

6

Options for Electronic Portfolios



Focus Questions

- What are the options for preparing an e-portfolio?
- What are the advantages and disadvantages of using Web-based portfolio tools?
- Why is PowerPoint the program of choice in this book?

❖ INTRODUCTION

A variety of choices confront a learner once the decision is made to use an e-portfolio. The question, however, should focus on one primary assumption. One must remember that the objective of any portfolio is to document learning, but if that documentation is contained in an e-portfolio, a major concern is that the e-portfolio can be viewed. A university program that uses a commercial Web-based tool for a program exit e-portfolio will not necessarily work well for practicing teachers in the preparation of an e-portfolio for use in documenting their professional development efforts. Similarly, the use of a very sophisticated authoring tool may not be best for use by a teacher with children in

class. In addition, the use of any tool that is difficult to import into other applications or settings may not be the best choice in the development of an e-portfolio for interview purposes. Therefore, the assumption in making a decision regarding which of the available e-portfolio authoring tools is best for your use must be focused on the need for the tool to be easily accessible by the writer and by the writer's intended audience. With this assumption, a review of some of the options should be undertaken.

Many of the e-portfolio programs that are on the market are based on commercially prepared Web-based products or user-authored Web pages. Other products used to produce e-portfolios are based on tools that are "local" or individual computer applications normally used as presentation software programs rather than based on Web technology. Many of these "local" tools are presentation programs commonly found among the contents of most "all programs" listings familiar to computer users but are adaptable for the production of e-portfolios. These include PowerPoint (favored by the authors), WordPerfect's Presentations, or Open Office Impress. Furthermore, "local" tools can be of equal or superior value to commercial Web-based products. Local production of e-portfolios offers the author an opportunity to work in an environment in which many already have some familiarity, yet it also has the capability to present each of the standards separately, offer related reflections, and even hyperlink to student-selected and appropriate artifacts external to the e-portfolio presentation. The use of hyperlinking internally to the presentation can result in a presentation not unlike a Web page with navigation among a table of contents, standards, reflections, and artifacts, but with the security that is inherent in locally maintained files. The decision as to which of the e-portfolio options to use is summarized in Table 6.1.

This chapter will review some of the more common programs for the generation of e-portfolios, discuss the platforms used, and provide details as to characteristics of alternative authoring tools. All of this is provided to clarify the factors considered that have led to the choice of PowerPoint as the authoring tool that will be used throughout the remainder of this book.

❖ WEB-BASED E-PORTFOLIO TOOLS

Web-based e-portfolios are quite common. They have been written for and mounted to a server for viewing via the Internet, and they have the

Table 6.1 E-Portfolio Authoring Tools

<i>Options</i>	<i>Advantages</i>	<i>Disadvantages</i>
Web pages authored by the author	Author choice is maximized Creativity is maximized	Each author has different product Security issues Server space and file maintenance
Web templates that authors utilize	Authors have some choice Author products appear standard	Security issues Server space and file maintenance
Commercial Web-based templates	Authors choose required artifacts Server space and file maintenance off-site	Additional fee for authors Security issues
Local multimedia tools	Author choice is maximized Creativity is maximized No required server or file maintenance Can be mounted to the Web	Requires choice of application program Viewer must have application or import into a common application

clear advantage of being easily accessible by anyone with a Web browser such as Netscape Navigator or Microsoft Internet Explorer. The presentation of this type of e-portfolio involves starting the browser, navigating to the appropriate URL, and viewing the e-portfolio as any other Web presentation. These portfolios all have a structure that is nonlinear, just as the Web is nonlinear. The use of hyperlinks and buttons can enable a viewer to go to content of particular interest without having to navigate through other content that is not of the same degree of interest. In this way, a viewer does not necessarily need to progress through the portfolio as if it were a more structured presentation. A viewer can opt to jump around the portfolio from one section to another based on the viewer's need or preference. This structure is graphically represented in Figure 6.1.

