

Usability Testing - January 2014

Usability Test #1

Tuesday, January 21 @ 1 pm

Personal information

female

undergraduate

7.06 in fall 2013

have done western blots and flow cytometry - internship after freshman year

General comments

- Thought it was unusual that she didn't need to go to her email to confirm her email address. This means that anyone can use her email address to create an account.
- StarCellBio window isn't centered in the screen
- Doesn't like green and blue together. A different shade of green or blue would be better.
- Typo in the introduction
- She likes to take notes as she reads an online assignment
- Would like to see the assignment side-by-side with the experiments - never mind it is easy to switch back and forth
- Found the start experiments button easily
- Wanted to click on flow cytometry first when got to experiments pages instead of going through design, setup etc. After selecting samples, was still confused that the experiment technique was in gray in the progress bar.
- Was confused because the select technique page told her that "flow cytometry is not available"
- Thought she was supposed to drag the histogram button on to the flow cytometry graph to get it to work.
- Doesn't see the hyperlink in the select technique boxes on the select technique page
- When answering question 2, she started a new experiment instead of adding a western blot technique to the previous experiment
- Wanted to click on black dot in the In the Lab feature - wasn't sure what it was.
- May not be a good idea to skip the design page
- Reference library - thought it was information related to experiments
- Green text in user guide looks like hyperlinks

Usability Test #2

Wednesday, January 22 @ 11 am

Personal Information

- Female (long brown hair)
- 7.06 in fall 2012 (junior fall)
- senior
- biology major
- is familiar with both techniques, has done western blotting in lab, is conceptually aware

- of flow cytometry but hasn't done it herself
- Took 7.03 in fall 2011 - did not like StarGenetics

General comments

- found 'create student account' really easily
- think about placement of arrows at the bottom of the assignments pages. do we need them?
- filled in the design page
- wanted to click on 'flow cytometry' in the progress bar after completing the design page and navigating to the setup page.
- thinks that the experimental results would go in the lab notebook and could add notes/comments about the results
- clicked on new experiment button - took her to the design page - thought these were questions for the assignment, not to complete a new experiment
- When navigated back to experiment 1, it went to flow cytometry, but created a second flow cytometry technique for her

Assignments page

- Move the top of the scrollable window on the assignments page down a little bit

Progress bar

- Put arrowheads between buttons in the progress/navigation bar
- Only show techniques once you reach the select technique

Flow cytometry

- Tried to click and drag the histogram icon onto the graph
- Would like to super impose flow cytometry histograms
- Change analysis icon to have on/off switch while we only have one

Western blotting

- she sorted her samples! and added a marker!
- found the exposure slider ok
- was unsure about the western blotting 'in the lab' feature

Reference library

- videos are appropriate here
- it's what she expected

User Guide

- pop out window worked, wasn't sure if this was what she expected
- it is what she expected

Usability Test #3

Wednesday, January 29 @ 1 pm

Personal information

- senior
- took 7.06 last fall
- done western blots but no flow cytometry
- has used StarGenetics
- Using StarCellBio on a PC

Design page

- Unsure what the first question is asking for - she is confused about whether it wants her to just regurgitate the assignment question

Navigation bar

- wanted to click on 'Flow Cytometry'

Setup page

- Make "Create new Set-up" bigger
- unsure about 'run experiment' and whether it applies to just set-up or also setting up flow cytometry experimental technique

Flow Cytometry

- she was wondering where the analysis information would go

Western blotting

- was easy to use, representative of a real western blot, not very tedious

Extra Information/Questions

Would like to see background, supporting material /small figure in the program. Would be nice if it could correspond with each step of an experiment.

Contact = way to contact staff

Reference library = where to find more information about biological topics (would like to see more graphics/figures)

User guide = more information about the program

What does she like about the program?

- overlay the graphs in flow cytometry, even though can easily switch back and forth and apply analysis to all graphs
- in western blotting, likes how can see protein bands, go back and forth between blots, and all the steps are there so this helps you remember all the steps of a western blot

What things would you change about the program?

- was unsure what to do with setup - seemed like an unnecessary step
- design - rephrase question 3 (what technique do you think you will use? and why?)
- add extra resources / figures about the biological principles

How do you let users know that their work will be saved?

Changes - still need to decide how to prioritize these changes

- Have a user access their email account to confirm their email address?

- Label the navigation bar with "Experiment" to indicate that it is the user's progress through the experiment?
- Only show the 3 experimental techniques once get to select technique
- Insert a message about design & setup experiment first, THEN select technique

To address:

Select Technique page

- Change the headings from "Available X" to "Western Blot Analyses:", "Flow Cytometry Analyses:" and "Microscopy Analyses:"
- Change the message inside the box to read: "You have not performed any western blotting. Select **New Western Blot** below to start a western blot analysis." OR "You have not performed any flow cytometry analyses. Select **New Flow Cytometry** below to start a flow cytometry analysis." OR "You have not performed any microscopy analyses. Select **New Microscopy** below to start a microscopy analysis."
- Change the color of the already started experimental techniques to blue so they look like hyperlinks.

Experiment Setup

- Center the confirm setup dialog window
- Make "Create New Set-up" larger on Experiment setup page

Assignments page

- Rename "Select Your Assignments" window to "Assignments"

Navigation

- Bug: when navigating between experiments, it added another flow cytometry experimental technique **
- Bug: back button may not be working appropriately **What is the case? I tested it out, and it seems to work in most cases.**
- Navigation bar: insert arrowheads between steps of experiment, number each step of the experiment, and don't show the techniques until 'select technique' has been selected
- Fix the error message if use 'try an experiment' and then go to sign in. Should add a message to say that may lose your work that you did under "Try an Experiment" when you go to sign in. (Shloka we should discuss this one together) **Okay**

Western Blot Experimental Technique

- Adjust the marker bands on the western blot to line up with the colorful marker bands that appear after transferring (with the different % gels) ** **NO NEED TO DO THIS - JUST HAVE 10%**
- Adjust the bands on a western blot appropriately between the different % gels ** **NO NEED TO DO THIS - JUST HAVE 10%**
- Bug: on a PC, the marker got added in position 2 - if you reorder the samples before you add the marker ** **This happens to me on my (Mac) computer too.**
- Change the font size for the second line of the caption in the 'In the Lab' feature on the western blot sample prep page

Flow Cytometry Experimental Technique

- (Note, this is also contained in the "i" and "?" note) Change the instructions for the flow cytometry analysis tool "?" icon (please enter the histogram icon where I have diagrammed it): Select the (|--|) histogram icon. Click and drag your cursor

*within the histogram to draw a segment. The % of cells within the segment will be calculated. Repeat to add another segment. Then, select **Apply to All** to apply the analysis parameters to all samples.*

Reference Library

- *Change name of Reference Library to 'Library'*

User Guide

- *Back and Index buttons are not working in user guide (on PC) After the test, I checked the back and index buttons. It seemed to work. Will still look into this though when I test on PC. , UPDATE: it works, tested on PC today*

Overall Formatting

- *Bug: fonts changed once the reference library is opened and then navigate back to the StarCellBio tab (on a PC) **Will look into this though when I test on PC.** **UPDATE: does work on PC, but I know the issue, will work on it.***
- *Check fonts on a PC - design page, user guide, contact window Will look into this though when I test on PC. Part of the issue is the cache. The first time, it has to load the fonts into the cache. After that, it seems to always appear. UPDATE: looks fine, I tested it on my own PC.*

Address, if time allows:

- Put arrowheads between buttons in the progress/navigation bar
- Only show techniques in the navigation bar once you reach the select technique
- Contact window- checkbox should not be contacted if email is not entered. But should automatically be checked once the email address is entered
- Add a heading that says "Analysis Tools" above the exposure slider in the western blotting experimental technique. Use the same font and size as the Blotting conditions heading
- Add a "?" icon next to the Analysis tools to explain the band measurement tool and exposure slider
- Fix typo in the usability assignment (on introduction page, there are two of's
- Center the numbers in the gray circles on the Assignment pages
- Move the top of the scrollable window on the assignments page down a little bit
- Add on/off switch for flow cytometry histogram tool (while we only have one tool) like this?:



- **Do you want me to use the same one we used for the light and laser switches? This is low priority for the first assignment as there is no flow cytometry. If we have time, we can update for the second assignment.**

Alison will work on

- Write the instructions to explain the band measurement tool and exposure slider

Future

- Center the window in the web browser window
- Delete experiment button

- Would like to see assignment/design page in a pop up window as she is doing - the lab notebook feature may help deal with this problem
- Look into design of dots to indicate pages in the In the Lab feature
- Put print icon in a square button
- Move the print icon into green header bar on assignments page?
- overlay flow cytometry histograms