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## Different Forms of ePortfolio

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# Different Forms of ePortfolio

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## Abstract

*ePortfolio is a web-based interactive information management tool used at the University of Minnesota that is designed to give individuals the opportunity to create and distribute a reflective collection of works. Each individual's ePortfolio is made up of a collection of artifacts that are chosen to meet a specific purpose and presented for feedback from a selected audience. ePortfolio can also be used to securely store a variety of artifacts (manuscripts, records and multimedia samples of work). Users of this electronic information management tool can easily store, view, and selectively share this information with others anywhere, anytime via the web.*

*For students, ePortfolio provides a way to document acquisition of knowledge and skills during their academic careers. By adding artifacts representing academic work, practicum experiences, and reflection statements to ePortfolio at regular intervals during schooling, students create a body of work that documents their growth over time, their current level of performance, and their meta-cognitive development.*

*For faculty, ePortfolio provides a way to document and reflect on artifacts to share with colleagues and to show professional development and growth over time. Specific artifacts can vary, but the majority focus on written works, such as professional papers, reports, journal publications, and books. ePortfolio facilitates sharing of these artifacts with colleagues and reviewers for annual performance evaluations as well as the promotion and tenure process.*

*ePortfolio is also used by academic departments to meet accreditation standards. In academics, a shift has taken place emphasizing the importance of qualitative assessment measures, and deemphasizing the traditional quantitative accreditation standards. Because of its ability to hold both qualitative and quantitative artifacts, ePortfolio is a useful tool to demonstrate departmental compliance to academic standards.*

*ePortfolio is much more than just a storage center of artifacts; it takes different forms depending on purpose and context. This paper will discuss a University of Minnesota student and faculty member ePortfolio and will show the different forms of the ePortfolio tool.*

**Keywords:** ePortfolio, Portfolio, ebooks, Digital publishing, Multimedia, Scholarly publishing, Academic publishing, Professional writing, Word processing tools, Digital tools, Digital supply chain management, Multimedia learning environment

## What is a Portfolio?

The definition of the term "portfolio" continues to evolve and change as the applications and purposes for developing a portfolio expand. The portfolio is no longer viewed as a collection of artifacts assembled to share with a single teacher or employer. The traditional portfolio has now evolved into the electronic portfolio, which is a collection of an individual's work stored in a digital format. It has also been referred to as "Efoliate" (Norton-Meier, 2003); ePortfolio; and efolio. The possible digital formats include CD-ROM, DVD, or on-line storage such as a website. The evolution from the hard copy portfolio to the electronic portfolio now includes the development of electronic documents (essays, literature reviews, etc.), multimedia presentations, digitized photographs, audio and video recordings, journal entries or reflection

statements, internet links to relevant sites, and a wide variety of other artifacts. All of these can now be disseminated to an audience around the world by means of the internet.

One of the primary users of portfolios is the field of education. In recent years, higher education institutions have introduced the electronic portfolio as an innovation to improve teaching and learning of teachers and students alike. Creating portfolios in an electronic form allows portfolios to be used in ways that were previously not possible. For example, the ease of disseminating information contained in the electronic portfolio makes it an easy to use assessment tool. Norton-Meier (2003) stated that, "the efolio allows students to create their own sense of the interconnections of those artifacts while arriving, we hope, at a much richer understanding of themselves and the standards against which they are measured (p. 27).



The purpose of this article is to focus on the applications of an electronic portfolio system that is available on the World Wide Web and is in use by a program of higher education. This article includes descriptions, illustrations, and explanations of the various means for disseminating information that has applications and implications for an individual's personal and professional growth. The article also includes information about the two basic types of portfolios: the working portfolio and the presentation portfolio. A discussion about the different forms of portfolios suggests the numerous applications and uses of the electronic portfolio system.

The Department of Communication Sciences and Disorders at the University of Minnesota Duluth (UMD) has chosen this relatively new medium for the dissemination of information—the electronic portfolio. The electronic portfolio system used at UMD is unique in its design and innovative in its applications. The design features include individual authorship of portfolios on the web. The application of this system includes individual control over sharing and viewing of the content. Ultimately, ePortfolio's design, features, applications, and use are framed within the context of understanding the movement in higher education to engage in formative and summative assessment of students' learning.

