

# File Upload Test - Final Report

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**Test date:** July 14-16, 2010  
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## Overview

The test was designed to evaluate a proposed file upload feature for Course Compass. The test focused on three typical scenarios: (a) finding where to go within the interface to upload files, (b) uploading files to a course, and (c) managing files and folders within and between courses.

## Major Findings

- Overall, the file upload feature is best summed up by one participant's quote, "... difficult to get to, but easy once you're in."
- The "My Course Documents" link is lost on the page and does not come across as a significant feature.
- Participants were expecting a "Cut/Paste" or "Copy/Paste" option and labels.
- Based on the Windows-like appearance, some participant's expected other interaction options such as drag-and-drop, or expanding/collapsing folders.
- The professors are excited to see the file upload feature coming - they felt the lack of such a feature was a major shortcoming of the current software.

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# Methodology

## Usability Test Description

The usability test was conducted by Stuart Ough and Enlie Wang. The test plan (see **Appendix A, Test Plan**) was developed in conjunction with Andrew Trus. All the sessions were recorded by TechSmith's UserVue and Camtasia Studio 6 software.

Each testing session lasted about 30 minutes. Participants were asked to sign a waiver form (see **Appendix B, Participant Waiver**) and complete a background information survey (see **Appendix C, Background Information Survey**) before the study. After the evaluation, they were asked to fill out a short usability survey (based on System Usability Scale, see **Appendix D, Overall Usability Evaluation**) and discuss some general issues with the facilitator.

## Participants

Participants were recruited from an internal contact list of instructors who had previously taken part in other usability sessions. Each participant received a \$50 gift card for their participation. This table summarizes their profiles:

**Table 1: Participant demographics**

	Participants
<b>Age</b>	Average = 41.3 years Std Dev = 11.1 years
<b>Gender</b>	Male = 5 (62.5%) Female = 3 (37.5%)
<b>Hours on PC/day</b>	Average = 7.5 hours Std Dev = 2.4 hours
<b>Departments</b>	Aviation Biology Business (2) Computer Science Economics Industrial Engineering Information Science
<b>Technology Skill Self-rating (1-7)</b>	Average = 5.9 Standard Deviation = 0.8
<b>Previously used Course Compass</b>	Yes=1 No=7
<b>Use a Pearson online product</b>	First time = 3 (37.5%) Frequently = 2 (25%) Daily = 2 (25%)

	Rarely = 1 (12.5%)
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## Testing Environment

This table summarizes the remote participants' computing environment:

<b>URL of tested website:</b>	MathXL test site: <a href="http://spider.mathxl.com/logins4.htm">http://spider.mathxl.com/logins4.htm</a>
<b>Computer platform:</b>	Windows PC
<b>Web browser:</b>	Participants used their own browsers
<b>Screen resolution:</b>	Participants used their own settings
<b>Operating system:</b>	Windows XP or Vista
<b>Connection speed:</b>	High-speed required (actual speed unknown)

This table summarizes the in-lab facilitator's computing environment:

<b>Computer platform:</b>	Windows PC
<b>Web browser:</b>	IE 8
<b>Screen resolution:</b>	1280x800
<b>Operating system:</b>	Windows 7
<b>Connection speed:</b>	LAN

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# Usability Findings

## Positive feedback

- All of the participants thought that the file upload feature is easy to use.
  - SUS score
    - 80.6 (strong rating, 60 is base for a usable interface)
    - Std Deviation = 13.7
    - Median score = 85
  - Rating for UPLOADING a file task.
    - 63% rated it Very Easy
    - 37% rated it Easy
  - Rating for DELETING a file task
    - 88% rated it as Very Easy
    - 12% rated it as Easy
  - Rating COPYING a file task
    - 60% rated it Very Easy
    - 40% rated it Easy
- The professors are excited to see the file upload feature - they felt it was a major shortcoming of the current software. Currently, several of them use multiple platforms in conjunction to manage their class and find it unnecessarily cumbersome.

