

Electronic Portfolios and Standards

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Web Site on Electronic Portfolios

[http://transition.alaska.edu/
www/portfolios.html](http://transition.alaska.edu/www/portfolios.html)

Objectives: Participants will:

- Become aware of the planning issues when implementing electronic portfolios
- Become aware of the strategies for authoring electronic teaching portfolios
 - » Authoring Software
 - » Equipment
 - » Process

Description

- This session will cover several technology options for organizing electronic portfolios around hypertext links between standards and digital artifacts, including:
 - » HTML
 - » Acrobat
 - » hypermedia programs

Why use technology?

Sheingold's Reasons (1992)

- To make work in many media accessible, portable, examinable, widely distributable
- To make performance replayable and reviewable; it is important to see more than once
- To address ownership issues of student-created work
- To address storage issues

Why use technology? (Barrett's assumptions)

- Today, many documents are initially created with a computer, anyway.
- Hypertext links allow clear connections between standards and portfolio artifacts
- Creating an EP can develop teachers' skills in using multimedia technology
- Modeling: A teacher with an EP will be more likely to have students with EPs.
- It's fun & easier to manage the process!

Why use Standards in Portfolios?

“Standards come alive when they are assessed through performance-based means such as portfolios.”

National Evaluation Systems (1997) Linking Standards and Assessment. (p.30)

Assumption:

- As we move to more standards-based teacher performance assessment, we need new tools to record and organize evidence of successful teaching, for both practicing professionals and student teachers.
- This session will introduce a strategy for using Portable Document Format (Adobe Acrobat PDF) files to store and organize Electronic Portfolios.

Pre-Service Teacher Portfolio Process*

- Distinguish between a working and a presentation portfolio;
- Organize a working portfolio according to standards;
- Identify artifacts that denote accomplishments for each standard; and
- Produce a working portfolio.

Boulware, Bratina, Holt & Johnson (1997) "Developing Professional Teaching Portfolios Using CD-ROM Technology as a Teaching-Learning Tool" SITE, 1997. <http://www.unf.edu/~tbratina/cdrom.htm>
based on Campbell, Cignetti, Melenyzer, Nettles & Wyman (199?) How to Develop a Professional Portfolio: A Manual for Teachers. California University of Pennsylvania.

Scrapbook or portfolio?

“...Tom Bird...asked us to think about the distinction between the teachers’ filing cabinet and the teachers’ portfolio. As teachers, we accumulate a great deal of documentation of our work. But depending on the case we have to make, we draw from the filing cabinet and create a particular portfolio.”
(Shulman, 1998)

Electronic Portfolios Cross the Age Span

- Early Childhood
(with Parent/Grandparent Involvement)
- Elementary School
- Secondary School
- Teacher Education
- Professional Portfolios

Questions

- What are the planning issues?
- What are the commercial options available?
- How can you build your own using “off-the-shelf” software?
- What is your experience?
- Where should we go from here?

Standards aren't used

- As I attend presentations at national and regional conferences, I see a lot of variations on the technologies used to develop electronic portfolios, but very little linkage to the actual benchmarks that students are supposed to be demonstrating.

New Systems Needed

- As we move to more high stakes performance assessments for high school graduation, it will become more critical to have a flexible recordkeeping system that can track these demonstrations of competency in a variety of multimedia formats.

No links to standards

- Too many of the current examples of electronic portfolios, both “classroom-grown” and commercial, focus on the glitz and glamour of high tech multimedia; very few commercial programs provide the capability of directly linking students’ digital portfolio artifacts to the standards for which they demonstrate achievement.

What is a Portfolio?

- A purposeful collection of students' work that illustrates efforts, progress, and achievement

Need to change focus

- The very definition of a portfolio implies a purpose, tied to progress and achievement...but of what? I propose that we need to begin focusing our attention less on the “electronic” and more on the “portfolio” -- the standards that our students need to demonstrate.

Organizing framework

- Most states have adopted standards for both students, practicing teachers, and new teachers. These standards form an ideal framework for thinking about organizing an electronic portfolio.

A portfolio without standards:

- is just a multimedia presentation
- or a fancy electronic resume
- or a digital scrapbook

- There is a place for that type of format in classrooms or in employment searches,
- but a savvy administrator will look for evidence that the candidate meets the teaching standards that have been set for the district or state;

- a savvy teacher will look for evidence that a student's portfolio demonstrates achievement of at least one of the district/state/national standards.