Changes are taking place in the academic environment as the value of non-traditional qualitative assessment of student learning is becoming increasingly important. A wide range of academic fields now require qualitative measures to assess student development. No longer are the traditional quantitative measures the only means of assessing student learning, but the creation of a body of work that documents student development is also required.

To satisfy this relatively new perspective on student assessment, UMD's Department of Communication Sciences and Disorders (CSD) initiated a program of student portfolio development. Department members reviewed many potential portfolio systems or mediums capable of recording the development of students' knowledge and skills. These ranged from a hard copy contained in a traditional binder to compact disc storage methods to web based tools. After careful consideration, the department adopted ePortfolio, a web based information management tool that enables students to document development by assembling a collection of electronic work samples, called artifacts. The ePortfolio tool is an electronic portfolio program or system that is interfaced with a secure database server. ePortfolio allows student authors to collect, manage, and selectively share and download information from their ePortfolio and immediately publish it to the web.

Traditionally, a portfolio has been thought of as a case for carrying papers, pictures and other documents or as securities held by an investor. As Kimball (2003) explains, today's portfolio is much more complex; it is a reflective collection of work designed to fulfill a specific purpose and be presented for feedback. At UMD's Communication Sciences and Disorders department students do just that—they present their ePortfolio to professors, instructors, and clinical supervisors to obtain feedback. The faculty members who review the portfolios are able to qualitatively and dynamically assess student learning and monitor progress toward graduation. Whereas, the traditional academic assessment measures rely on grade point averages, clock hours and other impersonal numerical data that do not address the overall competence of the student. Portfolio based assessment allows students to be evaluated on their performance on real life tasks as demonstrated in a collection of context rich artifacts.

Sharing a portfolio of work permits what Mueller (2003) considers authentic assessment—a real-life, functional assessment of performance. This encourages an evaluation of not only the student's knowledge, but also of the student's ability to apply that knowledge in functional, authentic settings. Most students' goals are to apply their knowledge daily in the work setting and portfolio based assessment fosters this skill. It allows students to obtain functional, valuable feedback on their real-life practice—unlike most traditional measures that primarily assess the understanding of theory. The evaluation of students based on their performance in real-life tasks moves assessment from something being done “to” students to something being done “for” students (Roe & Vukelich, 1997, p. 16).

Roe and Vukelich (1997) suggest a second way that portfolio development gives control to students: when done correctly, it permits students to be actively involved in selecting artifacts for inclusion in their portfolio. Use of ePortfolio as a departmental accreditation tool means that certain artifacts are mandated to appear in each student's portfolio. However, because the department is committed to portfolio development that extends beyond what Roe and Vukelich call a “big collection of parts with no soul,” a great deal of flexibility is offered to the student in artifact selection and reflection on their work (1997, p. 21). By actively involving the student in the selection and creation of artifacts, portfolio development becomes a reflective process of self-analysis rather than a checklist of tasks to complete and place to store them.

The benefits of electronic recording system are many. As suggested by Galloway (2001) and Irby and Brown (2000), electronic portfolios are easier to produce, store, and distribute than their hardcopy counterparts. The development and creation of an electronic portfolio inherently demonstrates the

student's ability to integrate technology into the educational and professional setting. Electronic portfolios are secure, easy to transport and maintain, and their ability to house data in a variety of electronic formats permits students to demonstrate their performance competencies in the most appropriate media. Whereas a hardcopy portfolio might only be able to contain a written description of a student's performance in conducting a speech therapy session, an electronic portfolio can contain a video clip showing the student conducting the session in a real-life situation. Students using the ePortfolio system are able to upload reports, video clips of therapy sessions, audio clips of language samples, copies of handwritten feedback from instructors, clinical performance reviews, etc. Consequently, electronic portfolios are much more context rich than hardcopy portfolios. In addition, some electronic portfolio programs including ePortfolio are very versatile in type and purpose, and permit interactive feedback from the reviewer.

### **A Description of the ePortfolio System**

The ePortfolio system consists of software and hardware components. The use of this system is based on the integration of the software program and associated hardware or more specifically, the computer server where data for ePortfolio resides. ePortfolio is an on-line interactive information management tool designed to give users the opportunity to create and distribute information in the form of an electronic portfolio. Essentially, the software for ePortfolio operates from this server and users access ePortfolio online for storing and viewing the information necessary to develop an electronic portfolio, with the potential to share this information with others.