## Task performance

This table summarizes the instructor's performance on the site:

**Table 2: Task performance overview**

Instructor Tasks	Average Time to Complete* (min:sec)	Task Difficulty Indicators		
		Success on first try	Success on multiple tries	Failure Rate
Find upload area	2:10 (Std Dev 1:28)	50% (4)	25% (2)	25% (2)
Upload file	0:37 (Std Dev 0:30)	75% (6)	25% (2)	0% (0)

Create folder	0:18 (Std Dev 0:09)	100% (8)	0% (0)	0% (0)
Copy file to folder	0:32 (Std Dev 0:40)	75% (6)	12.5% (1)	12.5% (1)
Copy file to other course	0:33 (Std Dev 0:32)	87.5% (7)	12.5% (1)	0% (0)

\*(a): Several large standard deviations are the result of one or two outliers that took an inordinate amount of time relative to the other participants to complete the task. Time on task for this study is not a reliable representation or predictor due to some participants taking extra time to explore, comment, or question. These numbers could be used as broad comparison of a feature to another regarding ease of use.

## Severity Ratings

Findings are rated on a three-point scale. Positive findings were not rated. Three severity levels are:

- **High** – These are the most severe issues. Issues at this level prevent users from completing a specific task or from completing their test. These issues should receive the greatest attention.
- **Medium** – These issues make completing a task more difficult. If medium issues occur on frequently used elements of the application, they should be addressed as high severity level issues.
- **Low** – These are the least offensive issues. Low severity issues are ones that relate to interface enhancements. Addressing these issues could make the application easier to use.

The following is a summary of the issues from the usability testing.

**Table 3: Severity rating quantities**

Rating	# of Issues
High	1
Medium	2
Low	2
<b>Total:</b>	<b>5</b>

**Table 4: Issue rating and summaries**

Rating	Summary of Issue
High	Link to My Course Documents or other methods to initiate upload missed
Medium	Labels for the Copy process caused confusion
Medium	Incorrect expectation of available interaction based on graphical design
Low	Instructors skipped over the Legal Notice
Low	Several instructors were confused by the Show to Students checkbox

## My Course Documents link

Severity: High

The “My Course Documents” link is lost on the page and does not come across as a significant feature. Participants struggled to find where to go to initiate a file upload. Many of the participants clicked on the Course Manager button and eventually found their way into Course Documents through this route.

