Introduction

The goal of this Study Skills Tip Sheet is to provide an overview of the functions and features of the Personal Digital Assistant (PDA) to help you decide whether a PDA is a worthwhile investment for you as a student.

PDAs are categorized as "mobile devices," so called because they're small enough to be conveniently kept in a pocket, purse, or backpack. Three major types of devices are included in this category: cell phones, personal media players (such as MP3 players), and personal digital assistants (PDAs).
A PDA is a handheld device that provides, at a bare minimum, electronic versions of the typical functions of a paper-based personal organizer, such as a clock, diary, calendar, address book, to-do list, and note or memo pad (Anderson, 2004). These basic functions are typically grouped under the term "Personal Information Management" (PIM). The PDA has evolved into a powerful device also capable of performing many of the functions of a typical desktop PC, such as word processing, spreadsheets, Internet connectivity, and more, with the addition of specialized hardware and software.

Most PDAs use a touch-sensitive screen and a special writing tool (similar to a pen) called a stylus, which is used to navigate through the PDA's operating system and to input text. The user draws letters or numbers on the screen one at a time and special software converts the letters drawn on the screen into electronic text. The stylus is a convenient tool for inputting quick notes or scheduling meetings. An add-on foldable keyboard can be connected to the PDA for entering larger quantities of information.

PDAs can generally be divided into three categories: Palm & Pocket PCs, BlackBerrys, and smartphones.

Palm & Pocket PC PDAs

Palm Pilot was the name given to several early PDA models manufactured by Palm, Inc. More recent models manufactured by Palm are not called Pilots, but "Palm Pilot" has entered the vernacular as a synonym for PDA, regardless of brand, similar to the way we refer to all facial tissues as "Kleenex." Palm PDAs are built upon the Palm operating system and include many PIM functions, including address book, calculator, note pad, and to-do list.

The Pocket PC, a Microsoft product, has many of the same PIM functions as the Palm PDA, but the device is built around a mobile version of the Microsoft Windows operating system. The Pocket PC comes with scaled-down versions of common Microsoft applications including Outlook, Internet Explorer, Word, Excel, Windows Media Player, and others.

Smartphones & BlackBerrys

A smartphone is a phone with PDA functions, or a PDA with phone functions. The BlackBerry includes the usual PDA PIM functions but is primarily known for its built-in keyboard and ability to send and receive e-mail from anywhere with access to a suitable wireless network (Wikipedia, 2005).

The general information discussed throughout this Study Skills Tip Sheet applies to all PDAs including Palm, Pocket PC, smartphones, and Blackberrys. However, at present smartphones and Blackberry mobile devices comprise a small share of the PDA market and their features tend to be directed towards business PIM needs. Thus, this Study Skills Tip Sheet will focus on Palm- and Pocket-PC based PDAs because these devices are marketed towards both business and general users.

Basic PDA Features & Functions

In the past, the PDA was the tool of the business professional and was used solely to keep track of appointments and contacts.

The PDA has evolved into a device offering myriad features and expandability that appeal to both business and general users. In addition to sophisticated PIM functions, you can customize and extend the functionality of a PDA by downloading applications, storing text and spreadsheet files, and installing add-on hardware devices.

Standard Functions/Features

Modern PDAs are useful for storing information such as phone numbers, addresses, and appointments, and for keeping all your reminders in one place - no more lost sticky notes with important information! Everything can be stored in one central location for quick reference.

Storage

The internal memory in a PDA is the amount of storage space available to store the data that you create. All current PDA models are equipped with sufficient memory to record thousands of pieces of information; however, files such as Word or Excel documents, MP3s, and digital pictures take up much more memory. More expensive PDA models come equipped with larger internal memory, but typically the less expensive option is to purchase external memory cards that can be inserted into a memory card slot on the PDA.

Two of the most common memory card formats are Secure Digital and Compact Flash. Each offers different quantities of memory depending on your storage needs. If you purchase an external memory card, make sure it's compatible with your PDA. You can check this in the PDA manual, or ask someone who is familiar with the different memory formats, such as the salesperson in the store selling memory cards.

Connecting to Your PC

Many PDAs have the capability to connect to a personal computer. Synchronizing or "syncing" a PDA to your PC lets you back up data to your desktop computer. Every piece of information in your PDA gets transferred to your PC, and files such as Word or Excel documents on your computer can be transferred to your PDA. On campus, it's usually not possible to sync your PDA to a public computer. In an emergency, it may be possible to install the necessary software on a university machine, but most public computer labs don't allow the installation of software and are programmed to remove any software that has been installed when the computer is rebooted. The best way to transfer a file from your PDA to a PC on campus is to email it to yourself (if your PDA is Internet capable) and copy the file to a floppy disk or thumb drive.

