StarCellBio User Interface & Functionality To-Do List

Notes from Jamie, the graphic designer:
- kerning (space between the letters) needs to be increased - especially in navigation tool bar and the blue navigation buttons
- Confirm that the font is semi-bold in navigation bar and blue navigation buttons (not bold)
- Make 'Contact', 'Reference library' 'user guide' black to increase contrast
- Think about the gray buttons with black font - either dark gray with white font or using color in some way to highlight

GENERAL NOTE
Ivan, please be very careful when you combine all three of our versions back into one working version. I believe that the CORRECT Tufts assignment is only found at http://edison.mit.edu. I can tell this based on question 2 in the assignment.

HOMEPAGE
Add a margin of 20 px between the left side of the 'Welcome to StarCellBio' window and the left side of the page background (decrease the overall width of the 'Welcome to StarCellBio' window).
Reduce this spacing to match the right hand side? Is it 10 px?
Add a margin of 20 px between the left side of the 'Experimental Design' panel and the left side of the page background (decrease the overall width appropriately).
Reduce this spacing to match the right hand side? Is it 10 px? This will likely mean that the 'Experimental Design' panel will need to be bigger. Please make sure that the changes in the 'Experimental Design panel' section below still remain.
Place the 'Welcome to StarCellBio' text in an opaque text box over the picture to increase readability.
Welcome to StarCellBio, a virtual experiment simulation tool that teaches the fundamental concepts of cell and molecular biology, experimental design, and analysis. StarCellBio uses real and computer-generated data to generate a realistic array of experimental outcomes.
We discussed this in person. Let's make the box a transparent (not opaque - my mistake) box. Either white text on a black transparent box or vice versa. This will also require switching out the picture so that it is only the picture, not the picture + text.
Let's make the box less transparent. Can we see what it will look like with a white box and black text? Although the text is more legible now it's not as legible as we would like.
Use the new StarCellBio logo on the homepage and every page. The logo is in the StarCellBio production folder.
Remove the 'New Experiment' button from the homepage.
When you hover over the 'SEE MORE' button, change the cursor to a hand. Add an error message that says 'Under construction.'

EXPERIMENTAL DESIGN PANEL
1) Center the text 'Experimental Design' between the left side of the window and the gray line.
2) The top of the '1. Design' text should align with the top of the gray line
3) The bottom of the '7. Conclude' text should align with the bottom of the gray line
4) Increase the left margin between the 'LEARN MORE' button underneath the explanations of each of the design steps to match the left margin of the descriptions.
5) Are each of the 3 technique descriptions the same width?
    -- 5. they are but given the amount of text, and arrow on the right they don't appear so. They are 140px wide (text is). Bars are 25px wide and 158px high. Ok, but I think I would like to move the text over to the right. The text for the western blotting technique is too close to the arrow. - See Jamie's design document for the homepage.

USER GUIDE AND REFERENCE LIBRARY
Convert to html instead of PDF files. **Done for User Guide**
Add ability to save & print the reference library and user guide. **Is this needed if it's all in HTML and in our small window?**

STUDENT ACCOUNTS
Create ability for students to log in and access a student account.
There should be 2 pop up windows. One for first-time users and one for users who have already made an account. They should be formatted based on Cheryl's original user interface designs.
Once students sign in, the 'SIGN IN' text should read 'SIGN OUT'
I see this change, but if you click 'SIGN OUT' and 'sign out', it still says 'SIGN OUT' and not 'SIGN IN' - I haven't confirmed whether this is working yet.
Format the SIGN IN window and create student account windows. We should format them in the same manner as the contact us window (see information below). - This window should be bigger and have the same formatting as the 'contact' window. The formatting of the text boxes and 'sign up' button should be the same as the 'contact' window.
The SIGN IN window is very narrow, at least in Chrome. Make it wider (Lourdes)
I like that when you hover over the 'x' in the upper right corner that there is a red background. Can you center the 'x' symbol on this hover color?

SIGN IN WINDOW
The text 'Remember Me' should be aligned with the checkbox.
The 'forgot password' and 'not a member' links should be above the 'sign in' button.

Make the 'not a member?' text the same font size as the 'forgot password' text. Center all of the text in this window because the window looks much wider than it needs to be.

'forgot password' window:

- remove the 'SIGN IN' text and the 'sign in' and 'sign up' links at the top. Maybe just have a back arrow in case the user wants to navigate back to the 'sign in' window?
- The title should read: Reset Password
- The text should say: Enter your e-mail address below and we will send an email to your email address with information on how to reset your password.
- Format the 'RESET PASSWORD' button as the other buttons *(hold off until the new design plans come in).* **Okay, but I made the button look like the Submit button with its current design for now.**
- I'm not sure that we need the text about contacting us if they have problems. OR we need to link to the 'contact' form from this text so that it is useful to our users.

Create Student Account window:

- Align the text boxes vertically on top of one another
- I feel like 'password' doesn't suggest that they have to create a password for their student account. Should we say: 'Create password' instead? What do other programs use? **Others use Password and Confirm Password, should I use that?**
- Label the last text box with 'Course Code' Then provide the text that you have written below the label and text box for students who don't know what this means.
- Format the 'Create account' button like the others. (No right arrows, and the font doesn't seem to be the same "boldness") - but hold off on this until the new design plans come in.

When I click on the 'Create Student Account' link on the homepage, it links to the older version (in terms of design) of the window. This window should match the window that appears when you click on 'SIGN IN' and then 'Not a member?'

CONTACT US / FEEDBACK

Create a pop-up window specific for StarCellBio for users to report bugs and send feedback. Base the formatting off of Cheryl's original design.

When you hover the mouse over the 'CONTACT' link, the mouse should appear as a hand, not a cursor

Format the feedback form pop-up window as follows. We will need to see what many of these options look like before we decide on the format.

- use the Source Sans Pro font (if possible)
- insert a way to close the window using an 'x' in a top corner
- have submit and 'cancel' buttons (instead of a 'close' button) Not sure whether to do this…doesn't Sign In and the 'x' for close do this? ask Alison

- format the buttons so that they have black uppercase font on a gray background
- use a pale gray background in the window with a green (or dark gray) outline (we will need to see what the options look like)
- Format the window so that it has a header bar? Put the 'Feedback Form' header in a green bar at the top of the window
- The text boxes for the name and email may need to be bigger (more height)
- Order the information on the feedback form so that it goes: Name, email, may we contact you via email, report type, comment

I like that when you hover over the 'x' in the upper right corner that there is a red background. Can you center the 'x' symbol on this hover color?

