

Electronic Portfolios (EP)

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EP - Electronic Portfolio
EA - Electronic Artifact(s)
DP - Developmental Portfolio

• *Should you have an Electronic Portfolio (EP)?*

It is a mistake to ignore the value and usefulness of an electronic portfolio (EP). As the Coordinator of Computer Education for IUN, I take the position that virtually every student should have an electronic portfolio (EP).

- It's so much easier to share with a colleague or prospective employer over long distance.
- It takes up less space (often virtually no space at all).
- It is permanent and secure forever.
- It's much easier to make multiple copies for distribution.
- It is more easily modified and maintained.
- Non-EP, or paper versions can always be easily produced as needed.

• *Information on Electronic Portfolios...*

This document will cite several useful principles and general suggestions or methodologies for producing your own EP. The content is partially based on the work of Dr. Helen Barrett at the University of Alaska Anchorage, and by Campbell, Cignetti, Melenzyer, Nettles, and Wyman (1997). Also see the Australian Web site: <http://www.dampier.wa.edu.au/portfolio.html>

• *What do I do?*

An EP is very difficult to create *from scratch*. It is very important to start early and generate portfolio artifacts in an electronic format from the beginning and to continue that processes throughout all your classes. While every student should have an EP, no one can do it for you. You'll have to take the initiative and, one step at a time, generate the materials yourself. Start now and do the work for each potential artifact as they're created in your courses.

Guiding strategies (explained in more detail below):

1. Virtually every single experience or product can exist or be documented electronically.
2. Identify specific artifacts that denote accomplishments for each and every standard.
3. Produce the appropriate abstract or summary of each artifact when stored.
4. Gather or develop electronic artifacts (EA) when you first complete the project - don't procrastinate.
5. Distinguish between a developing portfolio (DP) and the final or professional EP.
6. Organize a developing portfolio (DP) according to the standards of your program.

7. Store all electronic artifacts EA in the same location with backups stored elsewhere.
8. Organize the EA at the end of every semester.
9. Adhere to versatile formats for files and media.

Your final **EP** can exist in **various formats** (also discussed below):

- A. Computer diskette - holds only very little (1.44 megabytes)
- B. Zip disk - holds a lot (100 or 250 megabytes)
- C. Jaz disk - wow (1 gigabyte)
- D. CD-Recordable (CD-R) & CD-ReWritable (CD-RW) (650 megabytes)
- E. Video Tape (analog video material)

- ***More Detail on Above...***

1. ***...everything documented electronically...***

Easy Stuff

The most obvious material that is EA ready would be any word processed document. Its already electronic. Certainly, the instructor may have required a paper version but keep the electronic version as well and transfer it quickly to your DP. That is, take each word processed artifact and copy it to your portfolio storage area (organized by the standards to be demonstrated). This storage area or working portfolio is developmental (DP) would likely be modified over time.

Create a word processed *Table of Contents* file (start one today) in which each EA is listed by file name. It should also show all related files together and where on the disk (or other media) the file(s) can be found. Not only is this of obvious use to other readers, after several semesters you too will be glad to have this guide. The format or style of this can be easily modified later but at least you'll have a working DP and that's the most important thing..

Anything Really?

Often students fail to realize that virtually anything can be represented electronically. Of course, it would be a big mistake to hand write your term paper and hire someone to type it on a typewriter leaving you no electronic format at all. But, even this can be scanned and stored on disk. The point is anything can be represented electronically.

OCR - *Optical Character Recognition*... means that scanning a document can recreate the material in a character-by-character format as if it was originally typed into a word processor. However, unless you are very proficient at using this type of software, it can be very difficult and somewhat impractical. Scanning the document is fine but it will likely remain in a "picture" format.

Example 1

Consider a possible worst-case example. Students in a mathematics class learn to cut and fold paper to produce dice then to be used to practice and reinforce mathematics concepts of

probability and statistics. Even this can be included in your EP. A simple photograph or two of the materials, manipulatives and maybe including a student using the materials could be scanned and stored electronically. The EA would include the electronic picture and maybe a word processed anecdote or announcement describing its design and use (like an extended caption for the photograph) and any data from pilot testing or suggestions for using the activity and manipulatives. In other words, anything can be represented electronically.

Example 2

You're teaching in a classroom and recording on videotape to document strategies, a lesson plan, classroom management or other issues. Often, videotape is considered a major part of an EP. However, they are not conveniently reproduced and typically do not or cannot contain a complete portfolio. In other words, videotape cassettes become peripheral components of a portfolio that exists separately and in some other format. If your final EP is to be on CD then how can this format accommodate (and represent electronically) the video material from the videotape? A representative portion, 2-3 minute segment(s), could be digitized into a computer file playable by most video software and included in the EP.