- Without standards as the organizing basis for a portfolio, the collection becomes just that...a collection, haphazard and without structure; the purpose is lost in the noise, glitz and hype.

- High technology disconnected from a focus on curriculum standards will only exacerbate the lack of meaningful integration of technology into teaching and learning.

What is the best electronic portfolio program?

● It depends!

- on the assessment context
- and a variety of other factors, human and technological, that exist in a classroom, school or district.

Resource Questions

1. What is the stakeholder's experience using traditional portfolio-based assessment?

1	2	3	4	5
Limited experience in storing samples of student work in file folders	Regularly uses portfolios as teacher-centered assessment tool	Students and teachers collaboratively select items to go into student's portfolio, using well-defined rubrics to evaluate student work	Level 3 and portfolios incorporate standards (national, state or district) and stakeholders have access to exemplars for comparison	Level 4 and maintains student-centered assessment environment, including student-led conferences

2. At what level are the teachers' computer skills?

1	2	3	4	5
Limited experience with desktop computers but able to use mouse and menus and run simple programs	Level 1 and proficient with a word processor, basic e-mail, and Internet browsing; can enter data into a predesigned database	Level 2 and able to build a simple hypertext (nonlinear) document with links using a hypermedia program such as HyperStudio or Adobe Acrobat Exchange or an HTML WYSIWYG editor	Level 3 and able to record sounds, scan images, output computer screens to a VCR, and design an original database	Level 4 and multimedia programming or HTML authoring; can also create QuickTime movies live or from tape; able to program a relational database

3. What is the level of student access to computers?

1	2	3	4	5
Little or no access during a typical week	Access to a computer for at least two hours a week; 20:1 student-to-computer ratio	Access to a computer for at least half an hour a day; 15:1 student-to-computer ratio	Access to a computer for at least one hour a day; 10:1 student-to-computer ratio	Access to a computer for at least two hours a day; 5:1 student-to-computer ratio

4. What is the students' level of technology competence and independence in using a computer? (Is it age-dependent?)

1	2	3	4	5
Limited experience with desktop computers but able to use mouse and menus, and run simple programs	Level 1 and proficient with a word processor, basic e-mail, and Internet browsing; can enter data into a predesigned database	Level 2 and able to build a simple hypertext (nonlinear) document with links using a hypermedia program such as HyperStudio or Adobe Acrobat Exchange or an HTML WYSIWYG editor	Level 3 and able to record sounds, scan images, output computer screens to a VCR, and design an original database	Level 4 and multimedia programming or HTML authoring; can also create QuickTime movies live or from tape; able to program a relational database

5. What technology is already available in the classroom? Describe computers, including RAM and hard-drive storage capacity, and every 18 months look for the minimum technology capability to double and costs to decrease by half for the same power and capacity.

1	2	3	4	5
No computer	Single computer with 8 MB RAM, 80 MB HD, no AV input/output	One or two computers with 16 MB RAM, 250+ MB HD, simple AV input (such as QuickCam)	Three or four computers, one of which has 32+ MB RAM, 500+ MB HD, AV input and output, scanner, VCR, video camera, high-density floppy (such as a Zip drive)	Level 4 and CD-ROM recorder, at least two computers with 64+ MB RAM; digital video editing hardware and software. Extra Gb+ storage (such as Jaz drive)

6. What type of networking is available in a classroom, building, or district? Is there a server?

1	2	3	4	5
No network, only stand-alone systems	Printer sharing and file sharing only via network	Dial-up PPP access to network through 28.8 modem	Ethernet network with 56K access to district server	Full TCP/IP (Internet access at T-1 or Ethernet speed); WWW server in building

7. How much budget is available for additional hardware and software?

1	2	3	4	5
None	\$300 per classroom	\$600 per classroom	\$2,000 per classroom	\$5,000+ per classroom

8. How much budget is available for staff development (time and cost) and support?

1	2	3	4	5
None	After-school workshop or credit class on own time (or both)	Inservice days dedicated to implementation	Release time for teachers to visit other classrooms	Release time and in-class support

Table 4. Commercial software programs that support electronic portfolios.

