

On the Move with the Mobile Web: Libraries and Mobile Technologies

Ellyssa Kroski

<http://www.ellysakroski.com>

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Chapter One: What is the Mobile Web?	3
The Mobile Web Defined	3
Who Are the Early Adopters?	3
What Are People Doing with Their Mobile Devices?	4
Benefits of the Mobile Web	6
Mobile Web Challenges	6
Mobile Web Resources & Reports	7
Notes	8
Chapter 2: Mobile Devices	10
Mobile Phone Devices	10
Mobile Phone Manufacturers	11
Operating Systems	12
Mobile Phone Carriers	14
Mobile Phone Features	14
Data Plans	17
Other devices	18
Mobile Devices Resources & Reports	18
Notes	19
Chapter Three: What Can You Do with the Mobile Web?: Mobile Web Applications	21
Email	21
Text Messaging	22
Ring Tones & Wallpaper	22
Music & Radio	23
Software & Games	24
Instant Messaging	25
Social Networking	25
Social Mapping Networks	26
Media Sharing Social Networks	27
Search	27
Multimedia Search	28
Local Search	28
Shopping Search	28
Visual/Camera Phone Search	29
Voice Search	29
Mapping	29
Widgets	30
E-Books	31
AudioBooks	32
Travel Information	33
Browsers	33
News	34
Blogging	35
RSS Feeds	35
Food Ordering	36
Microblogging	36

Mobile Web QuickPicks	36
iPhone Only Applications	37
iPhone QuickPicks	38
Mobile Web Applications Resources & Reports.....	38
Notes	40
Chapter 4: Library Mobile Initiatives	41
Mobile Library Websites and MOPACs (Mobile OPACs)	41
Mobile Collections.....	42
Mobile Library Instruction.....	43
Mobile Databases	43
Mobile Audio Tours	44
Library SMS Notifications.....	45
SMS Reference	45
Mobile Library Circulation	46
Library Mobile Resources & Reports	47
Notes	48
Chapter 5: How to Create a Mobile Experience	49
Developing a Mobile Strategy	49
The Nuts and Bolts of Going Mobile.....	50
Take No Action	50
Push Content via Mobile Alerts	50
Mobile Style Sheets.....	51
Transcoded Websites	51
Mobile-Only Websites.....	51
Tips for designing a mobile Website.....	52
Creating for Mobile Resources & Reports.....	52
Notes	53
Chapter Six: Getting Started with the Mobile Web	54
Forums	54
Blogs	54
Websites	55
Getting Started Activities	55
Starter Activity #1: Yahoo! Go.....	55
Starter Activity #2: E-Books	56
Starter Activity #3: Text Yourself.....	56
Starter Activity #4: QR Codes.....	56
Starter Activity #5: Visit the Library.....	56
Starter Activity #6: ListenUp!.....	56
Starter Activity #7: Get Creative.....	57
Appendix: QR Codes	58

Chapter One: What is the Mobile Web?

Imagine walking by a movie poster for the upcoming Harry Potter film and scanning it with a click of your camera-phone in order to download associated ringtones, get showtimes, or even buy tickets. How about snapping a photo while browsing through a magazine to get a free sample of a new perfume? This may sound like science-fiction right now, but in Japan, this type of mobile search technology is widespread, and already similar services in the U.S. are developing which promise just this type of virtual engagement with the world around us. Think about the convenience of scanning the logo on someone's Yankees cap to instantly receiving the latest score from the game. This is what's coming.

Today, most of us are primarily using our cell phones to download ringtones and check our email, but there is an abundance of truly amazing services we can access through the mobile Web right now. Armed with a smartphone, PDA, or other Internet-ready mobile mechanism, users can retrieve local traffic information, bus, train, and airline schedules, and look up weather reports. But more impressively, they can also access mobile social networks which will alert them when their friends are nearby, text in a pizza order to Dominos, borrow e-books from their library, take a guided audio tour of a museum, and watch CNN. Through the mobile Web, people can download audiobooks, upload camera-phone photos to Flickr, receive turn-by-turn driving directions, and have in-store coupons delivered to them.

The computer, media player, and cell phone are all converging into a single device as manufacturers aim to provide a complete experience for the consumer. This evolution of handheld devices combined with new high-speed wireless data networks make browsing the mobile Internet a more compelling experience. Much like the transition the Web experienced when broadband access became widely attainable, the mobile Web is turning a corner and becoming useful to the everyday user. While mass adoption is still in its infancy in this country, the landscape is developing quickly. Now is the time to get on-board and on-the-move with the mobile Web.

The Mobile Web Defined

The mobile Web, simply put, is the World Wide Web which is accessed through a mobile device ranging from a cellular phone to an iPod Touch. It constitutes the entirety of the Internet and is not limited to websites which have been specifically designed for mobile viewing. Handsets and mobile phones which have Web capabilities can search and browse the Internet from anywhere they can get a cellular signal. Websites which are made especially for the small screen appear as scaled-back versions of their desktop counterparts, often with a numbered menu system for quick access to content. Web destinations which do not have mobile versions appear as if they were squeezed onto the tiny screen, and oftentimes have overlapping menus and links. If accessed by way of a search engine, a website may be "transcoded", or have some formatting applied to it in an attempt to make it more viewable on a phone.

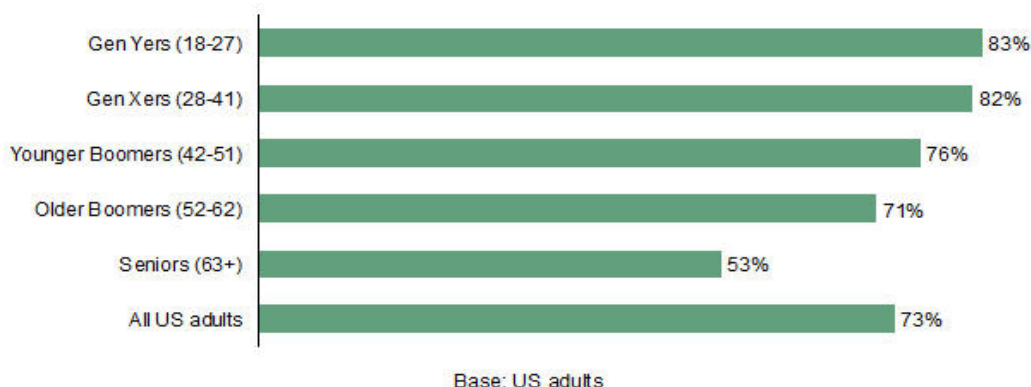
Who Are the Early Adopters?

Fifty percent of the world's population, or 3.3 billion people¹, have mobile phone subscriptions, including 84% of US residents². An era of mobile ubiquity has clearly arrived and yet only 16% of American cell phone owners regularly browse the mobile Internet³, according to Jupiter Research. This number is exceedingly low when compared with other countries such as Japan where over half of

all mobile consumers consistently access the mobile Web. And not only access it, but wield it to pen bestselling novels and pay for purchases.⁴ The Pew Internet & American Life Project finds a slightly more optimistic outlook with their study which shows 32% of Americans taking part in non-voice related data activities such as texting, taking photos, and accessing the mobile Web on a daily basis, and 58% having tried their hand at these applications at least once.⁵

In the US, nine out of ten college students own a cell phone⁶, therefore it's not surprising that early mobile Web adopters are largely represented by Generation Y, or users who fall into the 18-27 age-range⁷. Gen Y spends as much time on their cell phones as they do on the Internet for personal reasons, according to Forrester Research.⁸ English-speaking Hispanics and other groups such as African-Americans who have been slower to adopt the desktop Web, are the leading users of handheld data applications. On an average day, over half of Latinos and 50% of African-Americans use their cell phones for an activity which requires the transfer of data. The use of mobile devices for non-voice related tasks spans all income levels with 44% of cell phone owners in households averaging less than \$30,000 total annual income participating in data pursuits daily.⁹

US Cell Phone Owners

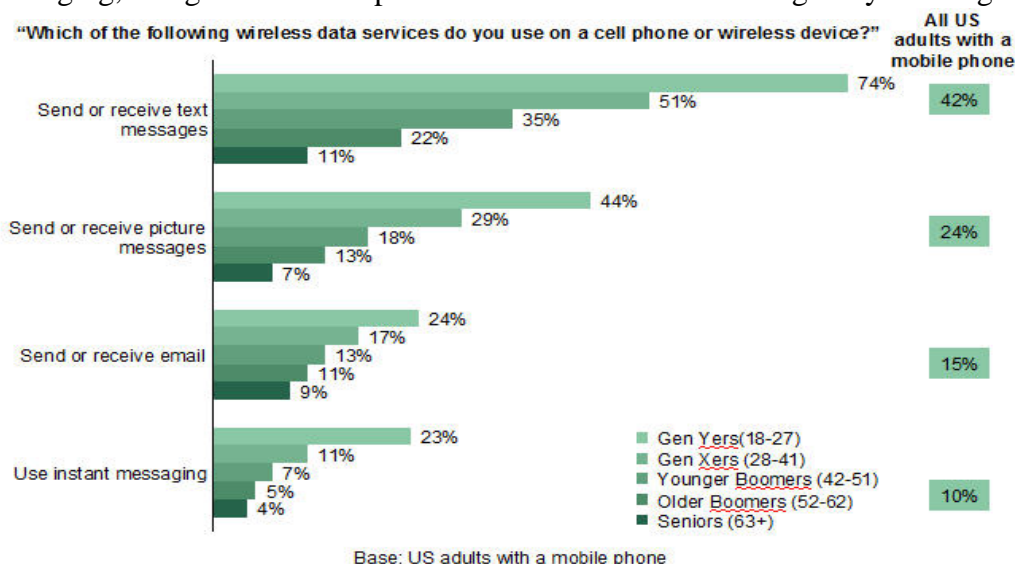


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Source: Forrester's North American Technographics Benchmark Survey, 2007¹⁰

What Are People Doing with Their Mobile Devices?

Handset owners are utilizing their mobile access for a variety of purposes, although currently the most popular data-related activities include text and picture messaging, downloading ring tones, email, instant-messaging, and games. Participation in these endeavors varies greatly across generational lines

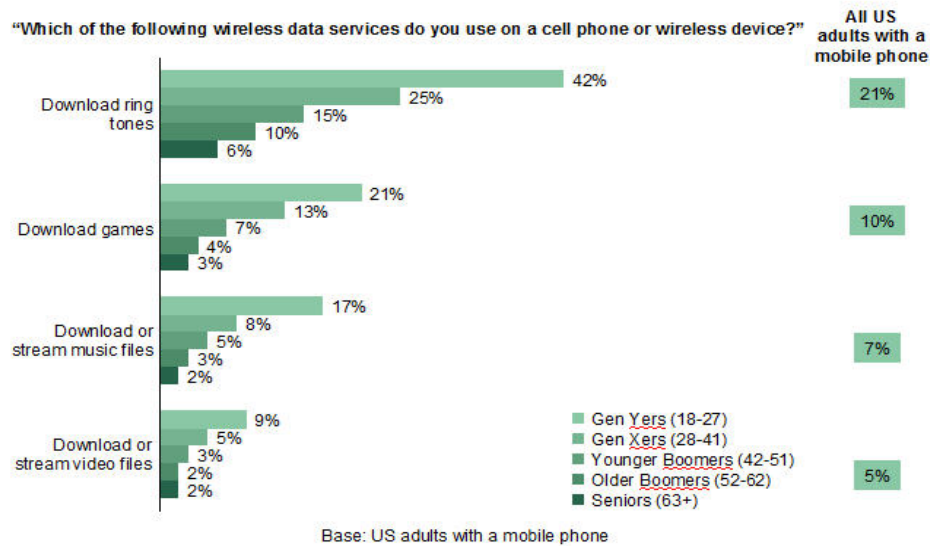


yet tends to steadily decrease with age.

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Source: Forrester's North American Technographics Benchmark Survey, 2007¹¹

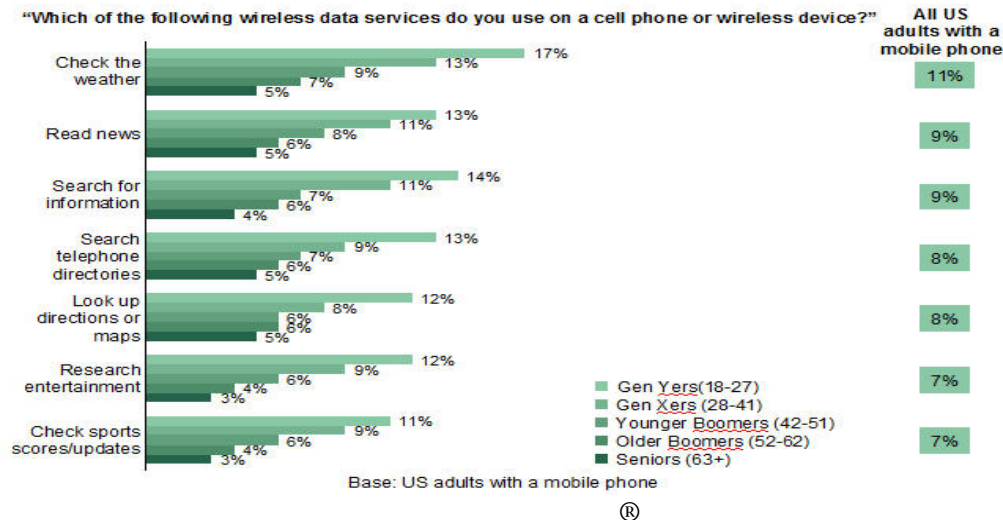
Text messaging, or short messaging service (SMS) technology is a way to exchange brief messages containing up to 160 characters with other cell phone owners, while picture messaging involves sending images from one mobile phone to another and is accomplished through the multimedia messaging service (MMS) technology. Ring tones are customizable sounds or phone ringers which may consist of popular music tracks and may be downloaded for use on mobile phones. Email accounts can be accessed via mobile phones through Web email, Microsoft Exchange, BlackberryMail, and Enterprise servers and more.



®

Source: Forrester's North American Technographics Benchmark Survey, 2007¹²

Mobile Web users can access their instant messaging (IM) accounts such as AIM or MSN Messenger on their mobile devices to send and receive instant messages from their buddy lists. Weather reports, breaking news, maps, and reference resources can all be found via the mobile Web. Mobile games are widely available for download and offline play for cell phone owners, and music files may be downloaded onto most mobile devices, many of which double as MP3 players.



Source: Forrester's North American Technographics Benchmark Survey, 2007¹³

Benefits of the Mobile Web

The mobile Web IS the Internet for the small screen, and therefore reaps many of the same rewards as its desktop counterpart such as.

Constant Connectivity – Web-enabled mobile devices provide owners with around-the-clock access to the Internet regardless of location. At home, away on business, or just off to the grocery store, handsets provide a continual link to the wealth of information that is available on the World Wide Web. Mobile users can check on the status of a flight while on road to the airport, check traffic reports, and even access a map and directions if they decide to take an alternate route. They can discover movies times while taking the bus home from work, buy tickets, find menus for nearby restaurants, and text an invite to a friend.