2. **...identify artifacts for every standard...**
3. **...produce the abstract...**
4. **...develop electronic artifacts (EA) when you finish the project...**

Supporting Standards

As artifacts (electronic or otherwise) are selected and organized to support the competencies of a particular program, each EA should have an accompanying abstract or written statement that explains and supports how a standard has been achieved. While this would likely be word processed, your program may have a required format for this document. Be sure to fully and effectively support **all** standards in the program.

Filename

For improved organization, name the abstract file similar to the EA file. For example, if the artifact has a filename such as "Lesson Plan.Doc" then name the supporting abstract something like "Lesson Plan AB.Doc" Or, if the artifact has a filename like "Teaching Video.Avi" with a written summary named "Teaching Vid Sumry.Doc" then name the supporting abstract something like "Teaching Vid ABS.Doc" That way, the reader can easily associate the files that go together and can find abstracts of other artifacts because the same style is used throughout the EP.

Don't procrastinate

Be sure to create the supporting abstract for the EA as soon as the item is selected as an artifact. It is quite necessary to manage this at least on a semester-by-semester basis. One might often be too busy during a course to both complete an assignment and build the supporting EP files. But, stay focused on the need for an EP and devote time to building it properly. During a course, at least copy important or potential artifact files to a storage disk devoted to this purpose. It's a lot easier a little at a time than to try to recover or recreate lost work later.

5. ...distinguish between DP and the final EP....
6. ...organize according the standards...

As mentioned above, store files consistently and early into an easily maintained location. For example, it is suggested that one keep a zip disk for storing potential EA. As a project is completed in any course and considered a possible EA then immediately copy the file(s) to the zip disk or folders on a hard disk with backups on zip or almost any other arrangements. However, the working storage area must be easily accessed. This working storage area should be maintained as a developing portfolio and adhere to the conceptual framework of the program. Certainly, files may occasionally need improvement or be in an awkward format, but having the file in the DP is critical. Conversions, improvements and other modifications can then be made as needed to produce a professional looking EP.

Folders

It is suggested that a series of folders be created which correspond to the conceptual framework of the program. For example, the Indiana University Northwest, Division of Education has a 9 part conceptual framework for its undergraduate program and a 5 part framework for its graduate program. Maybe name specific folders for each of these program areas and place EA within each of these folders. Of course, material could be further organized within those folders based on the nature of the EA itself. It might be advisable to describe the assessment context and maybe include any associated evaluation rubrics. In any event, structuring your EA according to the framework of your program is important to convincingly support your achievements and competencies.

7. ...store EA together ... with backups elsewhere...
8. ...organize the EA...

It is not acceptable to simply put each semester's data disk in a shoebox with all those of previous classes. There are a million ways to fail in developing your EP and none of them are technological. They are all a matter of organization, habits, commitment and procrastination. The files themselves must be copied to the storage area of your DP. Ultimately, it doesn't matter if this is a zip disk or a hard disk folder so long as it is maintained and developed. Always have one central location for the DP - not a home computer for some things while other files are kept on your laptop computer.

All - repeat - **ALL** disks fail. If "Murphy's Law" ever had a home its in the world of technology. Don't wait for it to fail - save it early! Don't wait to lose it - back it up! Don't wait for it to disappear - keep a copy! **DON'T PROCRASTINATE - REPLICATE!**

A necessary habit is to organize the complete DP and each EA at the end of each semester. Make sure your Table of Contents is up to date and accurate. Make sure files are where you think they are. Verify consistency in file formats, both new and old. Remember, some files may be with you for years - so what about reliable and recent back up copies kept in a different location from the original.

9. ...versatile file formats...

As technology changes in the future, any file may need to be readable by someone with slightly different technology. Most state-of-the-art word processors are cross-platform (works on PC's and Macs both) and will likely be available for years to come. While this author suggests Microsoft Office tools (word processor, database, spreadsheet, etc.) as the most versatile and reliable cross-platform software tools, many Word Perfect users might suggest Corel products. In any event, maintain files in a versatile and latest-version format. As new software products evolve from old, stored files in the DP may need to be updated or converted. Do not hesitate. This is part of the semester-by-semester maintenance discussed above.

Sometimes files need to be in multiple formats. The filenames themselves denote specific file formats. For example, "Letter.Wpd" - the W.P.D. indicates that it is likely a Corel Word Perfect word processed data file. There are many ways to convert one file type into an alternative format - like changing a BMP file into a JPG file (both are graphics files). Here is a list of very common file formats and the typical filename extension associated with that file type (of course there are many, many more).

Some File Formats...

