automatically (and optionally) geotag photos.

- microSD card slot, with support for SDHC cards up to 16GB in size (and likely 32GB cards when they come out). An 8GB card will be included in the sales box. 81MB of internal memory.

- WiFi, 3.5G (HSDPA) and Bluetooth connectivity (various profiles including HID, SAP, A2DP and AVRCP).

- 1320 mAh battery, with a quoted talk time of 9 hours (WCDMA) and music playback time of 35 hours.

- The sales box contains a Nokia 5800 with stylus pen, an extra stylus, Nokia Connectivity Cable, stylus plectrum in wrist strap (CP-306), Nokia Music Headset (AD-54, HS-45), Nokia 8GB microSD card (MU-43), Nokia Carrying Case (CP-305), Nokia Portable Stand (DT-29), and Nokia Video-out Cable (CA-75U).

- There are three different model variants (5800-1 -2 and -3) with different 3G bands for different markets. The 5800 will be available in three colour variants: silver-black, red and blue.

The inevitable comparison

The Nokia 5800 XpressMusic will inevitably be compared with Apple's iPhone and T-Mobile's G1 Android phone. While a direct comparison does have it uses, it is also worth noting that the three phones all occupy different segments.

The 5800 is not a flagship device for Nokia; it does not have the Nseries branding, and this is reflected in its price point. Clearly the 5800 will receive attention as Nokia's first S60 touch-enabled phone, but the touch features are best seen as an enabler rather than a central function. Nokia has long regarded touch as something that is a feature that is built into the platform - as such the 5800 is not Nokia's 'touch phone'; indeed, from now onwards, we can expect to see numerous S60 devices, from multiple licensees, taking advantage of the new touch capabilities of S60.

Size comparison of HTC Diamond, Apple iPhone 3G, Nokia 5800 XpressMusic and Nokia N78

See Also – Web links and other resources

Nokia 5800 XpressMusic Forum – ask for help and get more tips on using the 5800.

Forum Topics tagged as ‘5800’

News: Nokia 5800 XpressMusic announced

Media: Nokia 5800 Gallery

Review: Nokia 5800 XpressMusic Preview Part 1 - Hardware / Design and Touch Implementation

Review: Nokia 5800 XpressMusic Preview Part 2 - Multimedia

Review: Nokia 5800 XpressMusic Preview Part 3 - PIM Software, Application Compatibility and Conclusions

Buy from the Nokia UK Online store (£249)

More soon

We’ll be updating this document as we create further 5800 related content. Be sure to check back at All About Symbian in the future.