

## Lightbox QA Plan

- **Environments**
  - **Windows XP Service Pack 2:** Firefox, Internet Explorer 6, Internet Explorer 7
  - **Macintosh OS X 10.4:** Firefox, Safari 2
  - **Windows Vista?**
  - **Linux?**
- **Notes:**
- **General QA Guidelines**
  - Common Sense
    - Does the tool behave the way that you would expect
    - Are you surprised by anything
    - Does something take longer than you would expect
    - When the tool does something unexpected or takes too long to do something, does the tool provide appropriate feedback.
  - Mouse interaction
    - Are all interactive elements clearly identified in the interface with a distinctive styling.  
*Example: links with underlines or other styling which sets them apart from other text and graphical elements*
    - Does the pointer (aka. [erroneously] the cursor) change to an appropriate pointer graphic when hovering over or interacting with an interactive element.  
*Example: The pointer changes to a hand when hovering over links and other interactive elements.*
  - Keyboard interaction
    - Can you key *into* all the places you need to go
    - Can you key *out*
    - Are the tab, arrow, enter, space bar, and modifier keys used consistently
      - Convention
        - Tab key tabs to links, form fields and controls, and other interactive areas of the page
        - Arrow keys allow for navigation with in an interactive area, with the exception of form fields and controls. Arrow keys are also used for spacial navigation and manipulation.
        - The space bar is used to select or act upon an item.
        - In the case of a literal form the Enter key is used to submit the form. In all the other cases the Enter key should be synonymous with the space bar.
    - When modifier keys are required are they clearly documented, and/or are they based on browser/system conventions
  - Visual language
    - Is the visual language consistent and clear
    - Is the explanatory text and feedback consistent and clear.
    - Are the defaults correct
  - Consistency with in a context and with in the browser, and system
    - If the tool is used with in a larger framework, portal or application, Is the tool's behavior consistent with the conventions of the surrounding system.
    - Is the tool's behavior consistent with the conventions of with the behavior of the browser in which the tools is running
    - Is the tool's behavior consistent with the conventions of the operating system that the tool is running under.
  - If there is a specification, does the interface conform to the specification
- **Lightbox QA Tests**
  - Protocol
    - Do the following tests using each configuration in each browser/system environment

## Lightbox QA Plan

- Tests
  - Using the Mouse
    - 1 Initialization
      - 1.1 Create a new Site, or have someone create the site for you.
        - 1.1.1 Add the Gallery and Resources tools to the new site.  
*Do not navigate to the new site.*
        - 1.1.2 Assign your user to the site as a maintainer of the site
      - 1.2 Log-in to the new Site as your user
      - 1.3 Click on Resources
        - 1.3.1 The *Gallery Tool Collections* collection should not yet exist?
      - 1.4 Click on Gallery
      - 1.5 Click back to Resources
        - 1.5.1 The *Gallery Tool Collections* collection should have been automatically created
      - 1.6 Click back on Gallery
        - 1.6.1 The introductory text should be displayed
        - 1.6.2 Review page for accuracy and layout
      - 1.7 Click *Print this page*
        - 1.7.1 Does page print?
        - 1.7.2 Is the print out what you expected?
      - 1.8 Go to Resources and add a gallery
        - 1.8.1 Go to Gallery
        - 1.8.2 What should be displayed now? Does the introductory text still display?
      - 1.9 Return to Resources and add images
        - 1.9.1 Introductory text should have vanished and been replaced by list of Galleries on the left
        - 1.9.2 Go to the Gallery and validate that the images have appeared where you expect them to be.  
*Do images go in alphabetically or by the order in which they are added to Resources?*
    - 2 Gallery
      - 2.1 Click on a Gallery
        - 2.1.1 You should be presented with a gallery
          - Does the iFrame correctly resize on page load
        - 2.1.2 What is the order of the images?
          - Order added or alphabetical order?
      - 2.2 Click on Resources and add another Gallery with some images
      - 2.3 Return to the Gallery tool
        - 2.3.1 Does the Gallery that you just added appear?
      - 2.4 Click on the new Gallery
        - 2.4.1 New gallery presents
      - 2.5 Check the *Sort Order* radio button set
        - 2.5.1 Is the *Instructor Default* radio selected (this should be the default)
      - 2.6 Resize window
        - 2.6.1 Rows of images should collapse gracefully
        - 2.6.2 scrollbars should not appear (iFrame should resize after the window resizes)