One version of the Web-based e-portfolio is the self-designed and self-authored page. This type of portfolio uses an approach that is the equivalent of creating a sequence of Internet pages. In days not so long ago, a Web page author needed to first learn hypertext markup language (HTML), the language shared by virtually all computer

platforms for the composition, reading, and display of Web pages. HTML was not difficult to learn: The user simply needed to add specific “tags” to lines and sections, which served to control the display position, size, and color contained in the page. Now, the construction of a Web-based e-portfolio is even more painless with the advent of page-authoring tools such as Netscape Composer or Microsoft Front Page. Users need not be concerned with adding “tags” as these page-authoring tools will do that for the user.

Using commonly recognized navigation tools, an e-portfolio author could create a version of the Web-based portfolio in the same way that any Web site is created. The Curry School (of the University of Virginia) Center for Technology and Teacher Education and Penn State University are sources of several examples of Web-based portfolios. Using the following URLs, a viewer can get a good idea of the promise and limitations of this type of portfolio:

<http://curry.edschool.virginia.edu/class/edlf/589-07/sample.html>

<http://portfolio.psu.edu/about/index.html>

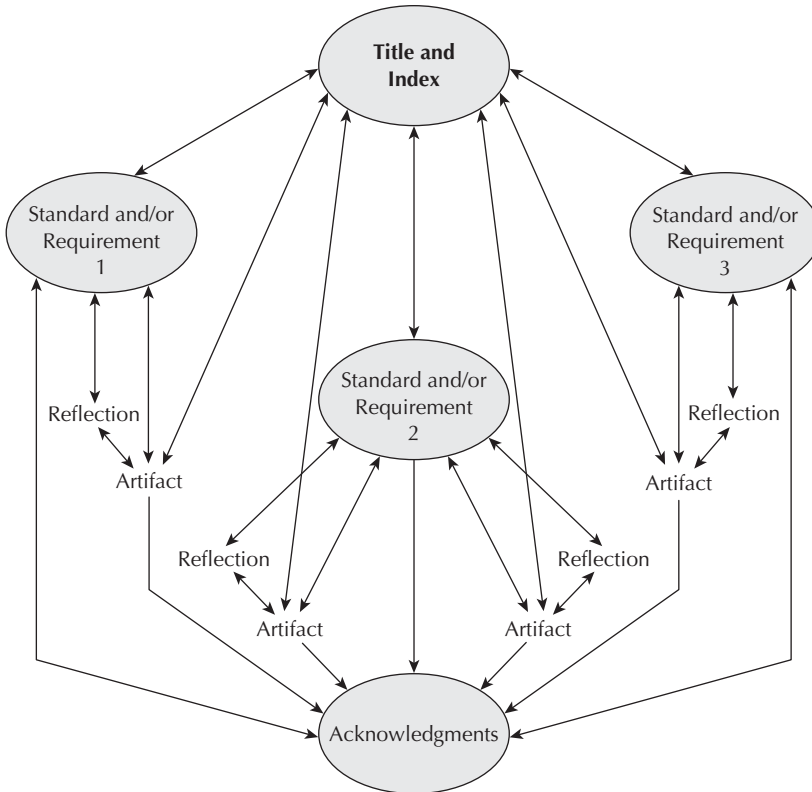
The University of Wisconsin at La Crosse (UW-L) uses a Web-based system in which the candidate is provided a template of required contents and format and allows each candidate to make choices regarding his or her reflections and artifacts. This example establishes a standard presentation of the candidate’s work, which, in turn, has the strength of allowing for more familiarity on the part of each evaluator. Using the following URLs, a viewer can follow the links to the templates for the UW-L or Kennesaw State University e-portfolio system:

<http://www.uwlax.edu/soe/portfolio/information.htm>

http://www.kennesaw.edu/university_studies/sye/pocket.shtml

Each candidate who has posted a Web-based e-portfolio has, in effect, designed a Web site that presents his or her own information—information that the candidate chooses, formats, and mounts to the Web site. The ability to move from section to section in a nonlinear manner is a strength of these e-portfolios. Given the relative ease of constructing Web pages with the Web design tools mentioned earlier, and given that most people know how to navigate the Web, the Web-based portfolio has the obvious value of familiarity.

Figure 6.1 A Diagram of the Nonlinear Pathways Available in Web-Based E-Portfolios



NOTE: A Web-based e-portfolio allows navigation in a nonlinear manner that permits the reader to jump from feature to feature in a wide variety of pathways among three standards and four artifacts.