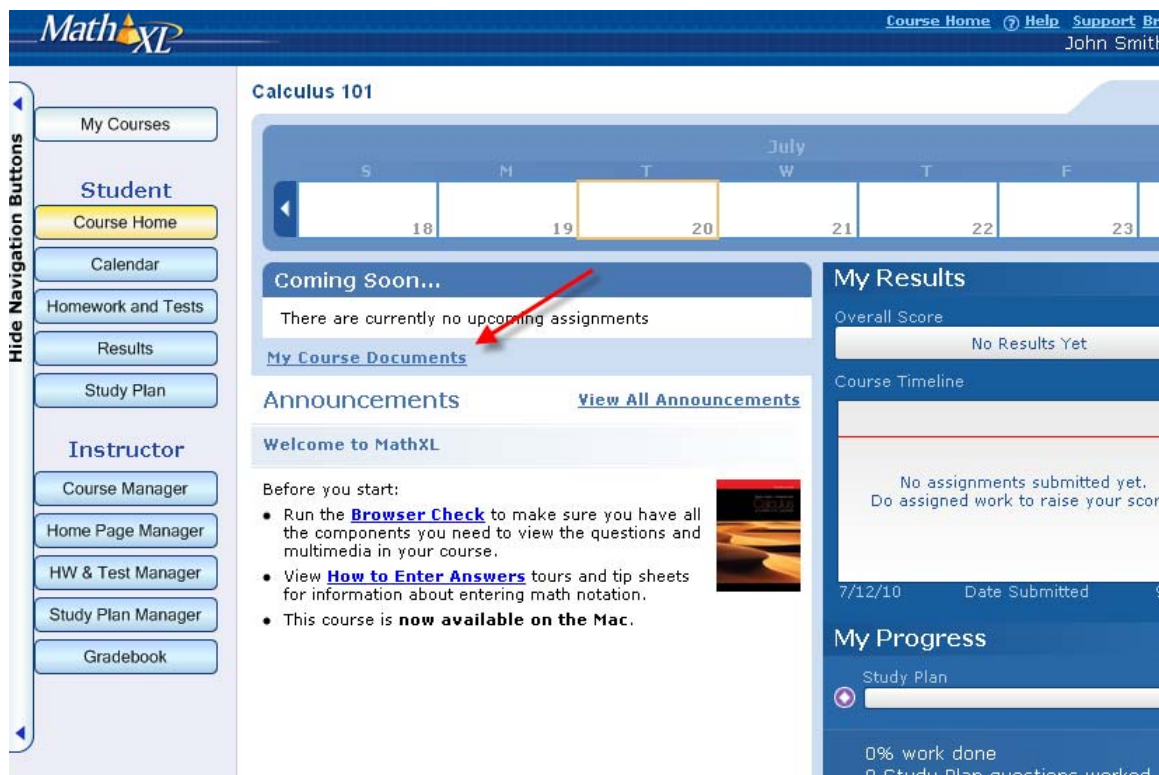


Figure 1: MathXL course home page

### Recommendation:

- Make a “Course Documents” button along the left side under the Instructor list. In addition, make the Upload File command in the Course Manager page more noticeable; this is a new element and will likely go unnoticed by those who are familiar with the page as they are not expecting to look for a change.

## Copy feature

Severity: Medium

A few participants found the term “Copy” to be a bit vague, especially as a button label on the Destination page (see figure 3 below). Some were looking for terms

such as “Cut” and “Paste”. They see Copy and Cut/Paste as different, unique processes which should both be available in the drop down menu.

88% say they would use the COPY feature to put an existing file in another course rather than upload it from the PC to the new location.