Sharing Information

Other connection methods are also available for PDAs depending on the sophistication of the model. You can share information with other PDA users by transferring or "beaming" it to another handheld using an infrared data transfer port built into most models. One example of information typically shared by beaming is electronic "business cards," which contain contact information such as name, phone number, email address, etc. Business cards can be swapped at the touch of a button, rather than having to enter the information into the PDA address book, or write it out with pen and paper. Word documents and Excel files can also be easily shared with other PDA users by beaming.

Connecting to the Internet

Wired Options:

Some older PDA models may have a built-in modem for connecting to the Internet through ordinary phone lines, or an Ethernet card for high-speed Internet connections. However, very few PDAs utilize wired connections; the more practical method for connecting to the Internet with a PDA is via a wireless modem.

Wireless Options:

Some PDAs use a device called a "wireless modem" to connect wirelessly to cell phone networks. This connection method is expensive because of its use of cellular networks - similar to when you use a cell phone, you're charged for every minute the PDA is connected to the Internet. Palm and Pocket PC PDAs are typically not equipped with wireless modems, but they can be purchased as a hardware add-on.

Some PDAs have the capability to wirelessly connect to the Internet through a connection protocol called "Wi-Fi". Only the Abbotsford campus has Wi-Fi connectivity at this time.

It is recommended you read the Information Technology handout "Get Connected" to wirelessly connect to the Internet on campus. There are

phone numbers and e-mail addresses on the last page of the handout if you require assistance.

Add-on Software

Thousands of free and low-cost software programs are available for the PDA, including graphing calculators, dictionaries, maps, personal finance managers, project management tools, shopping lists, etc. An example of a site where you can obtain software is Handango at www.handango.com

Add-on Hardware

As with add-on software, there are numerous hardware components that can be added to your PDA to expand its functionality. As previously discussed, one of the most popular add-on hardware devices is a Wi-Fi wireless network card, which allows you to wirelessly connect to the Internet where the service is available. Other hardware add-ons useful for students are:

- foldable keyboard for taking notes
- extra batteries (for models without an integrated rechargeable battery)
- extra memory to expand the PDA's storage capability - handy for music, sound, video or other large files
- GPS locations tools
- sensors & scanners for lab and fieldwork.

Other devices can be wirelessly connected to a PDA using technology called "Bluetooth." Bluetooth provides a way for devices to talk to each other when they are within about 10 metres of each other. Similar to the wireless connectivity of Wi-Fi, Bluetooth allows your PDA to exchange information with laptops, PCs, printers and digital cameras.

Add-on hardware and software useful for university students is discussed in more detail in another Study Skills Tip Sheet in this series, "Using Your PDA as an Academic Tool".

Multimedia Features

Numerous multimedia features are available for PDAs. Music files, whether for personal or academic use, can be transferred from your PC to your PDA and played by bundled (i.e. software that comes with

your PDA) or add-on multimedia software. Newer PDAs can play videos. PDAs can also be equipped with an integrated digital camera, or a digital camera add-on can be purchased and "snapped into" the expansion port of the mobile device to improve its multimedia functionality.

Choosing a PDA that's Right for You

PDAs, like many other technological devices, vary widely in capabilities and in price. If you feel that a PDA may be a worthwhile investment, you'll probably end up balancing two competing factors - features and cost. Additional or advanced features invariably increase the price of the PDA. To help you determine which features are most important to you (and the more difficult decision of the features you'd like to have, but can live without), we've developed the following PDA selection checklist.

The PDA Selection Checklist

Organization and Time Management Features

View and manage class schedule, to-do lists, and academic tasks/deadlines
___Essential___Important___Optional___Not Interested___Don't Know

Schedule meetings, group work, extracurricular activities, etc.
___Essential___Important___Optional___Not Interested___Don't Know

Record lectures and interviews
___Essential___Important___Optional___Not Interested___Don't Know

Take notes with add-on keyboard
___Essential___Important___Optional___Not Interested___Don't Know

Record and collect data for labs and field work
___Essential___Important___Optional___Not Interested___Don't Know

Advanced PDA Features

Wireless access to the Internet, email, and printers
___Essential___Important___Optional___Not Interested___Don't Know

 Add-on hardware such as additional memory, GPS locator, camera, keyboard, etc.
___Essential___Important___Optional___Not Interested___Don't Know

Add-on software such as graphing calculator, dictionary, maps, project management, shopping lists, etc. ___Essential___Important___Optional___Not Interested___Don't Know

Entertainment and Communication Features

Store and share files
___Essential___Important___Optional___Not Interested___Don't Know

Listen to music and watch video files
___Essential___Important___Optional___Not Interested___Don't Know

Make phone calls
___Essential___Important___Optional___Not Interested___Don't Know

Evaluating Your PDA Checklist

Tally your score using the following table for each of the three categories:

Basic Model

If your score is significantly higher in "Organization and Time Management Features" than the other two categories, a basic or entry-level PDA would likely suit your needs. Entry-level PDAs lack some of the features of the more expensive models, such as colour screens and built in wireless connectivity, but compensate by providing ports for hardware add-ons which allow you to upgrade the device at a later date. These devices are typically much cheaper than PDAs with more advanced features, and are the least expensive method to help determine if a PDA is right for you. If you like the device, you can upgrade it, or invest in a more feature-rich model at a later date.