NAVIGATION BAR (GREEN BAR AT THE TOP OF EACH PAGE ONCE LOG IN)

Increase the font size and make it semi-bold (?) in the navigation bar
Increase the font size of the experiment name, which is just above the navigation bar
Bug: the 7.02 assignment name extends out of the constraints of the green navigation bar
Bug: sometimes 'UNDEFINED' shows up in the navigation bar where 'WESTERN BLOT' or 'FLOW CYTOMETRY' would go
The green horizontal line to the right of the experiment name (above the green navigation bar) does not align with the horizontal line on the left side
The text in the navigation bar moves when clicking between buttons - I can show you in person Need to see - add padding for title of assignment - The text appears to move up and down slightly.
When you hover over the Experiment name above the navigation bar, can the cursor change to a hand, instead of an arrow?

ASSIGNMENT OVERVIEW PAGE

The green line underneath the assignment title should be thicker (2 px) to match the green line on the assignment detail page.
Increase the spacing between the green line and the first line of text.
Add a gray bar (color E0E0E0) at the top of the left window (to match the samples window on the western blotting pages)
The blue button at the bottom right of the page should say: 'COMPLETE ASSIGNMENT' in all caps.
'New Experiment' in the left window needs to be vertically separated by one line from the list of experiments (just like the assignment detail page).
Increase the spacing between the 'New Experiment' and the next assignment name.
Decrease spacing between 'Your Assignments' and the first assignment name.
Add a margin of 20 px between the left side of the 'Your Assignments' window and the left side of the page background (decrease the overall width of the 'Your

Assignments' window).

Change to 10 px? To match the right side.

Add a margin of 20 px between the left side of the 'Experimental Design' panel and the left side of the page background (decrease the overall width appropriately).

Change to 10 px? To match the right side.

The spacing around the 'Your assignments' window, the complete assignment and either side of the experimental design panel should all be the same. 10 or 20 px? This should be maintained for all pages.

Add a 'menu' bar at the top of the assignment to navigate between parts (introduction, question 1, question 2, etc) of the assignment. - Let's talk about this together.

If necessary on this page, format the assignment overview window so that it is a set size and will be scrollable if needed. The blue 'COMPLETE ASSIGNMENT' button should always be visible.

ASSIGNMENT DETAIL PAGE

The spacing around the assignment title (text in blue) on the assignment detail page needs to match the assignment overview page. (I like the way it is on the assignment overview page).

Increase the spacing between the green line underneath the assignment title and the first line of the text of the assignment.

The green line underneath the assignment title should be thinner (1 px? I believe it is 2 px now, but if this is not the case, then use your judgment).

Change the heading 'Objectives' to 'Questions'

Decrease the font size of the text for the questions so that it matches the rest of the assignment - size 12 pt?

Add a gray bar (color E0E0E0) at the top of the left window (to match the samples window on the western blotting pages)

Can you confirm that the top of the 'Your Assignments' window is aligned with the top of the window that contains the assignment?

Make the blue gradient in the circles for the objectives the same as the blue gradient in the navigation buttons. It is slightly darker right now.

Format the question text so that it is to the right of the question number. Please see Jamie's design.

The forward navigation button should say: 'DESIGN NEW EXPERIMENT'.

The back navigation button should say: 'ASSIGNMENTS'

'New Experiment' in the left window needs to be vertically separated by one line from the list of experiments. It should have a '+' sign instead of a bullet and should be formatted in bold.

The 'DESIGN NEW EXPERIMENT' button needs to be bigger so everything fits on one line.

Did you reduce the font size (or unbold?) the text within all of the buttons so that this one fits?

The window that contains the assignment needs to be less wide and have a margin between the right side of the window and the page background of 20 px (I believe 20 px is correct, but match it to the Assignment overview page.)

Reduce the margin of 20 px between the left side of the 'Your Assignments' window and the left side of the page background to 10 px (to match the margin on the right side)

Format the complete assignment window so that it is a set size and will be scrollable if needed.

Adjust the width of the complete assignment window so that a side scroll bar is not needed.

The position of the scroll bar is not aligned with the right side of the complete assignment window. Can you make the scroll window wider to match the outline of the assignment window?

Now that the window has been adjusted, the formatting of the blue circles for the question numbers seems to be off.

We would like a way for the blue 'DESIGN EXPERIMENT' button to always be visible.

Add a 'menu' bar at the top of the assignment to navigate between parts (introduction, question 1, question 2, etc) of the assignment. - Let's talk about this together.

Add margins in the assignment window so that the text doesn't go all the way to the edges. Perhaps 5-10 pixels.

EXPERIMENTAL DESIGN PAGE

Limit the number of characters for the experiment name to 15 characters.

The first question should say: What question is your experiment going to address?

The second question should say: Do you have a hypothesis for this experiment? If so, please write it below.

Make a note underneath the third question that says: 'Please note that by selecting a technique(s), you will not alter the techniques that are available to you for this experiment.' This statement should be in Source Sans Pro, and one size smaller than the question (for example, if the question is 12 pt, then this statement should be 11 pt).

Make the entire small boxes that contain the experimental techniques buttons (like the apple website). When the cursor is hovering over the box, the outline should appear in color: B9B9B9. When the box is selected, the outline should be: C9C9C9. The thickness of the line that you already have is perfect.

The back navigation button should read: 'COMPLETE ASSIGNMENT' in all caps.

Place the note underneath the third question and before the 3 experimental technique boxes

Adjust the outline on the experimental technique boxes so that a thin border is always visible, a thick light gray border is visible when the mouse hovers over the box (pre-selected box), and a thick dark gray border is visible once the box is

selected.

Decrease the width of the window so that there is a left margin of 20 px between the left side of the window and the background (to match the right side).

