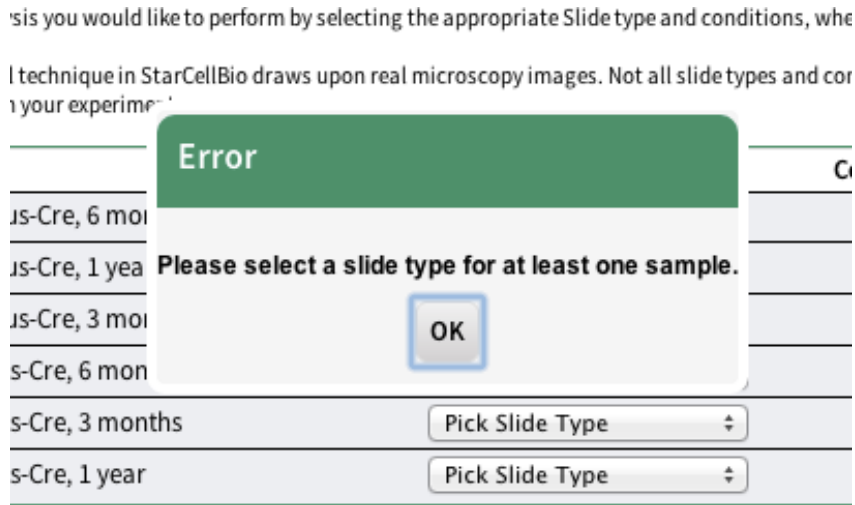


Microscopy UI Feedback

2/4/14

Overall Formatting

Can you make the Error message window a default size? What size? It looks a bit strange with the smaller error messages if the box is too large. The width of this one looks good. There definitely needs to be a little bit of left and right margin on the text so the text doesn't touch the borders of the window. The margins should be comparable to the left margin for the word "Error". The text should be left-aligned within the Error message window if the error message is short for the window. Done



Center the error message over the StarCellBio information in the browser window. Need clarification. Do you mean center only over the box containing all the StarCellBio information in the page? Or center on the whole browser window?

Select Technique page

- Increase the left margin for M. 1, M. 2 etc to match the experimental techniques in the other techniques.
- Bug: I set up a microscopy technique, navigated back to select techniques page, and "M1" appeared in the window along with the message about no available microscopy techniques.
- **Remove the extra "to start a microscopy analysis" in the Microscopy Analyses box (if the user has not yet performed a microscopy technique).**
- **Increase the right margin to match the left margin within each analysis box - this is especially relevant for the western blotting technique.**
- **Bullet point the two sentences in each analysis box.**
- **Change the first sentence of the western blot analysis to match the others: You have not performed any western blot analyses.**

Experiment Setup

Low priority/no need to fix (I'm only mentioning this in case this affects anything else)

Bug: I can't save the time point of 6 months with p53 fl/fl;Rb fl/fl with Ad-Cre I am able to do this in my version. **This case is if you select a time point, and then want to go back and edit the time point. Definitely not worth fixing though since we won't be using this method.**

Microscopy Progress Bar

SORRY ABOUT THESE CHANGES SHLOKA!

Change Sample Prep to: 'Slide Prep' - > Sorry, can you change to 'Microscopy Prep'? This will cover the case when users are not looking at slides but are looking at cells or other samples Done

Change Prepare Slides to: 'Load Slides' - > Sorry, can you change to 'Load'? This will cover the case when users are not looking at slides but are looking at cells or other samples Done

Change Analyze to: 'Analyze Slides' - > Sorry, can you change to 'Analyze'? This will match flow cytometry and will also cover the case when users are not looking at slides but are looking at cells or other samples Done

These labels are now a little off center from the dashes in the progress bar Done. **They still look off center to me. I know that you won't be able to center step 1 underneath the dash, but can you center 2. Load (under about the o/a) and 3. Analyze (between the n/a)**

Sample Prep Page (Future: Slide Prep Page)

Align the 'Select Technique' and 'Prepare Slides' navigation buttons

There is no limit on the number of times that I can add "Antibody-labeling IHC" Need to discuss this. - Do we still need to discuss? Done

Trash can icon added for Sample prep - I see this, do you have a question about this? (This text was in brown) Done, it was in brown because I added it when we were discussing items on this list

Bug: I can select Antibody labeling IHC and select Ki-67, then select IHC again and select secondary only, and then it allows me to keep selecting IHC again in the drop down menu even though all options have been selected. IHC should no longer be able to be selected in the drop down menu in this case and the error message should appear right away (as in the case of selecting Dye).