Program	Manufacturer	Comments
Grady Profile	Aurbach & Associates (http://www.aurbach.com/)	Based in HyperCard; currently Macintosh only
Electronic Portfolio	Scholastic, Inc. (http://www.scholastic.com/home.htm)	Based in Scholastic's Point of View software; currently Macintosh only
Designer Software Electronic Portfolio Toolkit	Forest Technologies (765 Industrial Dr., Cary, IL 60013; 847.516.8280; fax 847.516.8210)	A HyperStudio template Latest version includes CD-ROM with templates for three age levels
Digital Chisel	Pierian Springs (http://www.pierian.com/DC3/dc3main.htm)	Use with Pierian's Electronic Portfolio template
SuperSchool Electronic Portfolio	SuperSchool Software (http://www.superschoolsoftware.com/)	Publisher also has a family portfolio program.

Electronic Portfolio	LearningQuest (http://www.learningquest.com/ephome.html)	Required workshop to begin using program.
Persona Plus	PersonaPlus (http://www.personaplus.com/)	A comprehensive performance-based assessment system
IBM's SchoolVista Assessment Suite	IBM Corporation (http://www.solutions.ibm.com/k12/solutions/tools/svasse.html)	Windows only - includes the Authentic Assessment Tool (non-networked) and Traditional Assessment Products

Table 5. Construction processes: A comparison.

Process	Multimedia Presentations	Electronic Portfolios
Decide	<p>Decide on presentation goals</p> <p>Describe the audience</p> <p>Decide which tools are most appropriate for the presentation context</p>	<p>Determine portfolio goals based on learner outcome goals (which should follow from national, state, or local standards and their associated evaluation rubrics or observable behaviors)</p> <p>Determine and describe the assessment context (as determined above)</p>

<p>Design</p>	<p>Determine audience-appropriate content and presentation sequence, construct flowcharts, write storyboards.</p> <p>Determine audience-appropriate software, storage and presentation medium.</p>	<p>Determine and describe the audience(s) for the portfolio—student, parent, college, community? Who are the stakeholders?</p> <p>Determine content of portfolio items (by context) and the type of evidence to be collected.</p> <p>Determine which software tools are most appropriate for the portfolio context</p> <p>Determine which storage and presentation medium is most appropriate for the situation</p>
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<p>Develop</p>	<p>Gather multimedia materials to include in presentation</p> <p>Organize in a sequence (or with hypermedia links) for the best presentation of the material, using appropriate multimedia authoring program.</p>	<p>Gather multimedia materials that represent a learner's achievement (preferably linked to standards and in a relational database) and include them in the portfolio</p> <p>Record student self-reflection on work and achievement of goals</p> <p>Record teacher feedback on student work and achievement of goals</p> <p>Organize the material using hypermedia links between goals, student work samples, rubrics, and assessment</p> <p>Record portfolio to appropriate presentation medium and store</p>
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-	Give the presentation	Present portfolio to appropriate audience (by student in age-appropriate situations)
Evaluate	Evaluate the presentation's effectiveness	<p>Evaluate portfolio's effectiveness in light of its purpose and the assessment context</p> <p>Depending on portfolio context, use portfolio evidence to make instruction/learning decisions</p> <p>Develop a collection of exemplary portfolio artifacts for comparison purposes</p>

Comparison of Construction Tools

	Relational data base	Hypermedia “card” file (including templates)	Multimedia authoring software	WWW Pages	Acrobat Reader	Proprietary software
Common development tools	FileMaker Pro	HyperStudio Digital Chisel	Macromedia Authorware, Director	Adobe PageMill, Claris Home Page	Adobe Acrobat Exchange 3.01	Grady Profile Personna Plus
Structure & Links	Structured fields/records/ files linked together by common fields	Electronic cards (screens) linked together by “buttons”	Icon-based or time-based multimedia authoring environment	WWW pages viewed with a Web Browser (Netscape or Explorer) using links created in HTML	Postscript-based pages that can be navigated sequentially, or using bookmarks, links, or buttons	Varied: Grady Profile has Hypercard base Personna Plus uses relational database engine
Player available	Yes	Yes	Self-contained	Browser (free)	Reader (free)	?
Advantages	Flexible reporting Network-friendly Web accessible Cross-platform	Widely accessible in classrooms Construction tools included	Most flexibility in development CD-ROM Cross-platform	Web-accessible Cross-platform	Web-accessible Cross-platform Create files from any application Ideal for CD-R	Pre-designed and structured
Disadvantages	Limitation of size of files Requires player	Not directly web-accessible View limited to screen size	Steep learning curve	Multimedia (video) not well integrated Complex authoring	Size of files Limited construction tools	Grady: not Web-accessible, Mac only, inflexible
Ease of Use*	4 to develop 2 to use	3 to develop	5	2 with editor 4 without	2	2 (Grady) ? (Personna)
Technology Required	3	3	5	4	4	2 4
Cost (with Ed. discounts)	\$49	\$39-\$199	\$150-\$1,000	\$49-\$79	\$49	Grady \$195 Personna ?