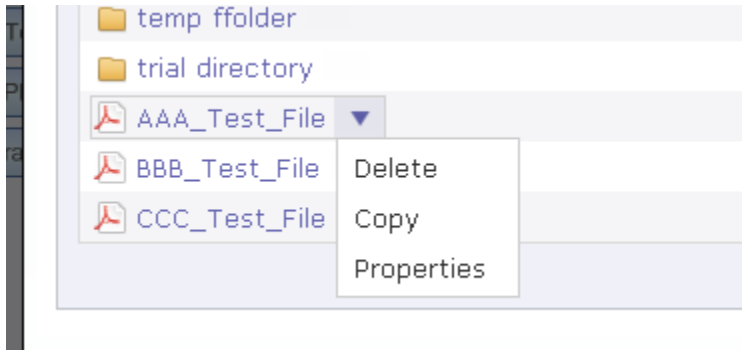


Figure 2: File/folder drop down menu

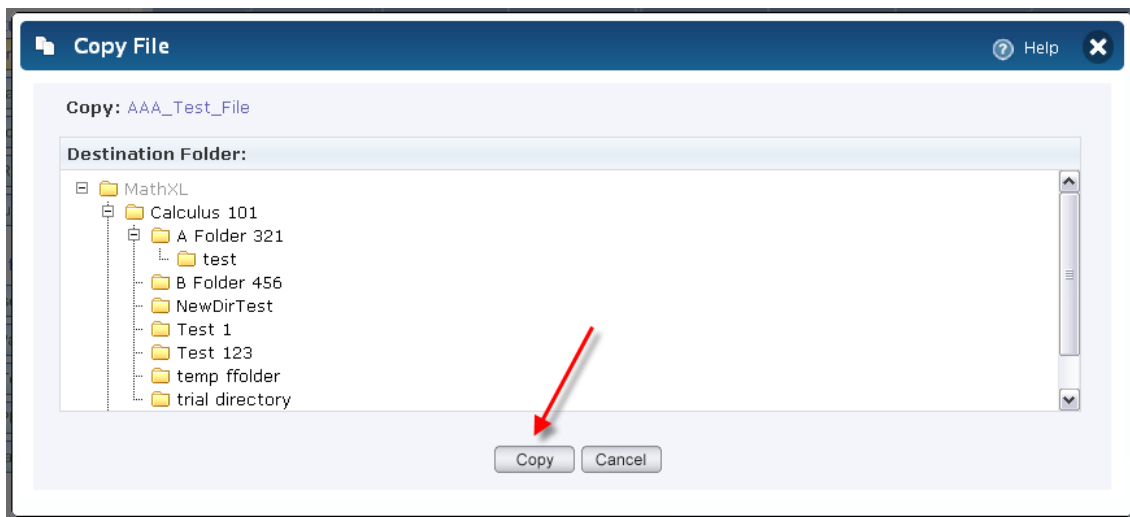


Figure 3: Copy action button on destination folder

### Recommendation

- Change the button label on the Destination Folder page from “**Copy**” to “**Paste**”. User’s had already selected the action, Copy, from drop down so it confused them to see it again. They were looking for the action to place it or confirm the selection.
- Add a “Cut” option to the drop down menu to allow the user to move a file to a new location without making a copy. If added, the button label “Paste” suggested previously will be even more meaningful.



## Course Documents navigation

Severity: Medium

Overall, once in the Course Documents window, the participants found the process to be rather straight forward. However, based on observation and several user comments, it appears that some interactions did not meet some of their perceived expectations which could cause frustration. For example, several participants wanted to drag-and-drop a file directly into a folder (figure 5) to make the process faster and match their desktop application experience. Others also expected the same expand/collapse function on the main page (figure 5) as was found on the Copy File page (figure 6). They thought this would help keep folder exploration and file movement within context better.

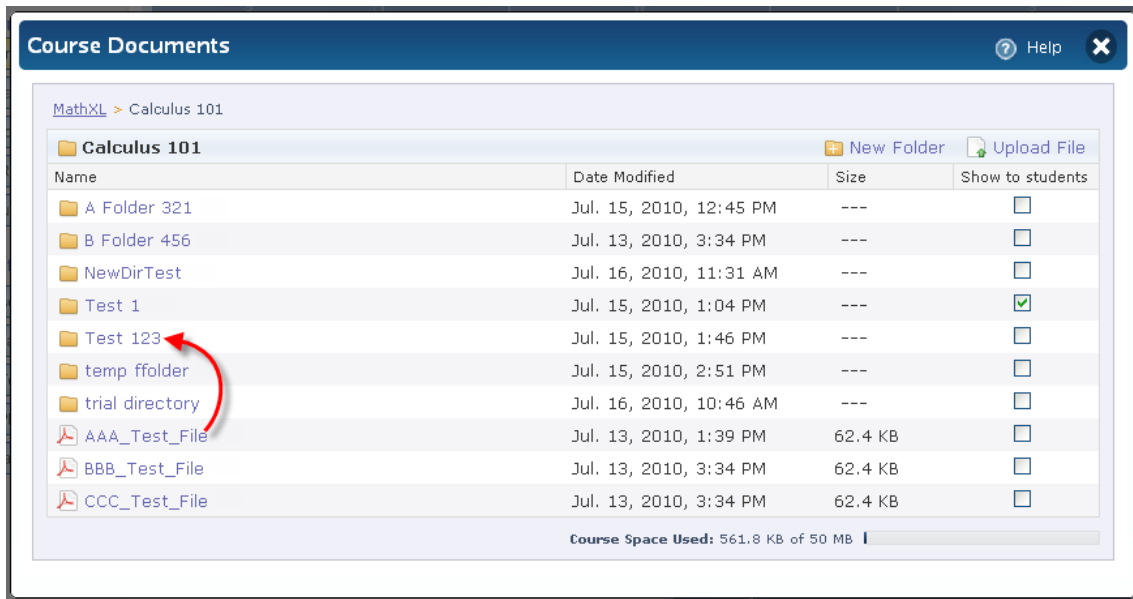
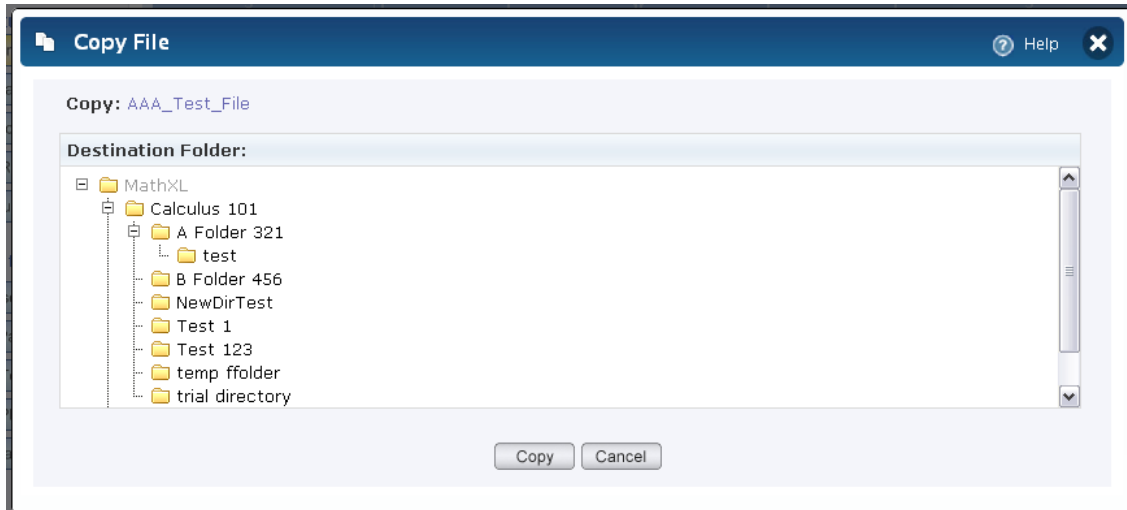


