COMING OF AGE IN A DIGITAL WORLD: The Portfolio Grows Up
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Coming of age in a Digital World

The Portfolio Grows Up

By Annie O. Cleveland and M. Barrett Cleveland
Design is an activity of environmental transformation by which something is created that was not there before" (Blais 2000, 247).

The tools for theatrical design and production have changed radically since 1975. Today there is virtually no aspect of designing and executing scenery, lighting, costumes, and/or sound for a theatrical production that does not involve some application of microcomputer technology. Those of us in higher education now engaged in training young undergraduate designers and technologists find that we are faced with the challenge that we can no longer rely upon many of the fundamental tools for mounting theatrical productions with which we were trained. Some technology transfers are quite simple—fastening scenery with a pneumatic staple gun instead of a hammer, or using sound effects CDs rather than records or tapes. Other changes, however, are far more complex.

Throughout history theatre practitioners have always been quick to embrace and transfer new technologies to enhance the visual and aural spectacle of their productions. The Greeks in the fifth century B.C.E. used a *machina* to fly the gods down to earth, the latest in sailing technology was applied to rig the new indoor theatres of the seventeenth century, and the first fully electrified theatre opened in 1881 just two years after Edison first successfully demonstrated the incandescent lamp.

A radical shift of the paradigm began evolving in 1975 with the introduction of a personal computer linked to a cassette tape drive for data storage to control the lighting for the new Broadway musical, *A Chorus Line*, replacing lighting control technology developed at the end of the nineteenth century. Fundamentally, all lighting control today is executed by some form of microcomputer system. Microchips are cheaper than moving parts, so rather than being an exotic solution, microcomputer technology is now more cost effective, efficient, and allows for more sophisticated results than traditional manual methods.

“Multimedia technology has changed opportunities for expression in a very fundamental way” (Ray 2000, 351). Microcomputers have continued to impact, and in many cases, replace, the tools we use for designing and mounting theatrical productions. A few of these new digital tools, include:

- Intelligent (microcomputer controlled) lighting fixtures—late 1970s
- Computer-aided drafting (CAD)—mid 1980s
- Digital audio recording and editing—early 1990s
- Computer aided modeling and rendering—early 1990s
- Digital video recording and editing—mid 1990s

Why Create Paper Portfolios in a Digital Age?

Theatre designers and educators trained before 1985 likely never saw or used computer-controlled systems or design tools during their training. Professors in theatre design and production are not only faced with using more and more computer-based technologies in their own work, but also must transfer these new technologies and associated methodologies to their classes and their students. Simply learning how to apply new technologies to a production is not the ultimate objective of educators. Accurately documenting and coherently presenting the breadth and depth of a student’s work is imperative if they are to successfully access either employment or advanced graduate training where knowledge and use of current technologies and methods is expected.

Sending a clean, crisp, “professional” résumé in 1975 required access to an IBM Selectric typewriter. Today one would never send a
résumé typed on a typewriter to a prospective employer or graduate school. In the past, one assembled a collection of paper plans, drawings, renderings, and photographs into a portfolio and sent the package to a prospective employer or training program via the U. S. Postal Service.

“Now it’s not necessary to lug that thick, black suitcase all around town. No longer is it essential to entrust prospective clients with irreplaceable originals, which had the potential to get lost, damaged, or stolen while passing through several hands before being returned.” (McKenna 2000, 10)

In an age when much of the conceptual and creative process is done with digital tools, it only makes sense that the portfolio, as a representative sampling of one’s abilities, should be created on a digital platform.

