

PRATT INSTITUTE

CENTER FOR CONTINUING AND PROFESSIONAL STUDIES

Usability Report

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Prepared by:

Craig M. MacDonald, Ph.D.

Assistant Professor

Pratt Institute, School of Information and Library Science (SILS)

and

Graduate students at Pratt Institute, School of Library and Information Science

Sean Fitzell

Megan Koontz

Kate Merlie

Alana Miller

Samantha Raddatz

Tal Rozen

April Siqueiros

Susan Young

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Executive Summary

On behalf of the Provost and the Center for Continuing and Professional Studies (CCPS), a team of usability experts from Pratt SILS conducted a usability study of the three primary online components of CCPS: the Pratt Course Catalog, the CCPS Website, and Instant Enrollment. A representative sample of CCPS' target audience was identified and twenty-four individuals participated in the study.

Data were collected on the three measures of usability: effectiveness, efficiency, and satisfaction. Findings show that CCPS scored well below average on all three measures, as participants encountered numerous usability problems that caused confusion and prevented them from completing tasks quickly. Additionally, participants' subjective reactions to CCPS were mostly negative, with many participants describing their experience with CCPS as "frustrating" or "overwhelming."

Deeper investigation revealed 34 unique usability issues across the three components, falling in eight broad categories: (1) unclear or ambiguous labels, (2) non-intuitive navigation, (3) cluttered display of course information, (4) non-intuitive information architecture (navigation, organization, labeling, and layout), (5) unexpected dead ends, (6) confusing presentation of courses, (7) overly complicated course search, and (8) convoluted course registration process.

In response, we offer five recommendations aimed at improving the overall usability and experience with CCPS:

Recommendation #1: Avoid use of the Pratt Course Catalog

Recommendation #2: Modify the information architecture of the CCPS Website to be more user-friendly

Recommendation #3: Simplify the process of finding current course information on the CCPS Website

Recommendation #4: Streamline the course search and registration process

Recommendation #5: Consider creating a standalone website for CCPS that includes a unified (and dynamic) course catalog and course search/registration process

The following report contains a review of the usability data, detailed descriptions of the usability problems, and deeper explanations of our recommendations. Implementation of these recommendations will increase user satisfaction and lead to a less stressful and more productive course enrollment process for visitors to the CCPS website.

Table of Contents

Introduction.....	5
Methodology	6
Recruitment.....	6
Procedure	6
<i>Pre-Test Questionnaire</i>	<i>7</i>
<i>Post-Task Questionnaire.....</i>	<i>7</i>
<i>Affect Grid</i>	<i>7</i>
<i>Post-Section Questionnaire</i>	<i>7</i>
<i>Post-Test Questionnaire</i>	<i>7</i>
Tasks	8
<i>Pratt Course Catalog.....</i>	<i>8</i>
<i>CCPS Website</i>	<i>8</i>
<i>Instant Enrollment</i>	<i>9</i>
Measuring Usability	11
<i>Effectiveness.....</i>	<i>11</i>
<i>Efficiency.....</i>	<i>11</i>
<i>Satisfaction.....</i>	<i>12</i>
Description of Participants.....	13
Usability Findings: Overall	17
Effectiveness	17
Efficiency.....	18
Satisfaction	19
<i>Post-Task Satisfaction</i>	<i>19</i>
<i>Post-Test Satisfaction</i>	<i>20</i>
Quality of Experience.....	21
<i>Overall Perceptions.....</i>	<i>21</i>
<i>Subjective Reactions.....</i>	<i>22</i>
<i>Emotional Responses</i>	<i>23</i>
Summary.....	24
Usability Problems: Pratt Course Catalog	25
Issue #1: Unclear and ambiguous labeling.....	26
Issue #2: Non-intuitive navigation within course catalog	27
Issue #3: Cluttered display of course information	28
Summary.....	29
Usability Problems: CCPS Website	30
Issue #4: Non-intuitive information architecture.....	31
<i>Issue 4a. Home page lacks cohesive identity</i>	<i>31</i>
<i>Issue 4b. Secondary and tertiary pages are cluttered and inconsistent.....</i>	<i>32</i>
<i>Issue 4c. Navigation structure is overwhelming and confusing.....</i>	<i>33</i>
<i>Issue 4d. Labels are unclear and ambiguous</i>	<i>34</i>
Issue #5: Unexpected dead ends	35
Issue #6: Unclear presentation of courses	37

Summary.....39

Usability Problems: Instant Enrollment40

 Issue #7: Overly complicated course search41

 Issue #8: Convoluted course registration process42

 Summary.....44

Recommendations45

 Recommendation #1: Avoid use of the Pratt Course Catalog46

 Recommendation #2: Modify the information architecture of the CCPS Website to be more user-friendly47

 Recommendation #3: Simplify the process of finding current course information on the CCPS Website48

 Recommendation #4: Streamline the course search and registration process52

Recommendation 4.1: Make “Course Search” instructions more useful.....52

Recommendation 4.2: Provide a more guiding error message.....52

Recommendation 4.3: Remove the “Credits” column or better utilize it.....53

Recommendation 4.4: Simulate a “shopping cart” style registration.....53

Recommendation 4.5: Change the “Additional Information” section to a post-registration optional survey54

 Recommendation #5: Consider creating a standalone website for CCPS that includes a unified (and dynamic) course catalog and course search/registration process56

Recommendation 5.1: Develop an independent brand and market the Center as its own entity56

Recommendation 5.2: Create a dynamic course catalog that meets user needs...56

Recommendation 5.3: Integrate the website and program offerings with course registration to streamline the process56

Conclusion.....58

References59

Appendix A: Screening Questionnaire.....61

Appendix B: Pre-Test Questionnaire.....63

Appendix C: Post-Task Questionnaire.....65

Appendix D: Affect Grid.....66

Appendix E: Post-Section Questionnaire67

Appendix F: Post-Test Questionnaire69

Introduction

The Center for Continuing and Professional Studies (CCPS) at Pratt Institute serves the lifelong learning needs of non-traditional students by offering courses (mostly non-credit) in art, design, architecture, construction management, and many others. Through a range of program offerings, from professional development programs for architects and engineers to certificate programs in electronic publishing and new media to summer credit intensives, CCPS appeals to adults interested in taking college-level courses for educational advancement, career change, and/or personal enrichment.

At the request of the Provost and with cooperation and guidance from professional staff members in CCPS and Pratt's Information Technology Division, a team of usability experts from Pratt's School of Information and Library Science (SILS) designed and implemented a comprehensive usability study of three main components of CCPS' web-based interface: the Pratt Course Catalog, the CCPS Website, and the Instant Enrollment system.

The study's objectives are three-fold:

1. To provide statistically valid usability data regarding three aspects of CCPS' web-based interface, where usability is defined as a combination of effectiveness, efficiency, and satisfaction.
2. To offer actionable design recommendations to make the CCPS website more intuitive and user-friendly for current and prospective students.
3. To provide strategic recommendations and usability guidelines for use by CCPS when a) comparing the efficacy of Instant Enrollment to its competitors and b) considering the forthcoming website re-design undertaken by Ologie.

The method of study involved user testing with "think aloud" in which representative users are placed in a controlled setting and asked to complete a series of tasks while thinking aloud to describe their thought process. The study followed industry best practices for recruitment, moderation, analysis, and reporting.

The remainder of this report will provide a detailed overview of the study methodology, a description of the study participants, the quantitative and qualitative results of the study, and several actionable recommendations to address major (and minor) usability problems.

Methodology

This section describes the study methodology, detailing methods for recruiting qualified participants, the experimental procedure and data collection instruments, the tasks used in the study, and the techniques for measuring usability.

Recruitment

Our goal was to recruit participants who were representative of CCPS' target users. For usability studies that are primarily quantitative, the recommended sample size is between 20 and 25 participants (Nielsen, 2006).

Four user profiles were identified: 1) people interested in personal enrichment; 2) professionals looking to develop skills; 3) students supplementing coursework; and 4) people seeking certifications. In addition to meeting one or more these profiles, interested participants also had to be between the ages of 18 and 74, have an annual household income of at least \$35,000 per year (except students), live and/or work in the New York City metropolitan area, and be at least somewhat comfortable using the Internet.

To recruit interested participants who fit these criteria, a screening questionnaire was created using Google Drive (see Appendix A) and a link was distributed via multiple channels, including educational organizations (i.e., Pratt Institute, School of Visual Arts, Tisch School of the Arts at NYU), professional associations (i.e., Emerging Leaders of New York Arts, Creative Artists Agency), local community groups (i.e., Meetup.com, YMCA), and the Internet in general (i.e., Craigslist, Facebook, Twitter). In total, the screening questionnaire received 115 responses, of which 82 individuals were deemed eligible for the study. Of those eligible individuals, 39 were contacted by members of the evaluation team and 24 participated in the study.

Procedure

Test sessions were conducted with each participant individually. Sessions took place on the 6th floor of Pratt's Manhattan campus¹. Two members of the evaluation team were present for every session, one as moderator and the other as observer and note-taker. All tests were conducted using the Google Chrome web browser. Audio, video, and screen activity was recorded using Silverback², a popular usability software application.

Each participant was asked to complete 6 tasks: 2 tasks on the Pratt Course Catalog, 3 tasks on the CCPS Website, and 1 task on a testing version of Instant Enrollment. While completing the tasks, each participant was asked to "think aloud" to verbalize his/her thought process. After completing each task, participants filled out a brief post-task questionnaire. After completing the tasks for each of the three interfaces,

¹ One session was held at Brooklyn Public Library.

² <http://silverbackapp.com/>

participants completed an Affect Grid and a post-section questionnaire. At the conclusion of the test, participants completed a post-test questionnaire. All questionnaires were administered via SurveyMonkey³ and the Affect Grid was administered via pen/pencil and paper. The tests took approximately 45-55 minutes to complete and each participant received \$40 as compensation. The testing procedure and research instruments are described below.

Pre-Test Questionnaire

After going through the informed consent process, the session began with a pre-test questionnaire (see Appendix B). The pre-test questionnaire collected data about the participants. The questionnaire included questions about participants' gender, age, occupation, highest level of education, their experience with continuing education courses (at Pratt or elsewhere), their interest in taking a continuing education course, and the factors that would motivate them to take a continuing education course.

Post-Task Questionnaire

After each of the six tasks, participants were asked to complete a brief post-task questionnaire (see Appendix C) consisting of a single question – called the Single Ease Question, or SEQ (Sauro & Dumas, 2009) – asking them to rate the difficulty of completing the task on a 7-point scale where 1 is “Difficult” and 7 is “Easy.”

Affect Grid

After completing the tasks for each of the three interfaces (Pratt Course Catalog, CCPS Website, and Instant Enrollment), participants were asked to fill out an Affect Grid (see Appendix D), a 9x9 graph with “energy” on one axis and “pleasure” on the other (Russell, Weiss, & Mendelsohn, 1989). To complete an affect grid, participants were directed to place a mark on the graph that best represented how they felt at that moment (e.g., high pleasure and low energy, low pleasure and medium energy, etc.), allowing them to succinctly and directly express their emotional reactions to each of the three interfaces.

Post-Section Questionnaire

After completing the Affect Grid, participants completed a post-section questionnaire (see Appendix E). Thus, the post-section questionnaire was administered three times (once for each interface) and included the same five questions: the overall ease/difficulty of interacting with the interface, the overall “goodness” of the interface (Hassenzahl & Monk, 2010), whether their experience with the interface was positive or negative, the likelihood that they would use the interface again, and the likelihood they would recommend the interface to someone else.

Post-Test Questionnaire

At the end of the study, participants completed a post-test questionnaire (see Appendix F). The post-test questionnaire focused broadly on the participants' entire

³ <http://www.surveymonkey.com>

experience interacting with CCPS through the Course Catalog, CCPS website, and Instant Enrollment. The questionnaire began with 10 items from the System Usability Scale (SUS), the most widely used questionnaire for measuring perceived usability (Sauro, 2011a). Next, participants were asked four questions specific to CCPS: whether they would need assistance to enroll in CCPS courses, whether they felt they would have to use the site repeatedly to have a positive experience with it, whether finding courses was easy, and whether enrolling in classes was easy. Two final questions sought participants' overall impressions of CCPS. First, participants were asked to provide one word that described their experience with CCPS during the study. Next, they were asked if, based on their experience during the study, they were more likely, less likely, or equally likely to enroll in a CCPS course.

Tasks

A total of 6 tasks were developed that presented a variety of hypothetical, but realistic, use scenarios with the Pratt Course Catalog, CCPS Website, and Instant Enrollment.

Pratt Course Catalog

The first two tasks asked participants to use the Pratt Course Catalog to find courses that were currently being offered. To maximize participants' time, a loose 4-minute time limit was enforced on each task.

In Task #1, participants were asked to find a single course with a narrow focus:

Task #1: You would like to find out whether Pratt Institute offers any summer courses for professionals that help them improve their graphic design skills. Use Pratt's Course Catalog to find a Photoshop course that's being offered this summer and, in the questionnaire, record the name of the course and when and where it meets.

In Task #2, participants were asked find two courses from a broad disciplinary area:

Task #2: A family member recently purchased a new digital camera and wants to become a more skilled photographer. She would like to take some courses at Pratt Institute but works full-time (9 to 5, Monday through Friday) and doesn't have the time (or the money) to enroll in a degree program. Use Pratt's Course Catalog to find two digital photography courses that are being offered this summer. In the questionnaire, record the names of the courses and when and where they meet.

CCPS Website

The next three tasks were designed to expose participants to broad portions of the CCPS website. Once again, a loose 4-minute time limit was enforced on each task.

In Task #3, participants were asked to find a simple piece of information regarding one of CCPS' certificate programs:

Task #3: You're interested in getting certified in electronic publishing from Pratt Institute's Center for Continuing and Professional Studies (CCPS). Using the CCPS website, find out how many courses are required for the certificate and record this number in the questionnaire.

In Task #4, participants were asked to find a specific AIA-approved course that is currently being offered:

Task #4: As a member of the American Institute of Architects (AIA), you need to regularly take AIA-certified courses to stay up to date with current practices and maintain your license. Using the CCPS website, find an AIA-certified course about estimating construction costs. In the questionnaire, record the course title, when it's offered, and how much it costs.

In Task #5, participants were asked to find a specific continuing education course:

Task #5: A close friend told you she is interested in starting a side business selling personal hand-made jewelry and wants you as a partner. Since you don't know much about jewelry, you've decided to see whether Pratt Institute offers any courses that could help get you started. Using the CCPS website, find a course about jewelry that is being offered this summer. In the questionnaire, record the course title, when it's offered, and how much it costs.

Instant Enrollment

The final task was designed to allow participants to explore the full range of features and functions offered by the Instant Enrollment system. Due to the length and complexity of the task, no time limit was enforced for this task; however, in some cases participants were instructed to stop before completing the task if they were outwardly frustrated or agitated.

In Task #6, participants were asked to register for two CCPS courses (using falsified student information and credit card numbers):

To help you prepare for your company's new online marketing campaign, your boss wants you to enroll in Pratt Institute's Certificate Program in Online and Social Media Marketing. You can't take any of the core courses, but the print catalog lists two electives being offered this August:

'Creating a Website and a Blog' (PMSM 333) and 'The Big Four and More: A Practical Approach to Using Facebook, Twitter, YouTube, Linked-In, and Others' (PMSM 334).