Bug: If there is only one type of slide type for a sample, then a second drop down menu should not appear. Need to discuss this.

That might create some confusion, if it appears sometimes and not others. Since the drop down menus are already customized for each sample, it might create more confusion if the new sample creation drop-down is also customizable (appears and disappears). There shouldn't be too many changes for each sample if they are displayed and chosen in a table, otherwise the user will see each customization as a bug, not a feature. Ok, I like the error message that appears then when the user clicks on the same slide type for a particular sample for a second type. However, I think that this slide type should automatically appear in the drop down menu so that users don't have to select it in the drop down menu - We're waiting to hear back from Katherine/Usability for some help Done, discussed in email.

Some drop down menus are longer than others. Can you set a default width that will fit the longest information in the drop down menu?

Bug: Don't load at the top of the Slide prep window each time the user clicks on an item in the window. Need to talk about this

The scroll bar (when it appears on my computer) covers up some of the horizontal lines on the right side of the slide prep window.

When scrolling down in the slide prep window, the horizontal line underneath the headings disappears.

We need to indicate to the user that the Slide prep window scrolls down. Can we make the last line fade out, as we previously discussed? Or can we force a scroll bar? Need to talk about this - This looks great!

To-Do: I need to provide you with instructions to go in the blank white space
Instructions:

- To prepare a sample for microscopy, click the checkbox to the left of each sample name or click SELECT ALL to select all samples
- Select the type of microscopy analysis you would like to perform by selecting the appropriate type of microscopy analysis and conditions, when appropriate.
- Note: The microscopy experimental technique in StarCellBio draws upon real microscopy images. Not all microscopy analyses and conditions may be available for each sample in your experiment.

Can you move the instructions up a little bit? Remove the "Instructions" label and format them like the instruction bullet points on the experiment set up page. Done
'SELECT ALL' within the instructions should be in bold

Format the instructions so that the right side of the text does not extend past the right side of the microscopy technique progress bar.

Can you add a period to the end of the first line of instructions for me? I forgot it above.

Bug: The instructions move down the page as I change the Microscopy Analysis drop down menus. Done

Set a default for the Slide type drop down menu so that users don't have to select a slide type for each drop down menu Need to talk about this, not sure this is the best idea. Ok. It's just a lot of clicking. We should think about ways to ease this for the students. Done, discussed in email.

Bug: If you click "Select all" in the slide prep window and then don't select any slide types, when you click "Prepare Slides" a message should appear that says "Please select a slide type for at least one sample" An error message already shows up for this case, do you just want me to change the case? I would like you to change what the error message says so it's a little bit more clear. Actually I looked at this again and it seems like there should be 2 different error messages. One is for the case when no samples are selected and the other is for when samples are selected by no slide type is selected. The error message that I wrote out above is for the second case. In the first case, the error message that you have is ok except you cannot continue without selecting a sample so the question of "Would you like to continue? Yes/No" is not relevant.

Change cursor to a hand when hover over the trash can icon

Once you select one "slide type" in the drop down menu, all of the drop down menus shift left. Can you align them in this position from the start?

Rename "Slide type" to "Microscopy Analysis" in the prep table

What is our protocol for the default size of a table like the one on the prep page? I feel like we should have 8-10 lines in the table as a minimum. When I have three samples and then start selecting microscopy analyses, the table just keeps growing. **We intentionally made this change to have the table grow with samples in western blot and flow cytometry so there wouldn't be a margin between the bottom of the table and the rows. However, those two techniques do not have rows added automatically to the table; you just pick from the displayed ones. I've made the height fixed for 10 rows on the table, but there will be a margin if you pick less than 10 rows to begin with, and add the rows later, as you are selecting samples.**

Change the default in the drop down menu under Microscopy Analysis to say "Select Microscopy Analysis" or if that's too long "Select Analysis"

Lower priority

Extend the dark bold horizontal line so that it touches the right side of the Slide prep window

Reduce the thickness of the horizontal lines so that they are the same thickness as the line that is underneath the headings in the Slide prep window.

Format the drop down menus so that they look like our other dropdown menus (in western blotting antibody selection, for example) Need to talk about this, there is no disabled mode for the antibody selection, but there is for these drop down menus. **What does disabled mode mean?**

Prepare Slides Page (Future: Load Slides Page)

To-Do: I need to provide you with instructions to go in the blank white space
Instructions:

- To view a particular sample, select the sample name in the Samples window. The sample will be loaded onto the microscope and the image will appear on the right.
- Use the microscope controls to manipulate the image.
- Note: Not all microscope controls will be relevant for each image.
- To save the microscope settings for a particular microscope image, click SAVE IMAGE. The microscope settings for only that particular microscope image will be saved when navigating between samples on the microscope.

