

In today's "on the go" society, mobility is paramount, but the need for compactness is equally crucial. This is most evident in our popular culture's obsession with handheld PCs—most commonly referred to as PDAs, or personal digital assistants. These mini-computers help keep us organized, on time, and in touch when we are in motion.

Gone are the days of your chunky, two-inch-thick leather day-planner littered with a rainbow of colored Post-It notes and stuffed with schedules, calendars, notepads, business cards, and diskettes—not to mention the Mont Blanc pen. These heavy journals have been replaced by the streamlined handheld PC—calculator-sized devices small enough to fit into a breast pocket of a jacket or a zipper compartment of a purse and yet powerful enough to manage all the tasks and duties once jammed into those day planners. It's a neat and tidy alternative that provides one-tenth the work-out of lugging around a day planner.

The "On the Go" Investor

Beyond serving as a replacement for your day planner/organizer, the handheld PC is a computer and can serve as a laptop replacement. Like laptop and full-size desktop computers, you can install software programs onto your handheld PC, expanding the functionality of the standard package of included software.

Many of these software programs have been designed with the "on the go" individual investor in mind. Programs such as portfolio managers, personal finance assistants, financial calculators and other utilities have the potential to transform the basic handheld PC into a financial toolkit. Add to that full Internet capabilities for accessing news, quotes, charts, on-line tools, and wireless trading features and your handheld PC becomes an even more dynamic tool.

Most of these add-ons are either freeware or shareware applications that can be downloaded and tested prior to purchase. As is often the case, these programs are not quite as sophisticated as popular PC software titles. But for the person who travels a lot, or even the commuter going home on the train after work, a handheld PC with a couple of add-on programs is a lightweight alternative and solid backup to a laptop.

The handheld PC is seen by many as an ego-driven toy of the techno generation—in some cases that is true. However, for the enterprising individual investor, handheld PCs are not really toys at all.

This feature article will give a synopsis of current market trends including the wireless options for handheld PCs, discuss a broad roster of the top Web sites for software downloads, and review some of the most popular financial software applications.

The Current Market

There are several different handheld computer manufacturers but only two dominant software companies designing handheld operating system (OS) software—Palm Computing with its Palm OS and software giant Microsoft with its Pocket PC platform.

Palm Inc. was founded in 1992 and acquired by U.S. Robotics Corporation in 1995. In 1996, Palm introduced the Pilot 1000 and Pilot 5000 products that led the resurgence of handheld computing after Apple's unsuccessful attempt to create a mass market with its Newton handheld computer. The original handheld PCs, designed by 3Com, were called PalmPilots because they easily fit in the palm of your hand (the Palm division was spun-off after 3Com acquired U.S. Robotics). Today's roster of Palm handheld PCs varies in terms of memory (2MB to 8MB), display (monochrome and color), and function (the Palm VII is a wireless-enabled unit,

which will be discussed below) and are therefore pegged at different price points (from \$149 to \$449). The Palm OS runs inside both Palm computers and systems from Handspring, a newer handheld PC maker. Even Sony is getting in on the act with Palm OS handhelds slated for release this year.

Microsoft's efforts in the handheld arena can be traced back to 1992 and its "WinPad," which ultimately culminated with Windows CE. In developing Windows CE, Microsoft basically tried to provide the look and feel of Windows for a handheld system. Windows CE operates on a range of systems from mini-laptops to pocket-sized systems. Microsoft recently launched the Windows CE 3.0/Pocket PC operating system. Pocket PC runs on a new breed of handheld computer, similar in size and strength to the Palm computer.

Pocket PC computers come complete with pocket-sized versions of Word, Excel, Outlook, Internet Explorer and other Windows software applications. As it has done with Windows CE products, Microsoft has several computer hardware partners on board. The Pocket PC OS can be found on handheld PCs from such vendors as Casio, Compaq, and Hewlett Packard.

Pocket PCs are just slightly larger in size and weight than the standard Palm computers. Pocket PC systems are also larger in terms of memory brainpower, as Pocket PC computers are stocked with 16MB or 32MB of memory. Currently, only one Pocket PC does not have a full-color display. Pocket PC handheld computers range in price from about \$300 to \$600.

Palm-sized computers and Pocket PCs can be purchased on-line at vendor Web sites (see Table 1 on page 26 for Web addresses), at standard retail locations (Best Buy, CompUSA, etc.) and at on-line retailer Web sites (CDW.com, Handango.com, Mobileplanet.com).