Using the student and credit card information provided, use the Pratt Institute website to register for these two courses.

Measuring Usability

Usability is a quality attribute that refers to how easy it is to learn and use an interface (Nielsen, 2012). While there are various approaches to defining usability (e.g., Chen, Germain, & Rorissa, 2010), one of the most widely used definitions is from the International Standards Organization (ISO), who defines usability as:

“The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.” (ISO, 1998)

Using this definition, a study to determine the usability of any interface requires defining and measuring users’ **effectiveness**, **efficiency**, and **satisfaction** with the interface.

Effectiveness

Effectiveness is defined as the “accuracy and completeness with which users achieve specified goals” (ISO, 1998). Effectiveness can be measured in a number of ways depending on the nature of the interface being evaluated, but the most common effectiveness metrics are task completion (yes/no), accuracy (error rate, precision), recall, task completeness, or quality of outcome (Hornbæk, 2006).

In this study, effectiveness was measured with **task completion** and will be reported as the percentage of participants who successfully completed each task in the time allotted. According to usability experts, a realistic benchmark for task completion rate is **78%** for each task (Sauro, 2011b).

Attribute	Metric	Target/Benchmark
Effectiveness	Task Completion	78%

Efficiency

Efficiency is defined as the “resources expended in relation to the accuracy and completeness with which users achieve goals” (ISO, 1998). The most common metric for capturing efficiency is time on task, or the amount of time it took each participant to successfully complete each task. Other efficiency metrics include input rate, mental effort, use frequency, and learning time (Hornbæk, 2006).

In this study, efficiency was measured with **average task completion time** and will be reported as the average time spent by participants who successfully completed each task (Sauro, 2010). Since task completion times vary widely depending on the nature of the interface and the type of tasks, benchmarks for average task completion time must be defined separately for each individual study. For this study, our target task completion time is **3 minutes for tasks 1-5** (which involve finding course or program information) and **5 minutes for task 6** (which involves registering for two courses).

Attribute	Metric	Target/Benchmark
Efficiency	Time on Task	3:00 (tasks 1-5) 5:00 (task 6)

Satisfaction

Satisfaction is defined as “[users’] freedom from discomfort, and positive attitudes towards the use of the product” (ISO, 1998). Since satisfaction is a subjective measure, it is typically assessed through a questionnaire (Hornbæk, 2006).

In this study, post-task satisfaction was measured through the **Single Ease Question (SEQ)**, which captures users’ immediate perception of task difficulty (Sauro & Dumas, 2009). It is generally recommended to aim for average SEQ scores that meet or exceed **4.8** (on a 7-point scale), which is considered slightly better than average. Additionally, post-test satisfaction was measured through the **System Usability Scale (SUS)**, the mostly widely used questionnaire for capturing user perceptions of usability. A typical benchmark for the SUS is **68** (on a 100-point scale), which again is considered slightly above average (Sauro, 2011a).

Attribute	Metric	Target/Benchmark
Post-Task Satisfaction	Single Ease Question (SEQ)	4.8
Post-Test Satisfaction	System Usability Scale (SUS)	68

Description of Participants

A total of 24 participants took part in the study. Participants were evenly split between males and females (12 of each gender). Broadly speaking, participants were young and tech-savvy, with all participants between the ages of 18 and 64 (and half between the ages of 25 and 34; see Figure 1) and all participants being “Very Comfortable” using the Internet.

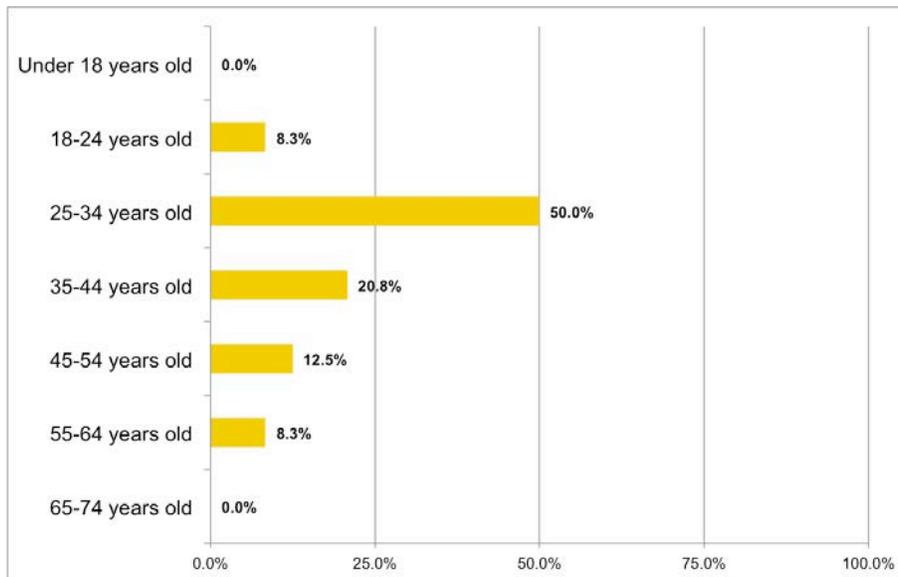


Figure 1. Distribution of participants by age.

All but two participants reported an annual household income over \$35,000, with a majority (75%) reporting incomes greater than \$50,000 (see Figure 2).

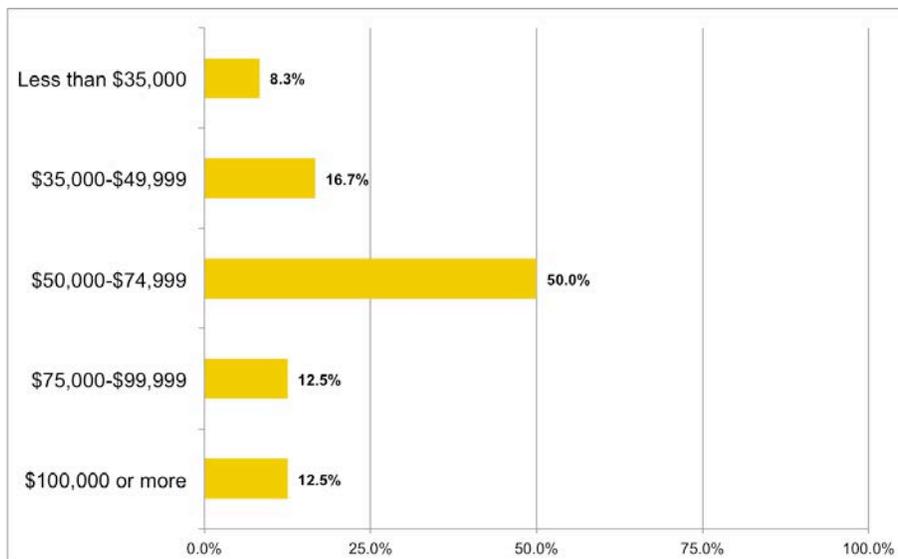


Figure 2. Distribution of participants' reported annual household incomes.

Participants were also highly educated, with all participants having completed at least some college and a majority (87.5%) having earned at least a bachelor's degree (see Figure 3).

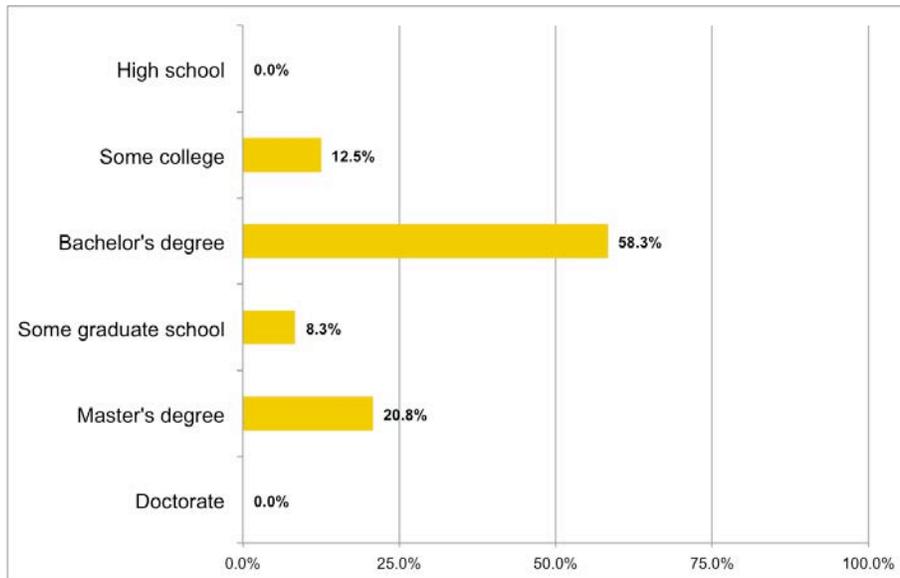


Figure 3. Participants' highest level of education.

A plurality of participants (11 of 24; 45.8%) described themselves as established professionals (including 1 consultant and 1 freelancer). Of the remaining participants, 8 (33.3%) were entry-level looking for upward movement, 4 (16.7%) were not yet established in permanent careers, and 1 (4.2%) was a full-time student (see Figure 4).

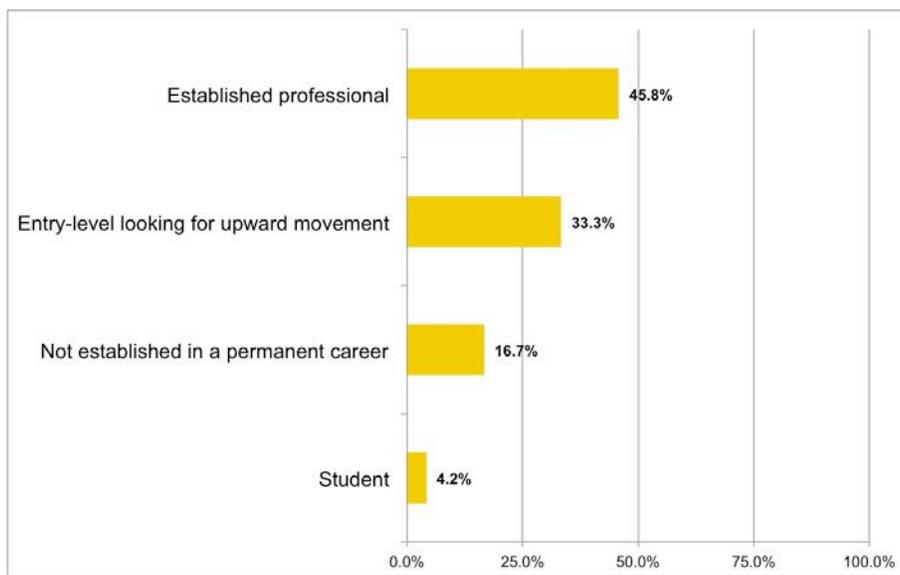


Figure 4. Participants' professional status.

Participants also represented a wide range of careers and career interests. The most common career, reported by 6 (25.0%) participants, was design, followed by programming and web development (4; 16.7%), computer graphics and digital arts (3; 12.5%), fine arts (2; 8.3%), and education (2; 8.3%). A full breakdown of careers and career interests is presented in Figure 5.

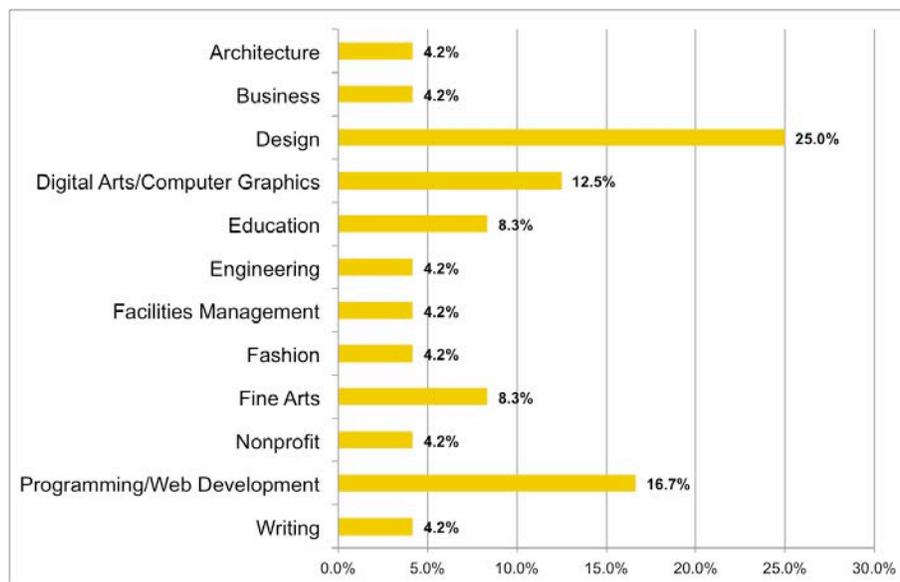


Figure 5. Participants' self-reported careers and/or career interests.

One-third of the participants (8 of 24; 33.3%) had enrolled in a continuing education course previously (but only one had previously taken a course through Pratt CCPS). Although most participants had never taken a continuing education course previously, a majority (21 of 24; 87.5%) reported being somewhat or very interested in taking such a course (see Figure 6).

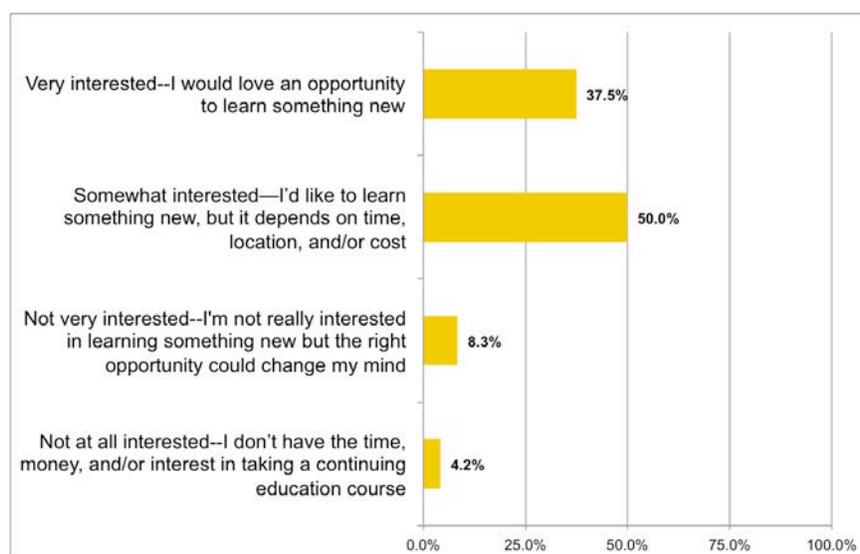


Figure 6. Participants' reported interest in taking a continuing education course.

Finally, participants indicated some factors that would motivate them to take a continuing education course (participants could select multiple responses). Professional development was the most common motivating factor (18 of 24; 75%), followed by fun or personal enrichment (14 of 24; 58.33%). A full breakdown of motivating factors is presented in Figure 7. Note that none of the participants were interested in completing summer credits toward a degree program; this result is expected due to the professional makeup of the participant pool.