Figure 4: Desired drag and drop feature



**Figure 5: The expand/collapse controls on the Destination Folder page**

### Recommendation

- Incorporate these features as best as advanced web technologies will allow. If this is not possible with current web technologies, this difference should be pointed out in training. These are minor issues as the drop down menu was noticed by participants quickly enough to alleviate any major frustrations.

## Show to Student Checkbox

Severity: Low

Three (3) of the eight (8) participants expected there to be another step to complete the "Show to Students" checkbox. They expected some sort of action to set the status or confirm its state, such as an "OKAY" or "SAVE" button.

### Recommendation

- Make note of this for future testing and design discussion. Recent tests on the Pegasus Course Compass system pertaining to setting the visibility and availability of files also proved to be a stumbling point for instructors with due to varying definitions of the terms and expectations. Detailed findings of the Pegasus test to be published soon.

## Legal notice in upload form

Severity: Low

Several instructors skipped right over the legal notice without determining its purpose. They admitted (and demonstrated) they would not likely read it, whereby lessening its intended purpose. Once they understood its purpose, most of the instructors had no issue with either it being on the page or the format in which it is presented. One professor stated he would rather see the legal notice occur just one

time, the first time entering the course documents area, than for each individual file upload.

**Upload File** Help X

\* File:  No file chosen

\* Title:

Description:   
(500 characters left)

Legal Notice: You hereby represent and warrant that you have all necessary rights in and to all files and file components ("End-User Content") that you post on the Website, and that such End-User Content will not infringe on any personal or proprietary rights of any third parties. You hereby represent and warrant that your End-User Content shall not contain any viruses or other contaminating or

By continuing with my file upload, I acknowledge that I have read the Legal Notice and understand my obligations and Pearson's rights with regard to files I upload to the Website.

Upload times can vary depending upon file size. Files of 6 MB or larger may take several minutes to upload. Do not cancel the operation before upload is complete.