## Lightbox QA Plan

- 3 Individual Image
  - 3.1 Click on an image
    - 3.1.1 You should be presented with the image
      - Does the text above the image accurately indicate which image you are viewing.  
*Should read "View <index of image> of <total # of images> in <gallery name>"*
  - 3.2 Click Return to Thumbnail View
- 4 Re-orderer
  - 4.1 From the *Sort Order* radio button set, select *Instructor Default*
  - 4.2 Mouse-over the thumbnail images in the Gallery
    - 4.2.1 Do the images highlight to indicate that they are drag-able?
    - 4.2.2 Do all the image thumbnails highlight when you mouse over them?
    - 4.2.3 Does the pointer change to a pointing hand to indicate that you can interact with the image?
  - 4.3 Click and hold down the mouse button on a thumbnail
    - 4.3.1 Does the image highlight to indicate that you have currently *grabbed* the image?
    - 4.3.2 Does the cursor change to indicate that you can now *move* the element
  - 4.4 Let up on the mouse button
    - 4.4.1 Are you taken to the image
  - 4.5 Click and drag an image
    - 4.5.1 Do you get a ghost of the current element dragging with the mouse?
    - 4.5.2 Is the position of the ghost relative to the position of the element when you clicked on it?
    - 4.5.3 Is an outline of the original position left behind?
  - 4.6 Drop the element back in it's original position
    - 4.6.1 Does the original element appear back in the original position?
  - 4.7 Click and drag the same image around the target area
    - 4.7.1 As you drag, are the possible drop positions indicated as you mouse over them?
    - 4.7.2 Does the highlighting feel *natural*? Does it make sense when a drop area becomes highlighted?
  - 4.8 Drop the dragged element into a new position
    - 4.8.1 Does the element appear in the right position?
    - 4.8.2 Do the other elements reorder themselves in the way that you expect?
  - 4.9 Drag the element back the original position?
    - 4.9.1 Can you complete the drag and drop?
  - 4.10 Drag an element around the Gallery area
    - 4.10.1 Drop the element in an area that is not indicated as a drop target.
    - 4.10.2 Does the element snap back to it's original position?
  - 4.11 Drag and drop the element in a new position (A).
  - 4.12 Now drag and drop an element from it's current position (B) on an area of the screen that doesn't have a drop target
    - 4.12.1 Does the element snap back to the new position (B), it's original position (A), or some other position? Should be the new position (B).
  - 4.13 Repeat with images from different positions on the grid, first, last, towards the end, towards the beginning.

## Lightbox QA Plan

- 5 Sort Order
  - 5.1 Once you've set up a custom order for your images...
  - 5.2 Change *Sort Order* to *Alphabetical*
    - 5.2.1 Mouse over the images in the Gallery
      - The outlines should not highlight, no indication that they are draggable
    - 5.2.2 Attempt to drag an image (the image should not be draggable)

*Note: You can drag the image if the browser supports dragging an image out of the browser to another application, but this is separate from the drag-and-drop behavior in the Gallery if Instructor default is selected.*
    - 5.2.3 Click an image
      - You should be presented with an image
    - 5.2.4 Click Return to thumbnail view
      - Is the thumbnail view still set to *Alphabetical*
    - 5.2.5 Change *Sort Order* back to *Instructor default*
      - Are the thumbnails back in the order that you defined for them before you started the Sort Order section?
- 6 Slideshow
  - 6.1 With the *Sort Order* set to *Instructor default*, click the *View Slide Show* link
    - 6.1.1 Did the slideshow start with the first image from your instructor sort of the gallery?
    - 6.1.2 Do the images proceed in the correct order?
  - 6.2 Click Stop Slide Show
    - 6.2.1 Did the slideshow stop?
  - 6.3 Click View Slide Show
    - 6.3.1 Did the slideshow restart in the same position and proceed in the correct order?
  - 6.4 With the *Sort Order* set to *Alphabetical*, click the *View Slide Show* link
    - 6.4.1 Did the slideshow start with the first image in the gallery?
    - 6.4.2 Do the images proceed in the correct order?
    - 6.4.3 Click Stop Slide Show
      - Did the slideshow stop?
    - 6.4.4 Click View Slide Show
      - Did the slideshow restart in the same position and proceed in the correct order?
  - 6.5 Press the next image arrow
    - 6.5.1 Does the image skip forward to the next image?
    - 6.5.2 Does the slideshow proceed in the correct order?
  - 6.6 Click the previous image arrow
    - 6.6.1 Does the image skip back to the previous image?
    - 6.6.2 Does the slideshow proceed forward in the correct order?
  - 6.7 Click the last image arrow
    - 6.7.1 Does the image skip forward to the last image?
    - 6.7.2 Does the slideshow stop?
  - 6.8 Click the first image arrow
    - 6.8.1 Does the image skip back to the first image?
    - 6.8.2 Does the slideshow proceed forward in the correct order?
- 7 Image navigation