Location-Aware – Many of today's smart phones and pocket PCs have global positioning system (GPS) capabilities which make them aware of where they are at all times. Cell phone users can search for businesses near their locations, retrieve directions to a desired destination, create location-based content, and discover nearby friends and contacts.

Limitless Access – As previously mentioned, the mobile Web encompasses the whole Web, not only those sites which have been specially designed for mobile browsing. Web-enabled phone users have access to all of the same online resources that they would find via their desktop computer.

Interactive Capabilities – The mobile Web offers users the participatory experience of the read/write Web in the palm of their hand. Users can create content such as photos and videos taken with their camera phones, share and rate media, make comments, write blog posts, tag resources, and form connections on social networks.

Mobile Web Challenges

Mobile Web developers and users alike encounter challenges when it comes to the portable Internet.

Those who are creating content for this new channel are confronted with numerous development standards and technologies to choose from as well as hundreds of different mobile device types with varying functional capabilities, screen resolutions, and sizes, as well as more than 40 distinct mobile browsers. This lack of uniformity renders testing mobile web sites and applications for universal compatibility a near impossibility. Mobile Web developers also brave the high expectations of mobile Web users who anticipate the same caliber experience on their handsets that they enjoy on the desktop Web.

Mobile Web users are faced with finding made-for-mobile content by either guessing the addresses of favorite destinations' mobile versions, or using a search engine which may or many not present the mobile site at the top of the results list. The task is further encumbered by carriers who sometimes make the very browser difficult to locate on some phones. Once the browser is located, websites are often tough to navigate on mobile devices. When combined with the experience of slow connection speeds and an additional cost for access, the mobile Web may be too frustrating for some.

The mobile Web is still evolving and this is an exciting time of early development, but there are still some hurdles that need to be overcome. As we see familiar brands such as Facebook and MySpace porting their presences to the mobile domain, we will see a wider adoption of this channel by the mainstream. As developers experiment and get comfortable creating for mobile, they will learn how to design usable, engaging experiences, increasing interest in the portable Web. And the progression of mobile phones will make these experiences easier through improved devices such as the iPhone and the proliferation of QWERTY keyboards, larger screens, and 3G networks.

Key Terms

3G – Third generation mobile phone technology which allows for high speed connectivity.

Carrier – A mobile phone operator or provider.

Handset – An alternate term for a mobile phone. Other interchangeable terms include; handheld, cell phone, mobile device, etc.

PDA – Personal Digital Assistant, a handheld computer which may also be a cell phone.

Smartphone – A cell phone with computing capabilities.

Touchscreen – A mobile device with a display that can detect interaction, making the screen the input method rather than a keyboard.

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Chapter 2: Mobile Devices

Choosing a cell phone today is an intricate process which involves researching mobile devices, manufacturers, carriers, available features, and package plans and can seem overwhelming to the uninitiated. Still, with a little priming, most everyone can manage to make a smart and informed decision on their next device.



BlackBerry Pearl

candidate to one day supplant the digital camera completely.

Mobile Phone Devices

There are many different types, styles, and models of mobile phones available on the market today. They range from smartphones and PDAs to camera phones and multimedia phones to touchscreens, with much overlap between them.

The standard-sized “flip” “slider” and “candy bar” style phones such as the Motorola RAZR and Samsung's UpStage are most often multimedia phones with the ability to download music and ringtones, watch TV and videos, and send multimedia messages. And frequently, they are also camera phones enabling their owners to take photos and shoot video. More than half of all cell phones sold today have a built-in camera making the mobile phone a

Smartphones such as Research in Motion's (RIM) BlackBerry, Motorola Q, Nokia N Series, and the Palm Treo, are devices which offer computing capabilities in addition to conventional mobile phone functions. A relative of the PDA, a smartphone typically runs its own operating system, has the ability to install applications, frequently sports a QWERTY keyboard, and offers device owners advanced features such as email, instant messaging, mobile Web browsing, office applications, expandable memory, and desktop synchronization. 115 million of these smart devices shipped in 2007 alone.¹



Motorola Q

The lines of delineation between types of mobile phones are becoming increasingly amorphous as hybrid phones now offer crossover in form and functionality. The T-Mobile Sidekick is a cameraphone with a built-in MP3 player which offers games, email, IM, a mini SD memory slot, and a full QWERTY keyboard. The sleek BlackBerry Pearl looks like a typical bar phone, but this compact model offers smartphone functionality including Web access, email ability, and expandable memory. In short, cell phones are offering much more functionality than mere voice capabilities at this point and the size and shape of the phone is no longer an indication of its potential.



Apple iPhone

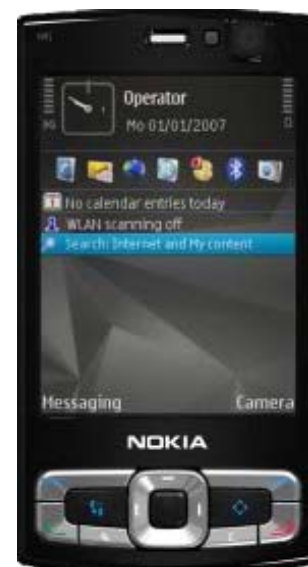
Another phone which could be considered a hybrid is the touchscreen smartphone such as the HTC Touch which lets users interact with the device by touching the screen, or using a stylus. The most recognizable touchscreen mobile device to date is the iPhone. Harkened as the “mobile Web killer” by Forrester analysts, the iPhone presents whole Web pages via its Safari browser to mobile viewers

rather than simplified ones made for the mobile Web. This offers iPhone users the full browser experience of the desktop Web, rather than dealing with bare-bones Web pages that have been designed to be viewed on the portable Internet. This multimedia phone sold more than half a million devices in its opening weekend², yet even among enthusiasts there were criticisms concerning the shortcomings with the device including the slow Web connection via AT&T's EDGE network which is not a 3G technology, no initial Microsoft Exchange support, and lack of compatibility with Flash and Java technologies.

Mobile Phone Manufacturers

Mobile phone manufacturers strive to offer consumers a range of devices and are in a constant competition to outdo one another. The current global market leader is the Finnish Nokia Corporation which shipped a total of 60.5 million smartphones in 2007.³ But there are several other major contenders in this space including the Sony Ericsson Company which is a partnership between Japan's Sony Corporation and the Swedish Ericsson telecommunications company. The two decided to cease creating their own mobile phones and team up in a venture reminiscent of an '80's Reese's Peanut Butter Cup ad campaign, one adding electronics expertise, the other a communications specialization.

RIM, the Canadian Research in Motion company which is known for producing the Blackberry, is also one of the largest mobile device manufacturers on the market. Other competitors in the mobile phone market include the Illinois-based Motorola, Inc., made famous for the oft-imitated RAZR phone, Samsung and LG, both companies from South Korea, and most recently Apple. Although Apple's iPhone launched late in the year and in limited countries, it managed to match Motorola for third place in the global market in the fourth quarter of 2007.⁴



Nokia N95

Worldwide Smartphone Market Shares Q4 2007

Nokia	52.9%
RIM	11.4%
Apple	6.5%
Motorola	6.5%
Others	22.7%

Source: Canals - Converged smart mobile device market: smart phones and wireless handhelds.⁵

According to a January 2008 AdMob Metrics Report which seeks to identify trends in the smartphone market by tallying ad impressions served on mobile phones, the top device manufacturers worldwide include Nokia, Motorola, and SonyEricsson respectively.⁶

Worldwide Handset Data – January 2008

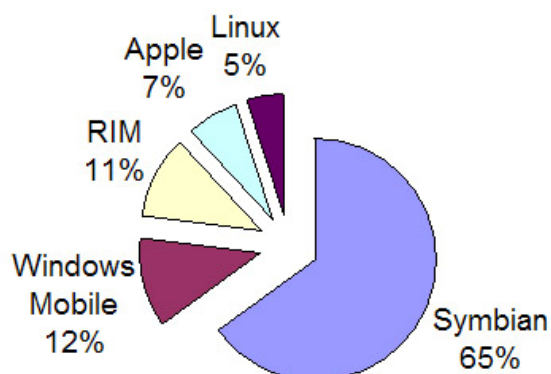
Nokia	36.2%
Motorola	14.0%
SonyEricsoon	14.0%
Samsung	11.4%
RIM	7.7%
LG	3.7%
Sanyo	2.4%
Apple	1.2%
Palm	1.1%
Other	8.1%

Source: AdMob Mobile Metrics Report January 2008⁷

Operating Systems

One of the principal reasons why application development for mobile devices is such an arduous task is the dizzying number of operating systems which can be found on today's phones. There are currently between 30-40 mobile operating systems available and device manufacturers may choose to use a number of them throughout their product lines. From this overwhelming crowd emerges a handful of platforms which can be found on the majority of devices.

Worldwide Smartphone OS Market Shares Q4 2007



Source: Canalys - Converged smart mobile device market: smart phones and wireless handhelds.⁸

The Symbian operating system is owned by a consortium of mobile manufacturers including Nokia, Sony Ericsson, Samsung, Siemens AG, and Panasonic and can be found on more than 200 million phones worldwide.⁹ It provides a framework for location-based services, digitalTV, advanced camera features, VOIP, push email, and syncing. The Symbian platform can be found on Nokia phones as well as Motorola, LG, and Samsung devices.

Microsoft Windows Mobile can be found on over 35 million mobile phones across the globe¹⁰ including those from Motorola, Samsung, Sony Ericsson, and Palm. We may also expect to see Windows Mobile running on the T-Mobile Sidekick before long as Microsoft bought the Sidekick manufacturer, Danger, in early 2008. The popular OS features push email, Windows Media Player, Microsoft Office Mobile, Bluetooth, and GPS support.

RIM's Blackberry operating system is a proprietary platform designed for the manufacturer's device models specifically. It provides support for the side thumbwheel, synchronization with Microsoft Exchange Server email, and LotusNotes.

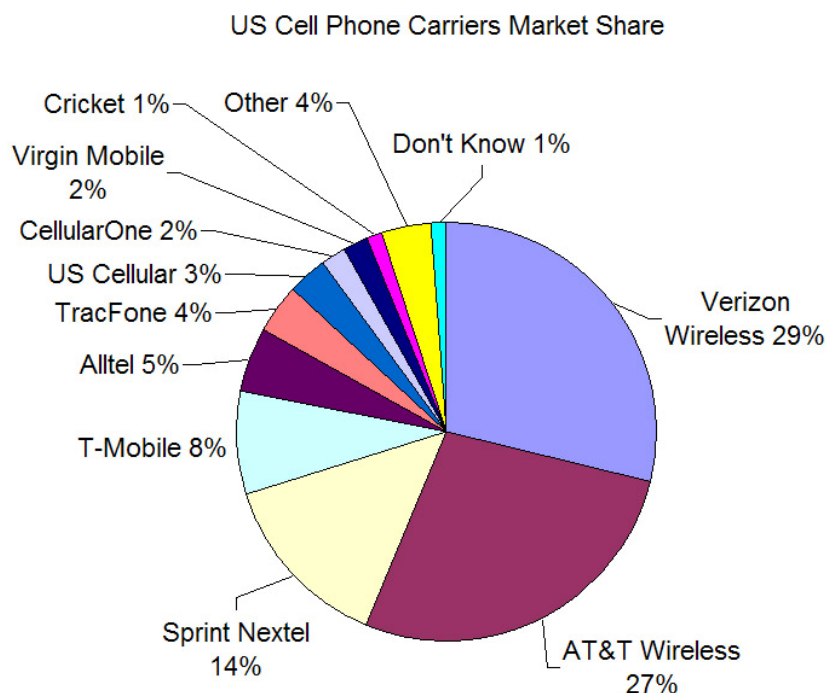
Google has organized a consortium called the Open Handset Alliance which is an initiative made up of major manufacturers, operators, and software companies to develop open standards for mobile phones. Such major players as Motorola, T-Mobile, Sprint Nextel, NTT DoCoMo, LG, Samsung, have all signed on. Together they are working to develop Android, a Linux-based operating system for mobile phones.

The Linux OS is used primarily in China and Japan on phones from companies such as Motorola. A recent consortium has been formed called LiMo with the mission to co-develop a Linux-based platform for mobile phones which seems to be a direct response to the Google-run initiative. LiMo includes major device manufacturers and mobile phone carriers including Motorola, Samsung, NTT DoCoMo, Vodafone, LG, and others. It is interesting to note that some of the same companies have attached themselves to both ventures and it is yet unclear what their primary motivation might be to participate.

Other operating systems to be aware of in the market are the Palm OS which can be found running on many of the company's Treo devices. It comes standard with applications such as the address book, calculator, date book, expense program, memo pad, to-do list, and syncing capabilities. Apple's iPhone uses a version of the Mac OS X operating system. It comes with a Safari browser, iPod support, and applications such as weather, calendar, calculator notes, and iTunes.

Mobile Phone Carriers

There are hundreds of mobile phone operators or “carriers” around the world, but in the United States there are five major competitors who dominate the market. These include Sprint Nextel, AT&T Wireless, Verizon Wireless, T-Mobile, and Alltel. And a full 70% of cell phone subscribers receive their services from just three of those companies.¹¹



Source: Forrester Benchmark 2007: Mobile's The Most Mainstream

Mobile Phone Features



Palm Centro

There are a wide range of features available for today's handheld devices, some of which come pre-installed on devices, and others which may be added on through carrier plans. It is important to note with features, that although they are heavily dependent on the phone's inherent capabilities, they also vary according to mobile carriers. And manufacturers will sometimes release different versions of the same model phone to competing carriers. This can all be very confusing for consumers who may find the same smart phone with a 2.0 megapixel camera at one carrier, and a 1.3 megapixel camera through another. Likewise, a phone may be capable of a 3G network connection, but only one mobile operator in the area offers that service. Alternatively, a customer's carrier of choice may offer a music package, but it may not be compatible with all of the devices that they sell. To further complicate matters, it is also possible to purchase an “unlocked” phone through online retailers which is not tied down to any carrier in particular.

Purchasing a mobile device with so many options and variations available

takes some skillful research and a fair amount of patience, but it can be done. Most mobile phone manufacturers offer a “compare” function on their websites which will let users produce feature matrices of different phones, or even different versions of the same phone. Potential mobile phone buyers will want to research not only the device capabilities, but also their carrier’s offerings, such as packaged plans, before making a decision. Having an idea of what kinds of features are attainable provides a helpful starting point. Informed shoppers will have list of must-haves or “requirements” for a new device in order to narrow down the selection process. Without delving too deep, the following are presented to illustrate the range of features on the market today. We will touch upon many of these in further detail in the next chapter which outlines what can be done with the mobile Web.

Bluetooth – Phones and PDAs which have Bluetooth Wireless technology built-in are able to communicate with accessories such as headsets with microphones within ranges up to 10 meters, without being connected by wires, or within line of sight of one another.

Camera – Digital cameras in many of today's cell phones range in quality from 1.3 to 5.0 megapixels, and are capable of capturing high resolution images. Some of these devices will also be camcorders with the ability to shoot video footage.

Desktop Synchronization – This is the ability to connect a mobile device with a PC or laptop computer. A software program is provided by the mobile carrier for installation on the desired machine which will then be able to interact with the device for adding and deleting programs, and transferring ring tones, music, photo, and video files to and from the phone.