Remove the label "Instructions" and ensure that the formatting is the same as on the microscope prep page and the experiment setup page.

'SAVE IMAGE' (within the instructions) should be in bold

Format the right side of the instructions as above - for the prep page. **Not clear what this means...** Format the instructions so that the right side of the text does not extend past the right side of the microscopy technique progress bar.

Edit the instructions - Remove the first two bullet points - they are unnecessary. And edit the last two bullet points to say (SAVE IMAGE should be in bold):

- Note: Not all of the microscope controls will be relevant for each image.
- To save the microscope settings for a specific image, click SAVE IMAGE. The microscope settings will be saved when navigating away from this image.

When this page first loads, the microscopy view finder appears as an oval instead of a circle. Can you change this so that it always looks like a circle?

Format the Sample name so that it fits on one line and insert an ... after the sample name if it is too long

Center the Load Slides button in the Samples window. It is centered when you have the scroll bars always visible, but I will center it for invisible scroll bars.

Format the Load Slides button so that it is bigger to match the other navigation buttons. (It looks much shorter than the other green buttons).

Reduce the white space between the In the lab feature and the samples/slide window

Once the load slides button is selected, the dark horizontal line at the bottom of the samples window should disappear.

The sample names can extend further across the samples window

Change the green button to "LOAD"

Re-size the LOAD button down to the appropriate margins

Analyze Page (Future: Analyze Slides Page)

When this page first loads (or you change samples), the microscopy view finder appears as an oval instead of a circle. Can you change this so that it always looks like a circle?

Do you randomly assign the XY coordinates when you load a sample? I think that the sample should load in the middle of the image or somewhere in the image not along the edge of the image. It is not random, always loads at the top right corner of the image. I am changing it to the center.

Update the microscope controls as per Jamie's design and provided png files.

I was looking at an H&E slide, and turned the laser on, but wasn't able to select filters. Since H&E is not an IF, the laser does nothing to affect the slide; because the laser has no effect, the filters are not functional. Should I change this? You should be able to change the filters, but nothing will happen. I can't change the filters right now when I'm looking at a non-IF image (Dye or IHC). The filter says "R" but can't change to the other filters.

If you are looking at an IF image, and we only have an image for one (or a subset) of the filters (for example, All), then an error message should appear when the user goes to select another filter. The error

message should say: "No available image for this filter" - Great! Is this annoying that it shows up all the time? Error messages should be typically used as sparingly as possible, since it interrupts the user, and a program should be design to eliminate them if possible. Here, it seems unavoidable, so even if it is annoying, I think this is the only option for now, with this slider. If the buttons are separate, maybe we should visually change buttons which are not options for an IF slide. **Ok we will have to keep this in mind for the first assignment in 7.06 which only deals with IF and only has images for the "all" filter.**

Remove the note about "Blur", "Rendering" etc.

Is there a way to decrease the focus rendering time? When clicking on rough /fine focus, the real image flashes on the screen each time and it makes it confusing as to which direction I should focus (up or down). This is better, but still happens. Especially when at the "highest" level of blur I've fixed it slightly, but any level over about 10 for blur will have this delay because it is processing the image. If there is something you want me to do to cover the lens during this short delay, I might be able to do that. **Can I see on your computer what it would like if we cover the lens during the delay? Done**

When hovering over the Light and laser on/off switches and also the brightness slider, change the cursor to a hand

Remove the blue outline that appears when selecting the on/off buttons

Focus arrows:

- Place the course focus arrows on the left side of the focus wheel and the fine focus on the right I thought this would be more intuitive too, but because the mockup had it the other way, I had the positioning as it was shown in the mockup. Ok, I see. I think that it will be more intuitive for the course on the left though. I didn't notice the change on the mock-ups.
- The arrow should change to gray when the focus cannot be changed anymore. I'm having a really hard time focusing the IF images - I can't find the image even after many clicks up and down with the focus. Need to talk about this. What happens if you can't rough focus any more but you can still fine focus? Need to discuss disabling cases.
- I always have to move the focus down - never up - to focus the image. Can we randomize it more? Done
- Remove the blue boxes that appear around the up and down course/fine focus arrows Done

Change "Objectives:" to "Objective:"

Small tabbed window:

- The small tabbed window is outlined in green, except the tab itself is outlined in gray.
- Remove the background on the inactive small tabs Need to discuss, how do you see the tab if there is no background? There's no background color on the western blotting tabs. I thought it changed from a green outline (active tab) to a gray outline (inactive tabs). Is that correct?
- The small tabbed window should be labeled with "Dye: H&E", "IHC: Nfib" etc
- If there is only one tab in microscopy, it is labeled as SLIDE instead of what is mentioned above. It is only labeled SLIDE before the slides are loaded; after that, a single tab in microscopy does have a label. What case did you try? Hmm, let me try again.