## Lightbox QA Plan

- 7.1 Click the next image arrow
- 7.2 Click the previous image arrow
- 7.3 Click the last image arrow
- 7.4 Click the first image arrow
- 8 Boundary Conditions
  - 8.1 Numbers

*In all these quantity conditions, you need to validate that the tool is still usable and consistent and if it not, that the tool provides useful and appropriate feedback to the user to manage and mitigate user expectations.*

*You might want to use Selenium to set up different sets of images.*
  - 8.1.1 Load a gallery with 1 image and attempt to do the tasks above
  - 8.1.2 Load a gallery with 2 images and attempt to do the tasks above
  - 8.1.3 Load a gallery with 3 images and attempt to do the tasks above
  - 8.1.4 Load a gallery with 100 images and attempt to do the tasks above
  - 8.1.5 Load a gallery with 500 images and attempt to do the tasks above
- Tests using the keyboard

*Same tests as above but only focusing on tasks which test user-interaction outlined below with the observations appropriate for keyboard interaction*
- Protocol
  - Do the following tests using each configuration in each browser/system environment
  - On the Mac, you will need to turn on keyboard access (this is the default on Windows)
    - Go to System Preferences/Keyboard Shortcuts
    - At the very bottom of the dialog box, look for Full Keyboard access and select **All controls**
- Tests
  - 1 Initialization

*Since initialization is not focused on user interaction skip these tests for keyboard testing*
  - 2 Gallery

*These tests assume that you've already set up a Gallery collection with at least one gallery in it.*

    - 2.1 Tab to the Gallery Tool, and press Enter
    - 2.2 As you tab, which areas of the screen are selected
      - 2.2.1 Do those areas make sense, and can you interact with them. Does it make sense that they are selectable, do the interactions make sense?
    - 2.3 Tab to a Gallery sub-folder, and press Enter
      - 2.3.1 You should be presented with a gallery
    - 2.4 Tab to the selected radio button in the *Sort Order* radio button set
      - 2.4.1 Can you use the arrow keys to change the selection
      - 2.4.2 After you have changed the selection, where is your selection?

*this is a tricky one, the page has been refreshed so the selection is also reset, but ideally the focus of your selection should return or remain on the item that you just had selected*
    - 2.5 Set Sort Order to *Instructor Default*
  - Image Navigation
    - Tab to the first image, and press Enter
      - You should be presented with the image
    - Tab to *Return to Thumbnail View*
      - You should return to the thumbnail view

## Lightbox QA Plan

- Where is the focus? The image that you were viewing in the gallery? The image that last had the focus have the focus?  
*Right now the focus is back to the top. Seems like a nice thing to fix.*
- Tab to the first image
- Arrow keys (no modifier keys)
  - Arrow right through the images
    - 1 Do the images get focus?
    - 2 Does the image that you expect get focus?
    - 3 When you get the end of a row, does the focus jump to the beginning of the next row?
    - 4 Does the focus jump back to the first image when you arrow past the last image?
  - Arrow left through the images
    - 1 Do the images get focus?
    - 2 Does the image that you expect get focus?
    - 3 When you get the beginning of a row, does the focus jump to the end of the previous row?
    - 4 Does the focus jump back to the last image when you arrow past the first image?
  - Arrow up through the images
    - 1 Do the images get focus?
    - 2 Does the image that you expect get focus?
    - 3 When you get the bottom of a column, does the focus jump to the top of the next column?  
*Is this the behavior that we would want? It would seem consistent with how the left and right keys work, but this is not how it currently works.*
    - 4 Does the focus jump back to the first image when you arrow past the first image?
  - Arrow left through the images
    - 1 Do the images get focus?
    - 2 Does the image that you expect get focus?
    - 3 When you get the top of a column, does the focus jump to the top of the previous column?  
*Is this the behavior that we would want? It would seem consistent with how the left and right keys work, but this is not how it currently works.*
    - 4 Does the focus jump back to the last image when you arrow past the first image?
- Resize the window so that some of the images are outside of the current viewport. Press the arrow keys until you select an image outside of the viewport.
  - 1 Does the browser window scroll to display the selected image?
- 4 Re-orderer
  - 4.1 Tab to select an image in the gallery  
*As you go through the tests make sure that you try different images in the image order. Hopefully over the course of testing you will end up testing with a fairly wide range of images. Additionally if you find an error, or experience something that does seem to be right, then widen the range of your testing.*
  - 4.2 Hold down the control key.
    - 4.2.1 Does the image indicate that it is now ready to be moved?
  - 4.3 Let up on the control key
    - 4.3.1 Does the image indicate that it is no longer in a ready state?