**Digital Design at Colorado State University**

The theatre program at Colorado State University began exploring digital design technology in 1992. At that time the primary goal was to conceptualize and communicate design ideas to the entire production team in an efficient and timely manner. Not only is theatre a collaborative art, but also the process of creating a production is driven by the ever-present deadline of “Opening Night.” The interdisciplinary nature of the theatrical process requires complex decisions to be made by many different individuals, creating a situation in which:

“Each [member of the production team] has, somewhere inside him or herself, an inherent understanding and sensitivity to the theatre to begin with. But playwrights speak in action/dialogue and think within their own parameters. Directors speak in their own language, which is similar to, but also different from, the language of the playwright. It is rooted in the reality of the theatre—movement, sound, and physical action. Scenic designers speak of the world in a language of atmospheres, environments, or emblems, which frame the actions occurring on the stage. Costume designers speak of the world of the play in terms of characters expressing their unique qualities through their garments and accessories. Lighting designers speak in a language which not only amplifies the world created by the other artists, but also lends its own extraordinary impact to the production.” (Braddy, et al. 1993, 15)

The use of computer technology in the design process provided a means by which ideas could be visualized and manipulated while still in the conceptualization and planning phase. If a workable unified design concept can be conceived more quickly and accurately, more time is spent executing the designs rather than undoing mistakes.

Over the next three years, several significant changes were implemented in the curriculum. By 1995, manual drafting was dropped from the curriculum and students were only instructed in CAD methods. In spring 1996, analogue audio recording, editing, and playback were abandoned and replaced by digital audio equipment and software. In 1997, funding was secured to equip a twelve-seat computer lab dedicated for use by music, theatre and dance students, and, by 1999, computer-aided technology became the cornerstone of the theatre program’s design and production curriculum.

**Developing Digital Portfolios: Curriculum and Culture**

A review of sophomore level students has always been a part of the assessment process in the theatre program. In this review the faculty considers all of the class work the student has done in his or her first two years and evaluates any practical performances or presentations. Although it was a required part of the theatre program, the structure of the review process was not very clear. Students were given instruction for preparing a résumé and had an opportunity to gather their materials, but most of the presentations consisted of a haphazard mass of loose papers and projects. At best, the work was organized into notebooks, but the student had no idea how to guide the reviewers through their work. To complicate matters, the various faculty members, with their range of “theatrical languages,” were often unable to respond to a variety of presentation materials. No single faculty member was willing to take on the task of portfolio preparation, and few students availed themselves of...
workshops outside of the classroom. Consequently the decision was made to include portfolio preparation in each of the lower division design and technology classes to prepare the students for their sophomore review as illustrated in figure 1.

All theatre majors take Graphic Expression for the Theatre as the foundation for all the design and technology classes. The students are taught to use both HyperSnap image capturing software and PowerPoint as tools for organizing information and creating visual compositions. With these tools the student can begin the process of developing a portfolio. They are able to edit their résumé, insert visual images, and add brief explanations and conclusions about the projects completed in class.

The process is continued in the lower division design and technology classes. In the costume design class, projects are built around PowerPoint presentations. Stronger links are created between research, preliminary sketches, and final renderings when all these components are arranged in the same composition. In the technical theatre class, HyperSnap is used to capture computer screens in order to document the process of editing sound. These images are then arranged into step-by-step presentations to document the students’ process in creating their projects. All of these presentations are easily incorporated into the existing portfolios. By the end of the sophomore year, in time for the sophomore review, most students have clear, well-organized records of their work from at least three classes.

Although most examples of digital portfolios are formatted in an HTML framework, we have decided to continue using PowerPoint for two reasons. First, “you go with what you know.” We all use PowerPoint on a regular basis in developing teaching materials for our classes. Although we create HTML formatted documents for assignments delivered within WebCT, on the whole we find PowerPoint more flexible and therefore, easier to use. The second reason stems from the linear nature of a PowerPoint presentation. Students are taught to lead the viewer page by page through their portfolios, whether paper based or digital. “A good digital portfolio is self-explanatory—you probably won’t be there to offer direction. Anticipate the viewer’s concerns, and do your best to eliminate any problems” (McKenna 2000, 126). The hyper-linked interactive environment of HTML documents encourages viewers to freely jump through the document. Although we currently have no plans to shift to an HTML platform, Web authoring projects in scene design were introduced in the spring of 2003, and we will continue to evaluate the pros and cons of both platforms.