Electronic Portfolio Development Tools

Software environment

Relational data base

Common Development Tools

Filemaker Pro, Microsoft Access

Structure and links

Structured fields/records/files linked together by common fields

Advantages

Flexible reporting - Network-friendly - Web-accessible - Cross Platform
Most effective in tracking and reporting achievement of standards

Disadvantages

Limitation on size of files - Requires player - Requires higher skill level to develop

Ease of Use 4 to develop
2 to use

Technology Required 3

Cost with ed. discounts \$49-\$199

Player available Yes - free

Electronic Portfolio Development Tools

Software environment

Hypermedia “card” file (including templates)

Common Development Tools

HyperStudio, Digital Chisel, HyperCard, Toolbook

Structure and links

Electronic cards (screens) linked together by “buttons”

Advantages

Widely accessible in classroom. Construction and display tools available in one program.

Disadvantages

Not directly web-accessible. View limited to screen size. Effort required to link standards and portfolio artifacts.

Ease of Use

3 to develop

Technology Required

3

Cost with ed. discounts

\$39-\$199

Player available

Yes - free

Electronic Portfolio Development Tools

Software environment

Multimedia authoring software

Common Development Tools

Macromedia Authorware, Director

Structure and links

Icon-based or time-based multimedia authoring environment

Advantages

Most flexibility in developing for CD-ROM publishing. Cross-platform.

Disadvantages

Steep learning curve. Effort required to link standards and portfolio artifacts.

Ease of Use

5

Technology Required

5

Cost with ed. discounts

\$150-\$1000

Player available

Self-contained files

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Electronic Portfolio Development Tools

Software environment

World Wide Web Pages

Common Development Tools

Adobe PageMill, Claris Home Page, Microsoft Front Page, many more

Structure and links

WWW pages viewed with a Web Browser (Netscape or Explorer) using links created in HTML

Advantages

Web-accessible. Cross-platform.

Disadvantages

Multimedia (video) not well integrated. Complex authoring environment.

Ease of Use

2 with editor
4 without

Technology Required

4

Cost with ed. discounts

free - \$99

Player available

Web browser - free

Electronic Portfolio Development Tools

Software environment

Adobe Acrobat Reader

Common Development Tools

Adobe Acrobat Exchange 3.01

Structure and links

Postscript-based pages that can be navigated sequentially, or using bookmarks, links, or buttons

Advantages

Web-accessible. Cross-platform. Create files from any application. Ideal for Compact-disc-recordable portfolios. Handles multimedia well.

Disadvantages

Size of file. Limited built-in editing tools. Requires another program to create files.