Downloadable Content – In addition to mobile games, it is possible for many phones to download third-party ring tones, wallpaper graphics, and applications for use on their devices. These applications may be shopped for through a carrier's store, found by browsing the mobile Web, or transferred from an owner's PC.

Email – The mobile email feature available on today's handhelds can mean some very different things depending on the provider and the type of phone. Email-capable phones may simply provide the user with Internet links to Web-based email accounts such as Yahoo! and Hotmail. This type of feature necessitates accessing the mobile Web in order to interact with email. Some devices offer what is referred to as “push” email which delivers email messages directly to the phone and alerts owners when they have new messages. And hybrid email services are available from carriers who offer new message notifications, yet still require users to access the Web to acquire their email.

Games – The majority of mobile devices on the market have the ability to play games and many phones have several of these on-the-go sources of amusement pre-installed and available with the device purchase. Most carriers also make it possible for game-lovers to shop for and download new diversions through one-click access to mobile stores.

GPS (Global Positioning System) – A GPS-enabled phone is able to use the global navigational satellite system to always identify the location of the phone in the world. This feature allows you to utilize applications such as mapping and navigating software with turn-by-turn directions, emergency locator services, and location-aware social networks.

IM – Cell phones with instant-messaging abilities enable owners to take part in live text chats with IM buddies through an installed application without the need to open a Web browser. Not all instant-messaging clients are available for mobile IM at this time, however, AIM, Yahoo! and Windows Live messengers are widely offered. Owners may need to download these applications themselves.

Live TV – This service offered by most cell phone carriers, allows cell phone owners to watch live,

full-length television programs on their phones. The service provides a program guide with scheduling information, and some carriers enable users to sign up for reminder alerts for their favorite shows. It is useful to note that various carriers, and also plans, offer different channel lineups.

Memory Card Slot – Phones with memory card slots have the ability to expand their memory by adding a removable Flash memory card.

Mobile Office Applications – Software programs such as Microsoft Word, Excel, and PowerPoint can be found on many smart phone devices.

Music – Many phones have music capabilities and come pre-packaged with built-in MP3 players, the ability to listen to radio channels, and download songs through carrier portals. Others can listen to music through media players such as Windows Media Player or iTunes and can transfer songs from their PC to their mobile devices.

Phone as a Modem – Since smart phones have continual access to the Web, many of them have the capability to act as a modem for a laptop computer, providing a high-speed Internet connection for travelers or those without access to a network.

Picture and Video Multimedia Messaging – Similar to text messaging, this more recent feature allows some phones to instantly send photos and video files to contacts across the country.

Productivity Tools – Organizational and productivity tools such as planners and schedulers, task lists, memo pads, alarm clocks, and calculators can be found on many of today's mobile phones.

Quad Band – This means that the mobile device supports four cellular frequency bands and can operate anywhere in the world. Phones with this capability are often referred to as “global” or “world” phones.

QWERTY Keyboard – This feature entails the presence of a full, English-language keyboard on the body of the phone. The term QWERTY is derived from the first six letters on the keyboard itself, located on the top left.

SMS Text Messaging – This feature enables phone owners to instantly send and receive short text messages which are delivered to other wireless users.

Speakerphone – This hands-free option allows talkers to take part in a conversation while doing other things. This type of feature is usually built-in to the device rather than offered as a service.

Video – Video playback on camera phones with camcorders is a common feature, however, there are also phones which are capable of viewing cellular video clips such as music videos, movie and DVD trailers, short TV episodes, sports clips, and weather. Those devices with media players can also transfer video files from their desktop computers for viewing on their phones.

Voice Dialing – The voice-activated dialing feature lets callers speak the name of the person they are dialing in order to automatically contact that number. Device owners must take part in a setup process which provides the application with voice samples and patterns.

Web enabled – Many of today's mobile devices offer some level of Internet access, but the experiences can vary greatly. Camera phones and multimedia phones which have Web access will most often have a carrier-specific interface with a numbered list of options to access Web-based information such as news, email, sports, search, etc., making it very difficult if not impossible to browse to specific websites. Smartphones, PDA's, and other mobile devices which have their own operating systems will very likely have HTML Web browsers with address bars for typing in URLs.

Mobile phones are now able to acquire high-speed Internet connections through different cellular technologies and standards, each offering varying speeds of data transmission. Use of these technologies varies between carriers and phone models, but the latest quality standard is the 3G broadband network connection which indicates the third-generation in mobile phone technology. Not all of today's offerings are 3G, however. The following is a chart with approximate speeds for these technologies. To give some perspective it may be helpful to also keep in mind the transmission speeds of the broadband Internet as accessed from a desktop computer are at a rate of 56 Kbps (Kilobits per second) for a dial-up connection, and a minimum of 1.5 Mbps (Megabits per second.) for a cable modem connection.

Mobile Internet Technologies

Technology	Carriers Who Offer	3G?	Download Speed
EV-DO (Evolution-Data Optimized)	Verizon Wireless, Sprint, Alltel	Yes	400-700 Kbps
HSDPA (High-Speed Downlink Packet Access)	AT&T	Yes	400-700 Kbps
GPRS (General Packet Radio Service)	T-Mobile	No	56 - 114 Kbps
EDGE (Enhanced Data rates for GSM Evolution)	AT&T, T-Mobile	No	384 Kbps

As previously mentioned, it is quite important to feature-shop on multiple carrier websites in order to get a clear picture of what is included with each device. It will also be helpful to have an idea of the types of data plans which each carrier in a particular geographic area has to offer, as they may vary greatly in terms of content and price.

Data Plans

Mobile phone carriers have a surplus of voice, feature, and data plans available for consumers to choose from. Many of the above-mentioned features, such as live TV, etc., are dependent on activating packages that are offered by carriers. But for those interested in having access to the mobile Web and email regularly, there are data plans available which entitle device owners to varying amounts of bandwidth usage per month. The most appealing of these packages is the unlimited data plan which is offered by nearly every carrier starting at approximately \$15 per month. Having an unlimited data plan lets phone owners utilize the Web to their heart's content, alleviating concerns about usage throughout the month, and is especially useful for those who take part in high-bandwidth activities such as downloading videos.

One aspect of data plans which is not always clear from the plan summaries is whether or not they include text messaging. Text messages, which are becoming an increasingly popular form of communication, cost both the sender and the receiver up to \$.20 each for those who don't have plan coverage. Messaging bundles can be added on to a shopper's plan for as little as an additional \$5 per month and would be highly recommended for those who have any intention to start texting.

Other devices



Apple iPod Touch

In addition to the cell phone, there are many other mobile devices on the market today which offer access to the mobile Web. The iPod Touch is an MP3 player and Internet device which is very similar to the iPhone in appearance and functionality. It is available with storage capacities of up to 32GB, runs the same operating system as the iPhone, and is able to run nearly all of the same applications as its sibling. The major differences between the two mechanisms are the lack of a built-in camera, Bluetooth support, cellular service, and EDGE technology on the Touch which accesses the Web via WiFi networks.

Many other non-phone-enabled devices such as the HP iPAQ series are available which allow Internet access and computing abilities. These gadgets can be referred to as PocketPCs, PDAs, handhelds, or simply Internet devices and are manufactured by companies such as Dell, Hewlett-Packard, Nokia, HTC, and others.

Computer laptops are shrinking in size as the push for mobility increases among buyers. New Ultra Mobile PCs (UMPCs) such as the HTC Shift are scarcely as large as a paperback book with screen displays ranging from 4-7 inches. And the slightly bigger subnotebooks still weigh in at around 2 pounds. Owners of Amazon's Kindle e-book readers have the ability to browse the Web as well as take e-books, blogs, and newspapers with them wherever they go. Even some handheld game systems such as the Sony PSP and Nintendo DS have the ability to surf the mobile Web.



HTC Shift

Although it may not have direct access, the Apple iPod is able to download and store large amounts of information such as podcasts, videos, audio files, etc. from the Web to take on the go, and is a device to consider when creating mobile content.

Mobile Devices Resources & Reports

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5. *ibid.*
6. “AdMob Mobile Metrics Report”, AdMob, January 2008, http://www.admob.com/marketing/pdf/mobile_metrics_jan_08.pdf (Accessed 2/23/08).
7. *ibid.*

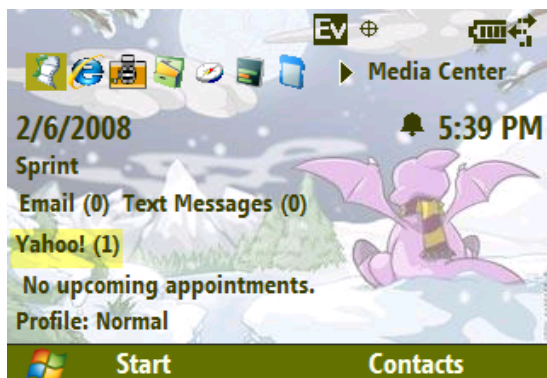
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Chapter Three: What Can You Do with the Mobile Web?: Mobile Web Applications

The mobile Web opens up a world of knowledge that can be accessed on-the-go by shoppers, travelers, readers, listeners, and news hounds with an information need. It's now possible to listen to an audio book on the commute to work, catch highlights of last night's game, issue a text message to a roster of twenty friends, find out when the next bus will arrive, or listen to satellite radio. This chapter summarizes many of the activities which mobile Web users are currently engaged in, and will hopefully provide inspiration for either developing library-related services, or increasing personal productivity.

Some of these applications may not seem readily applicable to libraries, and many of them won't be right for your library in particular. But, just as with Web 2.0 and other new technologies, having a picture of the landscape at large and knowing how industries are making use of these mobile technologies can be invaluable in sparking new ideas and initiatives. Innovation in any arena is built upon a foundation of knowledge. For instance the mobile Web has spawned several new food ordering services which enable regulars to cut through long lines by texting in advance requests for their favorites. How great would it be for patrons to be able to do something similar with libraries? One university library is already making it possible for students and researchers to check on the availability of lab computers while on their way to the library. Why not take it one step further and allow them to reserve a station while commuting so that when they arrive they don't have to wait or sign onto a list? Start to consider how you might apply some of these emerging services in your own environment.

Email

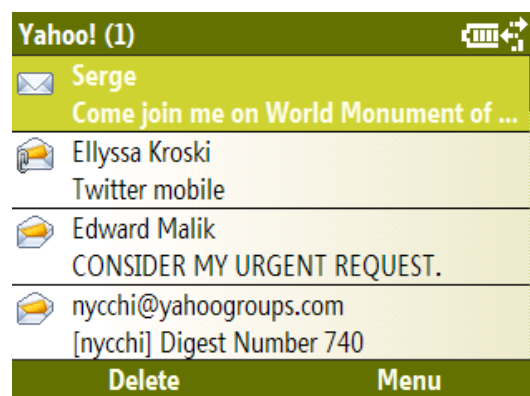


Push Email

Push email is available on most of today's smartphones, PDAs, and iPhones. Users may configure several types of mail accounts on their device such as POP3 or IMAP personal email such as Yahoo! or AOL Mail accounts, Microsoft Exchange Server or Good Mobile Messaging for accessing corporate email, and Research In Motion's Blackberry email. If your phone does not have this type of functionality built-in, you can install it yourself by downloading an application which will enable you to push email as well as sync your contacts and calendars such as emoze or the open-source Funambol.

Yahoo! Mobile Email: <http://mobile.yahoo.com/mail>

Anytime access to email is a convenience for personal exchanges, and an absolute necessity for business use. Web-based email accounts can be accessed by visiting corresponding mobile websites, however, the method of choice for mobile users is "push" email. Push functionality delivers email messages directly to a user's mobile phone, eliminating the need for them to browse to their client and collect it. As new messages are delivered, the user is immediately notified that they have a new message waiting.



Gmail Mobile - <http://gmail.com>

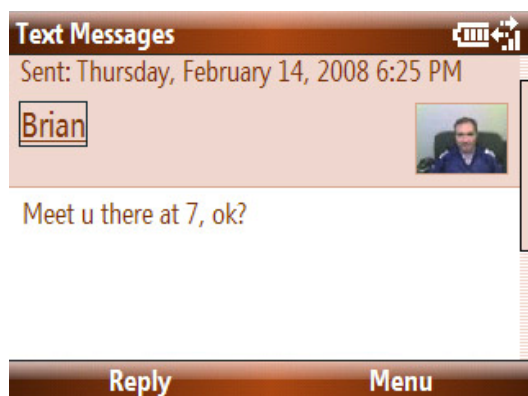
AOL Mail Mobile: <http://mobile.aol.com/aolproducts/mobile-email>

Hotmail Mobile: <http://www.gowindowslive.com>

Emoze - <http://www.emoze.com>

Funambol - <http://www.funambol.com>

Text Messaging



Sending and receiving text messages is by far the most popular data activity for cell phone owners with 42% of adults engaged in the activity.¹ Indeed, JupiterResearch studies have discovered that 40% of mobile users aged 15 to 24 send more than 10 short message service (SMS) messages per day.² In addition to sending text messages to friends and contacts, this mainstream mobile activity enjoys a host of ways take advantage of the easy-to-use SMS technology. Mobile device owners can vote for their favorites on reality TV shows such as *American Idol* and *Make Me a Supermodel*, sign up for news alerts from an array of websites including

the Weather Channel and ESPN, and even text in a search term to Google or Yahoo!. They can send SMS messages to groups of friends simultaneously through services such as Bluepulse and Joopz or utilize websites such as Mozes and Broadtexter which enable members to create their own mobile clubs that broadcast alerts to subscribers. And many websites such as Mapquest, Yelp, and Evite have options to send information such as addresses and directions to cell phones via text messaging.

Google SMS - http://www.google.com/intl/en_us/mobile/sms

Joopz - <http://www.joopz.com>

Bluepulse - <http://www.bluepulse.com>

Mozes - <http://www.mozes.com>

Broadtexter - <http://www.broadtexter.com>



Spiderwick Chronicles Wallpaper

Ring Tones & Wallpaper

One of the most popular diversions for mobile phone owners is downloading ring tones and wallpaper to enhance their handsets. These audio and graphics files can be purchased via the Web and sent directly to the user's cell phone. Most carriers have ringtones for purchase through their own portals, however, many other communities are also offering such mobile content. Websites like Thumbplay and Flycell offer monthly subscriptions at an average of \$10/month entitling members to a number of credits which are used to purchase ringtones, graphics, or games. Other content

providers such as RingTone Jukebox offer up ringtones for individual sale ranging from \$2-\$3 each. Additionally, many of today's movies such as *The Spiderwick Chronicles* and *Jumper* have themed ringtones and mobile graphics available for purchase in the "downloads" sections of their official websites. ABC, CBS, and Nickelodeon television networks all have mobile websites with hundreds of

wallpaper and ringtone files from their daytime and primetime lineups including favorites such as *General Hospital*, *Lost*, *Jericho*, and *Dora the Explorer*.

Free ringtones, themes, and wallpapers are available for Windows Mobile device owners from Microsoft's Owner's Circle, and a selection of hundreds of ringtones are ready for download by all users from CoolFreeRingtones. The Mobile Park community lets users download free wallpaper graphics and themes for their phones and even provides tools for them to make their own. Cell phone owners can create their own ring tones from their MP3's and other music files for free at the PhoneZoo by simply uploading their audio files and selecting a section to use as a ring tone.