The ePortfolio system has a pre-determined framework within which a great deal of customization can occur. The framework of the system offers the user three main functions: Enter, share and view.

Using the enter function, the user can upload artifacts into their ePortfolio by following a series of simple prompts. The share function allows the user to select artifacts already entered into the ePortfolio and to organize those artifacts into a folder to share with a selected viewer, again by simply following a series of prompts. The view function provides prompts that permit the user to view and comment on folders that have been shared by other portfolio users.

In addition to prompts, "tips" are provided throughout the ePortfolio. These tips allow students to learn more about ePortfolio during use. A link to frequently asked questions is also available from every ePortfolio screen.

Because these features of the system make ePortfolio user-friendly, most users are quickly able to navigate and upload artifacts into their ePortfolio.

However, every student seems to have the same question: "What do I add, and where do I add it?"

### **The "Enter" Function**

To answer the first part of the previously mentioned question, the CSD department has created a list of artifacts that students are required to add or "Enter" into their portfolios each academic year. These artifacts range from research papers to PowerPoint presentations to video clips. Students have a different list of artifact requirements for each academic year in the program. In addition, students are asked to add elective artifacts to their portfolio each year. A list of appropriate elective artifacts is provided and students may choose from artifacts such as documentation of a volunteer experience, a presentation at a conference, or participation in a workshop. The inclusion of elective artifacts permits the students to feature experiences that have made their academic year or learning process unique.

Within the "Enter" function, the framework of ePortfolio allows the user to organize the entered artifacts into one of six possible categories. These six categories are Personal Information, Education, Career, Skills, Professional Practices, and Recognition. For ease of organization, the user will likely place a resume in the Career category, documents about a scholarship received in the Recognition category, and so forth. To aid students in determining the best way to organize their working portfolio, organization suggestions are provided in the form of an Element Map.

### **Potential Content of ePortfolio**

The ePortfolio was not specifically designed to meet the needs of the CSD department; however, ePortfolio is customizable and accepts any type of electronically formatted document. This means students have the flexibility to include everything from word documents to audio tracks. This enables the students to choose the media most appropriate for each artifact, further involving the students in customization of their own ePortfolio.

The department determines which artifacts are required for the portfolio, however, the way a student chooses to document completion of these requirements is also customizable. When creating an element—an area of ePortfolio featuring one specific academic requirement—a student may choose to include any combination of word documents, scanned documents, PowerPoint presentations, video or audio clips, handwritten or electronic instructor feedback, links to related web sites, reflection essays, and more.

### **The "Share" Function**

A key feature, unique to ePortfolio is its controlled sharing. Students using ePortfolio control the

sharing of their artifacts in two ways: first, they control which artifacts to share and, second, they control who will see each of the artifacts. These features ensure that while a multitude of documents may be stored in an ePortfolio, only the documents specified by the owner can be seen by each viewer. This feature is especially useful because it permits the student to create many different types of portfolios using the artifacts stored in one ePortfolio. For example, a student may store a variety of resumes in their ePortfolio. One may be specialized for medical setting employment, another for a school-based position. Many job advertisements ask for an electronic resume. With only an email address, a student can create and immediately share a professional looking folder that contains the most appropriate resume, a letter of introduction, a reference list, even a relevant work sample. When viewing the folder, the potential employer has no way of accessing any other artifact stored in the ePortfolio that the student may want to keep private, such as other versions of a resume, instructor feedback, assignments, and grades.

### **The “View” Function**

Just as all other functions of ePortfolio are uniquely adaptable to promote dynamic, authentic assessment of student performance, so is the “View” function. The “View” function of ePortfolio makes sharing portfolios an interactive experience. When students share their annual ePortfolio for review with their instructors, an email is automatically sent inviting the instructor to “View” the portfolio. When instructors access the portfolio, they are only permitted access to the view function. While viewing the ePortfolio, the instructor sees all artifacts displayed in an organized fashion and can leave comments, suggestions, and feedback that is automatically electronically signed and dated. This feedback becomes a part of the student’s ePortfolio. Reviewers are able to view past feedback and determine what previous strengths and weaknesses were cited. A review of past feedback shows how the student incorporated previous suggestions into subsequent experiences. This feedback process makes a student’s ePortfolio a unique body of work. An ePortfolio without feedback will demonstrate the student’s knowledge and skill acquisition as well as the uniqueness of the student’s academic experience as shown in the choice of elective artifacts. However, an ePortfolio with feedback becomes a dynamic body of work that documents the student’s integration of guidance and suggestions from instructors throughout the academic experience.