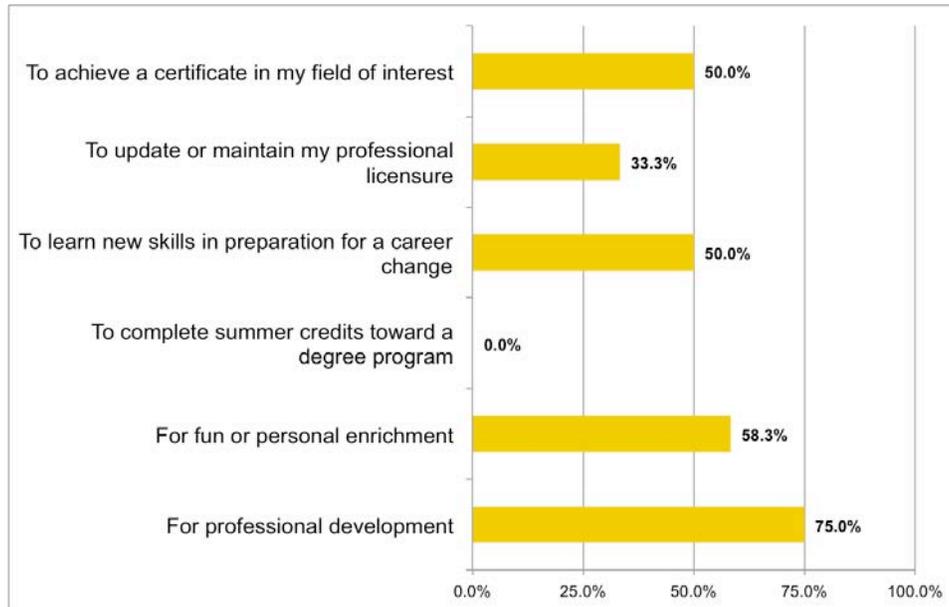


Figure 7. Potential factors that would motivate participants to enroll in a continuing education course. Participants could select multiple responses so percentages will not add to 100%.

Usability Findings: Overall

This section reports the usability data with respect to the three attributes of usability – effectiveness, efficiency, and satisfaction – and the overall quality of participants' experience with CCPS.

Effectiveness

As explained previously, effectiveness was measured by **task completion rate**, or the percentage of study participants who successfully completed each task. As reported in Table 1, CCPS met the target task completion rate of 78% for only one of the six tasks (Task #3).

Table 1. Summary of effectiveness metrics.

	Target	Actual	Result
Pratt Course Catalog			
Task 1: Find Photoshop Course	78%	0%	Failure
Task 2: Find Two Photography Courses	78%	0%	Failure
CCPS Website			
Task 3: Find Certificate Requirements	78%	96%	Success
Task 4: Find AIA-Certified Course	78%	33%	Failure
Task 5: Find Jewelry Course	78%	21%	Failure
Instant Enrollment			
Task 6: Register for 2 Courses	78%	61% ⁴	Failure

From these data, it is clear that the biggest barrier for CCPS users is finding information about current courses offered through CCPS, as none of the participants were able to find courses through the Pratt Course Catalog and less than one-third were able to find courses through the CCPS Website. Enrolling in courses through Instant Enrollment seemed to present fewer barriers in comparison, but nearly 40% of the participants were unable to successfully register for both courses.

Conclusion: the effectiveness of CCPS – in terms of task completion rate – is well below average.

⁴ One participant was unable to complete Task #6 due to a technical error and was removed from the analysis. Thus, this percentage is based on the results from 23 participants.

Efficiency

Efficiency was measured by **average task completion time**, or the average time spent by participants to complete the task successfully. The data shown in Table 2 indicate that CCPS met the target task completion time in only one of the six tasks (Task #3), although it should be noted that completion times were not calculated for Task #1 and Task #2 since none of the participants successfully completed those tasks.

Table 2. Summary of efficiency metrics.

	Target	Actual	Result
Pratt Course Catalog			
Task 1: Find Photoshop Course	3:00	n/a	Failure
Task 2: Find Two Photography Courses	3:00	n/a	Failure
CCPS Website			
Task 3: Find Certificate Requirements	3:00	1:42	Success
Task 4: Find AIA-Certified Course	3:00	4:04	Failure
Task 5: Find Jewelry Course	3:00	3:32	Failure
Instant Enrollment			
Task 6: Register for 2 Courses	5:00	7:44	Failure

These data indicate that there are several barriers to efficiently finding course information through the CCPS Website and registering and paying for courses through Instant Enrollment. In addition, even though Task #3 was considered a success, it still took participants nearly 2 minutes, on average, to find important information about one of the certificate programs (i.e., the number of courses required).

Conclusion: the efficiency of CCPS – in terms of average task completion time – is well below average.

Satisfaction

Satisfaction was measured in two ways: post-task satisfaction was measured using the Single Ease Question (SEQ), a 7-item scale measuring whether participants perceived the task as difficult or easy; post-test satisfaction was measured using the System Usability Scale (SUS), a widely used scale for measuring perceived usability.

Post-Task Satisfaction

The SEQ measuring post-task satisfaction was administered after each of the six tasks. As reported in Table 3, only one of the six tasks (Task #3) exceeded the target SEQ score of 4.8 (on a 7-point scale) while another task (Task #6) achieved an average SEQ score that nearly met the target SEQ score.

Table 3. Summary of post-task satisfaction data.

	Target	Actual	Result
Pratt Course Catalog			
Task 1: Find Photoshop Course	4.8	1.50	Failure
Task 2: Find Two Photography Courses	4.8	2.71	Failure
CCPS Website			
Task 3: Find Certificate Requirements	4.8	5.54	Success
Task 4: Find AIA-Certified Course	4.8	2.63	Failure
Task 5: Find Jewelry Course	4.8	3.33	Failure
Instant Enrollment			
Task 6: Register for 2 Courses	4.8	4.13	Success*

**Statistically, an average score of 4.13 falls within the 95% prediction interval for a sample with an average score of 4.8. Therefore, we can conclude that the difference between the observed average (4.13) and the expected average (4.8) is not statistically significant. Thus, Task #6 is considered a Success.*

Here, the data show that users are likely to be unsatisfied with the ease of use of the Pratt Course Catalog, moderately satisfied to unsatisfied with the ease of use of the CCPS Website, and moderately satisfied with the ease of use of Instant Enrollment.

Conclusion: the post-task satisfaction with CCPS is below average.

Post-Test Satisfaction

The SUS measuring post-test satisfaction was presented once, after participants attempted all six tasks. In general, SUS scores fall on a range from 0 to 100 with 68 considered average. As shown in Table 4, CCPS earned an SUS score of 39.2, which is considered “Poor” and “Not Acceptable” according to industry standards (Sauro, 2011a).

Table 4. Summary of post-test satisfaction data.

Task	Target	Actual	Result
Overall	68	39.2	Failure

According to data from Sauro (2011a), CCPS' SUS score of 39.2 ranks in just the 7th percentile, which means only 7% of all websites in existence will have a lower SUS score than CCPS.

Conclusion: the post-test satisfaction with CCPS is well below average.

Quality of Experience

In addition to the traditional usability metrics, data were also gathered about the quality of participants' experience interacting with CCPS' web presence.

Overall Perceptions

At different points during the study, participants were asked several questions about their overall perceptions of each interface individually and of CCPS as a whole.

According to the data (see Figure 8), most participants perceived all three interfaces to be below average in terms of "goodness"⁵ and said that using each interface was a slightly negative experience. Furthermore, most participants said they were unlikely to use any of the three interfaces again or recommend them to someone else.

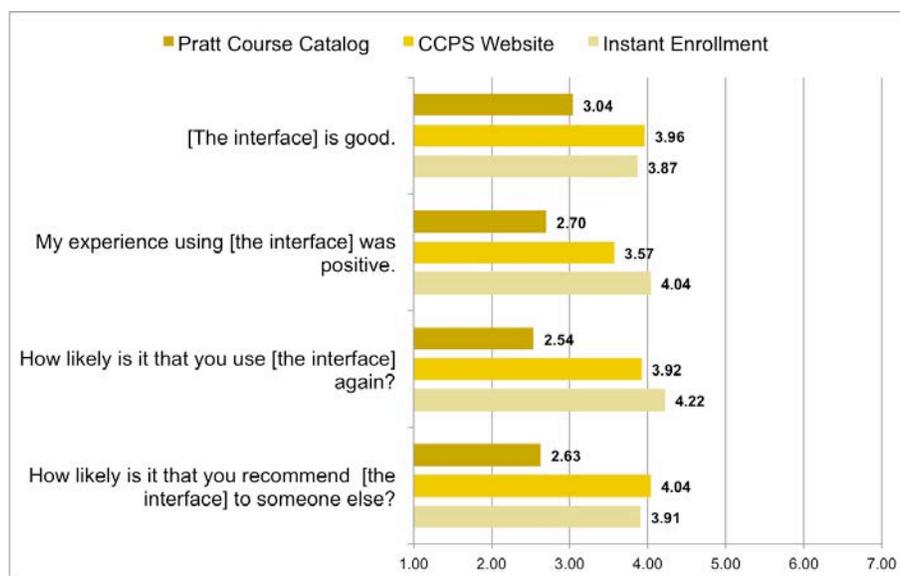


Figure 8. Overall perceptions of each interface.

When considering CCPS as a whole (see Figure 9), participants generally felt they would not need to ask for assistance when enrolling in CCPS classes. However, just 8 participants (33%) mostly or strongly agreed with this statement, which suggests that two-thirds of the participants would at least consider asking for assistance when enrolling in courses through CCPS as a distinct possibility.

Likewise, most participants felt they would need to use the site repeatedly in order to have a positive experience finding and enrolling in classes, although the perceived ease of enrolling in classes seemed to be much higher than the perceived ease of finding course information (a common theme throughout the study).

⁵ Goodness is an overall quality measure, rated on a scale of 1 to 7 where 1 is "bad" and 7 is "good" (Hassenzahl & Monk, 2010)

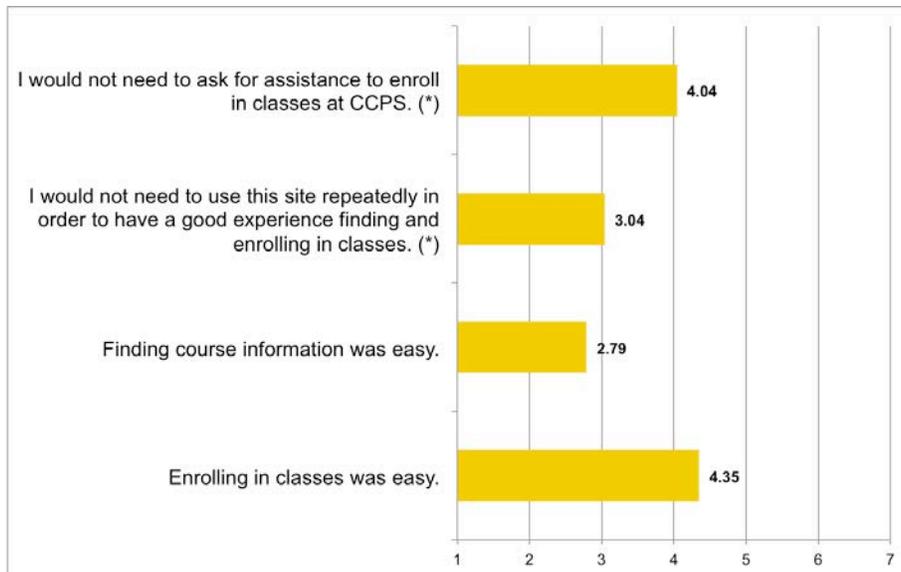


Figure 9. Participants' overall perceptions of CCPS. Items marked with a (*) have been reverse-coded to simplify analysis and interpretation.

Subjective Reactions

At the end of the study, each participant was asked to provide one word to describe his or her experience with CCPS. These responses were used to create a word cloud, which emphasizes words based on how frequently they occur (see Figure 10). Most notable from the word cloud are the large size of the word “frustrating” (used by four of the 24 participants) and the medium size of the words “overwhelming” and “mixed” (each used by 2 of the 24 participants). Of all the 24 words used, it could be argued that 20 of them have a negative connotation, which speaks to participants’ overall negative experience with CCPS in this study.



Figure 10. Word cloud of participants' one-word descriptions of their CCPS experience.

Emotional Responses

Finally, participants were asked to complete an Affect Grid – a 9x9 graph with “Pleasure” and “Energy” along the two axes – to provide a snapshot of their emotional reaction to each of the three interfaces. These responses were aggregated and used to create a series of heat maps showing, as a whole, how participants felt toward each of the three interfaces (see Figure 11).

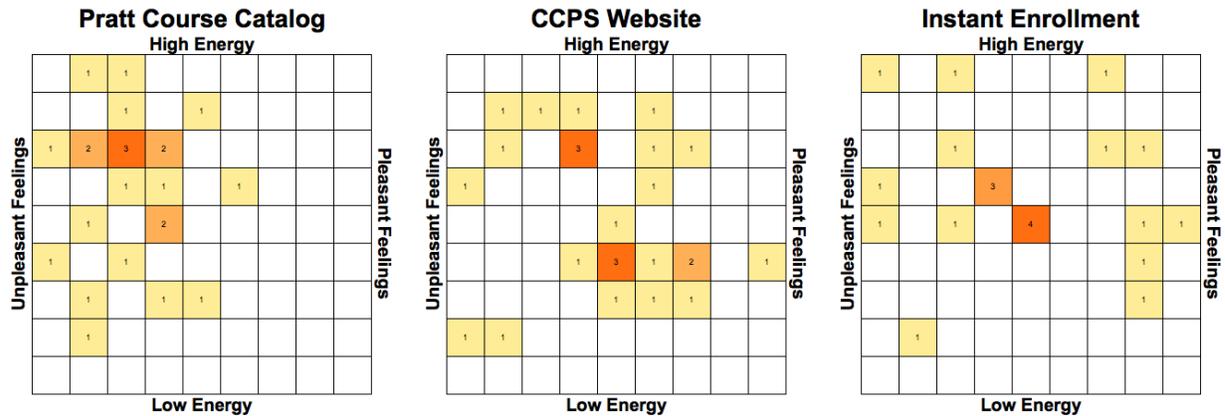


Figure 11. Affect Grid heat maps for all three interfaces.

Ideally, these heat maps should show high concentrations of responses on the right side of the graph (i.e., more pleasant feelings), with the most desirable results falling in the either upper-right quadrant (i.e., excited: high energy and pleasant feelings) or lower-right quadrant (i.e., relaxed: low energy and pleasant feelings). By contrast, these heat maps show a heavy concentration of responses toward the left (i.e., “unpleasant”) side of the graph (particularly for the Pratt Course Catalog), with many responses in the upper-left quadrant (i.e., frustrated: high energy and unpleasant feelings).

Summary

CCPS exhibited below average performance across all three usability metrics (effectiveness, efficiency, and satisfaction) and study participants reported having generally negative experiences when interacting with each of the three components (Pratt Course Catalog, CCPS Website, and Instant Enrollment).

Table 5. Summary of usability metrics.

	Effectiveness	Efficiency	Satisfaction
Pratt Course Catalog			
Task 1: Find Photoshop Course	Failure	Failure	Failure
Task 2: Find Two Photography Courses	Failure	Failure	Failure
CCPS Website			
Task 3: Find Certificate Requirements	Success	Success	Success
Task 4: Find AIA-Certified Course	Failure	Failure	Failure
Task 5: Find Jewelry Course	Failure	Failure	Failure
Instant Enrollment			
Task 6: Register for 2 Courses	Failure	Failure	Success

The data indicate that participants' biggest struggle was finding information about current course offerings through CCPS, as no participants were able to find accurate course information through the Pratt Course Catalog and less than one-third of participants were able to find accurate course information through the CCPS Website. Enrolling in courses seemed to present fewer barriers, but many participants still struggled with this task: it took participants, on average, 7 minutes and 45 seconds to complete the task, with 40% of participants not completing the task at all.