Thumbplay - <http://www.thumbplay.com>

Flycell - <http://www.flycell.com>

RingTone Jukebox - <http://www.ringtonejukebox.com>

ABC - <http://abcmobile.playp.biz>

CBS - <http://web.cbsmobile.com>

NickMobile - <http://www.nickmobile.com>

Windows Mobile Owner's Circle - <https://www.microsoft.com/windowsmobile/domore/default.mspx>

CoolFreeRingtones - <http://www.coolfreeringtones.com>

Mobile Park - <http://www.mobilepark.eu>

PhoneZoo - <http://phonezoo.com>

Beginner Tip #1: Make use of the bookmarks feature available in mobile browsers to save you time and typing.

Music & Radio

Many cell phones, smartphones, and PDA's available today are capable of playing MP3 files, Windows Media files and other audio formats, making them an all-in-one device. Mobile phone carriers have realized the potential of offering music downloads and radio access themselves and have started providing these as premium services.

Verizon makes over 2 million songs available for purchase as a part of their VCast service, and Sprint offers streaming music channels and SIRIUS satellite radio.

AllTell offers down loadable music through its JumpMusic service and provides XM satellite radio as well as its own

Axxess Radio with over 40 channels. AT&T subscribers can choose from many different mobile music applications including XM Satellite radio, MobiRadio, Napster Mobile, Billboard Mobile and more. Smart phones, PDA's, and some multimedia phones which enable users to sync their devices with their computers have the ability to have music files transferred to them.



Radio4PDA

Radio lovers can listen to thousands of U.S, U.K., Canadian, Irish, and Australian live radio channels on their cells via the free Radio4PDA mobile website, or can download the Mundu Radio application for more than 50,000 Internet Radio stations. Pandora offers an On the Go subscription service which

integrates with their desktop website allowing subscribers to listen to the stations they've created as well as rate and bookmark music. Overdrive media services provide music files as well as audiobooks and videos to subscribing libraries. Library patrons can download and borrow full albums in the classical, world, and new age genres.

AllTell - <http://www.alltel.com>

SprintPCS - <http://www.sprintpcs.com>

Verizon Vcast - <http://products.vzw.com>

Radio4PDA - <http://tuned.mobi>

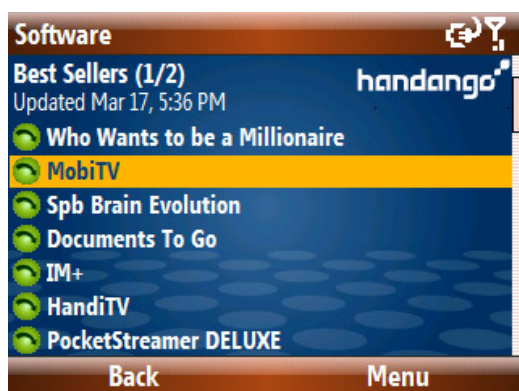
Mundu Radio - <http://radio.mundu.com>

Pandora - <http://www.pandora.com/on-the-go>

Overdrive - <http://www.overdrive.com>

Software & Games

Cell phones and handsets of all types come pre-packaged with some mobile applications or games installed on them. But phone owners needn't limit themselves to those programs as there are thousands of applications available for them to add to their devices. Most mobile phone carriers offer a variety of apps for purchase through their websites and will often create a shortcut for subscribers to navigate directly there on their phones. And there is no shortage of other websites and services offering similar



Handango

mobile shopping experiences. Handango offers thousands of mobile software applications, games, and utilities for purchase such as office and printing programs, adventure games, cookbooks, mobile TV and radio programs, and championship chess. Handmark, makers of the Pocket Express travel software, have a large selection of games such as Galaga and programs such as virtual wallets and password managers. The C|Net Downloads website offers over 6,000 free or free-to-try mobile software programs for device owners to nab such as an Adobe Acrobat reader, a WIFI hotspot finder, and a ringtone maker.

The market leader in mobile games publishing, Electronic Arts' EA Mobile division offers games such as SimCity and Orcs & Elves II for download at about \$3 each. Vivendi Games puts forward such titles as The Spiderwick Chronicles and Leisure Suit Larry available for purchase through various carriers while Glu Games presents Call Of Duty 4 and Age of Empires III for mobile. Playyoo is a mobile games community offering nearly 400 free titles for cell phone amusement. Likewise, Cellufun has a growing selection of free mobile games.

Handango - <http://www.handango.com>

Handmark - <http://www.handmark.com>

C|Net Downloads - <http://www.download.com/2001-2005-0.html>

EA - <http://www.eamobile.com>

Vivendi - <http://www.vgmobile.com>

Glu - <http://www.glu.com>

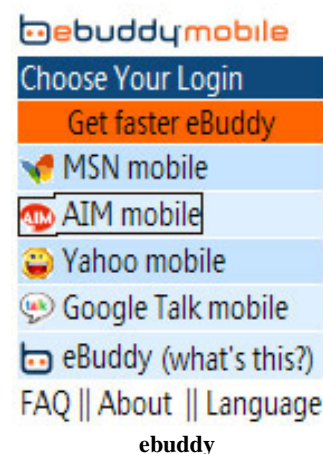
Playyoo - <http://m.playyoo.com>

Cellufun - <http://www.cellufun.com>

Instant Messaging

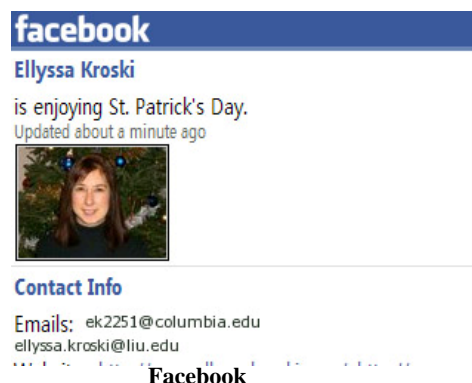
Some smart phones and data plans feature instant-messaging as a built-in application, however, this is not a common feature. But instant-messaging via cell phone is still a possibility for nearly any Web-enabled device. IM giants MSN Messenger and Yahoo! Messenger both offer Web-based chat clients, and AIM allows IM forwarding as text messages. And for those who prefer an IM aggregator, both Meebo and eBuddy have mobile websites where users can sign in to their MSN, Yahoo!, AIM, and GTalk accounts at the same time. These solutions aren't perfect, as opening up a Web browser is necessary, rather than just signing into an offline application. But if you prefer to have an instant conversation rather than just send a text message, or you have a contact who just can't shoot the breeze while at work, yet is constantly signed into their IM client, this type of mobile application may be worth a try.

MSN Mobile – <http://mobile.msn.com>
 AOL Mobile - <http://mobile.aol.com>
 Yahoo! Mobile – <http://m.yahoo.com>
 Meebo – <http://www.meebo.com/mobile>
 eBuddy - <http://www.ebuddy.com>



Beginner Tip #2: Be on the lookout for websites that offer to text you their mobile link to your cell phone.

Social Networking



Facebook

and groups. The MySpace mobile environment gives 3.7 million socializers nearly all of the features of the desktop Web site including entering status and mood updates, blogging, managing comments, messaging and commenting on friends, search, and email access.⁵

According to JupiterResearch, MySpace ranks even higher than email access as the second-most desired service for mobile teens just behind downloadable content such as ringtones.³ But social networking isn't just on the wish list for Gen Y users. In June 2007, over 12.3 million people in the US and Western Europe accessed a social networking website on their mobile phone according to M:Metrics.⁴ Facebook has over 2 million active users on their mobile website which enables networkers to update their status information, poke and message friends, write on walls, write notes, access email, search, and view profiles and groups. The MySpace mobile environment gives 3.7 million socializers nearly all of the features of the desktop Web site including entering status and mood updates, blogging, managing comments, messaging and commenting on friends, search, and email access.⁵

New social networks are forming which are tailored specifically for mobile phone users. The

Australian-based Mig33 enjoys a global network of over 9 million mobile users in more than 200 countries.⁶ Members of this social community can set up profiles, chat, IM, text and send photos to friends, as well as make low-cost international calls through their VOIP service. MocoSpace members can set up mobile blogs, chat with friends, IM, and send photos and videos to their connections. The ZYB social network out of Copenhagen has over 200,000 members who can back up their cell phone contacts, calendar, and messages, and connect with friends through SMS, send photos, and update their status.⁷ The Google-owned Zingku mobile network, enables members to text and IM friends, send user polls and invitations, and create mobile flyers.

MySpace - <http://mobile.myspace.com>

Facebook - <http://m.facebook.com>

Mig33 - <http://www.mig33.com>

MocoSpace - <http://www.mocospace.com>

ZYB - <https://zyb.com>

Zingku - <http://www.zingku.com>

Social Mapping Networks

Social mapping is a mobile subgenre of social networking in which members' current locations are shared with friends and often plotted on a map. Many of these networks utilize GPS or other location-tracking technology to pinpoint members' coordinates. Social mapping networkers are alerted when in the vicinity of friends and can often leave geotagged notes for them.

Loopt is a subscription-based social mapping service available to Boost and Sprint customers that displays friends locations and their status on a map, enables members to send messages and photos to local contacts, leave notes on locations (such as restaurants), for friends, and opt to be notified when friends are nearby. Socialight is a free mobile social network which lets users create sticky notes along with photos, sounds, and video and associate them with places and venues they've visited in order to share their experiences and recommendations with friends.

Members are able to call into the service to receive sticky notes, such as restaurant recommendations, for the area they are currently in. Dodgeball is a Google owned mobile social network which lets members text their location to friends and acquaintances who are notified if they are nearby within a 10 block radius. Plazes offers their members a cross between microblogging and geotagging in their social network. Members text in their location which is plotted on a map with their brief comments about the locale. Similar social mapping services include Buddy Beacon for Helio and StreetHive for Cingular subscribers.

Loopt - <https://www.loopt.com>

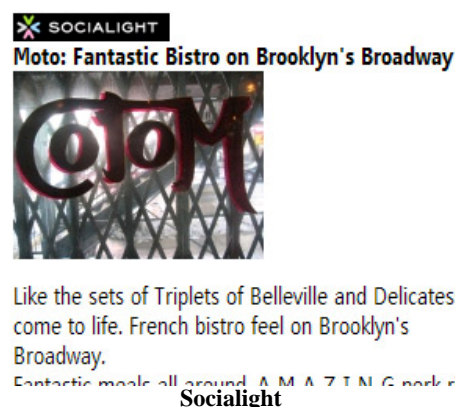
Socialight - <http://socialight.com>

Dodgeball - <http://www.dodgeball.com>

Plazes - <http://plazes.com>

Buddy Beacon - <http://www.helio.com>

StreetHive - <http://www.wavemarket.com>



Mologogo - <http://mologogo.com>

Media Sharing Social Networks



Your recent photos

Hangin' at the Island Cow



(0 comments)

Flickr

The most basic form of media sharing is MMS or multimedia messaging service which enables cell phone owners to send messages to other phones that contain media objects such as photos, videos, and audio. A new class of social networking communities has developed which revolve around creating and sharing multimedia files from mobile devices. The free photo and video messaging service, Veeker facilitates sending and receiving video, photo, and text messages to a list of contacts or groups and creates an archive of all media exchanges. The photo-sharing website Flickr can be accessed via the mobile Web, or the Yahoo!Go widget to upload and share photos and explore those of others. A cross between moblogging and social networking, mobile media sharing communities such as Juicecaster, Zannel, Treemo, and Kyte allow members to share photos, videos, and text with friends, or upload their media to a blog, or social network such as MySpace or Facebook.

Veeker - <http://www.veeker.com>

Flickr - <http://m.flickr.com>

Juicecaster - <http://www.juicecaster.com>

Zannel - <http://www.zannel.com>

Treemo - <http://www.treemo.com>

Kyte - <http://www.kyte.tv/mobile>

Search

Mobile search is a booming industry with advertising revenues predicted to reach \$1.4 billion by 2012, and all the major players have entered the field.⁸ Google's mobile search brings back the top six search hits in a traditional list style with priority given to the mobile versions of resulting websites. Yahoo!'s oneSearch displays enhanced search results, offering mobile access to relevant content such as nearby business listings, Flickr photos, news articles, Yahoo! Answers, products, and Wikipedia entries along with traditional Web results and links to call site owners. Microsoft's Live Search presents similarly enhanced results and also offers 1-click directions. AOL's mobile search defaults to provide local results first, allowing searchers to tab to receive results from Web, image, news, and ringtones categories. The Ask.com mobile search returns Wikipedia entries and images preceding the top five relevant search results. 4INFO is a mobile-only search engine which returns results to searchers via SMS text messaging on topics including sports, business, travel, and entertainment. Users are able to visit the 4INFO mobile website to conduct searches, subscribe to alerts, or simply text in their queries.

Google - <http://www.google.com/mobile>

Google
Results: [library](#)

Web pages

[Internet Public Library](#): The Internet Public **Library** (IPL) features a searchable, subject-categorized ... www.ipl.org/

[Library - Wikipedia, the free encyclopedia](#)
Encyclopedia article which examines the history and issues relating to ... en.wikipedia.org/wiki/Library

[Public Libraries](#) Offers information and links to the public **libraries** by American state.

Google

Yahoo! oneSearch – <http://mobile.yahoo.com/onesearch>

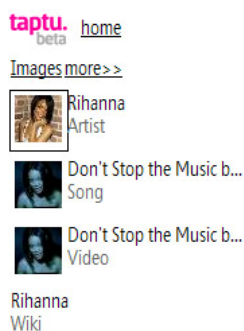
Live - <http://mobile.live.com/search>

Ask – <http://m.ask.com>

AOL - <http://wap.aol.com/search>

4INFO - <http://wap.4info.net>

Multimedia Search



Taptu

New mobile websites enable searchers to discover music, video, and image files. Taptu returns music, videos, lyrics, MySpace and Wikipedia results, while UpSnap searches the Web for mobile content including ringtones, wallpaper, and videos. And Seeqpod provides playable music search results for those who want to listen on-the-go.

Taptu - <http://taptu.mobi>

UpSnap - <http://wap.upsnap.com>

Seeqpod - <http://www.seeqpod.com/mobile>

Local Search

Local search engines will find nearby merchants, restaurants, movies, and more on mobile devices. Loki will triangulate your position based on WIFI access points and deliver location-based search results. TrueLocal accesses 14.5 million businesses in the US and Canada and 50 million local websites to return regional results, and Local.com has a database of over 16 million business listings in the US.

Loki - <http://www.loki.com>

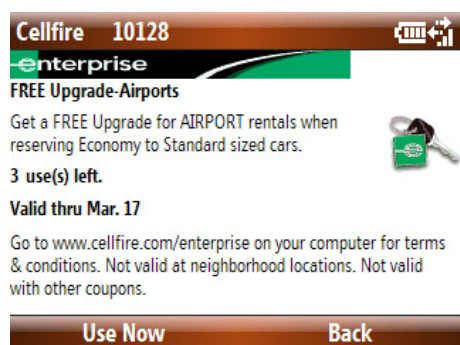
TrueLocal - <http://www.truelocal.com>

Local.com - <http://m.local.com>



Local.com

Shopping Search



Cellfire

NearbyNow gives users the opportunity to search the inventory their local mall and sign up for text alerts announcing sales, while Slifter enables local searching for products and shopping list creation. Cellfire delivers in-store coupons to mobile devices for retailers like Enterprise Rent-a-Car, Subway, and Hollywood Video.