Figure 6.1 graphically represents the navigation within this type of Web-based portfolio. Many pages are published when one authors this type of e-portfolio. Some may contain a title with an index, standards, or requirements that are set for the e-portfolio; artifacts that are selected to demonstrate that the standards are met; and an acknowledgments page to recognize contributors or materials that require permission. Links are established from the index to the various standards, then to reflections, where the e-portfolio author explains how they demonstrate that the standards were met and which artifacts are selected to verify the reflection. Links are added to lead the reviewer

from the reflections to the individual artifacts. The reflections are important in that they are the crux of the matter, including information more important than the artifacts themselves. Knowing why a candidate selects a specific artifact is important as a more authentic means of assessing a candidate's reflection as to how he or she meets the standard. In an e-portfolio, links can be established to allow the viewer to move directly between the index and each standard and artifact. A diagram of this kind of e-portfolio would appear as a web because the optional pathways that a viewer might choose are numerous.

Another version of the Web-based e-portfolio uses either a commercial provider or noncommercial program to establish a template that can be used to add a common structure to the portfolio. The structure of the template may be based on locally developed standards or requirements, or the structure may be based on state or national standards. The primary difference in this version of the Web-based e-portfolio is the structure. In the first version discussed, each Web-based e-portfolio had a unique appearance and its own structure for the Web page as it displayed on the computer screen. In the second version, a structure was established, but the choice of content and artifact was still left to the candidate. In this third version of the Web-based e-portfolio, each of the portfolios has the same appearance as it is viewed and the nature of each artifact is specified. The following addresses will take the reader to the Web sites of TaskStream and Chalk and Wire electronic portfolio systems. These represent one commercial option for the construction of a Web-based e-portfolio system.

<https://www.taskstream.com/pub/>

<http://www.chalkandwire.com/eportfolio/>

In most cases, the portfolio author has access to a secured Web site that contains the e-portfolio template. The security precautions vary widely but are usually password protected to limit access to each user's own file. Each author pays a subscription that allows him or her to post the content selected as appropriate into the template and then save the e-portfolio into a separate space. This space is most often a defined allotment of memory at a remote site. The allotment is protected from viewing from others (partitioned), with access limited to only specific persons. The partitioned memory usually exists in the memory of a network or Web-accessed server dedicated to the purpose of saving portfolio authors' work. Each partitioned space is normally

only accessible to the author, the supervisor of the portfolio requirement (course instructor, administrator, or assessment coordinator), and the computing system supervisor. Although each system has its own specific bells and whistles, this is the most common design of the template version of the Web-based e-portfolio. The subscription required for each candidate explains how the service is a dot-com.

Using any version of the Web-based e-portfolio (author designed or template), the e-portfolio can be viewed using any of the widely available Web navigation tools. In some cases, the e-portfolio is posted and can then be reviewed by anyone who has access to the page through the Internet. This is a strength of the Web-based e-portfolio, for any Web-capable machine has access from any point in the world where access is possible, with only Web-browsing software being necessary once the machine is connected to the Web. In addition, the use of dedicated servers and partitioned space has the potential to generate information in specific report formats. All of the answers posted to a specific requirement or standard could be separated from all else and reported without being linked to specific authors. This capability has tremendous value when those who set the requirements or those who establish the standards choose to examine the range and nature of data posted to answer any specific requirement or standard.

The devil in all of this, however, is in the detail. In this case, security is always a concern in that, as the name implies, posting the page to the Web exposes the page to a potential worldwide audience. This strength also presents an obvious danger as an author's e-portfolio may contain information far too sensitive for such a wide audience. Not limited to personal information that may be contained in an author's résumé, the danger of exposure extends to additional details. The artifacts may include images, writings, or creative products of the author or others. Although permission to use such artifacts in an e-portfolio should be secured as a responsibility of the author, the dissemination of such items to a potential worldwide audience may not be desirable.