One bright spot was Task #3, in which participants were asked to find out the number of courses required to earn a particular certificate. Usability data for this task exceeded the benchmark for all three metrics, indicating that presenting program information is (and should continue to be) a strength of the CCPS Website.

Still, the data highlight a troubling reality for CCPS: **the current options for displaying current course information (either through the Pratt Course Catalog or CCPS Website) and enrolling students in courses (through Instant Enrollment) are not adequate.**

The remaining sections of this report will examine the potential causes of these inadequacies and make strategic recommendations for addressing them.

Usability Problems: Pratt Course Catalog

Usability data suggested the presence of severe usability issues with the Pratt Course Catalog, with none of the participants successfully completing either of the two tasks. We identified 10 specific usability issues that emerged during the study, falling in three broad categories:

Issue #1: Unclear and ambiguous labeling

Issue #2: Non-intuitive navigation within the catalog

Issue #3: Cluttered display of course information

Issue #1: Unclear and ambiguous labeling

- [1] All participants were immediately confused by the “Schools” panel, in which the CCPS option is abbreviated as “Ctr for Contg/Prof Studies.” Since on all other pages it is referred to as CCPS, many participants missed this option entirely.
- [2] There are currently 65 options listed within the “Departments” panel under CCPS, some of which are either redundant or very similar, for example: “Digital Photography Intensive,” “Photo Intensive,” and “Photography” are listed twice. As a result, participants were left trying to parse the subtle differences between these labels in order to decide where to click next. The number of options became overwhelming to many participants.
- [3] In the “Course” panel, there are too many classes that are irrelevant or not currently offered, which misled participants and gave them false expectations.

The screenshot shows the Pratt Institute Course Catalog website. The main content area is titled "COURSE CATALOG" and includes three panels: "SCHOOLS (7)", "DEPARTMENTS (65)", and "COURSES (2)". The "DEPARTMENTS" panel is particularly large and contains a long list of course titles. Red boxes highlight the "Ctr for Contg/Prof Studies" label in the "SCHOOLS" panel, the "DEPARTMENTS (65)" header, and the "Ctr for Contg/Prof Studies" label in the "COURSES" panel. A breadcrumb trail at the bottom reads "CCPS > CCPS_ADPH > ADPH-205P".

Figure 12. The “Ctr for Contg/Prof Studies” label confused many participants, and the number of items in the “Departments” panel was overwhelming.

Issue #2: Non-intuitive navigation within course catalog

- [4] When users select an option in each panel, it does not remain highlighted or provide any indication of where the user is within the process of drilling-down through the navigation levels. When browsing, participants were left unsure of which department they were currently in.
- [5] When trying to backtrack, participants encounter panel lists that have reset to the top option, losing their previous place and effectively forcing them to start over in their search. When selecting among schools, this is not as significant a problem, but participants were frustrated by having to start anew each time by browsing among the 65 Department listings.
- [6] There is currently no option to return to a previously viewed course without having to navigate again from the beginning. This makes the comparison of options laborious.
- [7] There is currently no way to filter the courses by any parameters other than department. Users may prefer options such as Meeting Times/Days or Start/End Dates.
- [8] Some participants were unclear about which links were clickable to find additional details. One user did not know that clicking a course listing would bring up more information about it. Another participant unsuccessfully tried to click on meeting times and days in the hopes that it would allow him/her to find more options.

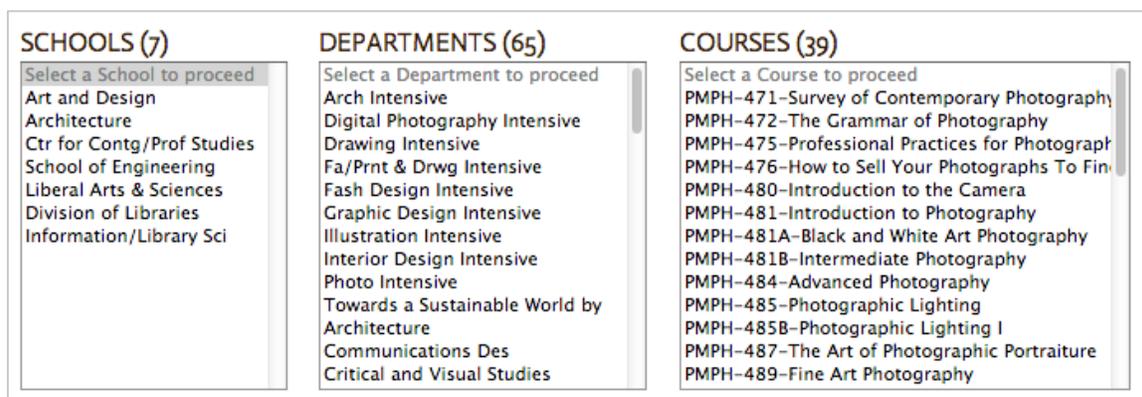


Figure 13. When browsing for courses, neither the School (Ctr for Contg/Prof Studies) nor the Department (Photography) is highlighted and the Departments panel is reset to the top, making it nearly impossible for users to track where they are.

Issue #3: Cluttered display of course information

- [9] Once participants found and clicked on a course option to find more information, many of the pertinent details are presented “below the fold” in the browser’s default window (regardless of desktop or laptop view), thereby requiring users to scroll further down the page to find these details.
- [10] Participants were confused by the horizontal layout of course details, with the available Section/Credits information presented before Start/End Dates and Meeting Days/Times, and location information buried below the class times.

The screenshot displays the Pratt Institute Course Catalog website. The page is cluttered with multiple columns of information. The main content area is titled "COURSE CATALOG" and includes a search bar, a list of departments (65), and a list of courses (3). The selected course is "PHOT-1035 - INTRODUCTION TO PHOTOGRAPHY". Below the course title, there is a detailed description of the course, followed by a table of sections offered. The table includes columns for Section, Start Date, Meeting Information, Faculty, and Available/Capacity. The layout is difficult to navigate due to the horizontal arrangement of information and the presence of multiple columns of text and links.

Pratt

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RETURN TO ACADEMICS

COURSES

Course Catalog

Course Search

DEGREES

Undergraduate Degrees

Undergraduate Minors

Graduate Degrees

UNDERGRAD DEGREES

MUSEUM STUDIES

COURSE CATALOG

Pratt's Online Course Catalog allows quick access to course information. Select your school, your department, and the course you're interested in. Courses are displayed in ascending order by course number, and you can toggle between sections to see specific section information.

SCHOOLS (7)

DEPARTMENTS (65)

COURSES (3)

CCPS > CCPS_PHOTO > PHOT-1035

13/FA - INTRODUCTION TO PHOTOGRAPHY

CTR for Contg/Prof Studies
Manhattan Campus (UG) Undergraduate Level

PHOT-1035

How to make photographic images as fine art prints is the focus of this studio course. Studying 35mm camera operations, lighting techniques, and darkroom procedures helps students gain a broad knowledge of black and white photography. Students will explore exposing and developing film, making contact prints, and enlarging and finishing photographs, as well as learning specific shooting techniques. Composition, aesthetic & perceptual awareness, and communication through images will also be explored. Students will receive a brief historical perspective as well as an introduction to fine art photography. You must have access to a 35mm camera for this course. Extensive fieldwork and field trips to galleries is an integral part of this studio.

Click here to search, register, and pay online for continuing education and professional studies courses.

SECTIONS OFFERED

13/FA-PHOT-1035-01

Section	Start Date	Meeting Information	Faculty	Available/Capacity
PHOT-1035-01	Sep 8, 2013	Sunday 09:00AM - 12:50PM	Federico Savini fsavini@pratt.edu View Biography	15/15 Prerequisites None
Credits	End Date	Location		
2	Dec 15, 2013	Manhattan Room 304		

COURSE PLANNING AND REGISTRATION ASSISTANCE

Course Planning Quick Tips

Registration Quick Tips

APPLY NOW | QUICKLINKS | CALENDAR | BLOG | PORTFOLIOS | DIRECTIONS

PRATT INSTITUTE
Brooklyn Campus
200 Willoughby Avenue
Brooklyn, NY 11205
(718) 636-3600

PRATT INSTITUTE
Manhattan Campus
166 West 14th Street
New York, NY 10011
(718) 636-3600

MAPS AND DIRECTORY
Interactive Map
Campus Map
Campus Directory
info@pratt.edu

Figure 14. Course information is displayed "below the fold" and is presented in a format that makes it difficult for users to quickly find the most relevant information.

Summary

Overall, navigating the Pratt Course Catalog left participants feeling frustrated and overwhelmed. Lacking clear instructions and presented with ambiguous labels, participants did not know how to effectively utilize the Catalog's system of tiered panels. This general dissatisfaction is evident in the experience of one participant who initially thought that s/he would have to click through all the options in order to find anything. S/he noted, "I'm not too keen on this, I have absolutely no idea where to go." When asked to return to the Course Catalog for the second task, s/he sighed in exasperation, "Here we go again..."

Usability Problems: CCPS Website

Though participants in the study were generally better able to navigate the CCPS Website compared to the Pratt Course Catalog, areas of difficulty were still encountered. We identified 15 specific usability problems with the CCPS Website that fall in three broad categories:

Issue #4: Non-intuitive information architecture

Issue #4a: Homepage lacks cohesive identity

Issue #4b: Secondary and tertiary pages are cluttered and inconsistent

Issue #4c: Navigation structure is overwhelming and confusing

Issue #4d: Labels are unclear and ambiguous

Issue #5: Unexpected dead ends

Issue #6: Unclear presentation of courses

Issue #4: Non-intuitive information architecture

Issue 4a. Home page lacks cohesive identity

- [11] The CCPS home page lacks a clear and cohesive identity, as well as a description of what CCPS is and what it offers. Although recent updates to the homepage have mitigated some of these problems, issues still remain. Participants expressed confusion about where to begin on the home page, with several communicating the belief that they would either “already need to know” what they were looking for or have someone assist them.
- [12] The headings for the list of subject links under the catalog PDF, for example, lack consistency with the left-side navigation. Without clarifying definitions, these titles add clutter and confusion to the page, exacerbating the problem of redundancy within the navigation. Furthermore, neither the subject area listings nor main navigation offer any additional information to help orient users and explain what may be found in these other areas of the CCPS site.

CCPS

- About CCPS
- Certificate Programs
- College Prep Dev
- Continuing Education
- Corporate Training
- Credit Programs
- International Students
- Professional Studies

NEWS & INFORMATION

- Blog
- Calendar
- CCPS Staff
- Faculty
- Gallery
- Pratt Film Society
- Request a Catalog

CONNECT

- CCPS INSTANT ENROLLMENT
- Search, register and pay online for CCPS courses

CONTINUING & PROFESSIONAL STUDIES

WHERE LEARNING IS REINVENTION

FALL 2013 REGISTRATION OPENS JULY 29, 2013

CCPS serves the lifelong learning needs of non-traditional students through courses in art, design, architecture, and management for educational advancement, career change, college preparation or enrichment. Realize your best creative dream and build a good quality portfolio with Pratt Institute.

For More Information
Chris Ferrara, Associate Director, Enrollment Management and Curriculum Development for Non-Credit Programs
212-647-7199
cferrara@pratt.edu

Stay up to date with all or Pratt CCPS' Programs & Course Offerings and [Join our mailing list!](#)

DOWNLOADS

- 112-ccps_sum_2013_catalog_2.pdf (1.77 MB)
- 112-registration_instructions_3.pdf (395.37 KB)
- 112-983_fall2013_ccps_catalog.pdf (1.54 MB)

Figure 15. The homepage (shown for Fall 2013) lacks a cohesive identity and does not clearly indicate to users what CCPS is and what it offers.

Issue 4b. Secondary and tertiary pages are cluttered and inconsistent

[13] While browsing the sub-pages of the CCPS website, participants were confused by the lack of visual and informational consistency between the secondary pages. Instead of adhering to a basic template or organizational logic, the site's secondary (and tertiary) pages were unique and inconsistent. This inconsistency inhibited the participants' ability to quickly scan pages for needed information, often resulting in frustration and impatience.

[14] Several participants were overwhelmed by the amount of text throughout the website, particularly on the Certificate Programs page. The lack of headings and subheadings added to their confusion, and participants expressed frustration at the lack of clearly defined sections of content. Key pieces of information were not readily apparent, making it necessary for users to read through the entirety of the text to locate them. As one participant said, "...everything seems very buried."

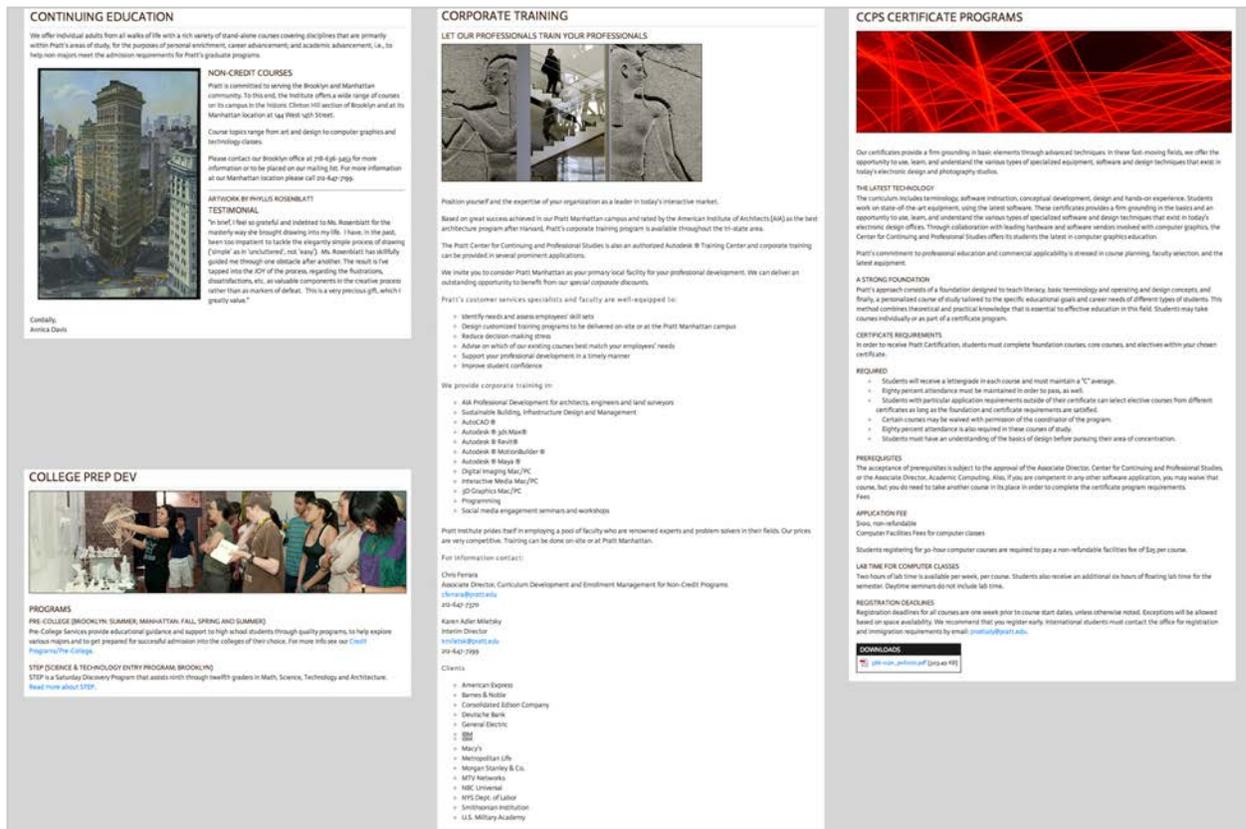


Figure 16. Screenshots of four secondary pages, each featuring a unique layout and offering a different amount and type of information. Note the heavy amount of text on the certificates page (far right).