The final time that students allow their ePortfolios to be viewed is prior to graduation. At that time, the student shares the ePortfolio, in its entirety, with a committee of faculty members. A review of the completed ePortfolio not only allows for the summative assessment of the student’s performance,

it also is used by the department during accreditation to document that each student has had sufficient experience and performance in mandated areas.

### **Unique Features of ePortfolio**

While electronic portfolio systems all offer advantages over hardcopy formats, many benefits are unique to the ePortfolio system. These unique features include portability, accessibility, and interoperability. The ePortfolio system allows sharing and instant distribution not enabled by electronic portfolio systems that are not web-based. In addition, the ePortfolio system allows users to add, retrieve, and download stored documents anywhere in world as long as they have web access. Using ePortfolio is like having a private electronic filing cabinet that contains an individual’s most important documents safely and securely and keeps them readily available for access from anywhere in the world. When stored in the ePortfolio, necessary certificates or membership cards and travel documents can no longer be forgotten at home.

Another unique feature of the university’s ePortfolio is that lifetime access is granted to all graduates of the University of Minnesota system. This prevents ePortfolio from being simply another project that students must complete to graduate. Instead, it becomes a tool they develop during their schooling that is taken with them when they leave and can be used for years to come as they manage resumes, continuing education certificates, and other documents important to the practicing professional.

The ePortfolio system is built to IMS data standards and 2.0 Sakai standards, making it interoperable with state of the art government, educational, and commercial software programs. This benefits our students and department significantly. While the purpose of ePortfolio is to feature real-life work samples and permit qualitative assessment, a holistic view of a student must include some traditional artifacts such as lists of courses completed, credits taken, and grades earned. Because of ePortfolio’s interoperability with other software, it has been linked to the university’s academic reporting system. This means that all traditional, quantitative artifacts are automatically added to each student’s ePortfolio, removing the burden to do so from the student and the department.

### **Forms of ePortfolio**

As mentioned previously, ePortfolio consists of three main functions (Enter, Share, and View). Once artifacts are “Entered” into ePortfolio, the author makes decisions about “Sharing” the artifacts, by granting the access to a specific person or audience who may then “View” the ePortfolio. With this in mind, the portfolio also has two basic forms: working portfolio and presentation portfolio.

A working portfolio is one in which artifacts are organized, stored, and reflected upon. The presentation portfolio is one in which specific artifacts from the working portfolio are selected and presented for a specific purpose. The ePortfolio is both a working portfolio and a presentation portfolio. The “working” portion of ePortfolio is comprised of the Enter and Share functions of the program. This is where artifacts are collected, selected and organized for viewing. The “presentation” portfolio is synonymous with the View function of ePortfolio, where specific artifacts are shared with a designated viewer or audience.

### **Forms of Presentation Portfolios**

As students follow the checklist of required and elective artifacts, combined with quantitative artifacts automatically added by the university’s academic reporting system, they build their portfolio year by year. As the number and type of artifacts in their portfolio increases, students can sort and share various combinations of these artifacts to create different forms of presentation portfolios, depending upon their purpose.

Four common forms of presentation portfolios include the showcase portfolio, the developmental portfolio, the assessment portfolio, and the employment portfolio. Each has a unique purpose. The purpose of a showcase portfolio is to feature a student’s best works; a developmental portfolio documents the growth of a skill; an assessment portfolio is designed to obtain constructive criticism; an employment portfolio’s purpose is to land a job.

Each form of ePortfolio contains a unique set of artifacts, consistent with its purpose. For example, throughout the school years students often have the opportunity to apply for scholarships or awards. Students who have developed an ePortfolio may want to create a showcase portfolio to submit with such an application. The showcase portfolio could feature a collection of their very best performances or works and may strengthen their application.