Although Internet security is better now than ever before, there are still those in our society who revel in their ability to break into secured sites. They may do so for the entertainment, enjoyment, or covert purposes of altering information, stealing identification, or implanting viruses that can be shared through the hardware enabling the Web-based tools being used. In many of the examples of Web-based e-portfolios on sites presently on the Web, résumés were found to contain far too much personal information. Although the Web-based e-portfolio has obvious strengths, especially as related to assessment and maintenance

arenas, the risks may outweigh the benefits of posting materials to the Web. It is recommended that e-portfolios authored in this way be saved locally on appropriate computer media without being posted. The media could be computer floppy disks, CDs, DVDs, or a local-area network server not accessible through the Web. Materials saved in this way can still be viewed with the navigation tools mentioned previously. For the purposes of this discussion, an important question remains as to whether it is possible to develop Web-based e-portfolios that do not have the risk that the World Wide Web may present.

❖ NON-WEB-BASED (LOCAL) E-PORTFOLIO TOOLS

Non-Web-based e-portfolios are based on computer programs that are usually intended to be presentation tools. These tools include the popular HyperStudio, Apple's Keynote, and the widely used PowerPoint, commonly a part of the Microsoft Office package. Presentation software clarifies a presentation, with projected information containing notes or lists that serve to augment the presentation. It would be difficult to find someone who has not observed a demonstration of presentation software, which is commonly used to augment an otherwise normal presentation. In the worst use of the technology, the software is used to supply the presenter with text that he or she then reads to the audience. A more suitable use of this technology is to enhance a presentation by presenting an outline, stressing important points, or supplying information that adds to a good presentation. Thus, the presentation software creates, in a sense, a more modern, high-tech, more attractive, and more easily altered overhead transparency.

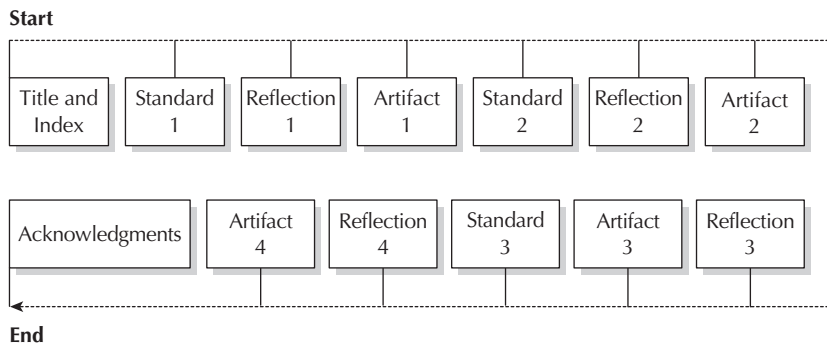
Presentation programs are increasingly popular and are now a common feature in our schools. Even elementary school children are taught how to use the program for their assignments. PowerPoint (the well-known product of Microsoft), Keynote (an Apple Corporation version of a PowerPoint-like presentation software package), HyperStudio (a multimedia authoring tool more capable but less common than PowerPoint), and other such presentation tools have a number of commonly used options. They might allow, for example, stepwise revealing of information, with the selected information not appearing instantly but only after a cue provided by timing or a mouse click. Other common tools include graphics and music options along with options to create special effects as slides change. These programs may also permit the addition of the author's voice to the presentation. These programs are

common and fairly easy to use. Access is dependent on simply owning a copy of the software and having suitable hardware to run the program. The widespread use of these programs is demonstrated in that many computers come packaged with presentation software. For those who need to see the presentation but do not have the software, many programs have a free “reader” that can be downloaded for viewing.

In that most presentation software is treated as a linear program, the most common use of the programs is to move from one slide to the next, in a specific order. Although there are other options available within these programs, it is uncommon in practice to use the program for anything other than a linear presentation. A diagram showing a linear presentation format is presented in Figure 6.2. In this diagram, the title page is located on the top left, and as the presentation unfolds, the slides are revealed, in order, from the title page across to the right, then down and across to the left. The diagram as developed shows the same three standards and four artifacts that were used in Figure 6.1. The difficulty in using presentation software in a traditional format is that the viewer of the portfolio needs to do one of two things to see the fourth artifact. The viewer must either choose to go through nearly the entire presentation, or the viewer needs to stop, find the built-in navigation tool, and then move to the desired slide if the slide title is known. The advantage of presentation software is that it is relatively easy to use, and it does not need to be viewed using a Web site or Web navigation tool. Security is less of an issue using this software.