Issue 4c. Navigation structure is overwhelming and confusing

Though a few participants noted and appreciated the amount and diversity of information that needed to be delivered on the CCPS website, they were nonetheless unsure of how to navigate the site and where to find the information they sought.

- [15] Navigational uncertainty was compounded by the feeling of being overwhelmed with too many navigational choices: the main Pratt Institute header navigation, the CCPS left-side menu navigation, the persistent quick-links footer navigation, and the block of links in the content portion of the home page.
- [16] When participants began clicking links from the left-side menu, they became confused when the navigation options changed, hiding the previous options to reveal another set of options. Participants were confused again when they clicked to the next level and the navigation subgroups did not visually differentiate adequately (e.g., through indentation or a change of text color) to help users identify the subgroups and their location in the overall hierarchy.

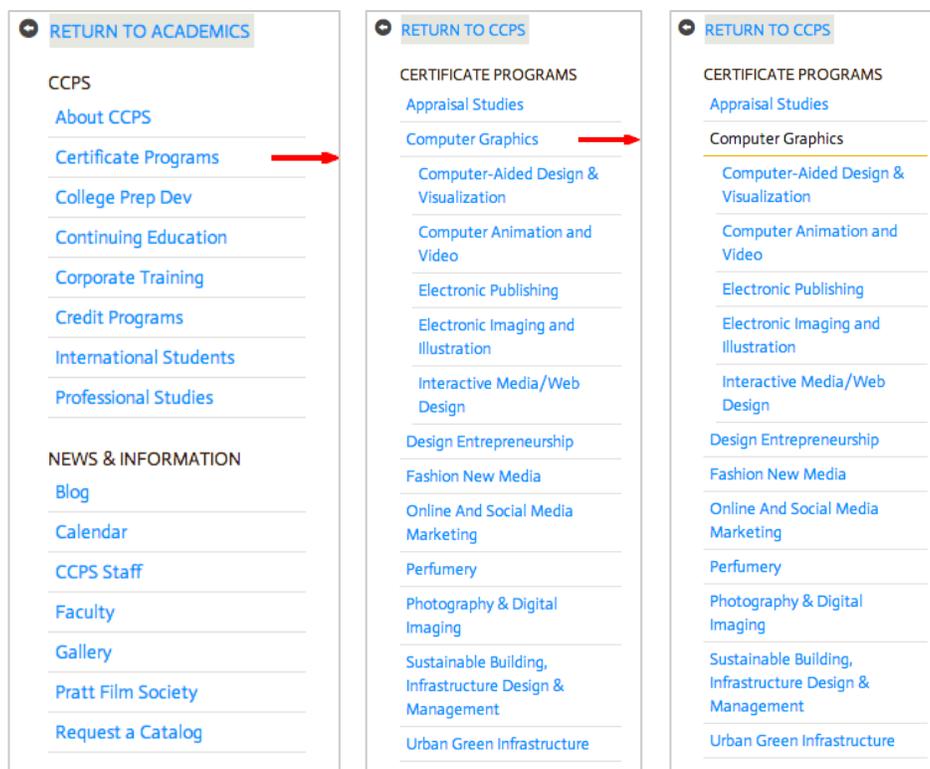


Figure 17. Navigation path (left to right) illustrating confusing changes to the left-hand navigation as participants' searched for certificates. Many participants were confused by the overwhelming number of navigation options.

Issue 4d. Labels are unclear and ambiguous

- [17] Many participants were confused by the use of ambiguous labels for navigation options and by headers that didn't sufficiently reflect the substance of the content they linked to or preceded. This caused participants' expectations of where navigational links would lead them to be subverted. Other than by clicking through the various links, participants had no way to anticipate what "Corporate Training" might mean or grasp what the significant distinction between "Continuing Education" and "Professional Studies" might be.
- [18] The prevalence of organizational jargon in labels for key features and navigational elements did not take into account the particular needs of CCPS' target audience. A more approachable vocabulary in the labeling systems would increase user understanding and expedite the navigational process. As one participant expressed, "You almost have to already know the *exact* class you want to register for, and for someone like me, where I'm not in a degree program and I would be just exploring things...I would make it a little more accessible for all people."

Issue #5: Unexpected dead ends

Many participants encountered dead ends, where their expectations did not match what the website provided.

- [19] Some participants clicked links that rerouted them to the Pratt Institute home page, rather than to the intended page. We determined that these were broken links and that the default “404” error page is set to the Pratt home page.

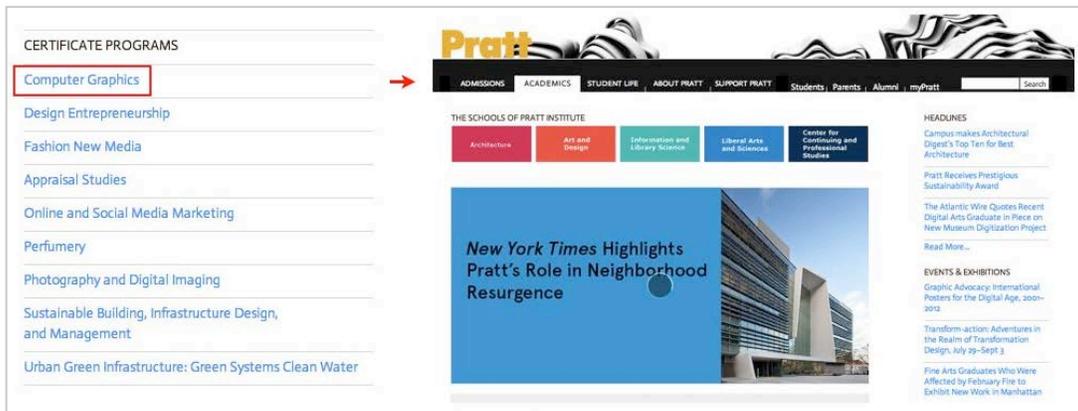


Figure 18. Clicking on a broken link (e.g., “Computer Graphics” on the CCPS home page) leads to the Pratt Institute home page rather than an error page, causing a great deal of confusion for participants.

- [20] Many participants discovered the list of Continuing Education subjects but were dismayed that the listings did not link to further information about each subject. Instead, the page instructs users to “download the current PDF catalog below,” when in reality a link to the catalog is located to immediately to the left.

DOWNLOADS

- [626-983_fall2013_ccps_catalog.pdf \(1.54 MB\)](#)
- [626-registration_instructions.pdf \(395.37 KB\)](#)

For complete course descriptions and schedule, download the current PDF catalog below.

Art and Design

- Decorative Arts
- Design
- Fashion Design
- Fine Arts
- Illustration
- Industrial Design
- Interior Design
- Jewelry Making
- Sculpture
- Technical Drawing
- Media Arts / Photography and Digital Art
- Museum Workshops

Figure 19. The list of subjects does not link to more information, which frustrated many participants.

[21] Some widgets situated on the left side of each page have no obvious connection to CCPS or the individual page content, while others do. Several participants assumed that all of the widgets were part of the CCPS navigation scheme and were surprised when clicking on a widget took them away from the CCPS Website.

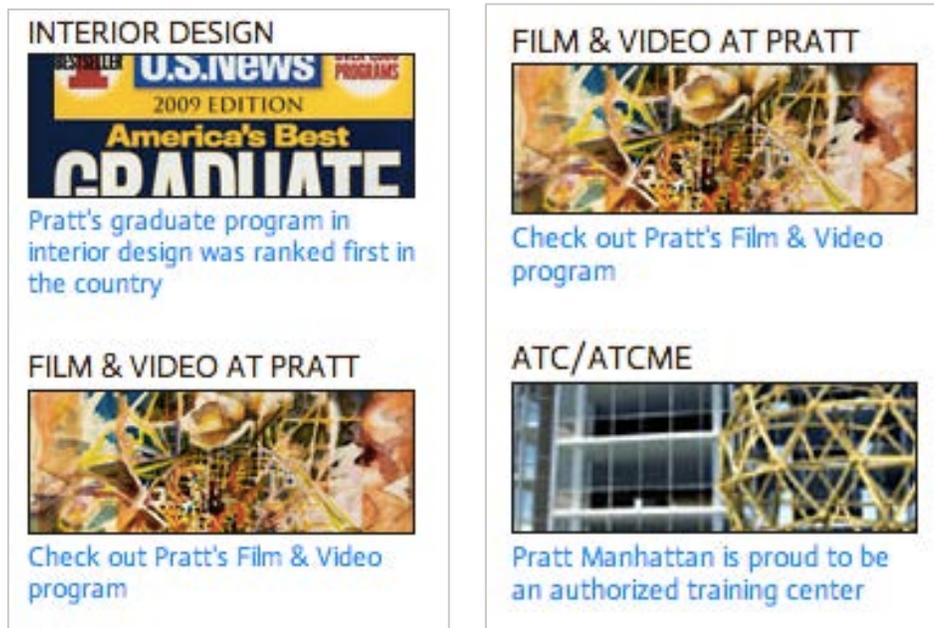


Figure 20. On some pages, the widgets are entirely Pratt-related (left); others offer a CCPS widget (right).

[22] Though not observed by participants in the study, we discovered that the International Students link located within the left navigation bar on all CCPS pages leads to a blank Google Translate page. The reasoning behind including this link is unclear, as it does not appear to provide any value for international students.



Figure 21. The "International Students" link, which is located on every CCPS page, leads users to a blank Google Translate page.

Issue #6: Unclear presentation of courses

Accessing course information in PDF format caused a spectrum issues to surface.

[23] PDFs are the only means to view detailed course offerings. As participants browsed web pages to find needed information, many expressed frustration that a PDF was the only option to access information about course offerings. One participant exclaimed: “I’m wondering why I had to download this.”

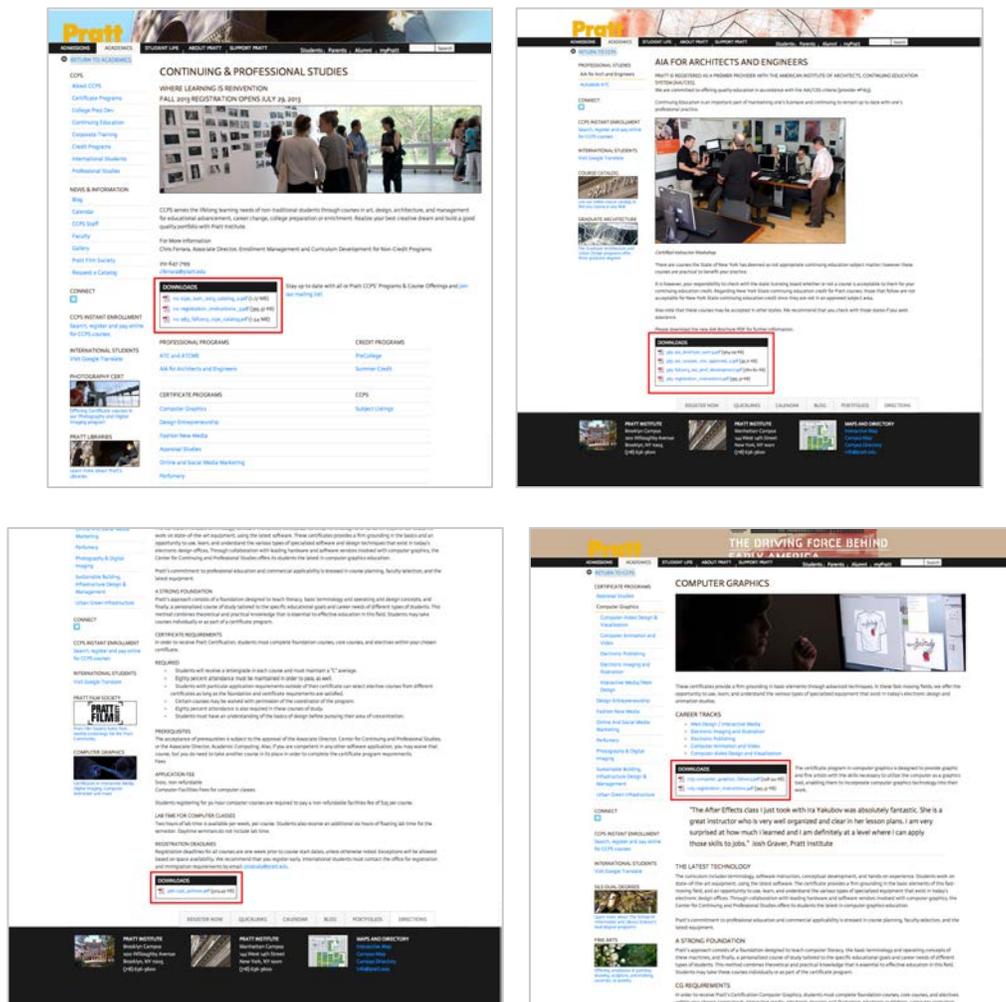


Figure 22. PDF download locations (highlighted in red) vary between pages, forcing users to search for the PDF on each page.

[24] No indication is given, either through instructions or via file name, about what information is contained in a PDF. In most cases, the links to PDFs have file names that do not clearly specify what information they contain.

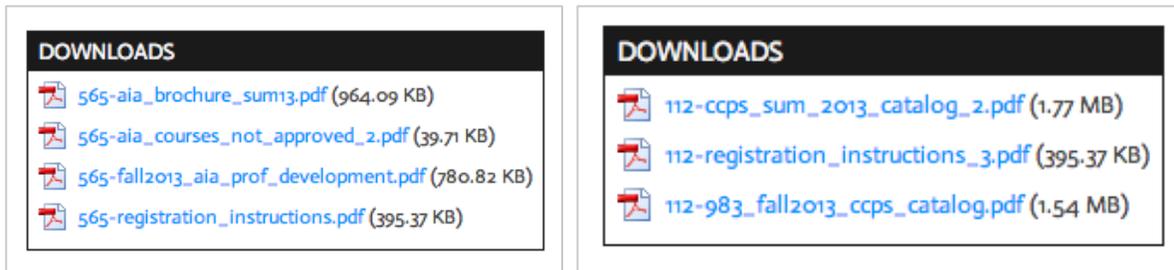


Figure 23. File names for PDFs are not descriptive about what information is contained therein.

[25] Information within the PDF pages is difficult to read in digital format. Participants typically scrolled the files back and forth to find information, some even scrolling past the table of contents. Few participants knew of or knew how to use the search function (Command + F) within the PDFs to more easily find information. In some PDFs, such as the CCPS Policies and the Pratt Course Catalog, the information is organized vertically in columns, making it more difficult to find information.