Adjust the margins on both side of the window so that there is the same spacing between the window and the background on all pages (I'm not sure if it is 10 px or 20 px, but be consistent)

When you hover over the experimental techniques, make the background white instead of gray. There's not much difference right now between hovering over the box and a selected box. Perhaps a selected box should also have a white background?

Insert the blue numbers - just like on the detailed assignment page - next to each question on the experimental design page. It's hard to see the three questions. Move the blue numbers down slightly so the top of the numbers aligns with the top of the text in the question.

I don't know if this is possible, but if a user clicks on 'Learn more' in the experimental technique boxes, does the experimental technique have to be selected? The user may want to learn more without actually selecting the technique. If you test this, it is possible to click on Learn More in the experimental technique boxes, without actually selecting the technique. **I tested this - for me it opens the reference library, but also selects the technique.** **Done.**

The numbers that appear next to every question, are in the same format as those within the assignment questions. To make it less confusing we should change them so that they are the same font as the text in the questions or remove them. We might consider bolding the questions instead to make them stand out (Lourdes).

I bolded the questions. If you would still like me to remove the numbers, let me know. **I would prefer the questions to be unbolded. Let's format the circles differently - dark gray background with white numbers. Also make them a little smaller to distinguish them from the assignment questions.** **Done.**

PROGRESS BAR

Adjust the horizontal lines so they line up with the circles in the progress bar

EXPERIMENTAL SET-UP PAGE

When you first navigate to this page, only the 'In the Lab' feature, the progress bar, and the two (unselected) radial buttons should be presented to the user. Once the radial button is selected, THEN the experimental table (and instructions) should appear.

The first line of the experimental set-up table should be black (not grayed out). Talked to Alison, not needed with previous change

Left align the bullet point instructions with the radial buttons.

Change the radial buttons to be green/gray - just like on the western blotting page.

When the cursor hovers over a row in the table, it should be highlighted in white. This should happen both when the cursor hovers over a row and when the row

is being edited.

Add the 'ADD MULTIPLE ROWS' button and accompanying functionality. This button needs to be directly underneath the table and separated from the table by a 2 px 80d1ae color line. See Jamie's design. The button should be gray with a gray gradient (same as 'SELECT ALL' in sample prep page). Please confirm these colors: Color at top: F2F1F1, color at bottom: D3D2D3. To the right of the 'ADD MULTIPLE ROWS' button, there should be a 1 px, vertical line, color 'becbdd'. There should be a 2 px line separating the 'ADD MULTIPLE ROWS' button from the rest of the experimental setup table.

Change the outline of the table to be: 80d1ae. 1 px around the entire table, with a 2 px line between the table and the 'ADD MULTIPLE ROWS' button.

Increase spacing between the table and the blue navigation buttons to 20 px. I think this spacing can be decreased by half.

Decrease this spacing further. There should just be a distance of about 20 px (similar to our margins). (the distance on the confirm set-up page is just about right - if not slightly too big)

Add tool tip for the copy icon that says 'Copy'

Add tool tip for the trash icon that says 'Delete'

There should be a horizontal divider lines between all rows, color ? - You actually don't mean this! This is a lot more complicated than it seems - what if there are multiple treatments? This means between each protocol (= each 'row' that contains one cell plate image)

Decrease the width of the window so that there is a left margin of 20 px between the left side of the window and the background (to match the right side).

Use 10 px instead of 20 here - be consistent with all the other pages. The margins on both side of the gradient window need to be increased actually

The lower right and left corners of the border for the experimental setup window are not appearing.

The 'Run experiment' button appears to be taller than the 'Design Experiment' button

Re-format the 'X' to close the 'Add multiple treatments' pop up window to match the other "X's" Not exactly sure what the others look like…

The navigation buttons at the bottom do not seem to be aligning perfectly for me in Chrome. Can you check? (Lourdes).

The "In the Lab" should not automatically cycle through images - user should choose to do this (Lourdes)

When you hover over the 'Create new set-up', the cursor should change to a hand.

Can you change it so that a user can click anywhere on the 'Create new set-up' text to click the radial button?

CONFIRMATION PAGE FOR EXPERIMENTAL SETUP PAGE

Get rid of "Action" header

Format table so it is the same as the set up page. (The spacing between the columns is a little different). Make sure the new green outline color applies here

too.

Change 'WARNING!' to 'CONFIRM SET-UP'

Back navigation button should read 'EDIT SET-UP'

Forward navigation button should read 'CONFIRM SET-UP & SELECT TECHNIQUE'

the button now just says 'SELECT TECHNIQUE'?

Inactivate the white fill for each row when the mouse hovers over a row.

Each row in the read-only experimental setup table is not as wide on this page compared to the table that can be edited. Align the formatting so they both the same.

Decrease the width of the window so that there is a left margin of 20 px between the left side of the window and the background (to match the right side).

The margins are too small now. It should be bigger.

Confirm Set-Up text should read: "Below is your set-up for 'Experiment X' …"

Eliminate the instructions for setting up an experiment on the confirmation page. Adjust the text in the confirm set-up box to read:

Below is your set-up for 'Experiment 4'.

Once you run this experiment, you cannot go back and make changes to this experiment's set-up. Review the summary of your experimental set-up and then either go back to edit your set-up or click on **Select Technique** to run your experiment.

Can you make bigger margins around the instruction text so the text isn't as close to the borders of the 'Confirm Set-up' window?

SAME as another bullet, but different text, have questions; Double check with Alison This is a popup

(Shloka - I wrote 'Select technique' in the instructions, but if the button reverts to 'CONFIRM SET-UP AND SELECT TECHNIQUE' then we will need to adjust that appropriately)

Convert the 'Confirm set-up' message into a pop-up window when the user clicks on 'RUN EXPERIMENT' on the previous page instead of a whole new page. The pop up window can contain a button that says 'CONFIRM SET-UP AND SELECT TECHNIQUE'

Don't show me again option for pop-up confirm window. QUESTION: If this only shows up once in workflow, is this option needed? - **ok not needed.**

Change "CONFIRM SET-UP AND SELECT TECHNIQUE" to "CONFIRM SET-UP AND RUN" (Lourdes)

Text for the confirm window should read (Lourdes):

"Once you confirm the set-up of this experiment and run it, you cannot go back to edit this experiment's set-up.

