Introduction to the Catalyst Portfolio Tool

The University of Washington (UW) has developed an online tool called Catalyst Portfolio, which makes it easy for students to create portfolios and for educators to participate in the development of student portfolios. The tool allows students to collect, annotate, arrange and display a variety of digital "artifacts" that illustrate their accomplishments throughout their university careers. Catalyst Portfolio also enables UW instructors, advisers, and career counselors to lead students through a process of reflection on their experiences and to help them choose the artifacts that show their best work. The tool, released to the campus community in September 2002, is built with the following principles in mind:

• Students need an online space where they can collect all the artifacts of their UW education, including formal course work as well as objects of personal significance. Students should have complete control over the organization of this space and access to it.
• The tool should provide an electronic medium for students to reflect upon the artifacts in their collections, enabling them to understand their learning more fully. Since students often need guidance for effective reflection, the tool lets instructors, advisers, or peers provide a "scaffold" and/or comments to help students think about the artifacts in their collection when assembling a portfolio that demonstrates their skills or shows personal development.
• In order for Catalyst Portfolio to be an effective tool for demonstrating student learning, students should be able to present their portfolios to others online. The tool permits students to publish their portfolios to the Web for a variety of audiences: from prospective employers, to graduate schools, to parents and friends. It is also important that students be able to personalize the look and feel of portfolios and publish them to the Web without learning HTML programming or Web-publishing software.

Collaborative Design and Development

The development of the Catalyst Portfolio tool has been a large-scale collaborative effort. The idea for the tool came from a group of instructors and advisers on campus who were looking for ways to help students make decisions about their university careers. Online portfolios were prominent in this discussion, and they investigated the feasibility of creating an online portfolio tool. After consulting with several departments and units that were exploring online portfolios, they ascertained that there was broad interest in an online portfolio tool.

The task of developing the tool fell primarily to a partnership among three campus units:
• **The Ed-Tech Development Group** (ETDG), from UW Educational Partnerships & Learning Technologies, supervised the design and development of the tool to complement its suite of award-winning **Catalyst** Web Tools—nine Web-based tools that support teaching and learning in the UW community.

• **The Office of Undergraduate Education** (OUE) provided opportunities for development and dissemination of the tool, primarily through the Freshman Interest Group (FIG) program, which provides freshmen the opportunity to co-enroll in a cluster of courses with a group of 20-25 other freshmen during their first quarter at the UW. The FIG program, which serves 3200 students a year (80% of the UW freshman class), signed on to use the **Portfolio** tool in Autumn 2002 and participated in the development of the tool. OUE also was integral in recruiting faculty testers and incorporating the **Portfolio** tool into advising and career counseling.

• **The Program for Educational Transformation Through Technology** (PETTT) is the campus unit that facilitates strong connections between research, design, and practice to encourage thoughtful and innovative educational technology uses. PETTT participated in the development of the tool by providing expert consulting on electronic portfolios, conducting pilot studies and focus groups, and designing a large-scale study of the FIG program’s incorporation of **Portfolio**.

These partners consulted with students, instructors and administrators at UW and developed a prototype. They then conducted design experiments to facilitate a greater understanding of how students would interact with an online portfolio tool. The first experiment consisted of a pilot program designed to reveal the ways that FIG students might use a portfolio tool for reflection. The partners learned that students were receptive to answering reflective questions online and that a structured set of questions often leads to richer comments from students when compared with questions that allow the students more latitude. After conducting this study, the partners were convinced that FIG students could benefit from electronic portfolios and decided to introduce the tool to 3200 FIG students in Autumn 2002.

**Learning from Focus Groups**

During development of **Portfolio**, the project partners sponsored several focus groups to receive feedback on the tool. Faculty, academic advisors, and career counselors talked together in these groups about features they desired features in an online portfolio tool. Participants in these focus groups also raised many issues related to teaching with portfolios. On the whole, focus group participants agreed that in order to create successful portfolios, students might need help and practice with the following:

1) **Developing a collection:** Participants warned that students may be unfamiliar with the term “artifact” and may be unsure about what they should or could collect in a portfolio. Unlike a conventional portfolio, **Catalyst Portfolio** affords students the opportunity to collect a wide range of digital objects. Students might need to be encouraged to think broadly and creatively about the kinds of evidence that might best illustrate their skills, progress, interests, etc.