Summary

The general consensus of the participants was that the CCPS Website's information architecture was unsuitable for fast and accurate navigation by novice users. Although some users were able to find what they needed, it was almost only ever by sheer luck. The use of jargon and poor visual indicators to understand where one is on the site caused exasperation and annoyance amongst participants. Additionally, the prevalence of dead links halted even the most logical paths of navigation during the tests. During the tests, users indicated feeling lost and unsure about where they had been or what to try next. As a whole, the site needs a more cohesive appearance, consistently useful links, and user-friendly labeling in order to increase the likelihood of a pleasant navigational experience.

Usability Problems: Instant Enrollment

Usability data suggest the presence of some usability issues that may impede some users from completing the task successfully and/or add additional steps that make the task of registering and paying for courses more time-consuming than most users would expect. We identified nine specific usability problems that fall in two broad categories:

Issue #7: Overly complicated course search

Issue #8: Convolved registration process

Issue #7: Overly complicated course search

- [26] When entering search terms, there is no indication of which, if any, fields are required, which can lead users to enter unnecessary information that causes errors (due to the sensitivity of the search feature).

The screenshot shows a search form with the following fields and controls:

- Search For (Key Word): A text input field with a blue border.
- Course Code Number: A text input field.
- Starting On/After Date: A date input field.
- Ending By Date: A date input field.
- Classes Meeting After: A dropdown menu.
- Classes Ending Before: A dropdown menu.
- Days of the week: Radio buttons for Mon, Tue, Wed, Thu, Fri, Sat, and Sun.
- Topic Code: A dropdown menu.
- Location: A dropdown menu.
- Instructor's Last Name: A text input field.

Figure 24. Users are given no indication which fields are required or not required.

- [27] The search functions are too sensitive, and this makes finding courses difficult for inexperienced users. In order to find a course properly, users must enter information in a specific but unexplained way.
- [28] When no courses are found, the page displays an error message that is poorly emphasized and difficult to understand. No explanation or suggestions for search alternatives are given when courses are not returned.

Register & Pay for CCPS Courses

No classes meeting the search criteria have been found.

International students are ineligible to register online. Please contact the CCPS office at (212) 647-7371 or (718) 636-3453.

A credit card or check payment is required when registering for Continuing Education or non-degree classes via the web. Please have your payment information at hand. New Pratt customers without OneKey credentials can begin by searching below. If you already have OneKey credentials and have not yet logged in, please log in before searching.

You may enter as many search criteria as you wish, but you will see only classes that meet ALL of your criteria, so start with a broad search. (Enter criteria in only 1 or 2 fields.) If you wish to search by Course Number please enter the Course Code Number in the second field displayed below.

Figure 25. The "No Results" text is buried at the top of the page and offers no help or explanation.

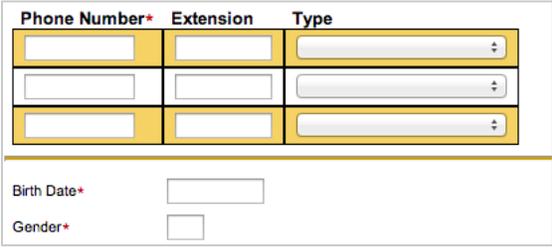
Issue #8: Convoluted course registration process

- [29] For courses displayed in the search results, there is an open field in the course listing where a number of credits can be specified. Participants found this option confusing, as there was no explanation of what this field was for and if they were required to enter information into it.
- [30] When courses are shown in the search results, the cost is not displayed (it is not displayed until later in the process).

Select	Course Name and Title	Meeting Information	Location	Start Date	End Date	Faculty	Credits	CEUs	Capacity / Available Seats
<input type="checkbox"/>	PMSM-334-02 The Big Four and More:	08/14/2013-08/14/2013 Lecture Wednesday 09:00AM - 01:00PM, Room to be Announced	Manhattan Campus	08/14/13	08/14/13	To be Announced	<input type="text"/>	4.00	30 / 24
<input type="checkbox"/>	PMSM-337-02 Generating Revenue Online: Mon	08/14/2013-08/14/2013 Lecture Wednesday 01:30PM - 05:30PM, Manhattan, Room 213	Manhattan Campus	08/14/13	08/14/13	J. Miletsky	<input type="text"/>	7.00	30 / 30

Figure 26. The Credits field is not explained and costs are not displayed in the course search results.

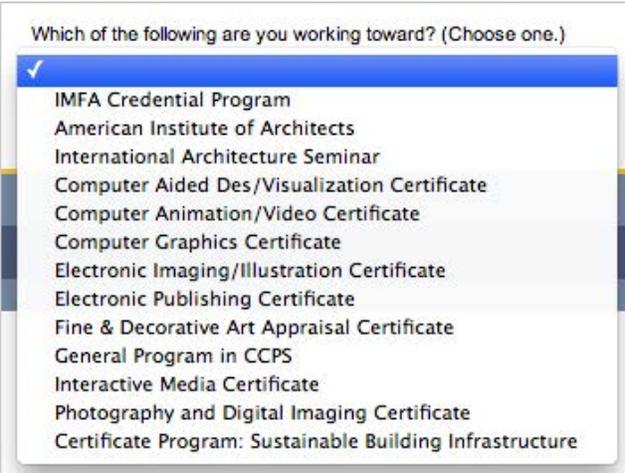
- [31] Entering personal information to complete the registration process presented some barriers for participants because there are no format examples for some required fields (e.g., phone number, birth date, gender).
- [32] When asked why visitors seek to enroll in a course, the list of certificate programs is incomplete and unordered.



Phone Number* Extension Type

Birth Date*

Gender*



Which of the following are you working toward? (Choose one.)

- IMFA Credential Program
- American Institute of Architects
- International Architecture Seminar
- Computer Aided Des/Visualization Certificate
- Computer Animation/Video Certificate
- Computer Graphics Certificate
- Electronic Imaging/Illustration Certificate
- Electronic Publishing Certificate
- Fine & Decorative Art Appraisal Certificate
- General Program in CCPS
- Interactive Media Certificate
- Photography and Digital Imaging Certificate
- Certificate Program: Sustainable Building Infrastructure

Figure 27. Required fields don't provide formatting instructions (left); the list of certificate programs is incomplete and unordered (right).

[33] The number of steps required to add a course frustrated many participants. Participants indicated that several fields seem unimportant, particularly those in the drop-down surveys.

Educational Goal

Course Name and Title	Reason For Taking	How You Learned of This Class
PMSM-334-02 The Big Four and More:	<input type="text"/>	<input type="text"/>

Figure 28. Many participants were frustrated by the number of drop-down survey questions they had to answer before registering for a course.

[34] The drop-down menu to continue searching for courses after registration is hidden and unclearly labeled. Many participants did not notice the “Search for more classes” option and instead completed the entire registration process for course #1 before starting from the beginning to register for course #2.

Pay for Classes

PLEASE NOTE: If you have enrolled in a course and don't receive a confirmation e-mail check your 'spam folder' or 'junk folder' for any messages from dmiadmin@prattprod.pratt.edu. Depending on the filter you are using, you may be able to designate our e-mail as 'not spam' so that they will arrive in your normal mailbox as requested.

* = Required

Price	Course Name and Title	Meeting Information	Start Date	End Date	Faculty	Credits	CEUs	Location	Remove
179.00	PMSM-334-02 The Big Four and More:	08/14/2013-08/14/2013 Lecture Wednesday 09:00AM - 01:00PM, Room to be Announced	08/14/13	08/14/13	To be Announced		4.00	Manhattan Campus	<input type="checkbox"/>

Total Amount Due 179.00

Choose one of the following: *

- Register now (check out)
- Search for more classes
- Recalculate total amount

Select a payment method to

Payment Type

SUBMIT

Figure 29. The drop-down menu is hidden on the page, making the "Search for more classes" option difficult to locate.

Summary

Overall, using Instant Enrollment to register for courses was somewhat polarizing, with some participants successfully registering and paying for both courses and others failing to even find the correct courses. Even for those participants who were successful, several barriers prevented them from completing the task quickly (on average, it took nearly 8 minutes to register and pay for both courses). When asked what s/he thought of the Instant Enrollment system, one participant noted that it was “not so instant.” This was a common theme among participants in the study and succinctly summarizes their experiences with the registration process.

Recommendations

While these findings highlight many critical usability flaws across all of the CCPS web applications, usability testing also suggests the presence of set of very concrete and actionable solutions to these problems. Using the direct feedback provided by study participants, we have drafted a plan of action that is organized around five broad recommendations:

Recommendation #1: Avoid use of the Pratt Course Catalog

Recommendation #2: Modify the information architecture of the CCPS Website to be more user-friendly

Recommendation #3: Simplify the process of finding current course information on the CCPS Website

Recommendation #4: Streamline the course search and registration process

Recommendation #5: Consider creating a standalone website for CCPS that includes a unified (and dynamic) course catalog and course search/registration process

Recommendation #1: Avoid use of the Pratt Course Catalog

Due to the severe usability issues with the Pratt Course Catalog, we recommend that CCPS develop an alternate approach for displaying their current course offerings. In particular, the core features of the Pratt Course Catalog – a dynamic set of three panels labeled Schools, Departments, Courses – is simply not applicable to CCPS, which organizes its courses around programs rather than departments. This is a fundamental flaw with the current catalog set-up that belies a simple fix; instead, making the Catalog appropriate for CCPS would require an entirely new conceptual approach that abandons the tiered panels entirely. In light of these problems, and because of the data showing the exceptional difficulties that study participants had in navigating the catalog, we believe not linking to or using the Course Catalog in any capacity would be in the best interests of CCPS.

Recommendation #2: Modify the information architecture of the CCPS Website to be more user-friendly

The level of confusion we observed among participants as they attempted to navigate the CCPS Website indicated the need for a fundamental reworking of the website's organizational scheme and structure – a new information architecture. While this might seem like a daunting and laborious task, we believe that making basic revisions to five of the high level design elements will go a long way toward achieving much of the website restructuring. These include:

- Revising the home page layout and tone to be more representative of the school's structure and mission.
- Simplifying and standardizing secondary and tertiary pages to ensure they are fully integrated with website's multi-paged structure as a whole and indicate where they fit within the larger website's hierarchy.
- Simplifying the site's primary navigation and developing a more dynamic system of interlinking between pages for easier "wayfinding" within CCPS.
- Incorporating user-focused labeling across the site for more intuitive navigation.
- Maintaining only relevant content and eliminating dead-end links to project a more trustworthy and professional image.

*For specific details regarding the implementation of these recommendations, please consult the attached document titled "**Usability Report Addendum: Proposed Information Architecture.**"*

Recommendation #3: Simplify the process of finding current course information on the CCPS Website

While we commend any attempt to provide an alternative to the deeply flawed course catalog system, our data indicates that the current process of retrieving information through downloadable PDF versions of the print catalog on the CCPS website is not a sustainable solution. In an attempt to respond to user frustrations while acknowledging the logistical difficulties of implementing changes in the backend of the system, we have proposed four possible alternatives:

Option 1: Eliminate all partial-catalog PDF's and create a regularly updated webpage that lists all available CCPS courses

For the sake of consistency, the full course catalog should be made available as a PDF file rather than placing partial files in specific portions of the website (e.g. the Sustainable Building, Infrastructure Design and Management page). An effective way to guarantee that users will find current class offerings while on the CCPS website is to provide a page where regularly updated course information is listed. It is imperative, however, that the information on this page remains current, and therefore we advise updating this list at least once a week.

Below, we outline three possible implementations for a regularly updated course list. When deciding whether and how to proceed, CCPS should consider (a) ease of use for prospective students and (b) ease of maintenance for CCPS staff.