To go back and edit your set-up, click **EDIT SET-UP** or click on **CONFIRM SET-UP AND RUN** to proceed."

Center the confirm window on the page.

When the 'confirm window' is up can you gray out the SETUP page so the user doesn't think that they can click on it? (I was confused as to which blue button to click)

READ ONLY (REVIEW) PAGE FOR EXPERIMENTAL SETUP PAGE

Once this table becomes read-only the blue navigation button should read 'SELECT TECHNIQUE'.

Reduce the length of the 'SELECT TECHNIQUE' button. It is really long right now.

Change the message so that the assignment name is not in quotes.

Inactivate the white fill for each row when the mouse hovers over a row.

'NOTE!' text should read: "Below is a summary of your set-up for 'Experiment X' …"

Decrease the width of the window so that there is a left margin of 20 px between the left side of the window and the background (to match the right side). Make sure to maintain the left margin between the 'NOTE!' window and the larger window as well as the read only experimental setup table window and the larger window.

The margins are too small now. It should be bigger.

Eliminate the instructions underneath the 'note'.

Change the note message to read: This is still a page - yes this should be a page, not a pop-up window.

Below if a summary of your set-up for Experiment X.

To create a new experiment, select **Assignment name** in the navigation tool bar above or click on **Experiment X** above the navigation tool bar and select + New Experiment in the drop down menu.

Left align the text in the 'Note' window instead of justified text.

The blue navigation button on this page should read 'SELECT TECHNIQUE' not 'CONFIRM SET-UP & SELECT TECHNIQUE' - the set up is already confirmed.

SELECT TECHNIQUE PAGE

Inactivate the 'New Flow Cytometry', 'New Microscopy', and 'Learn more' buttons in the flow cytometry and microscopy technique boxes. They are currently working.

Back navigation button should read 'REVIEW SET-UP'

Decrease the width of the window so that there is a left margin of 20 px between the left side of the window and the background (to match the right side).

Increase the margin on the left hand side so that it matches the margin on the right hand side. Done? Yes

Move the 'NEW WESTERN BLOT' button so that it is immediately below the window and above the 'Reminder'. same for 'NEW FLOW CYTOMETRY' and 'NEW MICROSCOPY'

Center the microscopy button underneath the 'available microscopy' window.

Make sure that all of the blue buttons on this page are the same width.

WESTERN BLOTTING PAGES

All Western blotting pages
add the background on all pages (Please confirm: F4F6F8)
I see the background now, but there is a small gap between the background right above the bottom bar that includes the MIT logo, etc.
western blotting tabs need to be encompassed in a window with the gray gradient
We discussed the formatting changes for the layout in person. Let me know if you have more questions.
the western blotting experiment tabs should have a solid white background
Color of text labels in inactive tabs should be dark gray, color: ?
adjust placement of western blotting tabs so they are aligned correctly with the outline/border of the window
Yes, the alignment seems much better now.
It looks as if the tabs need to be moved very slightly down just a touch more. I can barely see the left and right sides of the tabs.
Adjust the labels in the tabs so that they are aligned - currently the western blot experiment name does not align with the 'X' on the right hand side of the tab and the length of the vertical divider line between the name and the 'X' or '+' is different heights. Also, the western blot experiment name doesn't align with the position of 'ADD' in the add tab.
Can you use the same formatting for the 'x' on the tabs as you did in the 'Contact' pop up window?
If the user sets up more than 6 western blotting experiments, then the tabs start to create a second row. Can you automatically resize the tabs to fit the width of the experiment? If not, we will need to create a drop down menu to allow users to navigate between western blotting experiments.
Can you format the arrows in the boxes to scroll through the tabs so that they look like solid triangles? Gray if they're not an option and green if you can click on them to scroll in a specific direction.
Format these left and right arrows so they are not on a background - only gray/green arrows
When hover over the arrows, the cursor appears as a hand.
Bug with scrolling through the tabs: If I have 6 western blotting experiments, and am currently viewing W.B.1, and then click 'ADD', then I cannot see the W.B.7 tab. The tabs should automatically scroll and have the most recent tab visible.
Bug with scrolling through the tabs: If I have created more than 5 western blotting experiments, and am currently viewing W.B.7. Then I go to the select techniques page and select W.B. 1, then I don't see W.B.1 tab at the top of the page (although I am viewing the W.B. 1 experiment). I still see the W.B.7 tab.
Adjust the western blotting progress bar so that the text 'PERFORM WESTERN BLOT' is underneath the number '5'. Then move the horizontal bar over accordingly.

The blue navigation buttons (except those in the gel/membrane/film tab) should be outside of the big western blotting tabs and within the outer window with the gray gradient. Ensure appropriate spacing around the buttons (approx. 20 px on all sides)

The hand symbol is not appearing when hovering over the 'Prepare Lysates' button (on the sample preparation page), or the 'Re-Probe' or the 'Blot & Develop' button'

Swap the trash can icons on the tabs to an 'x'. Add a thin vertical divider line, color ?, between the 'x' and the text. This applies to both sets of tabs - for the overall western blot experiments and the gel/blot/film window.

The color should match the color of the text.

Format the trash can icon (or the 'x' if you change it) to be right aligned in the tabs.

Add the ability to delete a blot before 'BLOT & DEVELOP' is selected.

Change the labels for 'W.B. Exp. 1' to read 'W.B. 1', 'W.B. 2' etc.

Add another western blotting tab that says 'Add' with a '+' on the right side to easily add another western blotting experimental tab.

Add ability to rename the smaller tab windows (gel/blot/film windows). A text box should appear - like when you rename the larger windows for the western blotting experimental techniques (W.B. 1, W.B. 2, etc)

Decrease spacing between the green navigation tool bar and the western blotting windows. The spacing here should be similar to all the other pages so far.

Sample prep

Move the 'SELECT ALL' button to the bottom of the table.

Add a 'CLEAR ALL' button on the bottom right side of the table. Formatted exactly the same as the 'SELECT ALL' button.

Can you match the decrease the height of this row (between the 2 px green line and the 1 px green line) and match the spacing around the 'SELECT ALL' and 'CLEAR ALL' buttons to be the same as the 'ADD MULTIPLE TREATMENTS' button on the experimental setup page?