NearbyNow - <http://nearbynow.com>

Slifter - <http://slifter.com>

Cellfire - <http://www.cellfire.com>

Visual/Camera Phone Search

These search technologies enable mobile users to find information related to the world around them by employing pattern recognition technologies or utilizing 2D barcodes. Mobot enables



Library of Congress

2D Barcode Tag

Thrrum - <http://www.thrrum.com>

Semapedia - <http://www.semapedia.org>

Winksite – <http://www.winksite.com>

Semacode - <http://semacode.com>

cell phone owners to take photos of posters, magazine pages, CDs, billboards, and brand logos, in order to connect with mobile content, websites, information, and purchasing options. Thrrum allows camera phones to point and click snapshots of any text found in books, on billboards, in stores, etc. in order to receive related search results. The Semapedia project strives to tag real-world objects with 2D barcodes which can be read by camera phones. When phones scan these barcodes, users are lead to encyclopedic entries from Wikipedia. You can create your own Wikipedia barcodes on the site, as well as locate a link to install your own barcode reader. 2D barcodes can also be easily created on Winksite or Semacode websites.

Mobot - <http://www.mobot.com>

Voice Search

Both Google and Microsoft have free, voice activated search available. Cell phone users simply speak the business name and location they are looking for and are automatically connected. Users also have the option to have the information and relevant neighborhood maps sent to their phone via SMS text messaging.

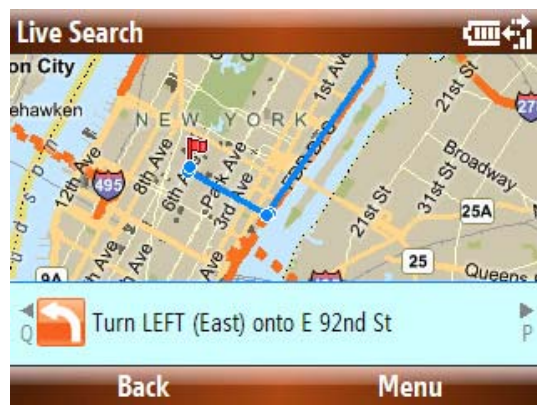
GOOG-411 - <http://www.google.com/goog411>

Tellme - <http://www.tellme.com>

Beginner Tip #3: Set yourself up for mobile ease by setting up accounts and adjusting preferences and profiles, etc. on your desktop computer first.

Mapping

One of the most convenient services to have on a mobile device is quick access to maps and directions. Microsoft Live Search, Yahoo! Local, and Google Maps for Mobile are all free applications which will retrieve turn-by-turn directions on a zoom-able map with an optional satellite view. After installing these programs, mobile users can access local traffic information, search nearby businesses, and send locations to friends via SMS.



GPS navigation services are also available for mobile owners which utilize the global positioning system to determine location. These applications provide voice guided turn-by-turn directions, 3D moving maps, and pedestrian routes. Mapquest Navigator is a paid service available from AOL which also provides traffic information with alternative route suggestions, integrates with AOL Cityguide to offer searching local information about restaurants, music venues, and events, and forwarding locations to contacts. Telenav GPS Navigator is available through most US carrier services and also offers traffic alerts and 1-click rerouting, and a Biz Finder business search for discovering local restaurants, WIFI hotspots, etc. Nokia Maps is a free download-able collection of maps of over 150 countries and 15 million points of interest. The accompanying Nokia GPS navigation system is a paid service which offers users the option to purchase Berlitz and Insight guides which integrate with maps.

Microsoft Live Search - <http://livesearchmobile.com>

Google Maps for Mobile - <http://www.google.com/gmm>

Yahoo! Local – <http://m.yahoo.com>

Mapquest Navigator - <http://www.mapquest.com/mobile>

Telnav - <http://www.telenav.com>

Nokia Maps - <http://www.nokiausa.com/A4686840>

Widgets



Widgets are free mini applications which can be downloaded onto a mobile device to provide access to Web-based information without ever having to open up a browser. Remember following colorful icons in AOL which led to chat, email, and shop channels? These easy-to-use browser alternatives follow that same idea to offer users quick access to content. Widgets have enjoyed the most success in Japan with the mobile phone carrier NTT DoCoMo which offers a subscription-based i-channel service delivering widget content to over 20 million mobile users.⁹

While some widget sets are pre-loaded by mobile carriers, many are downloadable by phone owners. Yahoo!Go offers a carousel of widgets including Yahoo! Mail, calendar, contacts, oneSearch, Flickr, weather, local maps, and Yahoo! news channels, along with a widget gallery with optional MTV, Myspace, and eBay widgets. Nokia Widsets are compatible with over 300 phones and enjoy more than 3 million users.¹⁰ They have 4,000 widgets to choose from such as Sudoku games, eBay, Twitter,

Flickr and many more created by their community of users. Plusmo boasts over 20,000 widgets in their gallery including widgets for the iPhone, and football widgets which report play-by-play action. The Microsoft-backed Zumobi provides a 16-tile view of widgets with content ranging from political news to Amazon search and can be shared with friends' phones. And the home screen on Apple's iPhone features a set of widgets leading to email, weather, maps, and other tools and information.

Yahoo! Go – <http://get.go.yahoo.com>

Nokia Widsets - <http://www.widsets.com>

Plusmo – <http://www.plusmo.com>

Zumobi - <http://www.zumobi.com>

iPhone - <http://www.apple.com/iphone>

E-Books

The recent popularity of the Amazon Kindle, which sold out in the first 5 ½ hours it went on the market, has indicated a strong desire by readers to have the ability to view books on their portable devices. With the installation of a free software program, many of today's mobile phones can also double as e-book readers. One of the more popular e-book reader applications and standard e-book formats is the Amazon-owned Mobipocket. The reader can be downloaded and installed on both the owner's mobile device and desktop computer and books are collected, read, annotated, and bookmarked synchronously on both devices. The Mobipocket website has over 40,000 (more than 11,000 free) titles in its inventory. Many Mobipocket titles are available through local public library systems and can be downloaded from websites such as eNYPL, MyMediaMall, and over 7,500 libraries which are using the Overdrive media service.

"And she hardly ever does real magic. What good is being a witch if you don't do magic? Why doesn't she use it to help people?"

Nanny peered at her through the pipe smoke.

"Cos she knows how good she'd be at it, I suppose," she said. "Anyway, I've known her a long time. Known the whole family. All the Weatherwaxes is good at magic, even the men. They've got this magical streak in 'em. Kind of a curse. Anyway...she thinks you can't help people with magic. Not *properly*. It's true, too."



E-books may also be read on mobile devices in Adobe PDF format and the Microsoft Reader for Pocket PC format. Books formatted for these standards are available in addition to Mobipocket at many online e-book websites such as Fictionwise eBooks (45,000 titles) and Ebooks.com (100,000 titles). There are over 20,000 free e-books available from the volunteer-built Project Gutenberg which are readable with the free Plucker e-book viewer. And, if you don't want to bother with a reader, the website DailyLit will send you e-books in short, digestible packets straight to your email inbox.

Mobipocket - <http://www.mobipocket.com>

eNYPL - <http://ebooks.nypl.org>

MyMediaMall - <http://www.mymediamall.net>

Fictionwise eBooks - <http://www.fictionwise.com>

Ebooks.com - <http://ebooks.com>

Project Gutenberg - <http://www.gutenberg.org>

DailyLit - <http://www.dailylit.com>

AudioBooks

Audible's subscription-based service is the leading source of digital audiobooks on the Web. Members are able to download and listen to a selection of over 40,000 audio titles and may also transfer them to mobile devices. The iTunes Store has over 30,000 audiobooks for sale which may be loaded onto portable devices such as smartphones or PDAs as well as iPods. Those who are looking for free audio entertainment, will appreciate LibriVox which is a collection of free audiobooks from the public domain. A large selection of audiobooks are available from public library systems which are utilizing the Overdrive digital media platform that enables patrons to download audiobooks and use a wizard to transfer them to their portable devices. And some libraries are offering e-book and audio book titles from OCLC's NetLibrary collection.

Audible – <http://www.audible.com>

iTunes – <http://www.apple.com/itunes>

LibriVox – <http://librivox.org>

Overdrive – <http://www.overdrive.com>

OCLC NetLibrary - <http://www.netlibrary.com>

Beginner Tip #4: Use synchronization software on the desktop computer to quickly and easily organize files and uninstall programs on your smartphone rather than working on the device.

Mobile TV/Video



Mobile TV unites two all-time favorites – mobile phones and the television - into one portable, mini, entertainment center. Mobile phone carriers have begun to offer live and made-for-mobile television services on PDAs, smartphones, and other devices including Verizon's Vcast TV, SprintTV, and AllTel's Axxcess TV. These services, some offering as many as 40 channels such as CNN, ESPN, Fox Sports, VH1, and Nickelodeon, are made available in paid packages by carriers. Mobile TV can also be accessed through a subscription service such as MobiTV, a mobile TV distributor with over 3 million subscribers, or by

downloading software programs such as HandiTV.¹¹ Mobile phone owners can also download video clips of their favorite television shows on NBC or search for amateur video and TV content on YouTube's mobile website. And TivoToGo lets Tivo owners send their recorded programs to their handhelds.

AllTell - <http://www.alltel.com>

SprintPCS - <http://www.sprintpcs.com>

Verizon Vcast - <http://products.vzw.com>

MobiTV - <http://www.mobitv.com>

HandiTV – <http://www.handango.com>

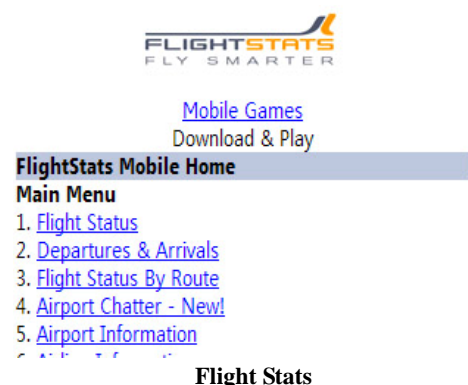
NBC - <http://www.nbc.com/Mobile/>

YouTube - <http://m.youtube.com>

TivoToGo - <http://www.tivo.com/mytivo/domore/tivotogo/index.html>

Travel Information

Travelers with cell phones now have a mobile information center at their fingertips. Drivers can access up-to-the-minute traffic information via mapping services and also through websites such as Traffic.com's mobile destination. Amtrak has a mobile website which enables riders to check on a train's status and book and cancel reservations. FlightStats provides a mobile menu full of information options such as checking flight status, arrivals & departures, airline information, security wait times, and airport chatter which includes comments made by other users. And SeatGuru will let you view seating charts for most airplane models.



There are also several mobile websites available to people navigating their way around major metropolitan areas. iMetro and HopStop are websites which provide detailed instructions for taking the most direct route from one point to another in major cities via walking and public transportation including buses, subways, ferries, etc. Commuters will appreciate NextBus which is a website that tracks individual city buses via GPS satellites to let travelers know when the next bus is due at a particular stop. And travelers in new cities can take advantage of Yelp's mobile website to check reviews of local restaurants and nightlife, and T-Mobile Locator to find WiFi hotspots.

Traffic - <http://mobi.traffic.com>

Amtrak - <http://amtrak.com>

FlightStats - <http://mobile.flightstats.com>

SeatGuru - <http://mobile.seatguru.com>

iMetro - <http://i-metro.mobi>

HopStop - <http://www.hopstop.com/pda>

NextBus - <http://www.nextbus.com>

Yelp - <http://mobile.yelp.com>

T-Mobile Locator - <http://locator.t-mobile.com/pda>

Jiwire WiFi Finder - <http://wap.jiwire.com>

Browsers

All Web-enabled phones are sold with an Internet browser, or microbrowser pre-installed. Windows Mobile devices come with the default Internet Explorer Mobile browser, the Safari browser is installed on iPhones, the Blazer browser on Palms, etc. But there are also browsers which are available for users to install themselves. OperaMini is a mobile version of the Opera browser which has been designed with mobile devices in mind. OperaMini autosizes text and images on websites to the size of your phone, makes the content in them zoomable for a closer view, offers a landscape mode view, a virtual mouse for scrolling, and power scrolling shortcuts. While the OperaMini browser does offer some encryption, if you want the best security for banking, etc. the full Mobile Opera browser is recommended. Mobile Opera has Flash support, zoom navigation, landscape mode, multiple windows, and tabbed browsing on some devices. Mozilla's Minimo browser is a small-screen version of the popular Firefox Web browser which offers tabbed browsing, RSS and widget support.

OperaMini - <http://www.operamini.com>
 Mobile Opera - <http://www.opera.com/products/mobile>
 Minimo - <http://www.mozilla.org/projects/minimo>

Beginner Tip #5: Make sure you know the details of your mobile carrier plan before you start texting and using the mobile Web!



interface and, along with the New York Times, provides the capability to send stories to friends by both email and SMS text messaging to their cell phones. The Times' mobile website also offers registered readers the option to save their stories.

The non-profit news and entertainment provider NPR (National Public Radio) enables its mobile website visitors to click to call in and listen to news stories or songs, as well as read transcripts of the radio shows. Dgm8 is a mobile version of the social news website Digg in which readers vote to determine the priority of news stories. Readers can share stories via SMS, email, or Twitter, add them to favorites, or subscribe to receive text alerts.

MSN - <http://info.mobile.msn.com>
 NYTimes - <http://mobile.nytimes.com>
 USA Today - <http://m.USATODAY.com>
 Wall Street Journal - <http://wsj.com>
 Washington Post - <http://mobile.washingtonpost.com>
 Houston Chronicle - <http://mobile.chron.com>
 Chicago Tribune - <http://mobile.chicagotribune.com>
 LA Times - <http://mobile.latimes.com>
 NPR - <http://m.npr.org>
 C|Net News - <http://m.news.com>
 Dgm8 - <http://m.dgm8.com>

News

According to the Newspaper Association of America, 60 million people read an online newspaper in 2007.

While much of today's news can be accessed via mobile widgets such as Yahoo!Go, and portal websites such as MSN Mobile, newspaper enthusiasts are still able get their fix by taking their papers to-go on mobile devices.

Newspaper heavyweights such as the Wall Street Journal, Washington Post, and Chicago Tribune offer readers local, national, and international news for the small screen along with the ability to email stories to friends and contacts. USA Today offers a colorful

Blogging

Mobile blogging, or “moblogging” is a popular on-the-go pastime which involves creating blog posts or uploading photos and video files to a blog from the author's cell phone. Bloggers can email in text and photo posts to some of the major blogging platforms such as Blogger and Tumblr which also allows video and MP3 files to be sent to users' tumblelogs. These posts are sent from an email address linked with an existing blog, and are automatically posted to the blog as they are received. Typepad bloggers can download a software program to create and edit text posts right on their phones as well as upload images and manage comments. Cell phones capable of accessing Mobile AIM can send IM messages to *AOLJournal* which will be immediately posted users' blogs on the network. Nokia device owners may download the Lifeblog application which enables them to manage and store their mobile multimedia files and post them to a Typepad blog. Mobile bloggers can also email their posts to moblogging websites which allow them to easily post text, voice, photos, and videos to multiple blogging sites. Mobloggers can post text and multimedia files to MySpace, Blogger, Facebook, LiveJournal, and WordPress through the Utterz website community and other media sharing social networks.