Advanced features of presentation software are far less common in most uses of the packages. Such features include attaching the author’s own music or graphics, which may include still pictures as well as movie clips. The author can also include a feature that allows the viewer to “jump” from slide to slide, or slide to a document outside of the presentation software, and then jump back to the original or to a different slide. This feature, known as hyperlinking, can be used to move both within the program and to documents outside of the presentation. The author can create hyperlinks either by allowing the viewer to click on the words describing where the hyperlink will go (in a manner similar to most Web page navigation) or by creating a series of “buttons” that can be “pushed” by clicking on the button. Hyperlinks can be established to view documents or to move from the presentation software to specific Web addresses. Within the parameters of e-portfolios, most hyperlinking is used to navigate through the e-portfolio and to link to documents, graphics, or sound that might comprise the artifacts selected for inclusion.

Figure 6.2 A Diagram of the Linear Pathway of a Typical PowerPoint Presentation

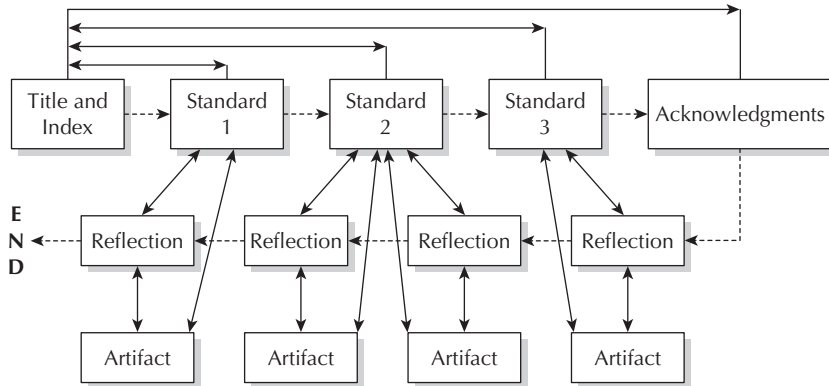


NOTE: A linear presentation model requires information to be presented in a set sequence or order. This is the typical model involved in the use of presentation software, here representing three standards and four artifacts.

The use of hyperlinking can alter the more traditional use of presentation software by making it appear less linear. The ability of a viewer to move to a specific page in the presentation is the equivalent of a Web-based portfolio viewer selecting the page containing the standard of interest. A viewer may not be interested in the record of achievement composed under one standard but may be interested in the performance assessment, which could be located on a later page. The ability to jump around information and to move directly to that performance assessment from an index allows the viewer to save time—often the most valuable commodity. Figure 6.3 includes the use of this feature within presentation software, allowing the viewer to jump between and among hyperlinked pages of the presentation in a nonlinear manner.

Figure 6.3 shows how to use the traditional features of presentation software to establish the same three standards used in earlier diagrams, Figures 6.1 and 6.2. However, to read reflections and see the artifacts, the viewer can click on a hyperlink and be transported to any point in the presentation from the index or to related reflections and/or artifacts included in the e-portfolio. The viewer has the option, of course, to click and simply move through the presentation, but that would imply that many aspects of the e-portfolio residing outside of the presentation might be missed. Thus, in authoring a portfolio using the advanced features of the presentation software, the portfolio author must take into account that a viewer may not automatically know

Figure 6.3 Diagram Showing a PowerPoint Presentation as a Linear Pathway (Dashed Line) Made More Nonlinear (Solid Line) With Hyperlinks



NOTE: This nonlinear presentation format will run as a normal presentation along the dashed line but can use hyperlinks to become less linear along solid lines. This model presents three standards with four artifacts.

to move through the presentation to reflections and artifacts. The portfolio author needs to supply sufficient information in the design of the portfolio to allow for this movement.