Connecting to the Internet

The Palm VII was the first handheld PC to offer built-in wireless Internet access. The Palm VII (along with memory-enhanced Palm VIIx) comes complete with a built-in wireless modem, antenna, and communications software. The Palm VII does not generally browse the Web directly. It relies on Web clipping applications developed for a specific site that presents text and graphics in a series of preformatted templates. A third-party Internet service is needed in order to access the Internet and send and receive E-mail. Palm.Net is a nationwide handheld PC Internet service provider with a pricing structure that starts at \$9.99 a month for limited access. An unlimited service plan costs \$44.95 per month. While the plan is national, availability is limited to larger markets.

As for the rest of the market, various attachment modules are required to gain access to the Internet—each at additional costs. OmniSky offers handheld PC Internet service and a wireless modem designed specifically for Palm V users. The OmniSky/Novatel Wireless Minstrel V modem snaps onto the back of the Palm V, fully integrating the handheld PC from head to toe. This external modem utilizes a wireless modem card technology (Cellular Digital Packet Data, or CDPD) similar to that found in cellular phones to connect users to the Internet at speeds around 19.2K. The wireless modem is priced at \$299, and OmniSky nationwide unlimited wireless access runs \$39.95 per month. Like the Palm.Net service, national coverage is restricted to larger cities and big markets.

The Minstrel III from Novatel Wireless is another wireless external modem available for the Palm III handheld PC. The Minstrel III uses the same technology as its Minstrel V teammate.

Palm offers a range of modems for wired connections directly to your system or Internet service provider. Prices for these modems vary from \$129 to \$169.

The Handspring Visor model requires a slightly different external hard-

ware setup in order to gain access to the Internet.

The Handspring Visor computers feature expansion slots located in the back of the unit. These slots are designed to hold external clip-on devices termed “Springboards.” Two Springboard modems are currently available for the Visor, neither of which are wireless—they both require a phone line plugged into a data port or phone jack in order to gain access to the Internet.

A modem from Handspring that requires two AAA batteries is available for \$129.95. The modem’s battery compartment adds a significant amount of bulk to the back of the unit, but the modem does not then drain the Visor’s batteries. A much thinner third-party modem—the Wristband Thincom modem—can reach a maximum speed of 33.6K. It is currently priced at about \$119.95. It does not require batteries; instead, it runs off of the Visor’s batteries. Xircom just announced a 56K Springboard modem priced at \$149.

Two Pocket PC handheld computer makers currently offer extra components for wireless connections to the Internet as well. The Compaq iPAQ H3600 handheld PC (Figure 1) features expansion pack sleeves the computer can slide into. A PC Card expansion pack adds an industry-standard PCMCIA card slot. Clipping a special CDPD modem card into the slot creates a wireless connection to the Internet. This iPAQ setup is quite an expensive venture, however—the PC Card expansion pack is quoted on the Web at \$159.95 and the modem card is \$199.95. Compaq and other vendors are looking at developing additional technology for wireless links to the Internet.

Later this year, Novatel Wireless will

Figure 1.
Compaq iPAQ



be releasing a CDPD cradle for the Hewlett Packard Pocket PC model. This CDPD cradle will in effect re-create the Minstrel setup for the HP Pocket PC. No pricing information is available at this point.

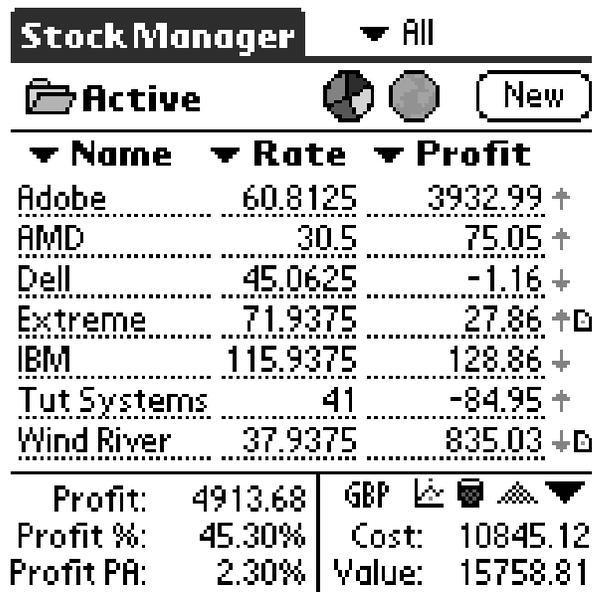
Most Pocket PC models feature compact flash (CF) slots that can accommodate modems for dial-up Internet connections. CF modems are currently selling for about \$100 to \$150. Psion, a PDA manufacturer, even offers a 56K modem that connects to Palm and Pocket PC assistants through infrared ports that are built into most of these systems.