Another useful form of ePortfolio for both student and faculty is the developmental portfolio. This form of ePortfolio shows the development of a specific skill over time and usually consists of a group of similar artifacts shown in chronological order. A common purpose of a developmental portfolio is to show the development of writing skills. Such a portfolio might feature show a series of research papers—one written each year of the student’s academic career. An evaluator conducting a traditional assessment would only notice what grade a student had earned on each year’s research paper assignments. However, an evaluator conducting a review of a developmental portfolio would notice not only the grades, but would also actually see chronologically ordered writing samples that demonstrate the development of writing skills from year to year. This benefits the reviewer by

allowing a more thorough evaluation, and it also benefits students as they realize their own development while assembling this form of portfolio. Both of these aspects demonstrate the value of a developmental portfolio.

The assessment portfolio is at the foundation of the CSD department’s portfolio development program. As previously explained, the student shares their ePortfolio with designated reviewers from the department faculty at the end of each academic year. This annual review allows the formative assessment of a student—the monitoring of the developmental process while still in school. A review of an assessment portfolio permits any concerns to be noticed and addressed before students advance to the next academic level, allows students to document mastery of specific knowledge and skills, permits the qualitative assessment of their performance, and enables the student to obtain feedback from reviewers.

Another form of presentation portfolio is the employment portfolio. An employment portfolio contains artifacts selected to showcase skills in areas relevant to the applicant’s desired job and will typically feature a resume, letter of introduction, a small number of work samples and a professional reference list. With the purpose of landing a job, the employment portfolio may prove particularly useful to the CSD program’s graduating students.

The previously mentioned forms of ePortfolio are just a sampling of the forms of portfolios that can be created by using the ePortfolio system. The CSD department’s use of the program was a unique application of the program developer’s intention; imagination is the only limit to many more such uses.

### **Potential Applications of ePortfolio**

In addition to student uses of the ePortfolio system developed at UMD, ePortfolio has the potential for other applications. Additional applications include the development of electronic management systems for institutions, colleges, departments, and faculty. The ePortfolio is capable of customized applications unique to user needs. These needs may range from simple and secure storage of documents, to publication and dissemination of information in an electronic format.

Just as the ePortfolios used by students take different forms, so may the ePortfolios used by institutions, colleges, and departments. One specific use of ePortfolio can be to showcase the institution, college, or department to prospective students. ePortfolio can make sending a potential student a personalized collection of resource information an easy task. Information included in such a portfolio might be highlights and accomplishments of an institution, college, or department. For example, in an attempt to recruit a hockey player, the university may share an ePortfolio that includes video

highlights from the past season, photographs of the facilities on campus, resources for financial aid, links to potential majors indicated by the student athlete, and examples of works done by other students at the university. This individualized ePortfolio could be assembled electronically in minutes and instantly shared with the potential recruit.

A faculty member may also have multiple applications for the use of ePortfolio. Applications include using ePortfolio to document course development, and for tenure and promotion. Portfolio development for these purposes has been present in higher education for decades, but not in an electronic format.

Many institutions of higher education encourage faculty to develop course portfolios. These portfolios are similar to the portfolios discussed previously in that they include artifacts associated with the course being taught by the instructor. The essence of this exercise in portfolio development is for faculty to bring the information together on a course and reflect on the content of this information. Through the use of ePortfolio, such tasks become less burdensome, more practical, and ePortfolio offers the additional benefit of providing safe and secure storage for all course materials.

From a practical standpoint, tenure and promotion handled by electronic means results in a dramatic decrease in the amount of papers, paperwork, and photocopying that goes into the dissemination of information to reviewers for promotion and tenure. Handling this process through an electronic format

makes the task of evaluating a faculty member for tenure or promotion much less cumbersome, and much more convenient. A reviewer no longer needs to thumb through piles of papers. Rather, access to all documents is readily available and the review of these documents can be completed in a simple, nonlinear and reviewer specific manner.

## **Conclusion**

The ePortfolio is a unique and innovative form of authorship that will continue to evolve and improve the manner in which information is disseminated. It is unique and innovative conceptually in the way the system allows an author the ability to create and store artifacts in numerous forms and selectively shares them with an audience of the author's choosing. This form of authorship will continue to evolve as people reach beyond common boundaries for disseminating information.

The ePortfolio system was introduced to UMD in 1995 following a concept initially created by Paul Treuer, a UMD professor. Today, the ePortfolio code is an open source initiative available to download for free at [www.theospi.org](http://www.theospi.org). Since becoming an open source initiative, the ePortfolio code has been downloaded more than 1600 times to 77 different countries and these downloads have generated valuable improvements to the program. Interested persons are invited to download the code and join in the use and development of the ePortfolio tool.

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