

Institutional Computing Standard Committee

STANDARDS

Personal Digital Assistant (PDA) Standards

Created by PDA Subcommittee

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Proposed Personal Digital Assistant (PDA) Standards

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Summary

This document was developed by the Personal Digital Assistant (PDA) Subcommittee to address policies for the deployment of PDA devices at Johns Hopkins. Primarily, the subcommittee addresses the use of a structured approach to the deployment of PDA based applications and information systems. The subcommittee does not currently recommend a specific brand or model of device. However, selected devices must be supportable by the central information technology groups, or a departmental IT group. Devices that make use of wireless technology must make adhere to standards and procedures developed by NTS.

The standards provide a list of factors to be used for evaluating the choice of a vendor, application or operating system. Again, the document focuses on a structured approach to the use of PDA technology, with full involvement of all interested parties. This is intended to counteract the unexpected appearance of devices that ultimately require support. It is not intended to limit or slow the use of these devices. In fact, the committee is charged with being a clearinghouse for information about uses of PDA technology at Johns Hopkins, as well as source of information concerning best practices in implementation. Further, NTS currently support several hundred PDA devices and encourages IT support groups throughout Johns Hopkins to proactively develop a PDA support agreement with their user communities.

Introduction

This document provides standards for the procurement, deployment and support of PDAs at the Johns Hopkins Institutions. The intended audience of this document is any group or individual that uses a PDA for business, medical, research or teaching purposes at Johns Hopkins.

In recent years, use of PDA devices has increased significantly. In order to provide support and standards for the use of these devices, the ICSC has published this document for end users, project managers and technical staff. The committee has three basic goals:

- To increase the level of knowledge and communication concerning projects, applications, support and solutions that use PDA technologies.
- To develop standards and guidelines that can be presented to IT support organizations concerning the selection, support and use of PDAs in Hopkins.
- To explore the intersections of PDAs and related technologies, such as wireless networking and other portable computing technologies.

Information technology support staff are encouraged to use these standards and guidelines to help set expectations and reasonable levels of support for these devices. End users or departments planning on using these technologies are encouraged to use the information in this document to involve the appropriate groups in the planning and implementation of PDA technology. As with any information technology, ongoing support, technical assistance and planning is necessary for successful use over time.

The personal digital assistant, or PDA, is one of many names used to describe a new breed of inexpensive, small, portable computers. Other names include the palmtop computer, the hand-held computer, and, more recently, the palm-sized personal computer. Although hand-held computing or calculating devices have been available since the late 1960's, PDAs became more widely available in the 1990s with the invention of the Apple Newton™ Message Pad. Today's PDAs differ from yesterday's

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hand-held devices by being lightweight general-purpose computers specifically designed to run personal productivity applications.

The features of PDAs are relatively consistent across the variety of available devices. Most PDAs are small enough to fit in the shirt, suit or lab coat pocket, pants pocket, or purse. They generally support input of information using a stylus and either handwriting recognition software or an on-screen (soft) keyboard. Vendors also market small, attachable keyboards for PDAs. PDAs come equipped with standard software to manage a personal schedule, store names and phone numbers, record "to-do lists", and record memos. While some PDAs have significant battery life, some newer devices have limited battery life, due to the use of backlit screens, added processing power and memory, and additional add-on devices, such as wireless network cards.

Scope

Based on a consensus among members, the committee is tasked with developing standards and guidelines that address the following issues:

- Develop a policy, or guidelines, for PDA use at Johns Hopkins
 - Outline the wireless and support infrastructure
 - Address encryption and security issues
 - Outline a vendor approval process and key contacts list
- Develop criteria for device selection
- Develop criteria and a process for application "approval"
- Provide recommendations concerning specific devices, including statements on usability and functionality.
- Provide recommendations on applications, synchronization software, and configuration for interaction with Hopkins systems.

As of July 2002, the standards for the first three items are complete. The remaining items are in continuing development. NTS and other individual IT support groups have existing support agreements that provide information on currently supported devices and their use with Johns Hopkins information systems. The committee expects additional recommendations to be developed during the next 2 quarters. This document has a 6 month review cycle.

Enforcement

Enforcement is performed to safeguard shared resources and the safety, cost effectiveness and efficiency of the organization. The standards are not meant to create a hardship for users; exceptions can be granted upon review, but must be registered with the proper authority. In the case of PDA projects, rapidly evolving technology dictates a flexible approach in which a structured process is favored over the selection of specific technologies, applications or tools.

Hardware & Software Background

While there are many PDA products, options, and networking capabilities, the two major manufacturers of PDA devices for business use are Palm and Hewlett Packard. Palm uses the Palm OS operating system and Hewlett Packard uses Microsoft's Pocket PC. Additional products from Research In Motion, Sony, Handspring and Sharp have also been noted in the Institution. Selection of a specific device must be coordinated with an IT support group, purchasing and must follow the process outlined below.

Wireless & Support Infrastructure

Johns Hopkins Networking and Telecommunications Services (NTS) is responsible for a wide range of networking technologies and systems that may be used in combination with PDAs. NTS manages the wireless networking infrastructure and is responsible for ensuring that the system is free from interference and available for registered users. As of May, 2002, NTS uses the 802.11B networking protocols. All parties interested in making use of this technology, or any other wireless technology, must first contact NTS to ensure that systems are properly implemented.

NTS, along with several information technology divisions, is responsible for the management and use of various messaging systems, such as email, pagers, and cellular systems. Those interested in making use of these systems in combination with one or more PDA devices must first contact NTS to ensure that these systems are properly implemented. NTS provides standards for purchasing specific brands and models of devices. In addition, NTS provides support level expectations to ensure that users understand the capabilities and limitations of PDA technology.

