

Comparing Personal Data Assistants (PDA)

Introduction

As technology seems to move faster than the speed of light, with new tools available before one has a chance to master the wide range of possibilities of their predecessors, one type of hardware that is slowly making its way to the forefront of technology is the Personal Data Assistant, or PDA. These hand-held devices, touted as miniature computers, are slow to replace the Day Planner, address book, and pocket calendar that many of us use on a regular basis. In order to make these devices more appealing to consumers, their makers are finding innovative ways to improve and enhance the PDA's abilities. Through the comparison of several of these devices, I hope to show the many ways PDAs may become more useful to society, especially in the field of education.

The devices discussed in this paper include those created by Palm, HP, Handspring, and Sony – the current leaders in PDA technology. The PDAs are the most current models at the time this paper is written along with some of the available software provided by each company.

Palm Devices

Perhaps one of the best known makers of personal data assistants, Palm's latest handheld devices, the Palm i705 and Palm m515, take the "pocket computer" metaphor one step further and provide wireless access to the Internet in addition to the Palm Pilot's regular features of address book, calendar, memo pad, and To Do list. Both devices cost about \$400 and use the same basic Palm software. However, the i705 (left) has a built in modem that allows users to access the Web anytime, as well as check email and use instant messaging. This device weighs 5.9oz, has 8MB of RAM with an expansion card slot that could give users more memory or enable them to download software; includes an infrared beam that lets the user wirelessly send data to other infrared-enabled Palm devices; and the screen displays in grayscale rather than color. The Palm m515 (right of next page) offers a color display of over 65,000 colors, has 16MB of RAM and an expansion card slot, allows users to



access the web through the use of an external accessory, such as a phone or modem, includes an infrared beam, and weighs 4.9oz.



Both of these devices use software that is compatible with the Microsoft Office suite so that users can take their documents, databases, and presentations with them on these smaller devices rather than tote a laptop. Palm also offers a multitude of other software titles that users can purchase from their site, including programs for games, various organizers (stock portfolios, diet and exercise, etc), and educational programs, such as PDA Teacher, which gives teachers a database for storing lesson plans, student data, disciplinary logs, and attendance.

HP Devices

HP has joined the handheld computer retailers with its Jornada series. The most recent model, the Jornada568, costs about \$550. It features a color display of over 65,000 colors, an infrared beam, internet access with the use of a separate modem, a built-in voice recorder and audio player, 64MB of RAM and weighs 6.1 oz. The Jornada also uses software that is similar to the Microsoft Office suite, offering a program entitled Pocket Slideshow, which allows users to view, rearrange, and merge their PowerPoint presentations on their handheld device. One other interesting software package allows users to turn their PDA into a universal remote control, which can then be programmed for use with televisions, VCRs, DVD players, and other remote control devices, and is voice activated.



Handspring Devices

Handspring's Treo series has helped to move this company into the forefront of PDA developers. Two devices, the Treo90 and Treo270, are the latest in Handspring's handheld technology with some major differences. The Treo90 (left) is a typical handheld organizer at about \$300, offering a color screen, 16MB of RAM, an expansion slot for extra memory, a built in keyboard, and a weight of a mere 4oz. As you can see, this is the lightest of the PDAs



discussed here. This device is also compatible with the Palm OS software and has a special safety feature in its flip-top screen protector.

The Treo270 (right), one of the members of the Handspring Communicators series, sells for about \$500, and offers all of the regular amenities of most PDAs, with the addition of a dual-band phone. Not only can a user access the Internet and email, the phone also comes with a built-in speakerphone and allows for 3-way calling. Of course, the user must purchase a calling plan through Handspring, but the phone can be used internationally and the user can avoid the hassle of carrying a separate modem/phone for web access. This device also has 16MB of RAM, a color screen, built-in keyboard, and weighs 5.4oz.



Sony Devices

The latest Sony PDA has one of the most unique features on the market – a built-in digital camera. For about \$600, the user can not only keep track of personal data, but also take pictures and view them along the way. The Sony NR70V Color Clie (left) includes MP3 Audio Playback along with its digital camera, a built in keyboard, 16MB of RAM, and a rotating color display (right) so that users can choose to flip open the device to use the keyboard while viewing the screen contents, or use the touchpad on the reverse side while using the camera. An infrared port, in conjunction with Clie software, can also turn this device into a remote control for external devices, as well as beam data to other PDAs. This is the heaviest device, at 7oz, but does present a new standard for handheld devices.



Summary

It's evident that personal data assistants are moving into the technology circle, hoping to integrate a variety of tools into one slim, lightweight device. Two of the devices discussed here combined two technologies – Sony's camera/PDA and Handspring's phone/PDA. How soon might it be before the phone/camera/PDA is

developed? There are already camera/phones on the market, so there's little doubt that a 3-in-1 device will soon arrive on the scene. Yet will all of these combination tools ever make their way into mainstream society as deeply as they have as separate tools? Most likely they will; it's just a matter of time. Laptop computers are also evolving into lighter, sturdier pieces of equipment. However, their size limits the amount of extras developers may attach to them. It would be too cumbersome to use a laptop with a built-in phone and camera. Perhaps the PDA will replace the laptop in time, once they are made with more memory, more powerful processors, and more bonus features, like phones and cameras. Of course, the price will need to come down a bit, too.

As for educator's use of these devices, it's very possible for schools to require students to purchase or rent a PDA for note taking and keeping track of assignments, as well as for creating documents and presentations. Given that many students may not have personal computers at home, a PDA would be a much easier investment for their families to make. Many schools currently have computer labs and several computers in the classrooms, but access is limited and computers are often shared by groups of students. A personal data assistant would make it easier for every student in a classroom to be online or working on a document at one time. It would also make it easier for teachers to carry information to and from home or in between classrooms. There is great potential, with the software being developed for PDAs and the increase in memory, for these hand-held devices to become a standard part of the learning experience.

References

The following websites were used in accessing information about the products discussed in this report:

Palm products: <http://www.palm.com/products/family.html>

HP products: <http://products.hp-at-home.com/products/>

Handspring products: <http://www.handspring.com/products/index.jhtml>

Sony products: <http://www.sonystyle.com/home/dept.jsp?hierc=9684&deptid=9684>

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