Ease of Use

2

Technology Required

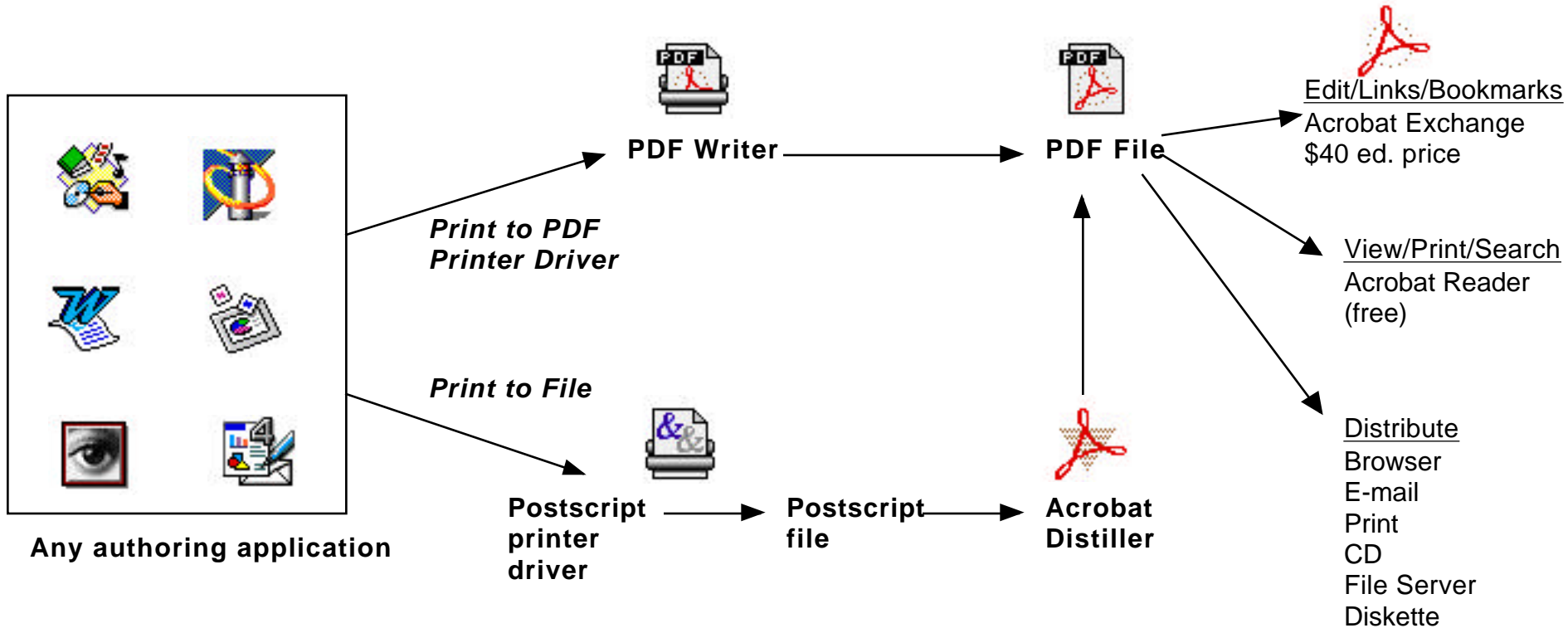
4

Cost with ed. discounts

\$49

Player available

Acrobat Reader - free



Electronic Portfolio Development Tools

Software environment

Proprietary Software

Common Development Tools

Grady Profile, Persona Plus

Structure and links

Varied: Grady Profile has HyperCard base. Persona Plus uses relational database engine.

Advantages

Pre-designed and structured.

Disadvantages

Grady: not web-accessible, Mac only, inflexible layout.
Persona: ?

Ease of Use

2 (Grady Profile)
? (Persona Plus)

Technology Required

2-4

Cost with ed. discounts

Grady \$195

Player available

?

Electronic Portfolio Development Tools

Software environment

Multimedia Slide Shows

Common Development Tools

PowerPoint, ClarisWorks Slide Show, Astound

Structure and links

Electronic slides, most often shown in linear sequence.

Advantages

Commonly-available tool.

Disadvantages

Availability of hypertext links between standards and portfolio artifacts.

Ease of Use

3

Technology Required

4

Cost with ed. discounts

\$29+

Player available

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*Portfolio Software * Site licenses and educational discounts are available.	*Cost per Machine	Appropriate age level (by grade level) T=Teacher Tool	Recommended Level of Technology Infrastructure	Recommended Level of Teacher Technology Competency
Open Doc & CyberDog	>\$50	4-Adult	5	3
HTML - Web Pages	\$0	7-Adult	5	4
HTML with Web Authoring tool	~\$99	5-Adult	5	3
HyperStudio	>\$129	K-Adult	4	2
Designer Portfolio Template for HyperStudio	\$65	K-6	4	2
Grady Profile	\$195	Pre-K-6	3	1
G P Newton Companion	\$99	T	3	3
FileMaker Pro 3.0	~\$199	T	3	2
HyperCard	\$199	7-Adult	3	3
Adobe Acrobat Exchange	\$149	9-Adult	4	2
Macromedia Director	\$499	9-Adult	5	5
Scholastic Electronic Portfolio	\$299	K-12	4	4
Learner Profile	\$299	T	3	4
Newton or Bar Code Reader	~\$400	T	3	4
KidPix & KidPix Companion	\$39	K-4	2	1

Several Electronic Portfolio examples:

Faculty Portfolio (Adobe Acrobat on CD-R)

University of Alaska Anchorage

Truman State College

Grady Profile Teacher's Portfolio

Templates: Ed Tech Endorsement

Alaska State Teacher Standards

Alaska State Administrator Standards

Other Examples

Coalition of Essential Schools Model

Kathleen Fischer - HTML on WWW

RMIT (Australia) - HTML on WWW

Student (Alaska) - HyperStudio

Teacher (Alaska) - HyperStudio

Electronic Teaching Portfolios

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