Blogger Mobile - <http://www.blogger.com/mobile-start.g>

Tumblr - <http://www.tumblr.com>

TypePad Mobile - <http://www.typepad.com/features/mobile.html>

AOL Mobile - <http://mobile1.aol.com/mobileaim/journals>

LifeBlog - <http://r2.nokia.com/nokia/0,,86958,00.html>

Utterz - <http://www.utterz.com>

Bloglines

[\[Mark All Read\]](#)

82 Feeds (337) (285)

Daily Feeds (163) (237)

- **TechCrunch (26)** (16)
- **Micro Persuasion (1)** (7)
- **ReadWriteWeb (13)** (32)
- **WebbAlert (1)** (2)
- **GigaOM (14)** (6)
- **Tame The Web (1)** (4)

Bloglines

RSS Feeds

Reading RSS feeds on-the-go is as straightforward as navigating to your favorite mobile news aggregator and browsing your subscriptions. Major news readers, Bloglines, Google Reader, and NewsGator have all created mobile outposts from which users can access their feeds. Both Bloglines and NewsGator display links to individual feeds, while Google presents the most recent nine posts from all subscribed feeds. The Netvibes start page has also recently launched a mobile site with the same modular approach as its desktop Web page. Although there is more scrolling involved than with the previous readers, this may be the preferred pick for those who want to view news headlines at a glance, yet still have them organized by feed.

Bloglines Mobile - <http://www.bloglines.com/mobile/>

Google Reader Mobile - <http://www.google.com/reader/m/view/>

NewsGator Mobile - <http://m.newsgator.com>

Litefeeds - <http://www.litefeeds.com/>

Netvibes Mobile - <http://m.netvibes.com>

Food Ordering

Take-out has just gotten more efficient for cell phone owners as new services allow them to text in their favorite orders via SMS. GoMobo's New York City-based food ordering service enables callers to set up their preferred restaurants along with their regular orders and credit card information ahead of time.

Their 5,000 users simply text in their order numbers when ready.¹² A similar service, Campusfood.com is available at over 300 college and university

campuses and has over 1 million members.¹³ Users of these free service don't need to have the restaurant phone number at hand, needn't wait on hold, or give out credit card information over the phone. Additionally, some restaurants which do not accept call-ahead orders will accept SMS ordering. Mobile owners can skip long lines in the morning by texting in their coffee order to Dunkin' Donuts, and save time at lunch by having their Subway sandwich made-to-order while they are still blocks away. And pizza lovers will be pleased to know that Domino's, Papa John's, and Pizza Hut have all rolled out SMS ordering capabilities.

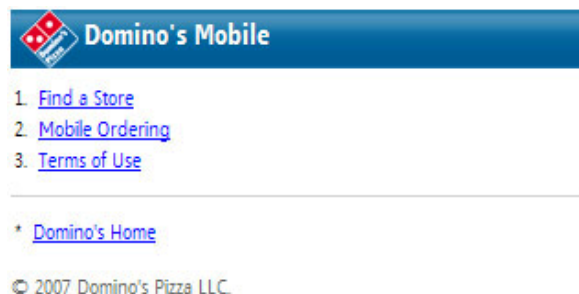
GoMobo - <http://gomobo.com>

Campusfood.com - <http://www.campusfood.com>

Domino's - <http://www.dominos.com/home/mobile.jsp>

Papa John's <http://www.papajohns.com/sms>

Pizza Hut - <http://www.pizzahut.com/mobileordering>



Domino's

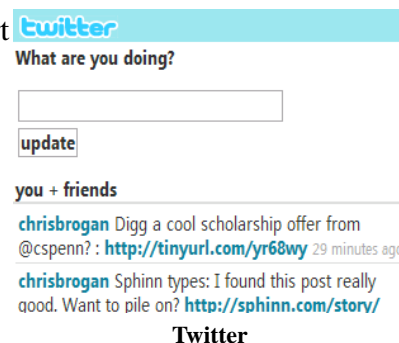
Microblogging

Keep your circle of friends updated with status reports, links, and short messages of up to 140 characters with mobile versions of popular microblogging applications. All three major services have launched mobile sites which can be accessed via a cell phone's Web browser, and both Twitter and Jaiku will allow you to text in your updates and receive friends' via SMS, just see their help sections for the numbers and instructions. Additionally, Jaiku's new beta version for the Nokia S60 integrates the micro messages with your phone's contact list.

Twitter - <http://m.twitter.com>

Jaiku - <http://m.jaiku.com>

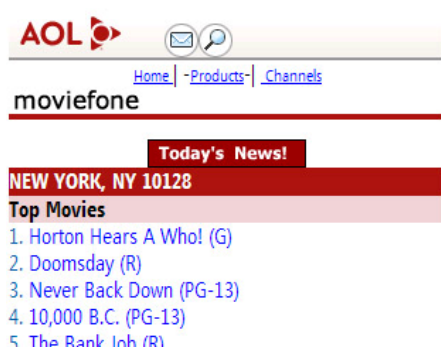
Pownce - <http://m.pownce.com>



Mobile Web QuickPicks

Here are a few quick recommendations for interesting mobile Web viewing.

Pocketcaster lets mobile members broadcast live video footage from their cameraphones to their blogs and other websites free of charge at: <http://www.comvu.com>



Moviefone Mobile provides movie search on the go, offering showtimes, closest theaters, maps, and directions at:

<http://wap.aol.com/moviefone>

Comeks enables texters to spice up their SMS messages by designing custom avatars to accompany their short messages at:

<http://www.comeks.com>

Soonr lets users remotely access documents and files from their PC or Mac desktop computers on their mobile phones for free at:

<http://www.soonr.com/public/web/front/home.jsp?>

AOL's Moviefone

Jott lets users create hands-free to-do lists, email messages, and blog posts via voice which Jott transcribes at: <http://www.jott.com>

GrandCentral, now owned by Google, provides mobile users with one telephone number which rings all their phones and provides a centralized visual voicemail box which aggregates all their messages at: <http://m.grandcentral.com>

Fring allows mobile users to make free calls via Skype as well as aggregates IM buddies from MSN Messenger, ICQ, Google Talk, Twitter, AIM and Yahoo! for live chat at: <http://www.fring.com>

Google Docs Mobile lets cell phone owners take their documents to go with an easy-to-navigate website at: <http://docs.google.com/m>

Orb's MyCasting enables users to access their music collections, photos, videos, and other media on their desktop PCs and broadcast them on their mobile devices at: <http://www.orb.com>

iPhone Only Applications



Pimp My News

iPhone applications are Web-based programs which have been built specifically for use with Apple's multi-touch technology and 3.5-inch screen. These programs consist of well-known websites which have developed iPhone-only editions such as the slick Facebook and Moviefone for iPhone applications, as well as new programs that were conceived of solely as iPhone-compatible applications. One such new application is the iRovr social network, a mobile community for iPhone owners which enables media sharing, blogging, and social bookmarking. Another is the TextonPhone program which offers visitors access to more than 20,000 free e-books that have been formatted for their devices. The website has over 50,000 registered members and is similar to the Readdle book reader which gives iPhone users 50 MB of space to store their e-books and supports the Plucker format used by Project Gutenberg.¹⁴

The PimpMyNews application lets users listen to print news stories which interest them by converting them into a customized daily podcast for their iPhones, iPods, or PCs. And the familiar iTunes application can be used in conjunction with the iPhone to sync up music libraries as with the iPod. Over 900 iPhone applications can be found on the official Apple website and more than 1,700 on the AddFone search engine website. iPhone applications will soon be available through iTunes as well.

Facebook - <http://iphone.facebook.com>
Moviefone - <http://iphone.movies.aol.com>
iRovr - <http://www.irovr.com>
TextOnPhone - <http://www.textonphone.com>
Readle - <http://readle.com>
PimpMyNews - <http://pimpmynews.com>
iTunes - <http://www.apple.com/itunes/sync/iphone.html>
iPhone Web Applications - <http://www.apple.com/webapps>
AddFone - <http://www.addfone.com>

iPhone QuickPicks



Zagat

Yelp Grub Finder for the iPhone lets hungry users search for restaurants in their area, call them, and retrieve directions and a map at:
<http://www.bodesigns.com/projects/yelpV2.html>

iZoho brings the office to the iPhone through Zoho's suite of productivity tools designed specifically for Apple's device at: <http://mini.zoho.com>

101 Cookbooks delivers deliciously formatted recipes to iPhone owners at
<http://www.101cookbooks.com/iphonerecipes>

HarperCollins Publishers are letting iPhone users browse inside the pages of their books at: <http://mobile.harpercollins.com>

Zagat has a free restaurant, hotel, and nightlife finder for the iPhone which enables users to send venues to friends via SMS at: <http://www.zagat.mobi>

Digg's social news website is available on the iPhone with voting capabilities and slick browsing at:
<http://digg.com/iphone>

webChattr enables users to set up their own live chat rooms to have real-time conversations with multiple friends on their iPhones at: <http://webchattr.com/go/thelounge>

The Ferengi Rules of Acquisition – all 285 of them - are now available for Star Trek fans to view on their iPhones at: <http://www.ferenginews.com/iphone>

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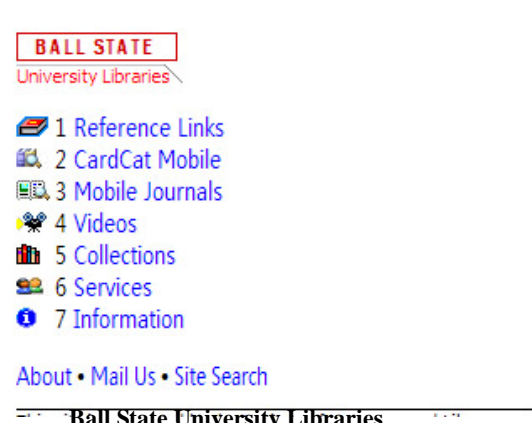
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Chapter 4: Library Mobile Initiatives

Libraries are mastering the mobile Web to bring patrons a new set of services – services that their users are coming to expect from their communities and content providers. They are leveraging the technology that their patrons are currently using, such as cell phones and iPods, to deliver robust new services without making users leave their comfort zones. And these portable offerings are serving to integrate library services with patrons' daily lives.

Mobile Library Websites and MOPACs (Mobile OPACs)

A growing number of libraries are creating mobile versions of their websites for their patrons to access on-the-go. They are offering information about library services and collections, providing access to library catalog search, portable exhibit information, subject guides, e-journals, and library hours, all formatted for the small screen.



Ball State University Libraries has established a mobile Web presence which offers library patrons a catalog search, journal search, videos about the libraries, information about library collections and services such as ILL and course reserves, and quick links to mobile reference websites pertaining to weather, news, search, sports, and finance. The University of Richmond Libraries' mobile site enables visitors to search through their Voyager catalog, access live laptop and PC availability information, and submit email, SMS, or IM reference questions. Ohio library-goers can search the OPLINMobile website to find the closest public library from the state's 250 branch locations. Library news and events are displayed as clickable links on the University of Virginia Libraries' mobile website, along with exhibitions information, directions, library hours, and a text-only version of their desktop website. The Medical Library at Boston University has made all of their subject guides viewable in mobile format, and created search functionality for their e-book titles, e-journal collections, bibliographic databases, and library website as a whole. NYU's The Arch mobile portal offers a search of their electronic resources collection by title, subject, or format as well as information about the library.

Innovative Interfaces has designed a portable version of their OPAC product called the AirPAC, created for patron use on their mobile devices. Libraries using the Millennium integrated library system can opt to use this additional OPAC to provide their users with mobile catalog search capabilities. Through the AirPAC, patrons can retrieve information about the checked out items, due dates, fines, and other personal information, and can search the library catalog, place and cancel holds, and renew items from their cell phones. The AirPAC is being used by Wayne State University, the Nashville Public Library, and the Hennepin County Library among others.

Ball State University Libraries - <http://www.bsu.edu/libraries/mobile>

University of Richmond Libraries - <http://oncampus.richmond.edu/academics/library/mobile/index.htm>

OPLINMobile - <http://www.oplin.org/mobile>

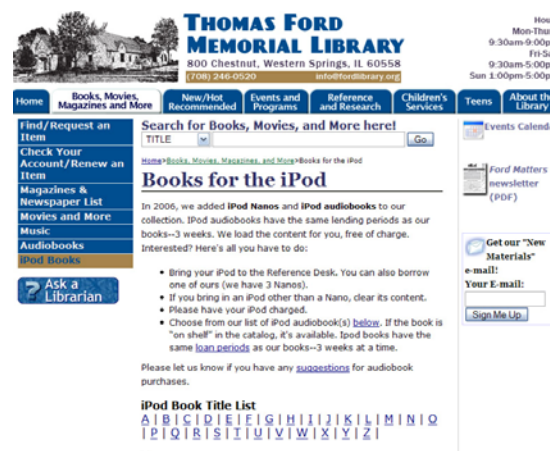
University of Virginia Libraries - <http://mobile.virginia.edu/library.php>

Boston University Medical Library - <http://med-libwww.bu.edu/mobile>
 Wayne State University - <http://elibrary.wayne.edu:6060/airpac>
 Nashville Public Library - <http://www.library.nashville.org>
 Hennepin County Library - <http://mplwebcat.mplib.org/airpac>

Mobile Collections

Libraries are offering their patrons digital media collections that they can take to-go, enabling them to benefit from library services remotely.

The Thomas Ford Memorial Library and the St. Joseph County Public Library are both offering audiobooks ranging from *The Devil Wears Prada* to *Animal Farm* pre-loaded on lend able iPod Nanos for patrons to take with them. Librarians will also load audio titles onto patrons' own iPod devices for the duration of the 3-week loan period. The Crouch Fine Arts Library at Baylor University has transferred all listening assignments for the semester's music courses onto iPods which are organized by professor and course number. Students can check-out these pre-loaded iPods from the library for up to 12 hours. The University of Virginia Library has created a collection of over 2,100 e-books from their Etext Center which includes American history titles, American and British fiction, major authors, and Shakespearean works. They have had more than 8.5 million downloads from their website over 21 months.¹



Thomas Ford Memorial Library

The Overdrive digital media service has partnered with over 7,500 libraries to offer audiobook collections, e-books, video, and music files to library patrons. Patrons who belong to a participating library can transfer a wide range of media items to their cell phones, such as documentaries and feature films, narrated audiobooks, and jazz and opera CD's which can be played on mobile devices using the Overdrive console. MobiPocket and Adobe Reader e-book titles may also be borrowed and uploaded to portable devices. The New York Public Library is utilizing the Overdrive service for their eNYPL offering which includes access to over 2,500 MobiPocket compatible e-books. The C/W Mars library network in Massachusetts offers the Overdrive service to their 150-plus member libraries including Berkshire Community College and the State Library of Massachusetts. And the University of Alaska Fairbanks provides their students, faculty, and staff with foreign language study audiobooks as well as historical and political resources through the ListenAlaska Web portal, stocked with Overdrive titles.