FILE.DOC	Microsoft - WORD word processed data file
FILE.WPD	Corel Word Perfect word processed data file
FILE.RTF	Rich Text File - Generic word processed file - some formatting
FILE.TXT	Plain Text File - Generic data (text only) - NO formatting
FILE.XLS	Microsoft - Spread Sheet data file
FILE.MDB	Microsoft - Database data file
FILE.WK4	Lotus 123 - Spread Sheet data file
FILE.BMP	Bitmapped Graphics file
FILE.JPG	Graphics file - suitable for pictures on the Internet
FILE.GIF	Graphics file - suitable for clip art on the Internet
FILE.PICT	Graphics file - typically a Macintosh file format
FILE.TIF	Graphics file...
FILE.EPS	Graphics file...
FILE.PPT	Microsoft - Power Point Presentation file
FILE.STK	HyperStudio Stack - file
FILE.HTM	or .HTML - Web Page file for Netscape or Int. Explorer
FILE.MOV	Movie file - QuickTime Video can include Sound
FILE.AVI	Movie file - Video can include Sound
FILE.MPG	Movie file - Video can include Sound... <i>smaller file size</i>
FILE.WAV	Sound File - Various levels of quality & wide compatibility
FILE.MP3	Sound File - extremely reduced file size with good quality

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Remember, file formats can usually be converted from one to another with minimal loss of appearance or function. Some skills are involved but help resources are available on campus, on the Internet and more.

- **More Detail on EP Formats...**

A. ... floppy diskette ...

Too Small

Floppy disks are under two-megabytes in size and simply do not offer a sufficient storage area - *not for the DP or EP*. These disks are useful for working in a particular course or for backing up several files but that's about it.

B. ... zip disk ...

Impressive & Available

About 100 megabytes (there's a larger version 250 mb), inexpensive and readily available. A hard disk might be the most secure - especially during the development of the portfolio (DP). Depending on the amount and nature of the material (too much video or sound?) a complete final EP might fit on one zip disk and could even be used for the final EP and professional distribution. The 100 mb is convenient for backups, storage and its relatively inexpensive. Their reliability is at least as good as a traditional floppy diskette. It is suggested that you start with a zip disk today for your DP or at least as a backup.

C. ... jaz disk ...

Very Big but Rare

This is like a zip disk only holds 10 times as much: 1 or more billion (gigabyte). Its use would be similar to that described above for zip disks. The advantage is storage capacity but a jaz drive is far less common. So, this is not a good choice unless your study and work in an environment where such equipment is readily available. Keep in mind, sending your EP to across the country in search for a job means that wide-spread availability might be a more important factor.

D. ... CD ...

Reliable, Large, Easy, Compatible and Available

This is the best media for a final EP with large capacity (650 mb) and long-term reliability. CD-R (recordable) cannot be erased or changed so this could not be used as a work area or for the DP. However, CD-RW (rewritable) is becoming more common. CD-RW can be

erased and re-recorded over and over. It behaves just as a regular CD once recorded and thus could be used for DP storage or to experiment with how to organize and format the final EP. The processes or recording is not as convenient as using a zip disk so a working DP might be better on a hard disk or zip disk.

E. ... tape ...

Limited, Bulky, Exclusive Purpose

A video tape is usually used exclusively to record long-term video. It is also often considered an "electronic" component of an otherwise traditional, paper-style portfolio. It is more desirable to be completely "computerized." For example, with sample or representative video material digitized and recorded on CD, a complete EP can be distributed cheaply and easily to virtually anyone.

• *Other EP Ideas*

- Most material can be word processed or scanned from other kinds of documents. Since one cannot usually include "programs" or actual applications software, file formats should be as universally compatible or commonly available as possible.
- Material throughout the EP can be hyper-linked together (easy in Ms-Word) and to the table of contents to make viewing everything more convenient and efficient.
- Use a digital camera to take pictures of products, events, situations and more that should be in the EP.
- You can also use any regular camera and then ask when developing that your photos be produced and returned on a disk or CD (already in electronic format). Or take the paper photos and scan them into a computer to be saved on disk.
- For any "computer" tasks you're not able to perform yourself, help is available at campus computer services, from professors and friends and even your local Kinko's.
- Other material beyond the EA that support program standards might not be prescribed by other portfolio outlines. Nevertheless, such peripheral and ancillary material can also be stored electronically and may even be included in the final EP (space permitting) under a head of "other."

References - Information Resources

- Campbell, D.M.; Cignetti, P. B.; Melenzyer, B.J.; Nettles, D. H.; & Wyman, R. M., Jr. (1997).** *How to develop a professional portfolio: A manual for teachers.* Needham Heights, MA: Allyn & Bacon.
- Dampier Australia Primary School - Electronic Portfolio Links (2000) [Online] Available:** <http://www.dampier.wa.edu.au/portfolio.html> [2000, January 7].