Mid-range Model

If your scores in all three categories are similar, a mid-range PDA model is probably a better choice, depending on your budget. Mid-range PDAs offer a wider variety of features, such as colour screens and built-in Wi-Fi cards. Models in this price range may have a few entertainment features, and most include rechargeable batteries and a cradle to rest the PDA in when charging batteries or syncing with your home PC. These features are not normally included in entry-level models.

Mid-range models offer the best compromise between cost and features, and will likely remain current longer than entry-level models, which may become outdated (in technological terms) faster than more expensive models with faster processors and more memory.

Top of the Line Model

If you selected "Essential" for many of the items in either "Advanced PDA Features" or "Entertainment and Communications Features," be prepared to invest in a high-end model to get these features. Top-of-the-line PDAs come equipped with many of the latest technological innovations, and so have a wider variety of functions and more advanced hardware, such as Wi-Fi and Bluetooth capability, large internal storage for add-on software, and the ability to play video and mp3 files. High-end PDAs are significantly more expensive than entry and mid-level models, and should be considered as an investment only if you're certain you'll use all the bells and whistles.

PDA Alternatives

If you scored low in "Organization and Time Management Features," but high in the other two categories, then a PDA may not be right for you. Although these devices have evolved beyond simply managing personal information, it's still one of the primary roles of the device. Another portable device, such as a smartphone, may be better suited to your needs. Smartphones offer many of the connectivity and entertainment features of PDAs, but with a smaller emphasis on PIM.

Conclusion

Investing in a PDA is a major purchase, one that requires considering why you want a PDA and what you want to do with it. We hope this Study Skills Tip Sheet has helped to answer these questions, and has provided the basic information you need before purchasing a PDA. Your next step is to do some research yourself, by using some of the recommended sources below and talking to PDA users that you know. If you do decide to purchase a PDA, be sure to read the other Study Skills Tip Sheet in this series, Using Your PDA as an Academic Tool.

Resources

Internet Resources

There are many on-line buyers' guides to help you choose the right handheld device for your needs. Here are links to a few sites:
- ZDNet Buyer's Guide: Handhelds: http://reviews-zdnet.com.com/4520- 9580_16-5139854-1.html?tag=dir.hbg
- CNet's Top Handhelds: http://computers.cnet.com/hardware/0- 2645869-8-20542449- 1.html?tag=st.cn.sr1.ssr
- Mobile Tech Review: http://www.mobiletechreview.com/
- PdaJD.com PDA Buyer's Guide: http://www.pdajd.com/vertical/tutorials/buyersguide.xml

In addition, PDA manufacturers often have helpful sites that provide information regarding their products. However, keep in mind that these "official sites" may be biased:
- Windows Mobile Homepage: www.microsoft.com/windowsmobile/default.mspx
- HP Handheld Devices Homepage: http://welcome.hp.com/country/us/en/prodserv/handheld.html
- Palm Homepage: http://www.palm.com/us/

Other Resources

In addition to research on the Internet, you can speak to friends and relatives and ask if they own a PDA, or know someone that does. PDA users can share their experiences with the device and offer valuable insight into the features they find the most/least important on their PDA. Another option is to try to purchase a PDA from a retailer that offers a 30-day unconditional return policy. If you aren't satisfied, you can then return the device and get your money back.

References

Anderson, P. & Blackwood, A. Mobile and PDA technologies and their future use in education. JISC Technology and Standards Watch: 04-03 (November 2004).
Smartphone. Wikipedia: The Free Encyclopedia. Retrieved April 2005 from http://en.wikipedia.org/wiki/Smartphone.

Want more information?

The Counselling Department and the Academic Success Centre are your best sources for advice and information on issues related to learning, studying, time management, and academic performance.

Workshops on learning, studying, etc., are offered regularly each semester by the Counselling Department. Please contact Student Services at Abbotsford - 604-854-4528 (B 214) or Chilliwack - 604-795-2808 (E 105) to make an appointment.

Study Skills Tip Sheets providing information on many learning and time management topics, as well as writing and referencing, are available free to students. The complete range of Study Skills Tip Sheets is available on-line at www.ufv.ca/counselling/study/ .

Other Relevant Study Skills Tip Sheets:
Using Your PDA as an Academic Tool

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The Learning Commons