Thomas Ford Memorial Library - <http://www.fordlibrary.org>
 St. Joseph County Public Library - <http://sjcpl.lib.in.us/>
 Baylor University Library - <http://www.baylor.edu/lib/finearts>
 University of Virginia Library - <http://etext.lib.virginia.edu/ebooks>
 Overdrive - <http://www.overdrive.com>
 eNYPL - <http://ebooks.nypl.org>
 C/W Mars library network - <http://cwmars.lib.overdrive.com>
 University of Alaska Fairbanks - <http://listenalaska.lib.overdrive.com>

Mobile Library Instruction

Library users who don't have the time or inclination to attend an on-site workshop, can still get the most out of the library resources by accessing classes and tutorials on their mobile devices. Libraries have begun distributing their knowledge and expertise with library systems and materials via MP3 and video files which patrons can take with them.

The Washington State University Libraries offer patrons how-to help with library tools and resources through brief MP3 audio recordings which can be uploaded to iPods and other mobile devices. The WSU Libraries present a 3-minute audio guide to the map collection, 2-minute tutorials on how to select search terms and use Boolean operators, as well as instructional audiocasts on using their online databases to find journal articles. The Sheridan Libraries at Johns Hopkins University offers lengthy podcasts instructing listeners how to create maps, conduct citation searches, and ask-a-librarian. The Alden Library at Ohio University has created a series of short audio files describing intercampus requests, reserving group study rooms, obtaining reference assistance, and library workshops.

iTunes University has hundreds of educational podcasts which can be uploaded to patrons' MP3 and portable media players and taken to-go, many of which are from college and university libraries. The Texas A&M Libraries has their own channel on iTunes featuring downloadable video casts covering topics such as finding books, articles, databases, and e-journals, several types of library catalog searches, and a virtual tour of the library. The Faculty Workshop Series at the Arizona State University Libraries is a video podcast series which can be found by accessing the ASU Library Channel within iTunes. The three to five minute videos concerning finding articles, getting started doing library research, and finding books can be viewed on portable devices such as a video iPod at the learner's convenience.

Washington State University Libraries - <http://www.wsulibs.wsu.edu/science/podcast.htm>

Johns Hopkins University Libraries - <http://www.library.jhu.edu/podcasts>

Ohio University Libraries - <http://www.library.ohiou.edu/podcasts>

iTunes - <http://www.apple.com/itunes>

Texas A&M Libraries

Texas A&M University - College Station
Last Modified: Mon Jan 21, 2008
Tracks in Texas A&M Libraries: 16

GET TRACKS
SUBSCRIBE

DESCRIPTION

The Texas A&M University Library system includes the Sterling C. Evans Library, the Cushing Memorial Library and Archives, the West Campus Library, the Policy Sciences and Economics Library, and the Medical Sciences Library. The Libraries are committed to supporting faculty and student scholarship, enhancing the student learning experience, and encouraging the development of critical thinking and information literacy skills. The Libraries provide a variety of course-related instructional programs, offering individual as well as group instruction, library orientations, and tours upon request.

Name	Time	Artist	Album	Price
1 Find Articles and Books	7:40		Library	Free GET MOVIE
2 Find Books in the Library	7:28		Library	Free GET MOVIE
3 Find Databases by Title	1:47		Library	Free GET MOVIE
4 Find E-Journals by Title	3:04		Library	Free GET MOVIE
5 Intro to Library Website	3:43		Library	Free GET MOVIE
6 Introduction to Library Catalogs	3:28		Library	Free GET MOVIE

National Library of Medicine
The world's largest medical library

PubMed for Handhelds
MEDLINE/PubMed
Search [MEDLINE/PubMed](#)
Read [Journal Abstracts](#)

[PICO search](#)
Patient, Intervention, Comparison, Outcome

[asMEDLINE](#)
free-text, natural language search

PubMed

Mobile Databases

It's not only libraries that have seen the writing on the wall with regard to the mobile Web, but academic software and database providers have started taking portability to heart.

The scholarly citation management application, Endnote has rolled out mobile functionality for Pocket PC owners with their X1.0.1 release. Factiva's news database has a search interface for

mobile Web users, as does the Westlaw legal research database. Library patrons can access detailed company information while on the road through Hoover's Mobile, and the National Library of Medicine makes it possible for medical students to research remotely through PubMed from handhelds.

Endnote - <http://www.endnote.com>

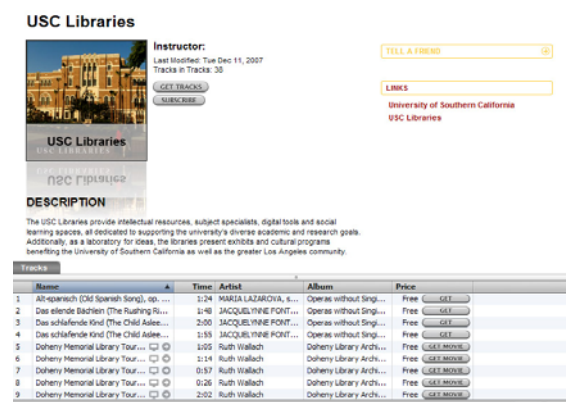
Factiva - <http://mobile.beta.factiva.com>

Westlaw - <http://wl-w.com>

Hoover's - <http://mobile.hoovers.com>

PubMed - <http://pubmedhh.nlm.nih.gov>

Mobile Audio Tours



USC Libraries on iTunes

offers students, faculty, and staff the ability to check out an iPod pre-loaded with a guided audio tour of its Beatley Library and Information Commons. The University of Southern California offers an 8-part video tour of its Doheny Memorial Library through its iTunes University Campus Life channel, giving remote mobile users a glimpse of the structure. Students and staff at Arizona State University can download a walking tour of the Hayden Library through the Library Channel on iTunes U. The C.V. Starr East Asian Library at Columbia University provides enhanced audio podcasts of its facilities in English, Chinese, Korean, Japanese, and Tibetan.

Another way libraries are offering mobile tours of their collections, services, and buildings is through the Guide by Cell service. This unique service enables library visitors to dial into a toll-free number on their cell phones to access a guided tour of the library. Patrons are able to specify particular items they are interested in learning about, approach the excursion at their own pace, and leave comments and feedback for the library. This interactive service is being used by the Dartmouth College Baker Berry Library, the Folger Shakespeare Library and Museum, and the Library of Congress. A similar service is Museum 411.

Duke University Libraries - <http://library.duke.edu/about/perkinsproject/audio-tour.html>

Simmons College Library - <http://my.simmons.edu/library/tour>

iTunes - <http://www.apple.com/itunes>

C.V. Starr East Asian Library - <http://www.columbia.edu/cu/lweb/indiv/eastasian/tours.html>

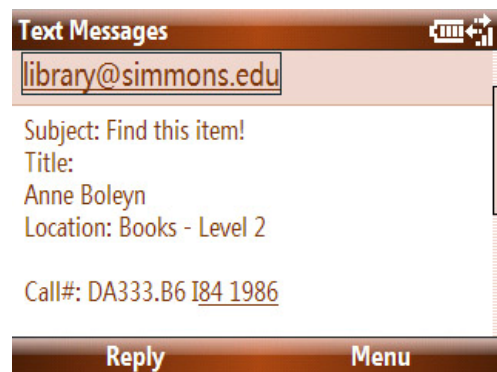
Guide by Cell - <http://www.guidebycell.com>

Museum 411 - <http://museum411.com>

Library SMS Notifications

Text message alerts offer busy mobile owners quick news announcements, reminders about important events, or provide requested information. Libraries are beginning to offer these speedy advisories as an added service to patrons.

The Undergraduate Library at the University of Illinois at Urbana-Champaign is offering students the opportunity to be notified by text messaging when librarian research specialists are offering office hours and are available to provide in-depth reference assistance. Australia's Monash University Library offers SMS notifications to students which inform them when their items are due back, remind them about overdue items, and advise them of fines incurred. Library patrons at the Simmons College Library can send themselves text messages from the library catalog with item records attached. The Orange County Library System in Orlando, Florida provides an opt-in SMS text messaging service which sends reminders to patrons when their items are coming due and when classes that they have registered for are nearing. And the Library at the BI Norwegian School of Management in Oslo, Norway is offering SMS alerts to students which notify them when items they have requested become available.



These types of individual text notification services provided by libraries today are similar to the campus-wide alert systems provided by companies such as Rave Wireless and e2Campus which keep entire university communities updated on school closings, event changes or cancellations, emergencies, and sports team scores. In use by hundreds of colleges and universities including as PennState, Texas A&M, and the University of South Florida, these mass notification services via SMS are proving increasingly popular and useful. Colorado State experienced a 90% student enrollment rate in their program with Rave Wireless within the first 6 months of the rollout.²

UIUC Library - <http://www.library.uiuc.edu/ugl/about/textalerts.html>

Monash University Library - <https://my.monash.edu.au/library/services/sms/>

Simmons College Library - <http://library.simmons.edu/search>

Orange County Library System - <http://www.ocls.info>

Rave Wireless - <http://ravewireless.com>

e2Campus - <http://www.e2campus.com>

SMS Reference

Reference services at libraries today are becoming increasingly virtual as more and more researchers are working remotely. Technologies such as instant-messaging, email, and now SMS text messaging are making it easy for libraries to maintain relevance as information hubs by offering convenient services to busy users. New ask-a-librarian services are offering mobile patrons the ability to text in their research questions from afar.

The Orange County Library System has established an SMS reference service in which library patrons

can submit their reference questions by texting them in to librarians, or by utilizing one of their special keywords in order to receive instant results. Keyword queries involve preceding inquiries with terms such as *zip* - to find the closest branch location by zipcode, *address* – to retrieve a branch's address, and *gamer* – to get information about the next gaming night. The American University Library, Kansas State University Libraries, and Wake Forest University's Z. Smith Reynolds Library are all offering text-a-librarian services by utilizing a work-around with the AOL instant messaging system. This AIM hack involves instructing users to text their message into the number 265010 and preceding their question with the library's AIM username and a colon, ie. askaulibrary: question. The message forwards on to the library via SMS messaging.

Several libraries, including the Southeastern Louisiana University Sims Memorial Library are using the Reference by SMS service from the Australian vendor, Altarama Information Systems. According to SELU librarians, the service is easy to set up and costs in the neighborhood of \$1,100 which includes a phone number and a bundle of 1,000 text messages for the year.

The American University Library - <http://www.library.american.edu/ask/im.html>

Kansas State University Libraries - <http://www.lib.k-state.edu/reference/vref/>

Wake Forest University Library - <http://zsr.wfu.edu/services/information/text.html>

Southeastern Louisiana University Library - <http://www.selu.edu/library/askref/text/index.html>

Altarama - <http://www.altarama.com.au/refxsms.htm>



Mobile Library Circulation

Not all new mobile tools involve direct patron interaction, some can be used behind-the-scenes to offer improved library services.

The SirsiDynix company has developed a handheld circulation tool called PocketCirc which enables librarians to access the Unicorn Library Management System on a PDA device. This wireless solution enables staff to assist patrons in the stacks, check out materials while off-site such as at community or campus events, and update inventory items while walking around the library.

PocketCirc -

<http://www.sirsidynix.com/Solutions/Products/productivity.php#pdacirc>

Imagine...

Libraries are already offering amazing services through the use of the mobile Web. Imagine where we'll be in a year or two as mobile Internet adoption continues to increase and portable devices steadily improve.

- What if students entering the library stacks could scan a barcode such as the ones at the end of this report to access a guide to navigating each floor's layout? As 2D barcode readers become more mainstream in the US as they are in Japan these graphic images will become more recognizable.
- What if library patrons could check out their own books and media items? This might become possible with mass adoption of 2D barcode readers similar to the ones available today in conjunction with virtual wallet capabilities which are currently being adopted in Japan.
- What if mobile phone owners could turn on their phones and click on a library icon which offered them shortcuts to desired library content such as ebooks and audiobooks without ever having to open a Web browser? This is already possible today with the proper programming.
- What if a student could click on a cell phone icon which would initiate a video conference with a research librarian? With powerful services such as Skype Mobile, this may soon be a reality.

Library Mobile Resources & Reports

“100 Ways to Use Your iPod to Learn and Study Better”, OEDb, February 12, 2008, <http://oedb.org/library/beginning-online-learning/100-ways-to-use-your-ipod-to-learn-and-study-better> (Accessed 2/14/08).

“Podcasting” Library Success Wiki, <http://www.libsuccess.org/index.php?title=Podcasting> (Accessed 2/20/08).

Arriaga, Arlinda. “Denton public libraries offer text message notifications”, North Texas Daily, January 29, 2008, <http://media.www.ntdaily.com/media/storage/paper877/news/2008/01/29/Life/Denton.Public.Libraries.Offer.Text.Message.Notifications-3173543.shtml> (Accessed 2/20/08).

Megan. “Mobile Phone Audio Tours” The Handheld Librarian, August 7, 2006, <http://handheldlib.blogspot.com/2006/08/mobile-phone-audio-tours.html> (Accessed 2/20/08).

Perton, Marc. “Public Library Lends out Book-Filled iPod Shuffles”, Engadget, February 23rd, 2005, <http://www.engadget.com/2005/02/23/public-library-lends-out-book-filled-ipod-shuffles/> (Accessed 2/21/08).

Stephens, Michael. “Can U TXT the LBRY?”, ALA TechSource, June 29, 2007, <http://www.techsource.ala.org/blog/2007/06/can-u-txt-the-lbry.html> (Accessed 2/20/08).

Notes

1. EText Center: Collections, <http://etext.lib.virginia.edu/ebooks/> (Accessed 3/23/08).
2. Nagel, David. "Colorado State Achieves 90% Student Participation in Emergency Notification System", Campus Technology, March 6, 2008, <http://campustechnology.com/articles/59521/> (Accessed 3/7/08).

Chapter 5: How to Create a Mobile Experience

Now that we've seen the benefits and challenges of the mobile Web, its capabilities, practical applications, and ways libraries are making use of it, it's time to think about whether developing a mobile presence is right for you. To that end, the first thing that you will want to do is determine a mobile strategy.

Developing a Mobile Strategy

Organizations will want to consider not only the technology capabilities of the mobile Web and the associated devices, but their user base, or patrons, as well when determining their mobile strategy. Who are your users, and are they ready for the mobile Web? Will they understand the value of your presence there and do they have the ability to learn how to use what you build?¹ The majority of current mobile Web users are in a young demographic category ranging from 18-27 and they are using the portable Internet for social and viral activities which connects them to other users. Will you be providing services for this type of person? Other mobile users include business travelers and an older demographic who is using the mobile Web to seek out information on-the-go. Does your organization have something to offer these people?

When considering what type of mobile presence to create, it will be helpful to create a profile of your patrons which will incorporate not only their age range and information-seeking behavior, but what types of mobile phones they will be using. Do the majority of your patrons own iPhones and high-end mobile devices or do they own basic phones that may be using older technology? This will be key in determining factors such as programming language you will want to use, media types to include or exclude, as well as whether or not it's appropriate for you to "go mobile" at this time.