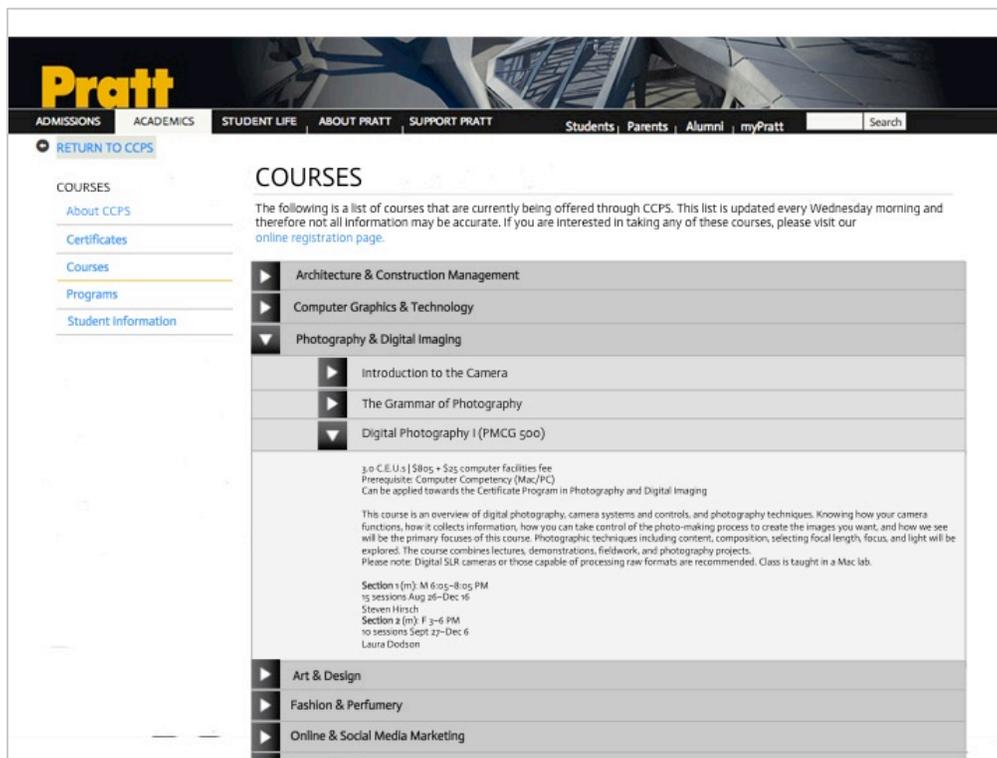


Figure 30. Mockup of Courses page – Option A

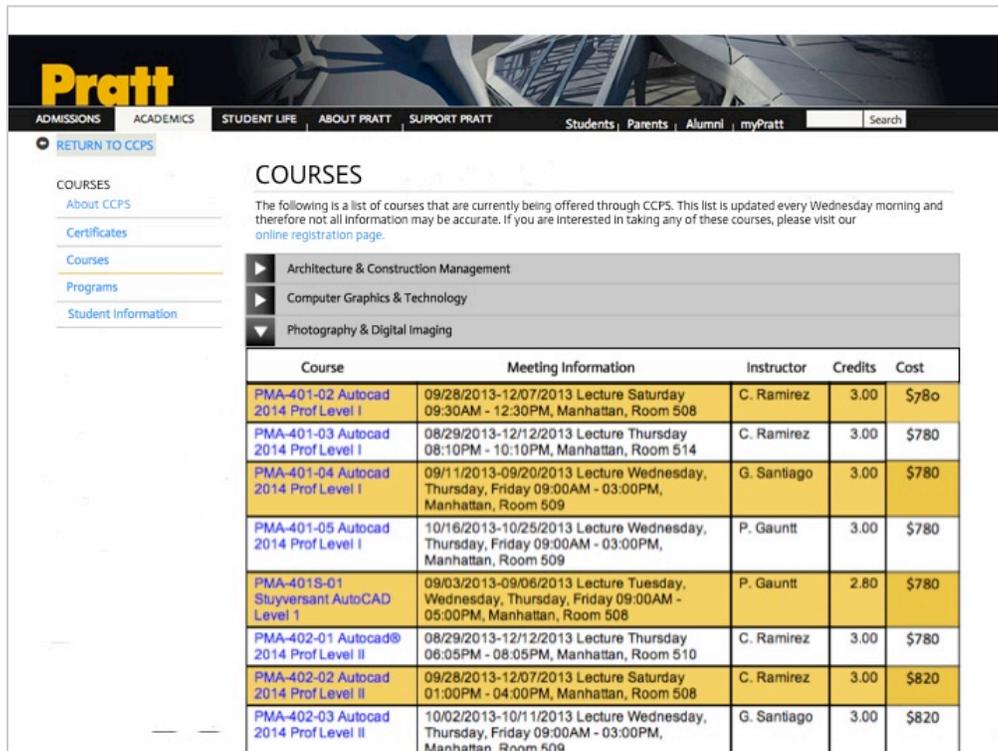


Figure 31. Mockup of Courses page - Option B

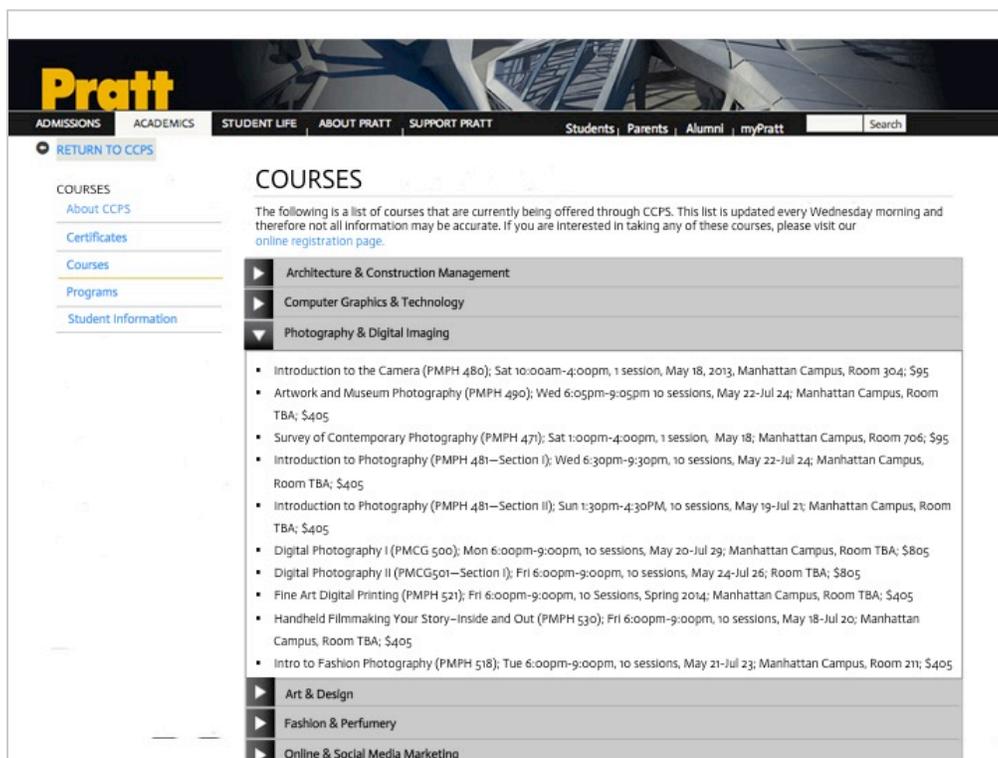


Figure 32. Mockup of Courses page - Option C

Option 2: Eliminate all partial-catalog PDF's and direct users to Instant Enrollment for up-to-date course information

To streamline the information retrieval process, create a permanent and functioning link to Instant Enrollment. Including a brief synopsis of how to use the system would also be useful and would be best incorporated as a paragraph above the link. Note, however, this option is only desirable if the issues with Instant Enrollment are addressed (see Recommendation #4).

Option 3: Embed the full catalog as a “flipbook” or create a “linkable” PDF that uses bookmarks and hyperlinks within the PDF so users don’t have to search the file using “Cmd+F”

The current layout of the Course Catalog PDF makes sifting and reading the information overwhelming and time consuming. One option is to convert the catalog into a “flipbook” where users can read the catalog on a computer screen like they would a book that they are holding in their hands. This allows for a more intuitive exploration of the catalog and will increase the ease of searching for classes from a large listing of offerings. As an example, the screenshot below shows the CCPS catalog as a flipbook created through ISSUU (<http://www.issuu.com>), a free digital publishing platform,

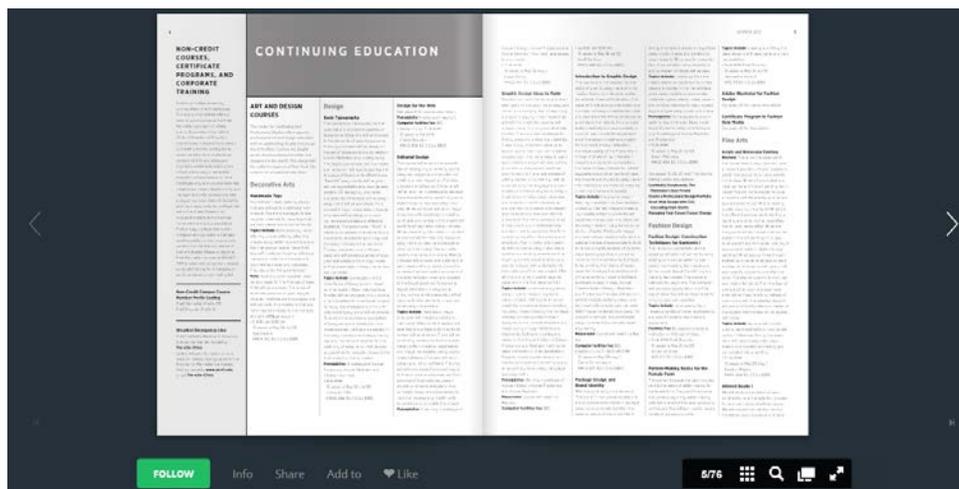


Figure 33. CCPS PDF Catalog as a flipbook created with ISSUU.

Another option is creating the catalog PDF so that the Table of Contents headings are hyperlinked to the designated page. For instance, if users interested in jewelry courses find the section listed in the table of contents, they can then click on it and be led to the page where all courses regarding jewelry can be found.

Option 4: Keep partial-catalog PDFs, but use more descriptive titles and place stronger emphasis on PDF links

Currently, the names of the PDFs are presented as the original file name, which lead to user confusion about the nature of the document. It would be beneficial for CCPS

to rename the files in a way that clearly indicates their content. For example, the homepage lists three PDFs, including: **112-ccps_sum_2013_catalog_2.pdf**. A clearer title for this PDF would **CCPS_Summer2013_Catalog.pdf**. Additionally, a short description after each PDF link would provide users with a quick way to determine whether they should click on the link to download the file, which avoids uncertainty.

Recommendation #4: Streamline the course search and registration process

Registration is one of the most important processes that CCPS students experience. What participants in the study encountered during the enrollment task is a process that requires excessive steps from searching for a course to registering and paying for it. When prospective CCPS students are at the point of registration, the enrollment system should be one that maintains an easy-to-follow flow through the final step of registration confirmation. Additionally, replacing irrelevant and nonessential information with helpful and timely feedback will reduce confusion and frustration throughout each step of the enrollment process.

Recommendation 4.1: Make “Course Search” instructions more useful

There are currently three different pieces of information in the top section of the Register & Pay for CCPS Courses page, with the most important information (regarding search criteria) buried at the bottom. We recommend adding bold headings to each section, such as “**International Students**,” “**Payment**,” and “**Searching for Courses**,” to draw users’ attention to the pertinent text. While this section does state information about search criteria, there is superfluous explanation of search strategy that confuses users. Clearer instructions are needed, such as, “It is best to begin with a broad search (i.e. complete one field) and insert additional fields if needed based on your results.”

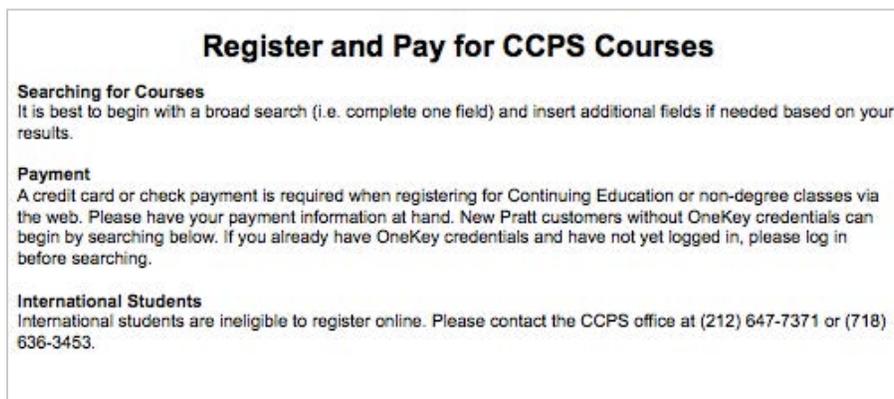


Figure 34. Mockup of suggested changes to the "course search" instructions on Instant Enrollment.

Recommendation 4.2: Provide a more guiding error message

Due to the various fields made available to search, participants hesitated about their next step when they came across the error message, “No classes meeting the search criteria have been found.” Their initial logic was to fill out more search fields to narrow their results so a more helpful error message would read: “No results matched the criteria. It is possible too many fields, such as meeting days, times, or dates have been filled. To see all current offerings, submit a blank search.”

Register and Pay for CCPS Courses

No results matched the criteria. It is possible too many fields, such as meeting days, times, or dates have been filled.
To see all current offerings, submit a blank search.

Searching for Courses

It is best to begin with a broad search (i.e. complete one field) and insert additional fields if needed based on your results.

Payment

A credit card or check payment is required when registering for Continuing Education or non-degree classes via the web. Please have your payment information at hand. New Pratt customers without OneKey credentials can begin by searching below. If you already have OneKey credentials and have not yet logged in, please log in before searching.

International Students

International students are ineligible to register online. Please contact the CCPS office at (212) 647-7371 or (718) 636-3453.

Figure 35. Mockup of revised error message when no search results are found.

Recommendation 4.3: Remove the “Credits” column or better utilize it

The blank “Credits” column would be better suited to list the cost of the course. Participants were confused by this column and wondered if they were responsible for entering the number of credits. Since the cost of each course is not listed at all until users are about to pay for registration, it would be helpful to detail pricing information in the search results.

Recommendation 4.4: Simulate a “shopping cart” style registration

The option to add another course was not obvious to many users despite the drop-down menu in the “Pay for Classes” page being a required field. Several participants expressed that adding additional classes would be much easier if the site functioned as a “shopping cart”. If creating a system for an elaborate shopping cart to register is not possible, we recommend emphasizing the three options: Register Now, Search for more classes, Recalculate total amount. One potential layout is presented in the mockup below. A simpler (but less optimal) solution is to convert the drop-down options into radio buttons so that each option is presented right away.

Pay for Classes

PLEASE NOTE: If you have enrolled in a course and don't receive a confirmation e-mail check your 'spam folder' or 'junk folder' for any messages from dimadmin@prattprod.pratt.edu. Depending on the filter you are using, you may be able to designate our e-mail as 'not spam' so that they will arrive in your normal mailbox as requested.

* = Required

Price	Course Name and Title	Meeting Information	Start Date	End Date	Faculty	Credits	CEUs	Location	Remove
179.00	PMSM-334-02 The Big Four and More:	08/14/2013-08/14/2013 Lecture Wednesday 09:00AM - 01:00PM, Room to be Announced	08/14/13	08/14/13	To be Announced		4.00	Manhattan Campus	<input type="checkbox"/>

Total Amount Due 179.00 [\[Recalculate total amount\]](#)

Select a payment method to continue:

Payment Type

[SEARCH FOR MORE CLASSES](#) [REGISTER NOW](#)

Figure 36. Mockup of new "Pay for Classes" page emphasizing the three options: Recalculate total amount, Search for more classes, and Register now.

Recommendation 4.5: Change the "Additional Information" section to a post-registration optional survey

Because of the many steps taken by participants to add courses, by the time they arrived at the "Additional Information" section, many expressed annoyance. Some said, "Why do they need to know this?" and "This isn't any of their business." Another participant let out a small laugh upon landing on that page. In order to shorten the length of the registration process, this may be better suited as an optional survey after people are registered for courses.

The drop-down options themselves are unordered, incomplete, and have varied labels (such as the list of certificate programs), all of which leaves users unsure of what to choose. In addition, the list of certificate programs should match the order and titles that appears on the website. The screenshots below demonstrate the discrepancies between the two.

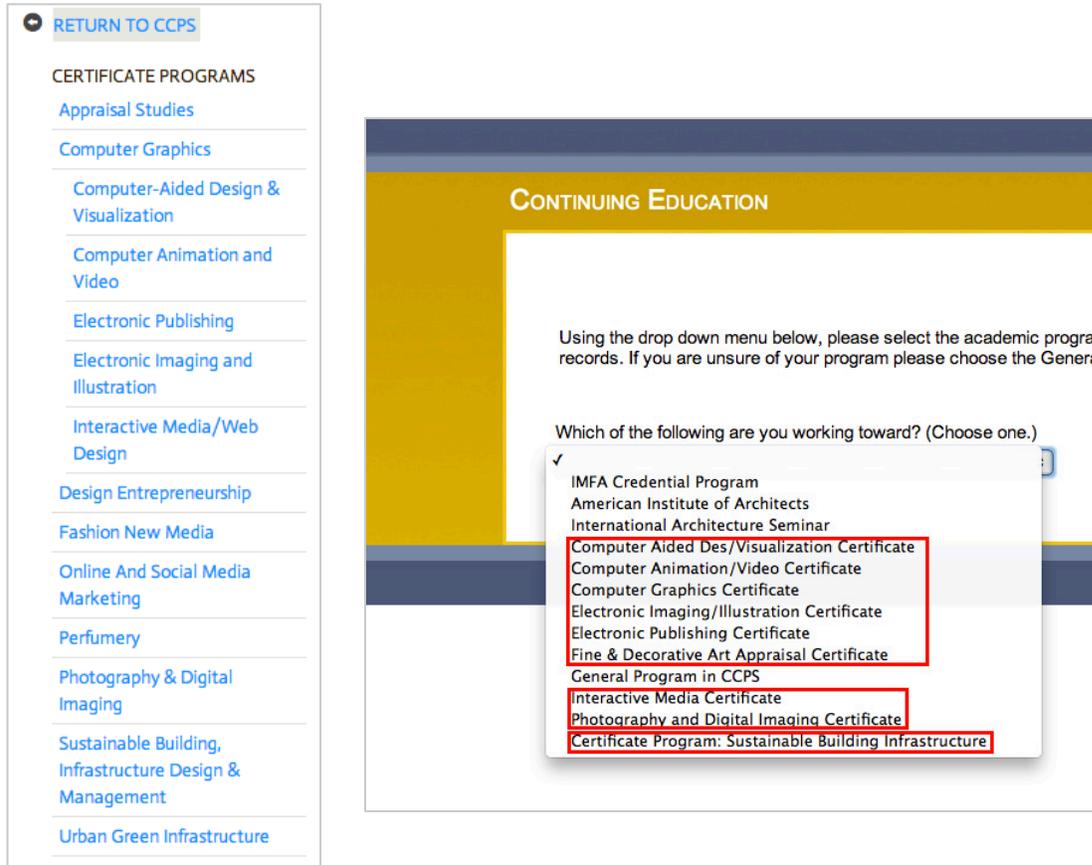


Figure 30. The certificate programs in the drop-down should match the order and titles that appear in the certificate listing within the website.