Reduce the font size of the small tabbed windows to match that on western blotting page. (Right now, "Antibody-labeling IHC" is too long for one line) It is the same size...shortening the names as mentioned above may solve this problem.

We need a way to indicate that you can't adjust brightness when the light is off. Also, you can't adjust filters if the laser is off. Do we need to ask Jamie for grayed out images of both sliders? I'm assuming in these cases that the text "Brightness" and "Filters" can be in gray. I don't know if just graying out the text for brightness and filters will be enough. If we gray out the images for the laser/light switches then we need to also gray out the images of the other inactive features of the microscope. Alternatively, users can manipulate brightness even when the light is off, but it just won't do anything. Same thing goes for the

laser. I'm not sure if that is confusing though to the user who manipulates brightness and is expecting the amount of fluorescence to change when looking at an IF slide.

Left align "Microscopy controls" with the labels for all of the controls. This is different from the mockup but okay.

Navigation arrows:

- Remove the blue outlines that appear around the navigation arrows
- The arrow should change to the gray arrow once the image has completely moved out of the circle
Need to discuss. Similar to the issue with the focus arrows. Can you gray out individual arrows at a time? - I don't see the gray arrows appearing when the image is out of the lens. The gray arrows appear now, but sometimes when the image is several clicks outside of the lens.
- Move the navigation arrows to the upper right hand corner The screen looks unbalanced to me, with two icons on one edge of the lens, but okay. I agree, we will likely have to play with the positioning. We are suggesting upper right hand corner because usability just told us that people don't look in the lower left corner (where the print icon currently is on the assignments page).
- Bug: when you first click one of the arrows, it actually moves one more time in the direction in which you previously moved the image.

Filters:

- it is not intuitive to me that this does not work as a slider. Need to talk about this, not sure if it is intuitive to have a slider after all, because sometimes you don't have all the values for the slider. For some IF, you only have certain images and you can't disable parts of a slider. - **Waiting for new images from Jamie**
- Add tool tips when hovering over each of the filters that tells the user what the filter is: "Red" "Blue" "Green" and "All"

Change 'Microscopy Controls' to 'Microscope Controls'

Put the brightness slider on a gray background - together with the light on/off switch. Then alternate the other background colors as appropriate.

Remove the "Brightness" label. It looks like there's a mistake in the background colors right now. And I think with the "light" label it will be clear that you can turn the light on/off and adjust the intensity. - Ok, we will have to see if Lourdes has any ideas for this. I feel like we need to rearrange the on/off switch and the slider to be side-by-side. Done, discussed in email

There's a little bit of delay when each image loads. I see the image clearly and then the blurred image loads. Can you reduce the load time at all? I've reduced it a little but I can't remove this entirely. After about 5-10 degrees of blur, there will be a delay. I can try to put something on the screen, like a progress Icon, while it loads, but I can't remove that delay. - A progress bar sounds good while it's rendering. Is that possible? , Done, rather than a progress bar, I put a little animated loading icon in the center of the lens, what do you think? **I didn't see this while I was testing. The images were very quick to load. Done**

Increase the left and top margins on the microscope lens to center the lens a little bit better within the small tabbed window. I know that we can't center it completely because of the SAVE IMAGE button and the navigation buttons.

Bug: The images are appearing perfectly clear - the blur is not working - until I click on the navigation arrows, or move the brightness slider, or change the focus slightly Done

Brightness slider - this only changes the image once the user clicks off of the brightness slider. Can this work like the exposure time slider (western blotting) and update as the user moves the slider? It can, but it looks really choppy. The slider is looking for particular values to render the image. If it keeps changing, then you see that 'clear' image in between the processed images more frequently. If you get the value once you let go of the slider, then the image becomes clearer and the process is more instantaneous, because it locks in the value, rather than going through many changes quickly. Do you still want the user-updated slider? I can show you what it looks like on my machine. **Yes, let's look together on your computer**

tomorrow. Done