2) **Selecting artifacts for a purpose:** Focus group members were concerned that without guidance, student portfolios might resemble a scrapbook or filing cabinet – students might include everything related to a topic rather than select items judiciously. Teachers, they thought, could help students develop criteria to guide their selection: What is the purpose of
the portfolio? Which items from their collection are the best examples for their intended purpose?

3) **Considering audience:** Participants saw portfolios as tools for conversation, designed with a particular audience in mind. They felt that students should have opportunities to consider how, for instance, an instructor, advisor, potential employer or best friend might respond to the artifacts in the portfolio, the language and content of reflections, and the “look and feel” (design) of the portfolio.

4) **Writing about an artifact:** Essential to a successful portfolio is the ability to effectively describe an artifact and explain its significance – how is it relevant to the purpose of the portfolio as a whole? Focus group participants cautioned that students might have little practice reflecting thoughtfully on their work. Instructors or mentors could help by including questions or prompts in *Catalyst Portfolio* that scaffold constructive reflection.

5) **Drawing cross-disciplinary connections:** Group members wanted students to be able to draw connections across subject matters and across realms of student life – academic, personal, and experiential. By making these connections part of portfolio projects, students might develop a more holistic approach to their own learning.

6) **Understanding what successful portfolios look like:** Participants recommended that students have access to exemplary portfolios of different kinds (i.e. progress portfolio, career portfolio) and discuss with instructors or advisors what makes these portfolios successful.

Additional feedback from the group focused on the portfolio projects themselves. Participants did not want *Catalyst Portfolio* to become merely “an electronic assignment tool”. They stressed that portfolio projects should be complex, require students to select among artifacts and justify their choices, and encourage students to make connections across multiple examples, instances, or realms of experience. A portfolio project should present a problem, they said—one that requires synthesis and reflection to solve, and in which the selected artifacts illustrate the problem and its solution or serve as evidence in support of a claim.

Finally, focus group participants raised the issue of assessment: instructors and advisors must be clear about the learning they want students to demonstrate in a portfolio, and they must communicate their evaluation criteria to the students. Is the portfolio as a whole graded? Are its separate pages graded? This would depend, participants agreed, on the instructor's learning objectives and how these were targeted by the assignment itself.

This early feedback was valuable not only to the design of Portfolio but also to the development of an online *Teaching Guide* to accompany the tool (see the *Catalyst* Web site [http://catalyst.washington.edu/](http://catalyst.washington.edu/))

**Studying Portfolios in Practice with the FIG Program**

The FIG Program presented a perfect opportunity to introduce Portfolio to a majority of UW freshmen arriving Autumn 2002. This study is but one element of a larger coordinated effort to involve members of the UW community in using the tool. The FIG program coordinators, members of the *Catalyst* team, and researchers from the Program for Educational Transformation through Technology (PETTT), joined together to find ways to integrate the use of Portfolio in *General Studies 199: The University Community*, a weekly seminar for all
students enrolled in FIGs. In this course, new students are introduced to the UW, encouraged to reflect upon and integrate their experiences, and asked to develop a personal mission statement for how they will maximize their learning over the coming years.

The FIG program at the UW is large: 162 FIG leaders each lead a group of 22-25 students (approx. 3200 students total). During the summer, ten to twenty FIG leaders at a time attended a two-day training to design lesson plans for the course. FIG leaders were introduced to the concept of online portfolios at this time and were trained on the actual tool just before the beginning of classes.

Use of portfolios in this course was piloted in the spring of 2002 with a small group of FIG leaders. Although Catalyst Portfolio was not yet built, researchers simulated its functionality using other Catalyst tools. During the study, students created an online journal and a personal mission statement in response to reflective prompts. This pilot showed that there was sufficient interest and promise in online journaling to warrant further study. With the Catalyst Portfolio, the FIG students could move beyond creating a journal to develop a portfolio of work that demonstrates their experiences in adjusting to college life.