Change the outline of the table to be: 80d1ae (to match the experimental setup table). 1 px around the entire table, with a 2 px line between the table and the 'SELECT ALL' and 'CLEAR ALL' buttons.

I don't see this change.

Add the 'IN THE LAB' feature, as previously described. To remind you, this 'IN THE LAB' feature should contain a small image of the western gel with all 15 lanes filled with samples (blue dye). A note should appear below the image that reads: 'Reminder: The gel only has 15 lanes and one lane must be reserved for the protein marker.' ('Reminder' is semi-bold, the rest is normal) and then add a 'Learn More' hyperlink that takes them to the reference library when selected. (Format this text like the text on the 'Select Techniques' page.) Decrease the width of the sample prep table and move it down as appropriate to fit this 'IN THE LAB' feature.

Format the 'IN THE LAB' feature as we discussed - at the top of the window with the tabs, and to the right of the progress bar. The 'Select samples' window should be wider and below the 'IN THE LAB' feature.

Left align the text in the 'IN THE LAB' feature.

The text in the 'IN THE LAB' FEATURE should not be on a white background (this applies to the image too).

Create a small margin around the image of the gel in the 'IN THE LAB' feature. Skipping, talked to Alison

Use the image of the gel with all the blue wells and the numbers to label each gel from Jamie (so you don't have to label the wells yourself).

Set 20 px gap between the bottom of the table and the blue navigation buttons.

Once the 'IN THE LAB' feature is repositioned, the navigation button should be moved over to the right to align with the right side of the select samples window.

There should be a horizontal divider lines between all rows, **color ?**. Just like the Experimental Set up table.

Error message if more than 14 lysates are selected should read: 'You have selected more than 15 samples. The gel only has 15 lanes. Please only select 15 samples, and remember that one lane is usually reserved for a protein marker.'

Make the outline of the drop down menus transparent/ very pale in color. (if there is only one choice for lysate type)

Inactivate the scrolling back up to the top of the page when you are clicking or un-clicking samples at the bottom of a long list of samples. - already done?

I don't think this is done. If I have a small screen and am near the mid-bottom of the page and click one of the blue buttons, it takes me back up to the top of the page.

The white bar at the top of the Samples window has a slight gap between the white fill and the green border. There are also small gaps in the white fill between the columns in the table. Remove these gaps.

Reduce the spacing between the last row of the table and the 2 px green horizontal line.

Position the 'PREPARE LYSATES' button in the lower right corner. - not positioned quite right yet - see note below

If there are more than about 10 samples, then the samples table should be scrollable. The 'SELECT ALL' and 'CANCEL ALL' buttons should always be visible though.

change 'CANCEL ALL' to 'CLEAR ALL'

Move the 'Prepare Lysates' button down so that it is aligned with the 'Select Technique' button

Format the 'Select All and 'Clear All' buttons in dark gray with white text

the IN THE LAB feature doesn't need a margin on the right and top sides. It can fit right into the corner. I think the IN THE LAB feature should be smaller. Either:
- **Wait on this**
- Make it smaller into a thumbnail with the option of making it bigger if a student would like to view the information in the window
- Move the 'Reminder' into a separate message window that will appear below

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Prepare Gel / Load Gel

Left align 'Gel type' with 'Samples'.

Increase spacing between the text 'Gel Type' and the radial buttons / percentages. Once this becomes read only, increase spacing between 'Gel Type:' and '10%'.

I see the increased spacing before a button is selected, but I would like to increase the spacing between 'Gel Type' and the selected percentage once the user selects 'RUN GEL & TRANSFER'

Format the radial buttons as described in the DESIGN ELEMENTS section below.

Beautiful! We need to differentiate the buttons that don't work from an unselected gray radial button. If a radial button isn't available as an option, then we'll outline it, but don't have a gray fill. Maybe a white fill instead?

Decide if we would like a 'LOAD GEL' button based on usability feedback **Wait on this**

Create a left margin between the left side of the 'Gel Type' window and the tabs window.

This margin looks great.

Adjust the font size of "Marker" in the samples window to be the same size as the rest of the samples - it still seems to be one font size smaller.

Move the 'Prepare Lysates' button down so that it is aligned with the 'Select Technique' button

Format the 'Select All and 'Clear All' buttons in dark gray with white text

It still looks smaller to me… I think it's actually that there is less space between the well number and the text 'Marker'

Add in the functionality to re-order the samples in the samples list. [This means that the cursor should change to a hand to indicate that this is possible.]

Awesome!

I'm not sure that this is working when the actual blot is displayed. I can reorder the samples in the samples window but then they re-appeared in their original order once I ran/transferred and exposed the gel.

Format the samples window and gel/blot/film windows so the top of the tabs align with the top of the samples window.

This looks great for the gel/blot/film window, but not for the western blot experiment window. Also, when you switch back and forth between tabs on the gel/blot/film window, the inactive tabs shrink in height.

Format the Gel Type/Samples window so it is the exact same height as the Gel/Blot/Film tab window. If there are more samples than will fit in the Samples window, then make it scrollable.

An error message should appear when a user clicks 'Run Gel & Transfer' if the marker was not loaded. It should read: "The protein size marker has not been

loaded. Would you like to continue?" Options are 'Yes' and 'No'.
I still 'Ok' and 'Cancel' as the choices. Maybe this hasn't been changed (see the checkbox below)? It looks correct to me…could you send me a screenshot?
This is good now. :)
In the error message (described above), make 'Cancel' or 'No' the default. Can 'OK' be changed to Yes?
Once 'Run Gel & Transfer' is selected and if there is no marker loaded, then the text that reads 'No marker loaded' should be in semi-bold.
Left align the 'No marker loaded' text with the well numbers in the samples window.
Use the picture of the gel that Jamie provided with the lane numbers directly above the wells.
Move the 'Run Gel & Transfer' button so it is closer to the bottom of the window. Centered and with a 10 px (or 20 px?) bottom margin.
I don't see this change.
I would like all of the blue buttons to be in similar positions in the western blotting windows.
the blue background on the 'reprobe' button appears to be slightly darker than the blue background on the 'Blot & Develop' button It looks the same to me and the colors are the same…could you send me a screenshot? **Looks fine now. :)**
Once 'Run Gel & Transfer' is selected, animate the gel running and transferring.**Wait on this**
Bug: I had only 5 samples and selected 'Load Marker' and the samples window told me that the marker was in lane 15, not in lane 6 even though the image correctly showed the marker in lane 6.
Change the cursor to a hand when hover over the 'Gel type' choices
Remove the border around the 'LOAD MARKER' button. (This button has always looked different to me)