A smart strategy to adopt when developing for the mobile Web is one that starts small and allows for learning. Experiment with trial initiatives which will provide valuable experience with mobile technology and assess their impact based on user feedback. Move on to providing some basic services from a simple website before tackling a complex Web application. Organizations will want to carefully consider what types of content and services they will want to bring to the mobile Web. Creating a mobile Web experience is not about transforming an entire Web site into a miniature version of its desktop counterpart, it is about providing valuable information for people who do not have access to a personal computer. The mobile user is not going through the "pain" of accessing a mobile website to read a mission statement; they can do that at home. They are going there with a purpose or a need, whether that is to take an action such as put a book on hold, or to find a piece of information such as the start time of a workshop. It is your objective to determine what that need is, and fill it.

Clever organizations will capitalize on the mobility of this type of information experience. Instead of simply translating what you are already doing on the Internet, consider the opportunities that this new channel provides. What services can you offer that aren't possible on the desktop Web? Think about location-based services, downloadable content, and "push" text alerts, to name a few. And consider not only new services, but contemplate whether there are new users you can reach by virtue of your mobile initiative?

Just as with the desktop Web, it is important to understand the limitations and possibilities of the technology at hand, as well as the needs of your users. By exploring and evaluating both of these fundamental elements, organizations will be able to establish a successful approach for creating a mobile Web experience.

7 Reasons to Go Mobile

1. There are 3 times as many mobile phones in the world than personal computers.
2. Mobile makes your content ubiquitous
3. Mobile diversifies your audience
4. Mobile enables you to offer new service types, ie. location-based
5. Mobile enables you to connect to patrons in a new medium
6. Mobile is the way of the future
7. It's easier than you think

The Nuts and Bolts of Going Mobile

Organizations that are considering the mobile Web have the choice of several methods to provide mobile content to their patrons. A standard approach has yet to be resolved, leaving the decision up to individual organizations that will need to weigh the pros and cons of each solution, or combination thereof, to determine the right fit for them.

Take No Action

After all of this discussion concerning appropriate strategies to bring your content to the mobile Web, the concept of taking no action may seem contradictory. But the fact is that if you have a website on the Internet, you are already a part of the mobile Web. And between advanced devices such as the iPhone, innovative browsers such as Opera, and automatic transcoding by major search engines, your site might not look all that bad with no extra effort on your part. Test the appearance, display, and functionality of your website on a variety of phones to determine if any action is necessary at this time. Alternatively, you may have determined during your strategy phase that the mobile channel is not right for your demographic at all, and that you actually may not want to reach people through this method.

Push Content via Mobile Alerts

Mobile alerts are text messages which are delivered to a user's cell phone to notify them of an event, breaking news item, or other occurrence which they have requested to be informed about by previously subscribing to the service. This method, which is an excellent way to "push" information and strengthen user ties with organizations, is already being utilized by libraries in a variety of ways. There are many free applications such as Mozes, Broadtexter, and others that enable organizations to send simultaneous text messages to a list of subscribers. Although this doesn't solve the problem of a mobile-enabled website, it is a way to connect to patrons via the mobile Web without a large investment of time or funds, and can be used quite effectively in conjunction with some of the other

methods discussed in this section.

Mobile Style Sheets

Organizations with simple websites and some development resources can create a mobile CSS (Cascading Style Sheet) stylesheet, geared specifically for “handheld” devices. This is an additional stylesheet to the one which is used for a regular website and is brought into play when the user accesses the site from a mobile browser. The stylesheet simplifies the layout and optimizes the website experience for the small screen display. This method works well with basic websites which have content that can be easily reduced to bare bones. Although handheld stylesheets are not supported on all devices, this is a quick way to develop a mobile presence without having to develop a separate website.

Mobile Marketing Tips

- Prominently advertise your mobile site on your homepage, blog, and social networking profiles.
- Create incentives such as downloadable content for users to try out your mobile website.
- Add your mobile site to aggregators and directories such as FeedM8
- Integrate “push” campaigns to drive traffic to your mobile site.

Transcoded Websites

Transcoding is a technology which takes a regular website and reformats it for display on a tiny mobile screen. When using a mobile device, many search engines including Google will show transcoded versions of webpages as results along with any mobile editions of the site. But developers, as well as users, can transcode websites directly through a free transcoding application such as Skweezer and Mowser which compresses the HTML content of a website to produce a single-column, Spartan version of the original that can be viewed through a mobile browser. Transcoded webpages are viewable by a wide range of mobile phones; however, the automatic nature of the webpage transformation often results in excessive scrolling and less-than-perfect displays.

Mobile-Only Websites

Sixty-two percent of executives who are responsible for their company websites already have a mobile site or plan to have one in the next 12 months, according to a JupiterResearch survey.² Designing a mobile-specific website not only provides more freedom in design, content, and structure of a portable webpage, but additional decisions about the type of technology and format to develop it in. Right now there is no all-encompassing development strategy, mainly due to the fact that there is also no uniformity of devices, operating systems, or browser standardization.

A new programming language called XHTML-MP allows developers to create robust mobile websites, but is only viewable on newer, high-end devices, while the older, less feature-rich WML, or Wireless Markup Language, is compatible with mass market phones making it the safer choice. The currently evolving mobile landscape, reminiscent of the early broadband days of the Internet when dial-up still prevailed, makes it difficult to decide which technology to align oneself with, and many businesses and

organizations are choosing to create multiple sites. Apple's iPhone further complicates matters as it adds a unique device-type to consider.

There are many free applications available to help organizations create their own mobile Web sites such as Winksite and Mofuse which create a mobile versions of websites from RSS feeds. These programs also provide tools to create QR barcodes, widgets which can be added to desktop websites offering to send the mobile URL to visitors who enter their phone numbers, embed code for adding the site to blogs or other websites, iPhone-only websites, and links to share websites with social networks and communities. Applications such as Zinadoo and dotMobi's Site Builder provide FrontPage-like development interfaces for creating mobile websites from scratch.

Tips for designing a mobile Website

- **Keep it Simple** – Bear in mind the limitations of today's mobile devices. 97% of users don't have QWERTY keyboards on their phones, as of the end of 2007 only 13% of phones were 3G enabled, and a mere 17% capable of watching videos.³
- **Keep Customization on the Desktop** – Enable users to do all of the “heavy lifting” such as setting up user profiles and adjusting preferences on their personal computers as this is too time consuming and difficult on a mobile device.
- **Test Broadly** – Mobile websites may display differently on various browsers and phones, therefore it is optimal to test your webpages on as many distinct devices as possible. There are free Web-based emulators which can assist you with this effort.
- **Incorporate Search** – Due to the difficulty of navigating the mobile Web, adding a search option near the top of your website will save precious time and patience for mobile users who are frustrated by excessive scrolling.
- **Remember Usability** – Proper information architecture is more important than ever on the mobile Web. Design for one column and put the most important content at the top of the page so that users don't have to scroll to find crucial items such as site navigation.
- **Clean up Images** – Restrict the amount of unnecessary and purely decorative images you use on your mobile website. Create descriptive alternate titles for all image files as many people browse the mobile Web with images turned off.
- **Provide Mobile-Appropriate Content** – Think about how you can leverage your existing content and services for mobile use, as well as ways you can develop new offerings for the user on-the-go.

Creating for Mobile Resources & Reports

“10 Reasons to Publish to Mobile”, Blue Flavor, January 16, 2006,
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Lakshmipathy, Vidya. “Best and Worst of US Mobile Site Design, 2007”, Forrester Research, December 27, 2007.

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Strother, Neil. “Mobile Presence: Evaluating Content and Service Strategies for Media Companies”, Jupiter Research, November 29, 2007.

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1. Lakshmipathy, Vidya. “Social Computing Goes Mobile”, Forrester Research, December 3, 2007.
2. Strother, Neil. “Mobile Web Sites: Building Sites That Are Best Able to Enhance Brands and Boost Ad Revenues” Jupiter Research, September 5, 2007.
3. Ask, Julie. “Mobile Websites: Designing for Mobility”, Jupiter Research, January 11, 2008.

Chapter Six: Getting Started with the Mobile Web

Learning about the mobile Web and keeping abreast of new developments is easier than ever as there are scores of resources available on the Internet pertaining to upcoming application launches, newly designed websites, emerging technologies and standards, and cutting-edge devices.

Forums

Many of today's major mobile devices have associated user forums for exchanging tips and information within the community of owners. These are incredibly useful resources for finding out about everything from compatible memory cards to how to customize wallpaper and themes for your model phone. The *Everything* family of websites are guides to specific phone types including the Treo, Blackberry, Q, iPhone & Touch, and Centro. They offer excellent forums dedicated to specific models. A Google search such as “N95 forum” for message boards regarding a specific phone type will often yield relevant results such as the Nokia N95 Users Forum.

EverythingQ - <http://www.everythingq.com>

EverythingTreo - <http://www.everythingtreo.com>

EverythingCentro - <http://www.everythingcentro.com>

EverythingiCafe - <http://www.everythingicafe.com>

Nokia N95 Users Forum - <http://www.n95users.com/forum>

Blogs

MobileCrunch – Part of the TechCrunch network, this blog reports breaking news from the mobile realm about devices, carriers, applications and more at: <http://mobilecrunch.com>

Engadget Mobile – Weblogs, Inc's mobile offering, this online journal delivers cutting-edge mobile news on a daily basis: <http://www.engadgetmobile.com>.

Gizmodo – Part of the Gawker Media family, Gizmodo reports on gadgets and mobile technologies at: <http://gizmodo.com>

Handheld Librarian – Written by multiple librarians, this blog details mobile happenings of interest to libraries and librarians: <http://handheldlib.blogspot.com>

MSearchGroove – This blog is dedicated to bringing news about mobile search, advertising, and social media at: <http://www.msearchgroove.com>

ReadWrite Web's Favorite Mobile Feeds – This OPML file contains a compilation of RSS feeds from recommended mobile Web blogs and can be subscribed to via your news reader here: <http://feeds.feedburner.com/RwwFavoriteMobileFeeds-Aiderssbest> or <http://tinyurl.com/2lv8af>

Websites

Microsoft Owner's Circle – A place for phone owners who have Windows Mobile devices to download free software, ringtones, games, and themes at: <http://www.microsoft.com/windowsmobile>

WapReview – A mobile website directory, WAPReview provides detailed evaluations of portable websites along with information about what technology they were built in at: <http://wapreview.com>

The First Ten Sites to Visit on Your Mobile Phone

These websites should get you going, and give you a good idea of what's possible with the mobile Web as far as functionality and design.

1. BBC at <http://www.bbc.co.uk/mobile>
2. Facebook at <http://m.facebook.com>
3. MoviePhone at <http://wap.aol.com/moviefone>
4. NPR at <http://m.npr.org>
5. History Channel at <http://mobile.history.com>
6. YouTube at <http://m.youtube.com>
7. USA Today at <http://m.usatoday.com>
8. Yelp – <http://mobile.yelp.com>
9. JetBlue at <http://mobile.jetblue.com>
10. NBC at <http://www.nbc.com>

Getting Started Activities

One of the first questions that I asked when I was introduced to computer technology was “well, what can I do with it?” and I grew frustrated quickly when I was told repeatedly “anything you want”. For me, there is nothing more overwhelming than having access to a powerful new tool and not having any concrete goals to get me started. Here is a list of starter activities that you can approach on a daily or weekly basis to enhance your mobile experience. Please note that you may be charged for texting and data usage for accessing the Web if you don't have an unlimited plan, see Chapter Two for more information.

Starter Activity #1: Yahoo! Go

Visit the Yahoo! Go website on your computer at <http://mobile.yahoo.com/go> and check the list of nearly 300 mobile phones to see if your device is compatible. Get started by entering your mobile number which will text the Web link to your phone, or type get.go.yahoo.com into your mobile Web browser's address bar. Follow the instructions to download and install the application. You will now have one-touch access to your Yahoo! Mail, Calendar, and Flickr accounts, as well as personalized weather, maps, finance information, and news without ever having to access a Web browser.

Starter Activity #2: E-Books

Check out the e-books, free e-book reader, and tutorials on the Mobipocket website at <http://www.mobipocket.com> on your desktop computer, then browse to the mobile website at <http://m.mobipocket.com> and download and install the e-book reader for your phone type. Download a free e-book from Mobipocket or browse to Overdrive Media on your computer at <http://search.overdrive.com> and see if your local library is one of 7,500 library partners around the world who are offering e-book titles for loan.

Starter Activity #3: Text Yourself

Experience what it's like to send information to your mobile device. Visit the Yelp review website on your computer at <http://www.yelp.com> and search for a restaurant near you. Find one that you'd like to visit and choose the "Send to Phone" option and see what type of information you receive. Visit the Simmons College Library at <http://library.simmons.edu>, search the OPAC for a title you may be interested in and select the "Send via Text Message" button.

Starter Activity #4: QR Codes

Browse the mobile Web with your cameraphone with the help of quick-response 2D barcodes. Navigate to the Semapedia website on your personal computer at <http://www.semapedia.org> and look up your phone model in the "Find and Install a 2D Barcode Reader" section. Enter the URL for the reader into your mobile phone and follow the instructions for installation. Start the application on your phone and flip to the last section of this guide and wave your phone in front of any of the QR barcodes. Within seconds, your phone will convert the graphic into a clickable URL so that you can browse to that webpage without any typing. Next, visit <http://semacode.com/tag> and enter a website URL to create your own 2D barcode.

Starter Activity #5: Visit the Library

Browse to the Ball State University Libraries' mobile website on your mobile phone at <http://www.bsu.edu/libraries/mobile>. Navigate around the website, noticing what types of information they offer. Search their mobile catalog to find titles you may be interested in.

Starter Activity #6: ListenUp!

Navigate to the Radio4PDA website on your cell phone at <http://tuned.mobi> and browse to your favorite radio station. Click on the link and listen to free radio through your mobile device. Head over to the NPR website at <http://m.npr.org> and check out their top stories. Click the "Call" link next to any of their stories to dial into NPR and hear a recording of that story. Search the Overdrive Media website at <http://search.overdrive.com> on your computer to see if your library is one of thousands partnering to provide free audiobook loans for patrons.

Starter Activity #7: Get Creative

On your home computer, browse to the PhoneZoo website at <http://phonezoo.com> and sign up for free account. Browse the Ringtones section for the most popular sounds and send one to your phone. You will receive a text message containing a link to the ringtone file. Once you have downloaded it to your phone, assign it to one of your contacts. Next, venture into the “Create from File” section and upload one of your MP3 files. Drag the shaded area to the portion of the song you wish to use as your ringer and save & send to phone.

Appendix: QR Codes

In order to utilize this section, you must first find and install a 2D barcode reader on your phone. You can look up your phone model, retrieve the link to download the free application, and installation instructions on the Semapedia website at <http://www.semapedia.org>. Then simply start the program and point your cameraphone at any one of these codes.



Amtrak



Ball State University Libraries



Facebook



FlightStats



NY Times



Radio4PDA



Twitter



Yelp



YouTube

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