Locating Software on the Web

The popularity of these handheld systems has helped to foster an active developers network that has produced a full range of software programs. The easiest way to get a hold of handheld PC software programs is to download them from various software libraries on the Web.

Table 1 on page 26 serves as a resource of such software download

Figure 2.
Stock Manager 2.02



ing system software, these programs can be administered at your desktop computer and updated to the handheld PC via successive data sync sessions. Some programs only install a maintenance module on the desktop to enter data and information to the handheld PC, while other applications install complete programs on both the handheld PC and the desktop. In this case, the reverse is also true as any changes made to the handheld software will take effect on your desktop version following a data sync. Most of these programs can only update data stored on the handheld PC via data syncs. However, some programs allow you to update data by connecting your Palm to a modem or by using the wireless Palm VII.

Financial Software

The following discussion is just a sampling of the current handheld PC financial software options available to the individual investor.

Most of the current financial applications out there are Palm-based. In an odd twist of irony, Microsoft Pocket PC users now know how Apple Macintosh advocates have felt for years—stuck out in the cold while Palm users pick from a litany of financial software choices.

sites. It also references the sites of handheld PC vendors, hardware makers, and other miscellaneous sites dealing with handheld PCs.

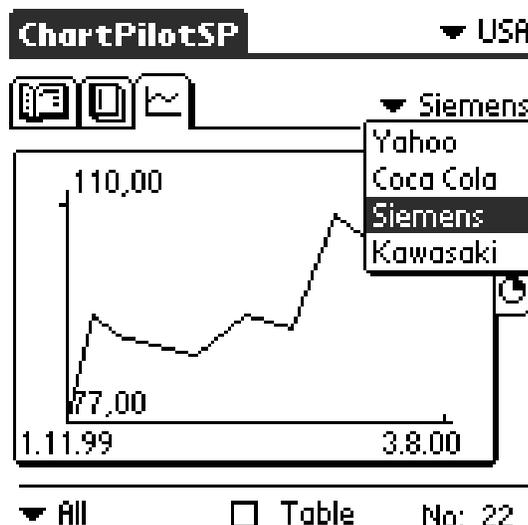
The libraries and directories of these sites vary in terms of layout and structure, but all of them offer clearly labeled links to demos, freeware, shareware, or complete programs as well as pricing information and system requirements. Handheld PC software for investors is most often found in libraries entitled “financial,” or in some cases “business.” The download libraries on these sites also have search mechanisms where you can simply type in the name of the program to conduct a search.

As mentioned above, most of these programs are freeware and shareware, with shareware applications requiring the user to register the program for a nominal fee should they desire to continue to use it. Technically, only a couple of programs—primarily software companion utilities—are actually distributed as stand-alone commercial software packages. All of the programs offer some form of a free demo to test out the features and functionality of the software before deciding to make a

purchase.

These programs are downloaded onto your desktop computer. The installation process begins there and is completed with a data synchronization session. The program is then added to your handheld PC and ready to use. As with handheld PC operat-

Figure 3.
ChartPilot



But Pocket PC is still a relatively new operating system and therefore not much in the way of software has been designed to this point. Most of the Pocket PC software that has been released so far has been planner/organizer utilities and a slew of games. In fact, some of the sites outlined in Table 1 do not even support Pocket PC software libraries of as of yet. Many of these sites do, however, offer Windows CE software directories, so Pocket PC software offerings should be on their way.

Portfolio Management Software

Investor 1.20

From software maker Tapperware, Investor is a portfolio tracking software program designed for the Palm OS. Investor can track portfolios comprised of stocks and mutual funds, and it also tracks indexes and a cash balance. Investor offers three views for analyzing your holdings: profit/loss, market value, and day's change. The program accounts for dividends and stock splits. This shareware program costs \$14.95.

Mobile Portfolio Tracker 1.0

Mobile Portfolio Tracker (MPT) allows Palm computer users to track 15 portfolios of stocks, bonds, and mutual funds. With MPT, you can also add watch list securities to portfolios. MPT features three views, including performance and market value. Users can also check the details on each stock, such as daily high/low, volume, and last trade. This shareware package is priced at \$14.95.