**Figure 6: Upload file form**

### Recommendation

- Streamline the legal notice process even further. Rather than including the actual legal notice itself, include a checkbox, one line reference, and link to the full text. For example:
- "I understand the copyrights of this file and acknowledge I have either the right to upload this file or have obtained the permission from the copyright holder. See full [legal notice](#)."

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# Survey Findings

## Updates during the semester

Instructors update an average of only 3.6 files per semester (Std Dev = 1.7), as compared to the average 29 files they upload. 88% of the instructors report replacing the existing doc with a completely new one (only one version online at any time).

### Recommendation

- Updating will not be a common occurrence, so the process must be simple. The instructors did not have any issue with simply uploading a new and deleting the old. There was not an expectation, or request, to be able to edit outside documents within the system.

## Upload on an “as-needed” basis

75% of instructors upload files on an “as-needed basis” throughout the semester. The remaining split between uploading all files before the semester begins, or half before and half at mid-term.

The *average* number of files uploaded during a semester: 29.3

Upload quantities showed a wide variance, the *standard deviation*: 18.6

**Table 5: Types of files uploaded**

Type of files uploaded	% of users
Articles & Readings	87.5% (7)
Syllabus	87.5% (7)
Assignment instructions	87.5% (7)
Lecture notes	62.5% (5)
Reference materials	62.5% (5)
Tests & quizzes	50% (4)
Assignment examples	50% (4)
Announcements	37.5% (3)
Chapter notes	25% (2)
Other (xxx)	25% (2)

**Table 6: Typical upload frequency**

Past file upload frequency	% of users
First Time	38% (3)
Frequently (At least 1x/week)	38% (3)
Daily (At least 1x/day)	13% (1)
Occasionally (2 to 3x/month)	13% (1)

**Recommendation:**

- Continue research for methods to make this feature as user-friendly as possible. Instructors will return to this feature throughout the semester. It should be quick, efficient, and easy to remember to minimize the impact on their busy schedules.

## Creating folders

75% of instructors report creating folders within Course Documents to help organize files. 25% report simply putting all files in the root level of the Course Documents directory.

Common folder labels include general topics such as: Tests, Notes, Homework, etc. Some also precisely define these folders by including a date, chapter number, or other unique identifier.

**Table 7: Folder label terminology**

Term Recommended	# of Times
Tests/Quiz	4
Homework	2
Lecture/Lesson	2
Notes	2
Week 1/Chapter 1	1
Midterm	1
Final	1
Group Projects	1
Assignments	1
"Lesson Title"	1

## Recommendation

- None. This feature had no issues as designed to allow custom titles.

## Description field

Instructors were split 50/50 on the likelihood of using the description field during a file upload process. Two instructors asked for clarification whether the students would see the information entered in this field

## Recommendation

- Add some pre-filled, default reference text to help clarify the purpose to instructors. (If nothing is entered by the user, this default text should not appear in the system.) For example, the line might read, "*Optional text describing the file that will be viewable by students.*"

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# Appendix

## Appendix A - Test Plan

### Usability Test Description

The test plan was developed by Enlie Wang and Stuart Ough with collaboration from Andy Trus. The usability test will be live sessions conducted by Enlie Wang and Stuart Ough. All the sessions will be recorded using Techsmith's Camtasia Studio.

Online test sessions will last about thirty (30) minutes.

- Participants will sign a waiver form and complete a background survey before the study.
- During the sessions they will attempt to complete scenarios using the live system, and discuss their expectations of the system. Focus will be on the "coordinator" role.
- After the evaluation, they will be asked to fill out a short usability survey (based on System Usability Scale) and discuss some general issues with the facilitator.

### Objectives

The main objectives of this study are to:

- Measure the usability of the file upload process
- Measure the usability of various file management tasks
- Understand instructor expectations for the system

# Methodology

## Participants

Eight (8) to ten (10) participants will be recruited by the LTG usability team. Each participant will receive a \$50 honorarium (American Express gift card) for their participation.