The original idea for Autumn 2002 was for FIG leaders to help first-year students create an online portfolio, guiding them through the initial establishment of their portfolios and creating a framework for portfolio-assisted reflection. PETTT was interested in studying three questions:

- What method(s) of instruction on the tool help students feel most competent in using Catalyst Portfolio?
- How could Catalyst Portfolio be truly integrated into the General Studies 199 curriculum and not feel like an add-on to FIG students or FIG leaders?
- What instructional supports (in-class discussion, feedback, prompts or scaffolding within the tool) might promote reflective thinking?

The group faced several challenges with this project. First was how FIG students would learn from using the tool: FIG leaders are advanced undergraduates, not trained in teaching. Did they have the skills to teach reflective thinking? Furthermore, students using portfolios for a class generally learn from the feedback they receive on their reflections, selection, and the whole portfolio in relation to its purpose. In order for students to demonstrate learning, it is important for them to have opportunities to revise their work based on the feedback they receive, or incorporate this feedback into the next step in the development of the portfolio. FIG leaders, however, are not paid for their roles, and the FIG Program coordinators thought that responding to weekly Portfolio entries for 20-25 students would take too much of the FIG leaders’ time. A third challenge was the sheer number of FIGs and FIG students: The FIG program wanted to ensure a universal curriculum and structure to the course but still allow FIG leaders to design their own lessons.

To address these concerns, members of ETDG, PETTT, and the FIG program coordinators met to develop a structured portfolio – a single portfolio project with series of set prompts designed to target course objectives and scaffold reflective thinking. Distributed to all FIG students, the General Studies 199 portfolio was intended to establish a universal curriculum and provide pedagogical support to FIG leaders. The portfolio project for General Studies 199 asks students to complete a series of five reflections on topics central to the course (i.e. social issues, academic planning, diversity, connecting with faculty). These reflections culminate in the final assignment, creation of a Personal Mission Statement. Prompts within the portfolio project were purposefully structured to help students reflect personally on issues central to the course,
set these in a larger context of their experiences in the university, and plan next steps (see sample below). During their summer training, FIG leaders had a chance to review the prompts and offer suggestions for revision.

<table>
<thead>
<tr>
<th>Sample prompts for the portfolio page on a SOCIAL ISSUE addressed in the FIG seminar. Students respond to the questions and submit their portfolios; FIG leaders can then comment on their responses and return the portfolios to students.</th>
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<tbody>
<tr>
<td>1. Consider the article/discussion on a social issue that you had in class. What about this issue makes people disagree? (Use examples from your classroom discussion). Where do you stand on this issue?</td>
</tr>
<tr>
<td>2. What has influenced or shaped your current point-of-view on this issue? What, if anything, could change your perspective?</td>
</tr>
<tr>
<td>3. How did your class handle multiple perspectives? In future conversations in and outside of class, what will you do to ensure a respectful exchange, which helps everyone learn and move forward?</td>
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In order to address FIG leaders’ limited time and answer questions about Catalyst Portfolio as a pedagogical tool, PETTT proposed to pay a group of twenty FIG leaders for any extra hours they might work to provide individual, written feedback to each of their students. This group of FIG leaders will receive additional training on how to encourage reflective thinking in class discussions as well as in writing. PETTT is interested in knowing if this kind of support makes a difference in the quality of FIG students’ reflection, their attitudes toward online portfolios, and their assessment of the course.

The FIG/Portfolio study is complex: We will collect data throughout the quarter using multiple methods. By combining data from surveys and focus groups for both FIG leaders and students, individual interviews with FIG leaders and students, classroom observations, and review of actual portfolios, our aim is to conduct a study with both breadth and depth. By February 2003, we hope to have preliminary reports on how FIG leaders and students use Catalyst Portfolio in general and how the prompts within the tool as well as FIG leaders’ feedback on students’ reflections affect student learning. Information from this study will be used to provide recommendations about how to best integrate online portfolios into the FIG program and to understand if and how supports and prompt within the tool promote thoughtful reflection. It is hoped that this knowledge can then be applied to using online portfolios in other courses.

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