Personal Stock Tracker 2.1

Personal Stock Tracker (PST) is strictly a stock portfolio tracking tool. Designed by Personal Financial Tools, PST can track nine different portfolios and can support balances in foreign currencies. PST works in conjunction with Personal Money Tracker (PMT), a personal finance program from the same makers. This integration makes it easy for Palm computer users to record transfers between bank and investment accounts. PST is shareware and can be registered for \$19.95.

Personal Stock Tracker comes with a conduit, or special utility, that converts and exports data—in a CSV format—onto your desktop PC. This allows you to view, manipulate, and update your portfolio data on your desktop using spreadsheet software like Excel. Once you are finished editing the data, you can then transfer it back to your Palm PC.

Stock Manager 2.02

Stock Manager (Figure 2) is another stock portfolio tracker—one of two programs with the same name. This Stock Manager, designed for the Palm OS by Zorglub Soft, is one of the most popular financial software packages on the Web (over 36,000 downloads on Palmgear.com alone). Zorglub's Stock Manager features a market view as well as a chart view that plots an individual stock's price trend. The program supports stock exchanges from countries such as Canada, much of Europe, Australia, Korea, and India. Stock Manager price data can be updated with the latest data via a sync, modem, or automatically if you have a Palm VII.

Stock Manager's conduit can also export portfolios to a CSV file. This is a shareware program priced at \$19.95.

Stock Manager 2.0

This particular Stock Manager program runs on the Pocket PC operating system. Created by Boma Software, the program can keep track of multiple portfolios comprised of stocks, options, and mutual funds. Boma's Stock Manager also analyzes purchases and sales transactions and allows you to see which shares of stock are available to sell. Stock Manager can also calculate how much profit you would receive from a sale at a particular price. The program cost is \$19.95.

StockPilot99 2.6d + ChartPilotSP 2a Bundle

This software bundle combines a portfolio manager with a charting program. Developed by a German programmer, StockPilot99 can track multiple portfolios of stocks only. It handles dividends and has a function

for stock splits. It tracks accounts in different currencies and features a Euro conversion utility. ChartPilot (Figure 3) expands on the analysis measures in StockPilot99 by creating portfolio charts for each of your portfolios and single price charts for individual stock holdings. Charts include current value and buy value.

This shareware bundle costs \$24.95. Separately, the StockPilot99 program costs \$18.95 and the ChartPilotSP \$9.95.

Personal Finance Software

MoneyMinder 1.4/1.0

MoneyMinder is a general purpose account manager for both your checking and savings accounts. Designed by Oopdreams Software, MoneyMinder is available for both Palm devices and Pocket PCs. Program features include an import/export function for QIF and ASCII files. Both MoneyMinder versions are available as shareware for \$15.

Money Pocket Edition 1.26

Money Pocket Edition software allows Microsoft Money users to keep their accounts up-to-date while on the go and away from their main computer. Designed by Ultrasoft, Money Pocket Edition serves as a handheld PC companion to the popular personal finance program Money. The program works with Money 98, 99, and 2000 versions.

Transactions originally entered into Money at the desktop are downloaded to your Palm via a data sync. As reconciled transactions occur, they are removed from the organizer to save space. Money Pocket Edition allows you to maintain all your accounts and then transfer all new transaction data to Money on the desktop via data sync sessions. Money Pocket Edition is a commercial software program with a retail price tag of \$34.95.

Personal Money Tracker 5.7

Personal Money Tracker (PMT) is the companion program of Personal Stock Tracker from the Personal Finance Tools software maker (Figure 4). PMT

Table 1. Resource List

Handheld PC Software Sites

CNET Shareware.com

shareware.cnet.com

Shareware.com, now a part of the CNET network of computer information sites, supports a download library of Palm OS software. Investment-related software is found in the "Business" section of the library. The library can be sorted by title and then by top picks, date added, number of downloads, and file size. Currently, the site does not have a software library devoted to Pocket PC/Windows CE 3.0 operating system software.

Palm Gear H.Q.

www.palmgear.com

The Palm Gear H.Q. site is the top resource for Palm-based handheld software—with over 200 financial software titles alone (the highest total on the Web). The library is sorted by date with the most current uploads first. Palm Gear H.Q. does not offer Pocket PC software downloads.