**Types of Portfolios**

Artists have long used the portfolio as a representative collection of one’s work. A student’s portfolio, however, takes on more specific meaning through the development process. In 1990, the Northwest Evaluation Association proposed the following definition:

“A portfolio is a purposeful collection of student work that exhibits the student’s effort, progress and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection; the criteria for judging merit, and evidence of student self-reflection.” (Electronic Portfolios 2002)

Helen Barrett, a leading proponent for developing digital portfolios, states, “an electronic portfolio is not a haphazard collection of artifacts (i.e., a digital scrapbook or a multimedia presentation) but rather a reflective tool that demonstrates growth over time” (Barrett 2000, 15). Utilizing both these ideas, The College of Arts and Media at the University of Colorado at Denver in the ePort Digital Portfolio Project structured their definition to address three distinct types of digital portfolios:

- **Development** [The beginning phase of portfolio preparation that is designed to create a personalized collection of work and to advance student skills.]
- **Assessment** [This type of portfolio contains a collection of completed work and may include reflective statements. At this level, the portfolio is designed to demonstrate competence and skill in well-defined areas.]
- **Showcase** [The advanced level of portfolio development that demonstrates a broad range of competence and skills and is used to acquire employment or entrance into programs of advanced study.] (The College of Arts and Media 2002, 1).

The incremental development of student portfolios in the Colorado State theatre program’s design/production curriculum clearly utilizes all
three types of portfolios. In addition, digital portfolios not only exhibit the students’ talents as theatre designers and technologists, but they also demonstrate their ability to negotiate a broad range of computer-based programs that have applications reaching far beyond the world of theatre design and production.

Figures 2 and 3 are samples from a portfolio in development. The student was given specific guidelines about collecting and selecting material as well as instruction on manipulation and composition of the imagery. The student was encouraged to determine the sequence and flow of the presentation. This portfolio served as a means to present individual projects as well as a record of her achievements in one class.

The criteria of self-reflection as well as an analysis of what was gained in the learning process can be see in figures 4 and 5. This portfolio was the result of several classes in which new components and new techniques were added to an existing portfolio. This student guides the viewer through his presentation with instructions and other markers. He also provides verification of his process as well as an indication of how his work was evaluated.

Figures 6, 7, and 8 were selected from a senior dance student’s final portfolio; one that she used for seeking a job upon graduation. This presentation included audio and visual elements in a variety of formats. Not only does it showcase the student as a dancer and choreographer, but it also provides concrete examples of the student’s technological skills, including digital video recording and editing.

Disadvantages
In spite of obvious advantages there is still some resistance to digital portfolios for documenting artistic works. Some of the arguments against such a practice, include:

• Not every school or theatre embraces new technologies;
• Recipients might not be able to view the portfolio;
• Different monitors and systems may not accurately display colors and textures;
• Sometimes it is important for the viewer to have a tactile experience, especially with fabric choices for costumes;
• If the student does not go beyond the stock graphics, backgrounds, or fonts, many of the portfolios can look the same;
• If the student incorporates too many transitions, colors, or sounds, the presentation can overwhelm the content;
• In spite of the many advancements made with technology, the academic world is still in a state of transition in coming to terms with the impact of technology.

Many gifted artists in theatre have found their perceptions challenged by technology. Veteran designer Beeb Salzer characterized his response after reviewing an on-line portfolio:

“And looking at a Web site, one must wait as a peepshow effect, slowly line by line, reveals a picture. Instead of getting the smashing impact of a total design artfully arranged on facing pages in a portfolio, there is a virtual tease.” (Salzer 2001, 8)

At the other end of the spectrum, students who have been raised in the world of computer-generated animation tend to get carried away with tools that enable them to have a taste of this virtual world. They become preoccupied with the presentation structure and not necessarily with framing their content in the most meaningful context.