Blot / Develop
Move 'Choose Blotting conditions' down so the top of the text aligns with the top of the gel/membrane/film
Can you move it up a little bit? To align with the top of the vertical gray line?
I would like the top of the text in 'Choose Blotting Conditions' to align with the top of the membrane/film.
The membrane appears gray instead of white right now. Can you check that the correct image is being used?
Add the marker bands to the membrane - waiting for image from Jamie.
Use the updated image of the film from Jamie.
Hide tool tip horizontal bar when not hovering over the film
Make the horizontal line to measure protein size red
Change the protein measuring tool tip to have both vertical and horizontal lines so it is easy to tell which lane a particular band is in.
This isn't correctly aligned with the cursor.

Change the protein marker labels to Source Sans Pro.
Move the protein marker labels outside of the film (directly to the right of the film).
If there are more than 4 tabs, can you resize the tabs so more will fit? Like the tabs within the web browser window? If not, then still need to be able to delete blots in the drop down menu. And format the drop down menu within a tab.
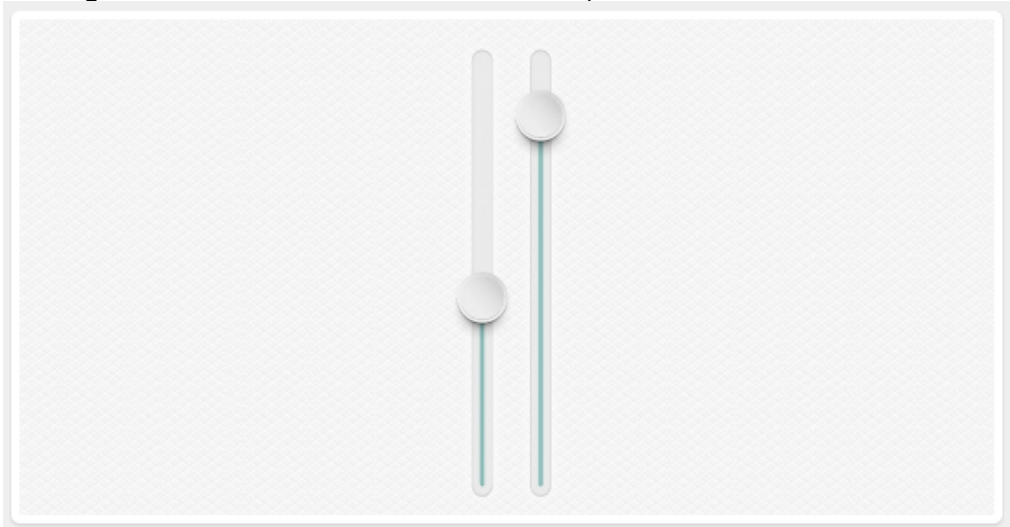The height of the tabs in the gel/blot/film window gets shorter once you click 'Re-probe'. I think the inactive tab window is moving down and so it appears to be shorter.
Exposure slider:
- Adjust the slider so that the 0 minute time point is at the far left side of the bar - bug in slider - cannot! - will need to investigate in the future. Ok I'll change this to black…
    The horizontal line in the slider has changed a little bit. Can you format the vertical line that slides back and forth to be just a thick black line?
- Format the bar so it has a black horizontal line with minimal thickness and a vertical black line that slides
- Change the labels for the exposure slider to be regular font, not semi-bold
- Bug: The slider can move entirely off of the exposure line on the left side.
- Set the left side of the exposure slider to be 0 sec, not 1 sec
- Format the slider differently - as attached picture (the image should be flipped 90 degrees so that the slider is horizontal)

- Format the circle to be slightly smaller and vertically centered on the horizontal bar.
- Make sure that the circle dos not cover up the exposure time text.
- Also make sure that the circle cannot move off the right side of the slider - it is hard for me to tell whether it is right now. When I tested it, it does not move off the right end. **It still moves farther off the right side than the left side - it touches and overlaps with the green border around the blot. you may need to decrease the width of the whole exposure slider. Fixed now**
Lower the placement of the "Blot & Develop" and "Re-probe" buttons so that the

"Re-probe" button is not so close to the exposure slider (Lourdes) - **Move lower so the bottom of the 'RE-PROBE' button aligns with the bottom of the western film. Fixed now**

If you have multiple blots as a result of reprobing and you delete the last blot, the program defaults to the first blot developed. It should default to the blot before the one that was deleted (Lourdes) **- not fixed yet - it still defaults to the first blot developed for me. Lourdes, can we discuss this? It works for me...**

FLOW CYTOMETRY PAGES
All Flow Cytometry pages

Adjust the size of the horizontal progress bar rectangle to be only the size of the 3 steps.

Add the background on all pages (Please confirm: F4F6F8)

flow cytometry tabs need to be encompassed in a window with the gray gradient

the background of the flow cytometry experiment tabs should be solid white background

Color of text labels in inactive tabs should be dark gray, **color: ?**

Adjust placement of flow cytometry tabs so they are aligned correctly with the outline/border of the window

Swap the trash can icons on the tabs to an 'x'. Add a thin vertical divider line, **color ?**, between the 'x' and the text. This applies to both sets of tabs - for the overall flow cytometry experiments and the flow cytometry histogram window.

Format the trash can icon (or the 'x' if you change it) to be right aligned in the tabs.

The blue navigation buttons (except those in the histogram tab) should be outside of the big flow cytometry tabs (white background) and within the outer window with the gray gradient. Ensure appropriate spacing around the buttons (approx. 20 px on all sides)

Add another flow cytometry tab that says 'Add' with a '+' on the right side to easily add another western blotting experimental tab.

Bug: If have a lot of flow cytometry experiments, then there is more than one row of tabs visible.

Format the gray buttons so they are on a dark gray background with white text

Sample prep

Move the 'SELECT ALL' button to the bottom of the table.