In some cases, departmental support requirements may differ. Departmental needs and NTS standards must be combined to provide a PDA solution that meets a given set of needs.

Some PDAs are equipped with radio frequency transmitters/receivers that are not supported by NTS. Some of these devices are on networks managed by third party companies. Use of these devices must be approved by Clinical Engineering and the Facilities Department for use in a healthcare setting. The suitability of using an external network provider for access to data and information must be fully evaluated prior to implementation of such devices.

Security Issues

PDAs, especially those used with synchronization technologies, generally contain data along with the operating system and application programs. Because data may be stored on a PDA, these devices present additional security concerns for applications that contain sensitive and confidential information.

- Individuals or departments seeking to use PDAs for the storage or transmission of secure data must evaluate the risks associated with the use of specific devices and applications, as well as the expected ways in which people will transport and use the devices.
- Use of user ID and passwords, timeout features, encryption software, network authentication, data backup and recovery techniques, PDA reconfiguration software, and other tools must be implemented when deploying PDAs.
- All PDAs that contain sensitive data must make use of one or more forms of authentication, access control and data encryption.
- Designers of applications that contain sensitive data for use on a PDA must consider security and document their approach to storage and transmission of data.
- Data stored or synchronized on PDAs may not be considered secure, unless the PDA employs the use of encryption, authentication, and data erasure upon a limited # of invalid logon attempts.
- Further, use of PDAs for storage of confidential data may be governed under policies and laws outside the scope of this document.
- The process and tools used to protect information for a PDA project must be documented.
- Use of third-party networks for transmission and storage of data must be evaluated for additional security and confidentiality concerns.

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Personal Use

PDA's purchased for a business, clinical, research or educational uses by Johns Hopkins must be treated in the same manner as any other property owned by Johns Hopkins. Incidental use, such as with email and telephone use is allowed. Usage that interferes with the operation of the PDA for business use is not allowed.

Vendor Approval Process

In cases where vendors may be used to supply devices, applications, management tools and other products for a PDA project, individuals and departments must use a recognized procurement process to ensure that Johns Hopkins interests are properly represented.

- Contact the Legal department for any contract negotiations.
- Contact the Purchasing department to ensure that a vendor is eligible to sell to Johns Hopkins.
- Contact your departmental IT person, or a representative from NTS, JHMCIS or HITS to ensure that appropriate individuals responsible for networking, systems and applications are represented.
- Contact NTS for information on devices that make use of cellular or radio frequency technology.

As with many new technologies, it is possible that some vendors do not have the experience, financial stability or support infrastructure to be successful in meeting future obligations for PDA support and service.

In cases where multiple devices, systems and departments are involved in a PDA project, consider using a formal Request for Proposal (RFP) process to ensure that all issues are addressed prior to purchase and implementation. A formal planning process can often uncover issues that are not apparent initially.

Device / Solution Selection Process

A wide range of PDA devices are available today. New models and technologies are being introduced at a rapid rate. The recommendation of a specific device is not in the scope of this document. However, many factors must be considered when selecting a PDA and associated operating system. Use the following factors as a starting point for documenting the characteristics of a PDA project or selection.

- Identify the application(s) that will be used
- Evaluate the vendor(s) commitment to PDA technology?
- Evaluate the vendor(s) financial, support, marketing and engineering strength.
- Evaluate the role of the vendor as a manufacturer, marketer or reseller of the devices.
- Identify the companies that will be involved in the delivery of products, software or services related to the PDA device.
- Determine the vendor(s) delivery schedule for new, improved products, in order to assist with device selection.
- Determine the extent of 3rd party support for the operating system of the device.
- Determine the total cost of the device, including accessories and batteries?
- Determine the anticipated battery life for the application in question, considering usage patterns as well as battery characteristics.
- Determine the size and weight of the device and its appropriateness for the anticipated use.
- Determine if the screen size, brightness and amount of information that can be viewed is satisfactory for the application(s) in question.
- Determine whether the vendor supports the use of more than one application on the device.

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- Determine who will provide repair services for the device.
- Determine who will provide quick replacement / reconfiguration of the device in case of a problem.
- Identify the one-time and ongoing costs associated with the software being used on the device.
- Determine whether the vendor has a directory enabled networking roadmap for the device or application.
- Determine whether the vendor has an information security roadmap for the device or application.
- Identify the types of systems management tools are available for the device.
- Determine how data will be stored – on the device, or on a server. Server storage is recommended.
- Determine the type of network transmission the device uses. Is the network transmission supported at Johns Hopkins? Is the frequency restricted from use in certain environments, such as clinical settings?
- Identify the industry standards that are employed by the device and/or application.
- Determine whether the device been tested and approved by NTS/JHMCIS/HITS, or a departmental IT group.
- Determine the user community that will use the device, including the locations, support organizations and departments affected.

Statement Regarding Future Guidelines / Scope Limitation

The committee continues to evaluate specific technologies and devices, order to keep abreast with the rapidly changing PDA technology arena. It is the intent of the committee to provide updates on its web site regarding experiences and advice regarding specific devices and technologies are they arise.

The committee maintains an approach that does not favor a specific device or operating system at this time. Rather, the committee suggests open dialog with all entities mentioned in these guidelines, early involvement of support organizations, and comprehensive evaluation of PDA applications, devices and solutions before implementation.

The committee is unable to identify a specific vendor and set of devices at this time. The committee will develop recommendations through testing efforts and will publish those recommendations during the next 6 months. NTS and departmental support groups, along with clients needing PDAs must jointly select the devices, operating systems, applications, management tools and security options as part of the structured process outlined above.