## Lightbox QA Plan

- 4.4 Hold down the control key.
  - 4.4.1 Press the right arrow key
    - 4.4.1.1 Does the selected element switch places with the element to the right?
    - 4.4.1.2 When you get the end of a row, does the selected element switch places with the element at the beginning of the next row?
    - 4.4.1.3 When the selected element is the last element in the gallery, does it jump the first position in the gallery pushing all the elements to the next position?
  - 4.4.2 Press the left arrow key
    - 4.4.2.1 Does the selected element switch places with the element to the left?
    - 4.4.2.2 When you get the beginning of a row, does the selected element switch places with the element at the end of the previous row?
    - 4.4.2.3 When the selected element is the first element in the gallery, does it jump the last position in the gallery pushing all the elements to the previous position?
  - 4.4.3 Press the down arrow key
    - 4.4.3.1 Does the selected element switch places with the element below it?
    - 4.4.3.2 When you get the end of a column, does the selected element switch places with the element at the beginning of the next column?
    - 4.4.3.3 When the selected element is the first element in the gallery, does it jump the first position in the gallery pushing all the elements to the next position?
  - 4.4.4 Press the up arrow key
    - 4.4.4.1 Does the selected element switch places with the element above it?
    - 4.4.4.2 When you get the beginning of a column, does the selected element switch places with the element at the end of the previous column?
    - 4.4.4.3 When the selected element is the first element in the gallery, does it jump the first position in the gallery pushing all the elements to the next position?
  - 4.4.5 Resize the window so that some of the images are outside of the current viewport. Press the move an image using the mouse to a position outside the viewport.
    - 4.4.5.1 Does the browser window scroll to display the selected image?
- 5 Slideshow
  - 5.1 Tab to and select the View Slideshow link
  - 5.2 Did the slideshow start with the first image from your instructor sort of the gallery?
  - 5.3 Do the images proceed in the correct order?
  - 5.4 Tab to and select Stop Slide Show
    - 5.4.1 Did the slideshow stop?
  - 5.5 Tab to and select View Slide Show
    - 5.5.1 Did the slideshow restart in the same position and proceed in the correct order?
  - 5.6 Tab to and select the next image button
    - 5.6.1 Does the image skip forward to the next image?
    - 5.6.2 Does the slideshow proceed in the correct order?
  - 5.7 Tab to and select the previous image button
    - 5.7.1 Does the image skip back to the previous image?
    - 5.7.2 Does the slideshow proceed forward in the correct order?
  - 5.8 Tab to and select the last image button
    - 5.8.1 Does the image skip forward to the last image?
    - 5.8.2 Does the slideshow stop?

## Lightbox QA Plan

- 5.9 Tab to and select the first image button
  - 5.9.1 Does the image skip back to the first image?
  - 5.9.2 Does the slideshow proceed forward in the correct order?
- 5.10 When you select a slideshow button, does the focus stay on that button?
- 6 Boundary Conditions
  - 6.1 Numbers

*In all these quantity conditions, you need to validate that the tool is still usable and consistent and if it not, that the tool provides useful and appropriate feedback to the user to manage and mitigate user expectations.*

*You might want to use Selenium to set up different sets of images.*

    - 6.1.1 Load a gallery with 1 image and attempt to do the tasks above
    - 6.1.2 Load a gallery with 2 images and attempt to do the tasks above
    - 6.1.3 Load a gallery with 3 images and attempt to do the tasks above
    - 6.1.4 Load a gallery with 100 images and attempt to do the tasks above
    - 6.1.5 Load a gallery with 500 images and attempt to do the tasks above
- Other Tests
  - 1 Javascript
    - 1.1 Turn off Javascript and attempt to do any of the tasks above
    - 1.2 Do you get clear feedback from the system that Javascript is required to use the tool, or that the behavior would be different if the user was using Javascript
  - 2 In the browser, open the Javascript console and watch the log to see if there are any errors thrown.

*If the error does not manifest itself as a visible bug to the user then it's probably not a bug. But where there is smoke there may be fire.*
  - 3 Run against validators

*Please note that validators should be treated as suggestions and not a bug*

    - 3.1 Run pages through W3 HTML validator
    - 3.2 Run pages through W3 CSS validator