Add a 'CLEAR ALL' button on the bottom right side of the table. Formatted exactly the same as the 'SELECT ALL' button.

Check the outline of the table - it seems like there are two outlines. Confirm color for outline is: 80d1ae (to match the experimental setup table). 1 px around the entire table, with a 2 px line between the table and the 'SELECT ALL' and 'CLEAR ALL' buttons.

The options for Fixed and Live cells should appear grayed out until the samples

are selected, just like the drop down menu for PI.

Change 'CANCEL ALL' to 'CLEAR ALL'

Reduce the spacing between the last row and the 2 px green line.

Insert horizontal lines between the samples - just like in western blotting section

Reduce the spacing around the forward and back blue navigation buttons

Reduce the spacing between the green navigation bar and the top of flow cytometry windows

The blue 'Prepare samples' button should be aligned with the 'Select Technique' button

When the mouse hovers over the 'Cell treatment' radial buttons, the cursor should be a hand.

Run

The outline on the Run samples button is not correct. It should not be dark gray. It should look just like the 'Run Gel & Transfer' and 'Re-probe' buttons in the western blotting interface - these are also on a plain white background and look correct.

Create a left margin between the left side of the 'Samples' window and the tabs window. (Decrease the width of the Samples window if needed. Can also move it to the right - the space between the samples window and the histogram tab window should be approx. 20 px).

Format the samples window and histogram windows so the top of the tabs align with the top of the samples window.marg

Format the samples window so it is the exact same height as the histogram tab window. If there are more samples than will fit in the Samples window, then make it scrollable.

Provide a margin surrounding the 'Run Samples' button - 10 or 20 px.

I would like to see what the 'Run Samples' button looks like centered in the Samples window.

Move the 'Run samples' button down near the bottom of the Samples window.

The Run button should always be visible in the Samples window. Separate the Run button from the list of samples using a gray or green horizontal line. **- Make the gray line lighter to match the outline of the Samples window. Make the spacing around this RUN button to be the same as around the 'select all' and 'clear all' buttons on other pages.**

If the name of a sample is too long to fit on one line, then insert an … after the name of the sample.

Center the 'Run Samples' button in the Samples window.

Analyze

Analyze Data button should be a blue navigation button.

Make the histogram graph smaller so there is a nice margin surrounding the graph/labels and the border of the tab window - 20 px surrounding.

Eliminate the horizontal and vertical lines within the histogram.

Add in axes - the axes should be a slightly thicker dark gray or black line - perhaps 2 px.

Format the 'Flow Cytometry Analysis' text smaller to match the 'Blotting Conditions' text in the western blotting section.

Format the 'Show/Hide Instructions' button so that it matches the 'SELECT ALL' buttons - gray with text in black, all caps. The text on the button should either read 'SHOW INSTRUCTIONS' or 'HIDE INSTRUCTIONS' as appropriate.

Move the 'Apply to all' checkbox to the bottom of the window (with appropriate margin) so it doesn't continuously move down.

Format the 'Apply to all' text so it is the same font size as the primary and secondary antibody names once a western blot is developed.

Increase spacing between the analysis table and the 'show/hide button'

Increase left margin between the analysis table and the gray dividing line.

The bottom left and right corners of the outline for the analysis table are not appearing.

Decrease the length of the gray bar that is used to highlight the sample name in the Samples window. It is too long right now.

Increase spacing between the samples window and the flow cytometry histogram tab window

The right side of the instructions are cut off.

We need to reduce the length of the instructions. They should say:

- Click and drag within the histogram to draw a segment. The % of cells within the segment will be calculated.
- Select **Apply to all** to apply the same analysis parameters to all samples.

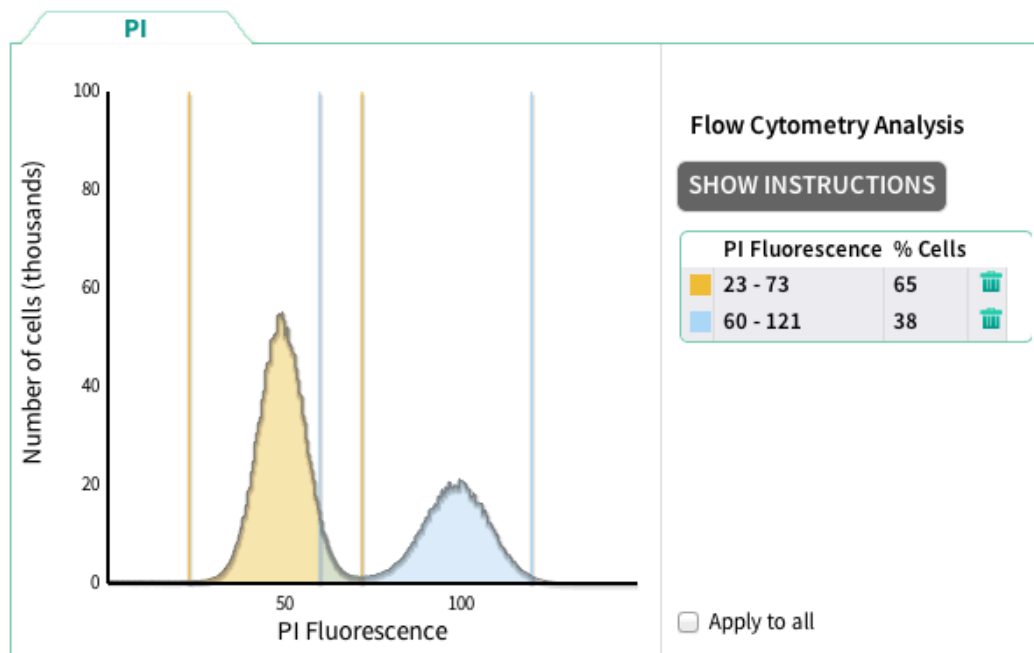Can we make the instructions hidden as the default?

Remove the blue outline around the Show/Hide instructions button (when it is selected)

Center the 'Analyze' button within the right side of the small tab window.