Table 6.2 contains a list of selected portfolio authoring systems. Reflected in the table are several factors that influence their use in any portfolio effort. The list is broken into two broad categories and is not, by any means, represented as a complete listing of tools available. In fact, under the heading of “Web-Based” tools, three programs are reviewed. These three are only a portion of a very large number of tools now being used or developed. A recent Web search found that there are, literally, thousands of e-portfolio development tools on the market. In fact, many of the commercial vendors of e-portfolio tools are engaged in customizing their sites to a point that their product is available in a number of formats. What is needed at one company or institution is not necessarily what is desirable at another company or institution due to differences in missions or systems of standards. Furthermore, many of these e-portfolio tools are available in non-Web-based versions. Although the list should be able to demonstrate the range of options available to the e-portfolio author, it is important to recognize that the half-dozen included e-portfolio tools represent a very limited selection.

Table 6.2 Choices of Selected Common E-Portfolio Authoring Tools in Terms of Some User and Authoring Tool Characteristics

	<i>User Requirements</i>			
	<i>Level of Computer Literacy Required</i>	<i>Creativity Required</i>	<i>Cost of Use</i>	<i>Benefits/Limitations</i>
Web based				
Netscape	High	High	Free	Low cost—difficult to use
Task Stream	High	Moderate	Subscription	Turnkey—limits creativity
Macromedia Cold Fusion	High	High	High	Somewhat difficult to use
Non-Web based				
KidPix	Low	High	Cost of program	Easy use limits features
HyperStudio	High	Moderate	Cost of program	Somewhat difficult to use
Macromedia Director	High	High	Cost of program	Somewhat difficult to use
Apple Keynote	Moderate	High	Cost of program	Macintosh platform only
Easy Presentations	Moderate	High	Cost of program	Not used as widely as PowerPoint
Open Office Impress	Moderate	High	Free download	Easy conversion to other formats
WordPerfect Presentations	Moderate	High	Cost of program	Often preinstalled on new computers
MS PowerPoint	Moderate	High	Cost of program	Widely used program

❖ SELECTING A PORTFOLIO TOOL

The portfolio author needs to consider several variables in selecting a portfolio tool that is to be used for a specific reason. These variables provide a picture of the needs established by the portfolio requirement

and together produce a profile unique to each setting. The portfolio author should consider factors ranging from the technological preparation of the anticipated viewer and the author to the intended use of the portfolio. It is evident from the list contained in Table 6.1 that the characteristics of the selected e-portfolio tools describe an obvious trade-off between ease of use and the supported features. If a program is relatively easy to use, the options that an author has are limited by the features that are supported by the technology. KidPixs, for example, is a relatively easy-to-use program that allows young children to compose rudimentary multimedia presentations. KidPixs is a logical choice for elementary schools that have students with limited technological literacy or for schools with limited technology that would make posting the e-portfolio to the Web less likely. This choice would address the limitations of the users while limiting the choices and complexities that may make other programs too difficult.

Alternatively, if a software developer wishes to develop an e-portfolio to demonstrate all of the complex options that can be present in an e-portfolio system, and if that developer wishes to post the e-portfolio to the Web, a more sophisticated program may be the better choice. For example, if the developer is a more advanced user, the options in a "Cold Fusion" application would allow more options for a more spectacular site. Cold Fusion is a presentation authoring tool that offers more options than most e-portfolio authors might need. This is not to say that an easier program is incapable of producing a spectacular e-portfolio—it is simply that not all e-portfolio authors will need the variety of "bells and whistles" available in the advanced e-portfolio tools.

The following specific questions should be asked when deciding which tool should be used to develop e-portfolios:

1. *What are the requirements or standards to be used as a basis of the e-portfolio?* The e-portfolio will be based on a set of requirements or standards. If these are extensive, requiring a more complex presentation, then the e-portfolio will need to be less "easy" and more sophisticated for the e-portfolio's development.

2. *What are the expected artifacts that will be needed to support the e-portfolio?* Before selecting the e-portfolio tool to be used, e-portfolio authors should consider the kinds of artifacts that may be selected. This examination will feed into the next question.

3. *What are the expected formats of artifacts that will need to be supported?* If the artifacts are to include a variety of graphics, music, and navigation options, then there will be an equivalent need to choose a tool that will support an equally wide variety of formats.

4. *What is the technological ability of the author of the e-portfolios?* To submit high-quality portfolios, the portfolio author must be prepared to use the tool selected, the platform on which it is running (Windows vs. Macintosh), and the technology that will support the production of the digital files that will serve as artifacts in the e-portfolio.