## Test Environment

Equipment:

- Facilitator: Windows Desktop, Win 7
- Participant: their own computer
- Camtasia Studio 6
- UserVUE

Location:

- Usability lab 3006

Testing mode:

- Remote testing

Testing Schedule:

- The testing will start on July 14, 2010 and end on July 16, 2010

## Test Procedures

1. Introduction and survey (5 minutes)  
Users will be asked to complete background information survey
2. Usability testing and participatory design (20 minutes)  
Users will be given general scenarios to set the context of the prototype pages they will be shown. They will be asked initial reactions to the design, how they might expect to interact with the page, and other exploratory questions. The users should report their thoughts (think aloud) during the test. If they are not comfortable to do that, we will just rely on observation and video analysis.

Post-test survey and interview (5 minutes)

The facilitator will ask a series of final questions and discuss any observed issues during the test (i.e. incorrect assumptions, wrong interaction paths, etc.) The participant will be given opportunities to express their opinions on how to improve current site, as well as, new features they want to have in next release.



# Test Script

## INTRODUCTION

*Read to the participant:*

"Thank you for agreeing to participate in this evaluation of some revised functionality for uploading files and file management within a course. Our goal is to see how easy, or difficult, you find the interface to use.

As the participant, I will ask you to describe how you would expect to interact with the pages and complete several typical tasks.

As the facilitator, I'm here to guide the process. If you do get stuck, or have questions, please ask and I will help as I can.

We also have a team member here to observe. They're here solely for note-taking purposes. Again, we will be recording the screen and discussion; so, I may ask you to clarify statements that you make from time to time.

Any questions?

If not, let's begin. Please complete the following participant profile survey.

<Send link to File Upload Profile Survey>

<http://www.surveygizmo.com/s3/329580/File-Upload-Profile-Survey>

Great, now please download this sample file and place it on your desktop. We'll be using it for two of the tasks."

<Send link to sample file "Pearson\_Test.pdf" via chat window>

[https://docs.google.com/fileview?id=0B9LpG5P5Uf-](https://docs.google.com/fileview?id=0B9LpG5P5Uf-UM2Y2MWMxMDUtMmJlYS00NjVklWJmZTctYjZiY2FjYmQxMmMz&hl=en&authkey=CJT6yfoD)

[UM2Y2MWMxMDUtMmJlYS00NjVklWJmZTctYjZiY2FjYmQxMmMz&hl=en&authkey=CJT6yfoD](https://docs.google.com/fileview?id=0B9LpG5P5Uf-UM2Y2MWMxMDUtMmJlYS00NjVklWJmZTctYjZiY2FjYmQxMmMz&hl=en&authkey=CJT6yfoD)

Great, now please login to the following URL.

<Send link and login information below>

<http://spider.mathxl.com/logins4.htm>

Login: fileuploadusability

Password: fileuploadusability2010

## LIVE SITE

### Course Documents

We're going to start today by seeing how you upload files for your students to the course. Before we try it on the software, I'd like to ask a few questions.

- Where would you click to initiate the file upload process.

Great. Ok. Let's add a file into the course documents.

**Task 1:** Please, add the file PearsonEd\_Test.pdf to the Course Documents directory and then make it available to students. You may begin now.

Questions:

- How was that process for you?
- What do you expect happens in the system when you click the "Show to Students" checkbox?
  1. Would you prefer this checkbox is selected or blank by default?

- A Legal Notice field is presented on the upload form. Do you have any opinion about it appearing on this pop up, or the format?
  1. Click Cancel when done.

Great. Now let's say it is in the future and you no longer need that file.

**Task 2:** Please remove the file PearsonEd\_Test.pdf from the Course Documents directory. You may begin now.

Questions:

- How was that process for you?

Great. Those are the first two tasks for today. For practice, I would like you to upload and delete that same file again.

Now that you understand this process, I'd like you to take a moment and complete a quick survey keeping these two tasks you just completed in mind. Please click on the link and complete the first page.

<Send link to survey via chat window>

<http://www.surveygizmo.com/s3/329670/File-Upload-Tasks-Survey>

Great. Now let's look at how you manage files and folders.