PocketGear.com

www.pocketgear.com

PocketGear.com is the Pocket PC equivalent of the Palm Gear H.Q. Web site. Limited PocketGear libraries include a financial software directory that currently boasts about a dozen titles. Look for more software programs to be added at this site as the operating system proliferates.

Handheld PC Vendors

Palm Computing

www.palm.com

The official Web site for Palm Computing features information on Palm handheld products, accessories, and wireless services as well as a link to technical support. The site also has an on-line store for purchasing Palm software products. The Palm Web site also features a link to the Palmgear.com site.

Handspring

www.handspring.com

The Handspring Web site provides information on Handspring Visor PCs and Springboard modules as well as available accessories. The site also features a technical support section. Orders for Handspring products can be submitted at the site and a retail store locator is also available. Like the Palm Computing site, the Handspring Web site also has a link to the Palmgear.com site.

Microsoft Pocket PC

www.microsoft.com/pocketpc

Microsoft's home on the Web now has a section devoted to the Pocket PC. News, information, commentary and reviews, and support for Pocket PC computers is found at the site. The site features a link to mobile devices listing Pocket PC makers and on-line and retail locations where Pocket PCs can be purchased. The Microsoft Pocket PC site provides a link to the Pocketgear.com site.

Casio

www.casio.com

The Casio Web site features news, information and specs on their Cassiopeia Pocket PC handheld computer.

Compaq

www.compaq.com

The handhelds section of the Compaq Web page provides information and detailed specs on both the iPaq H3600 Pocket PC and their Aero 1500 and 2100 Pocket PC handheld units. The site also discusses expansion packs and how they work. Both Compaq Pocket PCs and other accessories can be purchased on-line at the site.

Hewlett-Packard

www.hp.com/jornada

This new site from Hewlett-Packard is completely dedicated to the new HP Jornada 545/548 handheld Pocket PC. The Jornada can be purchased on-line at www.hpsopping.com.

Wireless Technology

Palm.Net

www.palm.net

The Palm.Net wireless Internet service site offers information on Palm.Net and service plans, a coverage map, account links and support tools, as well as news and tips. The site also discusses E-mail solutions and explains Web "clipping." Users can sign up for service at the site. The site also links to the Palm Computing site and on-line store.

OmniSky

www.omnisky.com

The OmniSky Web site provides news and information on the firm's wireless modems and wireless Internet services. It also includes detailed price structures and lists current on-line content partners such as on-line brokers. The site also explains how their service works and where it works. Users can sign up for service right on the site.

Novatel Wireless

www.novatelwireless.com

Novatel Wireless, wireless modem partner of OmniSky, hosts a Web site that offers information and support for their wireless products. The site also has a link to an on-line store.

Handheld PC User Resources

PalmPower Magazine

www.palmpower.com

PalmPower Magazine is a free "how to" journal for the Palm computer user. Published and available exclusively on the Web, the PalmPower Magazine Web site features product reviews, tips and technique articles, and a massive news center focusing on the handheld PC marketplace. The news center is updated daily.

Pocket PC Magazine

www.pocketpcmag.com

Pocket PC Magazine, formerly Handheld PC Magazine, is a bimonthly publication from Thaddeus Computing. The magazine supports a Web site for accessing an archive of past articles on handheld Pocket PCs—including news stories, handheld and software reviews, and advice articles. The site also features the magazine's annual handheld computer buyers guide—listing over 1,000 products. The site is currently free to browse. A one-year subscription to the magazine costs \$19.95.

is an accounts manager and budgeting program. It can handle foreign currencies and has a currency converter module as well. With PMT software users can also set up several account reminders—for example, an alarm that reminds you to pay a bill that is due. PMT also has overdraft warnings to let you know of fast-approaching negative balances. PMT, like Personal Stock Tracker, includes a conduit for converting and exporting your account data to your desktop PC as a CSV file. The shareware version of PMT costs \$19.95 to register.

PocketQuicken 1.01

PocketQuicken is a mobile companion to the Quicken 99 and Quicken 2000 suite of software programs. As with Money and Money Pocket Edition software, Quicken data can be transferred to your Palm handheld device and updated data can be transferred back to the desktop via data sync sessions. PocketQuicken from LandWare is commercial software, priced at \$39.95.