Recommendation #5: Consider creating a standalone website for CCPS that includes a unified (and dynamic) course catalog and course search/registration process

Moving forward, we believe CCPS should consider developing its own web presence that is separate from (but still clearly a part of) Pratt Institute. This would allow the website to be based on the needs of CCPS' specific users and would provide more flexibility than what is available through the Institute's standard template. The page would maintain consistency with the Institute website (e.g., through colors, graphics, links, etc.), but a standalone website would allow CCPS to do the following:

Recommendation 5.1: Develop an independent brand and market the Center as its own entity

Prospective CCPS students are largely professionals who want to further their skill sets, change their careers, or explore a topic of interest. In other words, unlike students in most of Pratt's other departments, students in CCPS are not pursuing a degree and have diverse goals. The branding of the department should therefore be unique to CCPS' prospective students. To clarify what CCPS offers and further distinguish itself from other programs at Pratt, it should be plainly stated that, in addition to summer credit courses, the most that can be attained is a certificate. This clarification would also avoid confusion for students in other departments who may assume that they are able to take a CCPS designated course and apply it to their program for credit.

Recommendation 5.2: Create a dynamic course catalog that meets user needs

In using the Pratt Course Catalog, participants rarely thought to click on "Ctr for Contg/Prof Studies" and stayed in the School of Art and Design to search for courses. This is a great disadvantage for CCPS because not only is the catalog design inefficient, it detracts from what continuing education courses are offered and is lost among the other six schools listed. This, again, supports the recommendation for the school to be represented with its own website. Ideally, the Pratt Course Catalog should not be utilized for any purposes regarding CCPS. Having its own web presence means being able to build a unique catalog that allows potential students to find courses with an efficient search bar, a way to filter courses in a logical manner, and organize subjects/programs/topics in a consistent and easy to understand flow. Some suggestions participants provided are: finding a course by skill level, search by topic, alphabetize departments, and consistent search dialogues across the three components: website, catalog, and registration/payment.

Recommendation 5.3: Integrate the website and program offerings with course registration to streamline the process

One of the most commonly noted aspects of participants' experience with the CCPS Website and Instant Enrollment system was the sense of disconnect associated with finding desired courses on one website and registering for those courses on another website. Aside from a dynamic course catalog, connecting the process of searching

for classes and registering for them would reduce the number of steps taken to successfully enroll in CCPS. Additionally, participants had trouble registering for more than one course at a time. The available option to do so was often overlooked because it was only made available after entering a significant amount of information and did not stand out among the several other drop-down menus. Integrating the course offerings described on the website and linking it to a "shopping cart" feature was a common suggestion and would require generating static course URLs that could be hyperlinked to the enrollment system. Consistency, language, and visual elements (e.g. color, font, text organization) were some of the most cited areas that need improvement with the website and enrollment system.

Conclusion

This report detailed the results of a comprehensive usability study of three main components of CCPS' web-based interface: the Pratt Course Catalog, the CCPS Website, and the Instant Enrollment system.

The usability data indicated that all three components performed well below average across all three usability criteria (effectiveness, efficiency, and satisfaction) and participants expressed mostly negative reactions toward each individual component and toward CCPS as a whole. The Pratt Course Catalog, in particular, performed remarkably poorly during the study, as none of the participants were able to find accurate course information using the Catalog. The CCPS Website and Instant Enrollment performed moderately better, but participants still encountered several severe usability issues that prevented them from completing tasks effectively and efficiently. Major issues with the CCPS Website included: flaws with the overall information architecture (including navigation, labeling, and page layout), the presence of numerous dead ends, and confusing display of current course information. Severe issues with Instant Enrollment included: an overly complicated course search and a convoluted course registration process.

This report offered five recommendations to address these issues and improve the overall web experience offered by CCPS:

First, the Pratt Course Catalog is not appropriate for displaying CCPS course information and should not be used under any circumstances without substantial revisions.

Second, the CCPS Website needs to be re-conceptualized from an organizational standpoint, with a stronger emphasis on layout consistency and clear labeling.

Third, the current solution of using partial PDFs of the CCPS print catalog is ineffective and confusing for many users. This report offered four alternatives for providing information about current courses.

Fourth, the Instant Enrollment interface needs to be streamlined and simplified as much as possible.

Fifth, CCPS should consider developing its own standalone website and identity that includes a searchable and browsable catalog of courses that are currently being offered that is tightly integrated with a simple and easy-to-use registration and payment system.

It is our hope that this report exposed the major issues preventing CCPS from connecting with its target audience. Implementing our recommendations should help address most, if not all, of these issues and, in turn, create additional opportunities for attracting prospective students.

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Appendix A: Screening Questionnaire

Please tell us your:

*Name:

*Email Address or Phone Number:

Are you:

Male

Female

Age:

Under 18 years old

18-24 years old

25-34 years old

35-44 years old

45-54 years old

55-64 years old

65-74 years old

75 years or older

What is your estimated annual household income?

Less than \$25,000

\$25,000-\$49,999

\$50,000-\$74,999

\$75,000-\$99,999

\$100,000 or more

Do you currently live and/or work in or near New York City?

Yes

No

Are you currently a student?

Yes

No

If yes, what is your current degree program?

Which of the following fields best matches your current career or career interests?

Architecture

Construction

Design

Digital Arts/Computer Graphics

Engineering

Fine Arts

- Music
- Photography
- Programming/Web Development
- Other (please specify):

Which of the following best describes your current career situation?

- Student
- Not employed/between jobs
- Not established in a permanent career
- Entry-level looking for upward movement
- Established professional
- Retired
- Other:

Generally speaking, how comfortable do you feel using the Internet?

- Very comfortable--I use the Internet every day
- Somewhat comfortable--I use the Internet often and can perform many advanced tasks
- Not very comfortable--I rarely use the Internet and can only perform some basic tasks
- Not at all comfortable--I have never used the Internet

Would you be available to travel to the Pratt Manhattan Campus at 144 West 14th Street (in Chelsea) for a 45-60 minute usability test sometime between June 24 and July 21 (evenings and weekends included)? *

- Yes
- No

Appendix B: Pre-Test Questionnaire

Please answer the following questions to the best of your ability. No answers are incorrect and you can skip any questions if you don't want to answer them.

1) You are:

- Male
- Female

2) Your age:

- Under 18 years old
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

3) Your occupation:

4) Your highest level of education:

- High school
- Some college
- Bachelor's degree
- Some graduate school
- Master's degree
- Doctorate

5) Have you ever enrolled in classes at the Pratt Institute Center for Continuing and Professional Studies (CCPS)?

- Yes
- No

6) Have you ever enrolled in a continuing education class somewhere other than Pratt Institute?

- Yes
- No

7) If you answered Yes to questions 5 or 6, when was the last time you took a continuing education course?

- Within the last 12 months
- Within the last 2-5 years
- Within the last 6-10 years
- Over 10 years ago

8) At this point in your life, how interested are you in taking a continuing education course?

- Very interested--I would love an opportunity to learn something new
- Somewhat interested—I'd like to learn something new, but it depends on time, location, and/or cost
- Not very interested--I'm not really interested in learning something new but the right opportunity could change my mind
- Not at all interested--I don't have the time, money, and/or interest in taking a continuing education course

9) Which of the following factors would motivate you to take a continuing education course?

Please check all that apply.

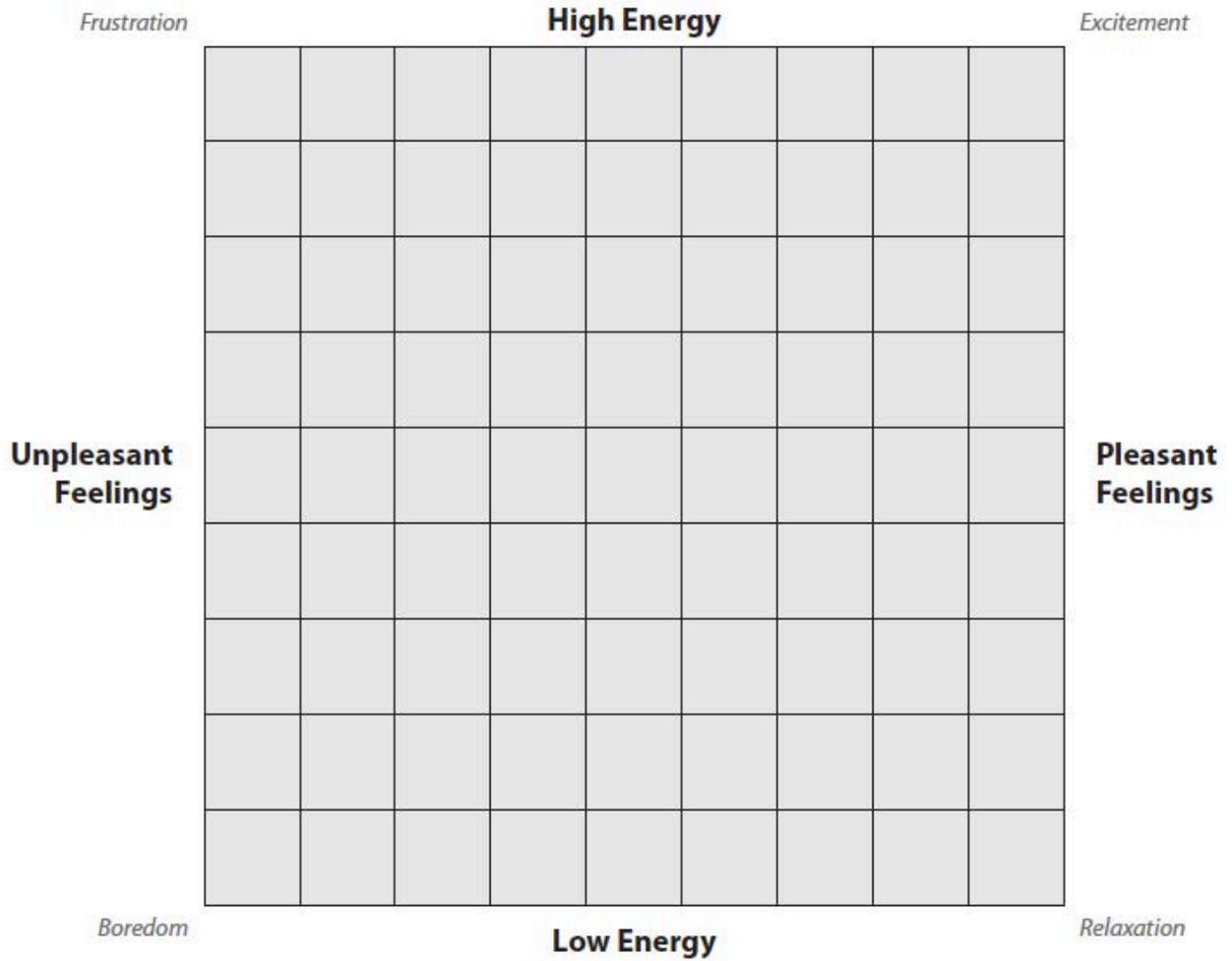
- To achieve a certificate in my field of interest
- To update or maintain my professional licensure
- To learn new skills in preparation for a career change
- To complete summer credits toward a degree program
- For fun or personal enrichment
- For professional development
- Other (please specify): _____

Appendix C: Post-Task Questionnaire

Overall, this task was:

Very Difficult	()	()	()	()	()	()	()	Very Easy
	1	2	3	4	5	6	7	

Appendix D: Affect Grid



Appendix E: Post-Section Questionnaire

Pratt Course Catalog

1) Overall, locating information with the Pratt Course Catalog was:

Difficult	()	()	()	()	()	()	()	Easy
	1	2	3	4	5	6	7	

2) The Pratt Course Catalog is:

Bad	()	()	()	()	()	()	()	Good
	1	2	3	4	5	6	7	

3) My experience using the Pratt Course Catalog was:

Negative	()	()	()	()	()	()	()	Positive
	1	2	3	4	5	6	7	

4) How likely is it that you will use the Pratt Course Catalog to find information about CCPS courses?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

5) How likely are you to recommend to someone else that they use the Pratt Course Catalog to find information about CCPS courses?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

CCPS Website

1) Overall, locating information within the CCPS Website was:

Difficult	()	()	()	()	()	()	()	Easy
	1	2	3	4	5	6	7	

2) The CCPS Website is:

Bad	()	()	()	()	()	()	()	Good
	1	2	3	4	5	6	7	

3) My experience using the CCPS Website was:

Negative	()	()	()	()	()	()	()	Positive
	1	2	3	4	5	6	7	

4) How likely is it that you will use the CCPS Website to find information about CCPS courses?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

5) How likely are you to recommend to someone else that they use the CCPS Website to find information about CCPS courses?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

Instant Enrollment

1) Overall, using the Instant Enrollment system to register for courses was:

Difficult	()	()	()	()	()	()	()	Easy
	1	2	3	4	5	6	7	

2) The Instant Enrollment system is:

Bad	()	()	()	()	()	()	()	Good
	1	2	3	4	5	6	7	

3) My experience using the Instant Enrollment system was:

Negative	()	()	()	()	()	()	()	Positive
	1	2	3	4	5	6	7	

4) How likely is it that you will use the Instant Enrollment system to register for a CCPS course?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

5) How likely are you to recommend to someone else that they use the Instant Enrollment system to register for a CCPS course?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

Appendix F: Post-Test Questionnaire

1) Please indicate your level of agreement with each of the following questions.

	Strongly Disagree 1	2	3	4	Strongly Agree 5
I think that I would like to use this website frequently.	()	()	()	()	()
I found the website unnecessarily complex.	()	()	()	()	()
I thought the website was easy to use.	()	()	()	()	()
I think that I would need the support of a technical person to be able to use this website.	()	()	()	()	()
I found the various functions/features of the website were well integrated.	()	()	()	()	()
I thought there was too much inconsistency in this website.	()	()	()	()	()
I imagine that most people would learn to use this website very quickly.	()	()	()	()	()
I found the website very awkward to use.	()	()	()	()	()
I felt very confident using the website.	()	()	()	()	()
I needed to learn a lot of things before I could get going with this website.	()	()	()	()	()

(continued on the next page)

2) Please indicate your level of agreement with each of the following questions.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I would need to ask for assistance to enroll in classes at CCPS.	()	()	()	()	()	()	()
I would need to use this site repeatedly in order to have a good experience finding and enrolling in classes.	()	()	()	()	()	()	()
Finding course information was easy.	()	()	()	()	()	()	()
Enrolling in classes was easy.	()	()	()	()	()	()	()

3) If you could choose one word to describe your experience with CCPS, what would it be?

4) Based on your experience today, are you more or less likely to enroll in a CCPS course through the Pratt Institute website at some point in the future?

Less likely 1	2	3	About the same 4	5	6	More likely 7
()	()	()	()	()	()	()