Functions and User Interfaces

We have seen how to use events to make web pages interactive. But mouse clicks and mouse overs do not allow a user to enter information. There are other ways users can interact with a page.

Web pages can talk to the user in two main ways: popups or forms. Internally, a program has to store and process data. For this lab, you will work with input, variables, functions, and output.

Getting Started

a. Make a directory called lab08 under public_html
b. Make a subdirectory called small, and put an image called 1.jpg there
c. Copy files from the course site using: cp /comp/10IDI/files/lab08/*
d. Chmod the files to be readable

Part 1: User Interaction to Modify an Image

a. Open friendly.html and click the buttons to see what it does. Notice how the name is copied into the text box.
b. Look at the source code (printed on the back of this sheet) and add comments to explain how each part works. If you are unsure, ask a TA.
c. Explain the meaning of each of these:

```javascript
alert('hello')
x = prompt('Name?')
!=
==
a = confirm('ok?')
t = parseFloat(x)
```

d. A button marked 'image border' that uses prompt to ask the user for a number then sets the image border to that size.
e. A button marked 'image size' that asks the user for a width, then asks the user for a height, then changes the image to those dimensions.
f. A new text box labeled 'Number of pixels'. Have the 'image size' button compute height * width and put the result in the this text box.
g. A button marked 'wider' that uses prompt to ask the user for a number and makes the image that many pixels wider.
Important: Use parseFloat to convert the user input from a string into a number.
h. A button marked 'shorter' that uses prompt to ask the user for a number and makes the image that many pixels shorter.
i. Modify the newcolor() function so that if the user clicks the cancel button on the confirm() popup, the color reverts to the previous color. Note: The confirm function returns false if the user presses cancel.

Part 2: Input and Output with Text Boxes

The webpage called sqrt-form.html is a form-based page that computes the square root of a number. Try the page to see what it does.

Let’s add some more functions to this page to begin to build a calculator web page. Make the page look like:

```
Calculator

A
B
RESULT

A*B
A+B
MAX(A,B)

sqrt(A)
```

In particular, add the following to sqrt-form.html:

a. Add another text box with label B.
b. Add new buttons: A*B, A+B, and MAX(A, B)
c. Add code so the new buttons do what they say.
Optional: Putting a Form Interface on trend.html

The trend.html program uses prompt pop-ups to ask for three numbers then uses an alert pop-up to report the result. Modify this page so to use text boxes instead and also add functions so it now looks like:

In particular, there are three buttons. Each performs a function and puts the result in the rightmost box.

a. Use the existing function to compute the trend description.

b. Write a new function to compute and return the average value of three numbers. Use that function in your page.

c. Write a new function to find the lowest value of three numbers. Use that function in your page.