Financial Calculators

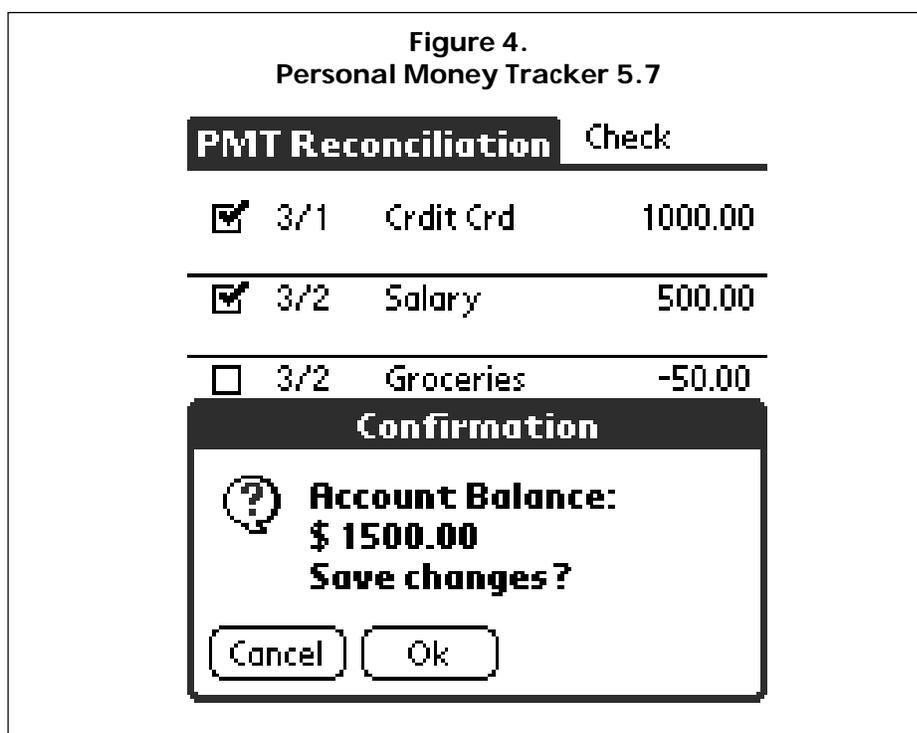
CplxCalPro—Financial 1.0

The financial version of the CplxCalPro offers eight different financial calculations, including price-earnings ratio, earnings per share, profit margin, and inventory turnover. Simply input the required stock data, tap the corresponding calculation button on your Palm handheld PC, and this utility will generate the answer. The CplxCalPro—Financial version calculator is freeware.

powerOne Finance 1.0

The powerOne Finance calculator utility is an advanced financial calculator for the Palm OS. It is a commercial product from Infinity Softworks. It has over 400 built-in financial, statistical, and scientific functions. The powerOne Finance calculator includes all of the financial and scientific functions of the Hewlett Packard HP-12C, HP-17BII, HP-19BII, and the Texas Instruments TI BAI+ calculators. It can store 14-digit numbers with 12 distinct

Figure 4.
Personal Money Tracker 5.7



decimal place settings. The program cost \$49.95.

SavRetUtil 2.0

The SavRetUtil program is a savings and retirement analysis utility, as its abbreviated name attempts to convey. SavRetUtil is actually a calculator that applies "what if" scenarios in conducting its analysis. It accounts for income tax on interest and inflation in its calculations. A savings calculator will calculate certain scenarios for different savings situations. It can tell you how much to save each month to reach your goal, how many years until you will reach your goal, or it can tell you at your current savings rate how much you will have after a certain number of years. With the retirement calculator, you enter your current age and expected retirement age along with some additional data and the calculator will tell you how much money you'll need to retire. This shareware program is \$10.00.

News

AvantGo

One software/Web combination that defies traditional categorization is

AvantGo. With AvantGo you can browse your favorite Web site on your mobile device or download over 400 content channels that have been optimized for a small handheld screen.

AvantGo can provide news, stock quotes, flight schedules, movie listings, restaurant reviews, maps, weather and much more from well-known content providers such as The New York Times, TheStreet.com, The Wall Street Journal, Bloomberg, and Business Week.

Users can subscribe to over 125 business channels, which are downloaded to your handheld when it is synchronized with your desktop or connected directly to the Internet. AvantGo provides a browser for Palm systems and takes advantage of the built-in browser for Pocket PCs to view its content. The service is free, but some of the channels are restricted to content subscribers. Users can browse and interact with any downloaded pages while disconnected. Quote requests are processed the next time you sync with your system.

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