The Flow Cytometry Analysis window (where the analysis tool lives) should only scroll down not to the right. All of the text within a row should be visible. Can we make the window scrollable only if you have too many samples to view? (Lourdes)

This is scrolling to the right for me - see picture:

DESIGN ELEMENTS

1. Progress bar ~~Waiting for image from Alison~~

Switch to a more traditional progress bar image?

Image is in dropbox: StarCellBio -> User interface development -> Work with Jamie - graphic designer -> Production -> png files for production -> Progress Bar. We have a jpg of what we would like: SCB_ProgressBar_01 and a png of just the green bar. Do you need other images or are you going to generate this yourself?

Label the progress bar with 'YOUR PROGRESS', 20 px from both the top and the right of the window. It will be to the upper left of the progress bar. Move down the progress bar to maintain our standard 10-20 px margins.

Text should be centered underneath the circles in the progress bar. It's currently not exactly centered but slightly to the left of center. No longer needed

Add >>> next to PERFORM TECHNIQUE, centered vertically on the text 'PERFORM TECHNIQUE' **Need to talk about this… and what changes need to be made**

When on the western blotting or flow cytometry pages, there should be a horizontal line <u>and</u> '<<<' next to the left of the progress bar. **Need to talk about this… and what changes need to be made**

2. Navigation tool bar

All text should be in all caps. This means that the label that appears in the navigation bar needs to be unlinked from the name of the assignment.

Text needs to be vertically centered within the navigation bar. It is currently

slightly below the vertical center.

Text should be semi-bold so that it matches the format of the text in the blue navigation buttons.

Try to make the experiment name (above the navigation bar) into an invisible drop down menu to select other experiments without having to navigate back to the assignment page. Add a down arrow ('v') next to the experiment name to indicate that there is a drop down menu and use the hand cursor. The drop down menu should have square corners and contain a list of all of the current experiments.

Adjust the green line above the navigation bar so that it automatically adjusts for shorter and longer experiment names.

Limit the length of the experiment name to 15 characters.

Need to change the navigation tool bar so it shows steps that have been already been completed, even if navigate back to view the assignment. The dark green color will show the user what step they are currently viewing in the program.

The green gradient of the navigation tool bar changes color at times. It appears to be a brighter green when in the flow cytometry experimental technique. **The gradient looks the same to me. Could you send me a screenshot?**

3. Footer

MIT logo - needs to be updated so the 'Massachusetts Institute of Technology' text is more legible. Do we need a higher resolution image? I put two different logos in Dropbox -> … -> Production -> MIT logo

The vertical line between the logo and 'About STAR' needs to be formatted the same way as the vertical divider between 'About STAR' and 'Support'

'About STAR' and 'Support' text needs to be formatted. It's not very legible right now. Are these images or rendered text?

Eliminate the need for the Save, Load, and Clear buttons

4. Header

Once a user has 'signed in', SIGN IN needs to read SIGN OUT.

The User Guide label needs to be horizontally centered between the green lines.

There should be more space on either side of the Reference Library text.

Replace the StarCellBio logo with the new logo. Dropbox -> Logos -> STAR -> Star Program Icons- Final -> Logos -> Web -> StarCellBio (either as .jpg or .png depending on your preference)

5. Margins for each page

The margin between the left side of each window and the left edge of the background needs to match the right side. I believe this is 20 px.

All gaps between windows (for example, between the two windows on the assignments pages, or between the samples window and the western blotting tabs) needs to be 20 px.

If you have a 13" screen and you have a dock (in Macs) on the bottom of the

screen, then you always have to scroll down to hit the blue navigation buttons. Let's talk about this (Lourdes). **Okay, I'll wait to talk to you.**

6. Error messages

Format the error message windows so they match the overall design. Pale gray window with 5 px rounded corners.
It looks like there is a shadow on the right and bottom sides of the error messages - at least on the error message that appears if a protein marker has not been loaded.
Let's try a green outline on these error windows so they stand out a little bit from the rest of the program.
Format the buttons, if possible, in the same way as the 'SELECT ALL' gray buttons.

7. 'In the Lab' feature

Remove the numbers in the circles at the bottom of the window
Add a caption between the bottom of the images and the navigation circles. For the usability assignment, it should say: 'Vulva phenotypes in *C. elegans*.'
Add arrows on either side of the 'In the Lab' feature so users can click them to navigate to the next image/video/etc. The small circles are too small to click to move between features and definitely don't work for tablets. The arrows should be a bold version of '<' and '>' in light gray.
Center the 'In the Lab' feature (video, picture, etc) in the center of the box.

8. Overall Design

Format the radial buttons - make them either solid green (active/selected) and gray (inactive/unselected).
Beautiful! I love the green/gray radial buttons on the Western blotting page, but let's use them everywhere. We need to differentiate the buttons that don't work from an unselected gray radial button. If a radial button isn't available as an option, then we'll outline it, but don't have a gray fill. Maybe a white fill instead?
Format the bullet points so they are real circles and not diamonds

KNOWN BUGS:

Selecting treatments and concentrations did not work in the drop down menus on the PC
The back button in the web browser doesn't always work appropriately. **Seems to work?**
The navigation bar sometimes displays 'undefined' when navigating between buttons - especially when navigate back to the 'DESIGN' section

THINGS FOR US TO THINK ABOUT

Add New Experiment button. Where should this go? Lower left corner next to where the lab notebook icon will go? **Done but need new icon.**
Ask Jamie for a new experiment icon - this will go at the bottom of the page (next

to the future lab notebook icon)

Add a link to Reference Material or add the reference material about the protein sizes in a 'IN THE LAB' feature on the western blotting pages.

Should we re-format the progress bar so it looks like a traditional progress bar (horizontal bar instead of the 5 circles)? *Waiting - ready to go now*

Make a glossary of terms for the reference library

Add in tool tips with the definitions of specific terms, with links to 'Learn More' which takes the user to the correct place in the reference library. Details to follow.

Add in the ability to load the marker in the lane directly to the right of the samples

Change the copy icon

Make the confirm set-up window a pop-up window instead of a new page? Adjust the wording so that it is clear that you are only confirming one experiment **Need new wording**

If there is only one choice in a drop down menu then it should appear as text and not as text in a drop down menu

Make font size in gray buttons (such as 'SELECT ALL' etc) the same size as the font size in the blue navigation buttons