## File & Folder Management

**Task 3:** Create a folder called Test123 within the Course Documents directory. You may begin now.

Questions:

- How was this process for you?

Before we try the last task, I would like to understand an expectation. In the Upload File window, hover your mouse over a file and open the drop down menu.

- What is your expectation of what the Copy option does?

Great. Let's see how that compares to the system.

**Task 4:** Add "AAA\_Test\_File" from Course Documents directory into your new folder, Test123. You may begin now.

Questions:

- How was this process for you?
- Did the system function the way you expected it too?

**Task 5A:** You wish to use the file "BBB\_Test\_File" in your Statistics 101 course as well. What would you do now? You may begin now.

**Task 5B:** (If they use the COPY option) Verify that the file made it into Statistics 101. You may begin now.

- *If they struggle, give them the hint they can move it and verify it without leaving the pop up window. They can use the breadcrumbs to move back and forth.*

Questions:

- How was this process for you?

Great. Please return to the survey and continue.

## Post Session

- General comments?
- Any other specific feedback about changes or additional features that would find helpful to you?
- SUS Survey: <http://www.surveygizmo.com/s3/330288/File-Upload-Usability-Survey>

## Appendix B - Participant Waiver

1.) Please read the following:

- I have freely volunteered to participate in this product evaluation/usability study.
- I have been informed in advance what my task(s) will be and what procedures will be followed.
- I understand that the task(s) are designed to evaluate the ease of use of our product and are NOT designed to measure my performance.
- I understand that the computer screen and phone conversation will be recorded during this session for further study if needed. Names will not be associated or reported with data or findings from this evaluation.
- I am aware that I have the right to withdraw consent and to discontinue participation at any time.
- I will not disclose the testing content to others.
- I have been given the opportunity to ask questions and have had my questions answered to my satisfaction.
- My acceptance below may be taken as my affirmation of all the above statements; it was given prior to my participation in this study.

If you agree with all of the statements listed above, select the "Yes" radio button and go to next page.

Yes, I agree

No, I do not agree

## Appendix C - Background Information Survey

### Demographics

Thanks for visiting our website. In order to better understand our audience we have created a short questionnaire.

Please fill out as many questions as you can, it should only take 3-5 minutes. Your response to this survey is anonymous and confidential.

2.) Please select your gender.

Male

Female

3.) Please select your age range.

under 18

18-24

25-34

35-54

55-64

65+

4.) On average, how many hours a day do you use a computer?

< 1

1

2

3

4

5

6

7

8

9

10

11

12

5.) Please rate your level of agreement with this statement. "I consider myself to be tech savvy such that I enjoy learning new technologies and do not get frustrated too easily."

Strongly disagree

- Moderately disagree
- Slightly disagree
- Neutral
- Slightly agree
- Moderately agree
- Strongly agree

6.) Where do you currently teach?

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7.) In which department do you teach?

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8.) What courses have you recently taught or are currently teaching?

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9.) Have you ever used the Course Compass platform?

- Yes
- No

10.) How often do you use a Pearson online teaching environment?

- This is my first visit
- Rarely - less than once per month
- Occasionally - 2 to 3 times a month
- Frequently - at least once a week
- Daily - at least once every day

11.) Please list any Pearson products that you have used in your teaching, including technology products.

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Thank You!

Thank you for taking our survey. Your response is very important to us.

## Appendix D - Overall Usability Evaluation

The System Usability Scale (SUS) is a recognized industry standard used to score a participant's experience rating with the software interface.

1. I think that I would like to use this web site frequently.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

2. I found the web site unnecessarily complex.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

3. I thought the web site was easy to use.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

4. I think that I would need the support of a technical person to be able to use this web site.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

5. I found the various functions in this web site were well integrated.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

6. I thought there was too much inconsistency in this web site.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

7. I imagine that most people would learn to use this web site very quickly.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

8. I found the web site very cumbersome to use

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

9. I felt very confident using the web site.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

10. I needed to learn a lot of things before I could get going with this web site.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree