CSCI 4620U

Lab 9

Purpose

To get experience a simulation of A/B testing techniques.

Background

A/B testing compares two versions of an element (A and B) simultaneously. An A/B test is measured by a defined metric for success (i.e. there is not a lot of analysis required). Usually, the test is automatically deployed online by giving visitors to a website either option A or B and continuously measuring the metric (e.g. signups). Depending on the performance of each option, the algorithms can automatically promote one option and stop showing the other.

Another type of test deployed online is the 5 second test – this test seeks immediate feedback on a design. It might be subjective feedback (e.g. "Do you think this website looks professional?") or quantitative measures of success on timed tasks (e.g. "Click the search box."). The timing is applied to make sure that a visitor can complete the task quickly, under the assumption (backed by data) that if people can't figure out a web interface quickly, they will leave. **First impressions matter.**
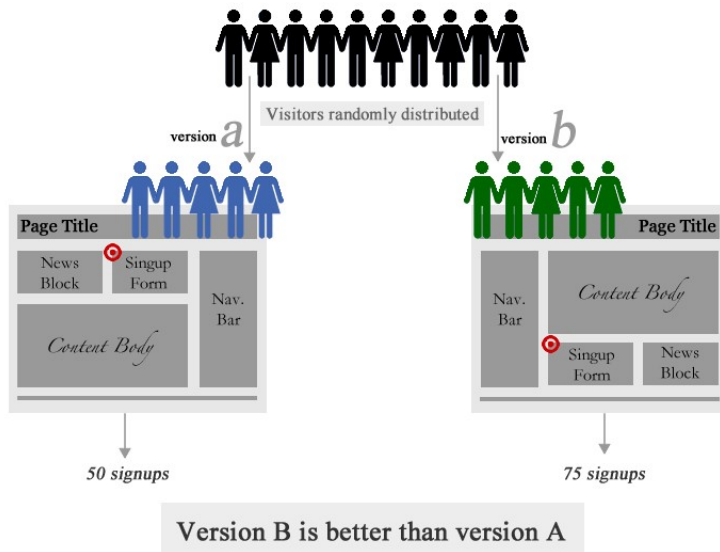

Figure 1: A/B Testing Method Overview

Even though every A/B test is unique, certain elements are usually tested:

- wording, size, color and placement of buttons
- headline or descriptions
- form length and types of fields
- layout and style of website
- images on landing and product pages
- amount of text on the page (short vs. long)
- icon design and placement
- navigation flow

Usually an A/B Test should vary just one of these things at a time, so that it is clear what the effect of any differences is. But sometimes radically different designs are tested, then refined.

Overview

This lab will simulate a hybrid of these two methods. You will design and conduct a 5 second test using the A/B method.

Your design problem asks you to mock up a web interface for a particular problem, to draw specific attention to an important feature. Note that we expect you to use the principles for useable and aesthetic design: appropriate whitespace, standard fonts, colors, button sizes, etc. You may use images and screenshots from the web, or icons from resources such as nounproject.com. Your design should not unrealistically draw attention to the element of focus. For example, if your problem was to design so people can find how to change a hotel booking, it would be inappropriate to have the home page of the booking website have a huge red "change my booking" button on an otherwise bare screen! **Remember the overall purpose and function of the website (in this case, finding and booking hotels), and don't undermine that to make your particular test successful.**

Tasks – Design (25%)

You will be assigned a problem – check your testing handout for your assigned problem. Each problem presents a design where a visitor is expected to notice and correctly click a particular element of the screen within 5 seconds. Note that these problems are *simulations* of a typical test. Normally a test like this would be deployed on a live site and "participants" would not be given instructions, nor would they even know they were in an experiment! So, this study lacks *external validity*.

Capture an image of the website. **Save this as your "A" test image.** *Note that your "A" option can simply be a screenshot from the assigned website, but you may also modify the A image as described below.* If the website requires scrolling, in every case you can just screenshot and work with the visible area at the top of the page

Using image editing tools, PowerPoint, or sketching + your camera, modify the image to satisfy your problem. You may gather resources (screen elements) from existing websites using a screen capture tools, or you may design from scratch. **This will be your "B" test image.**

Be careful to ensure that the fidelity of the design of B is as good as A. That is, if A is a sketch, B can be a sketch, but if A is a screenshot, then carefully work with your screenshot to modify convincingly.

You can also modify "A" as much as you want – remove, move and change page elements. Note: We are not trying to make a clearly 'better version' but rather two alternative versions where is actually not obvious which might win! Don't be too perfectionist!

See the provided example PowerPoint A/B mockup for booking.com.

Export your A and B images as jpg or png files. If using PowerPoint, you can just screenshot them. Ideal image size is 1024x768 – please resize to approximate this dimension.

Create Click Regions

Determine the coordinates of the clickable target rectangle. An easy way to do this is to use https://www.image-map.net/ to upload your image, draw the rectangle, and check the code, as below:
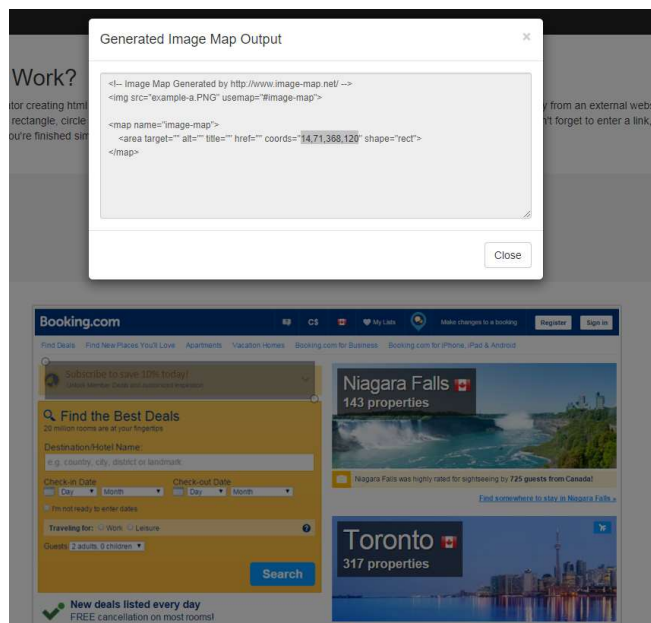
Download the testing software. Add the created test images to the data folder and their respective image map coordinates to the coordinates.csv file of the testing software.

For example, if your student ID is 100239104 and your task was #2, then add the test images to the data folder as:

100239104-2-a.png and 100239104-2-b.png

And insert your image map coordinates to the coordinates.csv file as:

100239104-2-a.png, 17, 50, 250, 350

100239104-2-b.png, 37, 25, 130, 275

Carry Out Tests (25%)

Run the testing software. Carry out the tests as presented, paying attention to the instructions before each test. Each of you will carry out one test each of all of your lab mates.

Analyze Results (75%)

The data stored in results.csv includes whether your target was clicked, how long it took, and where the actual click took place (relative to your original image size). Filter to your results and analyze the differences in accuracy and time. Write a brief report which contains:

1. [25%] Images of your A and B tests, clearly labelled (part 1 portion of grade)
2. [35%] A paragraph discussing the test – which version did you think was more successful? Why? Remember to consider time and accuracy (FALSE indicates the participant clicked the incorrect location). If many tests were failures, can you tell where people were clicking? Was there a distracting element? How would you next refine the winning version to try another test?
3. [15%] Include summary statistics about your results (average time and accuracy for a and b).

Submission

Submit your report **as a PDF file** to the assignment dropbox on Canvas.