...students who have been raised in the world of computer-generated animation tend to get carried away with tools that enable them to have a taste of this virtual world.
Advantages

The responses to these arguments are equally intriguing. One fundamental question we present to our students is “Do you want to enter a graduate program or start a career at a theatre that does not embrace or have access to current and emerging technologies?” If their undergraduate experience has been designed to prepare the student for entrance into a technological world, it is expected that their graduate experience should build on that foundation.

Although it is true that “what you see is not necessarily what you get,” most systems now can display documents, images, and videos at an acceptable level of quality. If the designs and other materials were originally created in a digital environment, then they may actually lose something when printed on paper. Moreover, designers can now capture ephemeral moments of a theatrical performance that were impossible to document in a traditional paper portfolio.

“…despite a few challenges, the benefits of having a digital portfolio are strikingly clear. Digital portfolios not only allow designers to feature more of their work in less space, they are easier to transport, less expensive to produce, and simply a must for any up-and-coming designer in digital media.” (McKenna 2000, 13)

In as much as students are learning new ways to present their personal development, the faculty must address a different approach to assessment. Those of us who teach the technology to students have a tendency to focus on how well the student has mastered digital skills. Faculty members from the performance studies program are intrigued with the entertainment value of a well prepared digital portfolio. Both of these considerations can detract from an honest evaluation of the content. One way to desensitize the reviewer to the presentational aspects is for them to gain familiarity with the medium.

Theatre faculties usually work very closely with students involved in staging productions on campus outside of the traditional classroom environment. “Teaching by example” makes a strong impression on our students. Consequently, a faculty member who is creating his or her own portfolio needs to address the same issues the student is facing. They want to present their work in the clearest, most informative manner. Questions about composition, simplicity, and graphic impact are grappled within the faculty portfolio and the solutions are ultimately communicated to the students in the classroom. In figures 9 and 10 from a faculty portfolio, the focus is not on the background, the font, or the display but on the size of the images. Titles and text are not so much to direct the viewer where to look but more to impart clarification of what the reviewer is supposed to see.

It is incumbent upon us to develop and continually refine our professional showcase portfolios in a digital format, even in this transitional period of incorporating digital technologies. Simply put, we must practice what we preach (and teach.)

Current Status of Digital Portfolio Development

Students enrolled in design/production classes continue to generate development portfolios documenting their mastery of new skills with a growing collection of both classroom and realized production projects. By the end of the fall 2002 term, all of the digital portfolio components were incorporated into all of the design/production classes. The faculty agree that dedicating one week out of the term for the students to update and refine their portfolios on an ongoing basis is time well spent.

The first class of sophomore review candidates presenting digital assessment portfolios documenting projects from the four lower-division design/production classes came before the theatre faculty in the spring of 2003. These digital portfolios were well organized and included a complete composite of their first two years as theatre majors. The poise with which the students were able to lead the faculty through their portfolios provided additional evidence of the value of this technology. Although our colleagues from the performance faculty have not yet incorporated digital portfolio components into their beginning acting and directing classes, students are developing digital archives of their acting and directing experiences on their own. Most of our faculty members recognize the potential these technologies hold for better documenting a student’s progress in these areas, especially by means of digital video. Each new year of assessing digital portfolios demands that the faculty move beyond the display characteristics offered by the digital presentations and focus their assessment on the quality of the students’ progress.
In early 2003, the first class of students with digital portfolios began applying and interviewing for graduate schools and jobs. To date, all of our students seeking an M.F.A. in an area of theatre design or production have been accepted into professional training programs and received significant financial support. For the most part, the students found the ease with which they could replicate their digital portfolios was a distinct advantage. An examination of the job opportunities advertised in *ArtSearch* reflects an increasing number of requests for materials presented in a digital format. We are confident that digital portfolios will allow students, educators, and practitioners to present their work in a professional and technologically savvy format in both face-to-face interviews and at a distance. With theatre design/production training in the middle of a transition from the familiar world of pen and paper to new digital formats, digital showcase portfolios will best document and present not only the breadth and depth of students’ design visions, but also highlight their critical skills in the technologies employed in creating both the artistic works themselves and the digital portfolio package.

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