5. *What is the level of technology available in the infrastructure?* A failed effort is sure to follow the selection of a tool that is beyond the capability of the infrastructure available to the e-portfolio author. If authors are to use a Web-based system, and the system is not available to off-site work due to infrastructure limitations, the e-portfolio may not be as complete as it would with such access.

❖ POWERPOINT AS AN E-PORTFOLIO DEVELOPMENT TOOL

The immediate question that needs to be addressed is, What does this book recommend as an e-portfolio development tool? Remembering the primary assumption established earlier, and following the five-question schema listed above, the result is a set of parameters for the remainder of the book. The process of decision making in this instance is presented in Table 6.3. In this case, technology is not a limiting factor, except that long-term Web page storage could present a difficulty. The technological preparation of Web authors is not an insurmountable challenge in terms of selecting an e-portfolio authoring tool. Implicit in this is whether e-portfolio authors could be prepared to use the selected tool within a time frame that is both realistic and reasonable. Also implicit is that e-portfolio authors will not be prepared to use very sophisticated authoring tools. Because there is a potentially large variety of formats in which artifacts may need to be included in the e-portfolio, there needs to be a fairly high number of features supported by the e-portfolio tool selected. The combination of considerations in this case leads one to conclude that an authoring tool that is neither the most nor the least sophisticated would be required. For that reason, the remainder of the book will focus on presentation software prepared by Microsoft. PowerPoint is both widely available and will support a large number of artifact formats.

Table 6.3 A Consideration of Needs for Choosing an E-Portfolio Authoring Tool

<i>Question</i>	<i>Consideration</i>
1. What are the requirements or standards to be used as a basis of the portfolio?	The standards will be fairly extensive as they will be geared to a teacher preparation program or exit criteria, yet customized to allow for the adoption of a variety of educational or business applications.
2. What are the expected artifacts that will be needed to support the portfolio?	Artifacts are sure to contain still pictures, video clips, music, and a variety of word-processed documents as well as scanned forms.
3. What are the expected formats of artifacts that will need to be supported?	Documents will most likely be in MS Word and Excel, JPG scanned formats, digitally captured video, music, and/or voice files.
4. What is the technological ability of the authors of the portfolios?	Most users of the technology will be familiar with the basics of computer applications but less familiar with Web-based tools and posting of Web pages that are self-designed.
5. What is the level of technology available in the infrastructure?	Infrastructure is not a limiting factor as sufficient equipment is in place at most teacher preparation sites to support the short-range "local" development activities of e-portfolios. However, the long-term storage of pages online could represent a limitation.

Using PowerPoint as the tool for e-portfolio authoring has several advantages. PowerPoint presentations can be mounted to and accessed by the Web but are more commonly saved to media. In this book, we will introduce a variety of media that can be used to save PowerPoint presentations, including flash drives, hard disk drives, and servers. We will also consider the means by which presentations can be saved as optical media (in a process known as "burning" due to the use of lasers) such as CD-ROM or DVD presentations. The remainder of the book, then, will be a step-by-step "how-to" guide for basic portfolio presentations using PowerPoint as the preparation tool.

SUMMARY

The production of e-portfolios has an advantage over other kinds of physical portfolios in that the e-portfolio can be easily duplicated and is easily stored. There are two major types of e-portfolios—Web based and non-Web based. Web-based portfolios use Web authoring tools and are saved to servers, making them widely accessible. Non-Web-based portfolios use presentation software and more fully use the creative capabilities of the portfolio authors. Since a security concern may exist with Web-based e-portfolios, more control can be ensured with non-Web-based options. Microsoft's PowerPoint—one of the more common presentation software packages, available across platforms—will be used for the remainder of this book.

QUESTIONS TO GUIDE E-PORTFOLIO PREPARATION

1. Which of your artifacts might be included in an e-portfolio that are impossible to present in a traditional paper portfolio in a binder?
2. Are the artifacts you listed above in digital form? What will you need to do in order to convert nondigitized files to a digital format?
3. What software is available for you to use in the preparation of an e-portfolio? Which are you required (or have you opted) to use? What are the advantages and disadvantages of this choice?