Test Your Tech

JavaScript is:
A. The earliest known writing by Java Man.
B. Programming language for Web pages.
C. Instructions in the Starbucks bag on how to brew good coffee.

Homework

• For today, you should have read
  * Chapter 22 in Fluency
  * Chapter 2 in QuickStart

  * For this week, you should also have read,
    • Chapters 20 and 21 in Fluency
    • Chapter 1 in QuickStart

Manipulating Data

Last time, we saw JS put text (4) in the source file before finishing the page
• Now we see JS create buttons and windows, and manipulate data in the finished page
Forms

Input & Output in JS are given in forms

```
<form>
  <input type="button" value="Press"> for good results<br>
</form>
```

- Inside `<form>` tags
- Notice
  - type
  - value
  - relationship to text

More Forms

```
<form>
  <input type="text" name="x" size=20> for good results<br>
</form>
```

- Notice
  - type
  - name
  - size
  - relationship to text

Radio Control

```
<form>
  Radio buttons:
  <input type="radio" name="y"> Left or <input type="radio" name="y"> right.
</form>
```

- Notice
  - type
  - name (common)
  - relationship to text

Input/Output

Windows are input or output based on your point of view …

```
Human               Computer
```

- Programming uses computer's view
  - It's obvious that buttons are inputs
  - Windows are inputs, but if the computer puts information in them, they're outputs

- Forms define the type of I/O and the processing

Events Cause Processing

After drawing a page, browsers sit idle waiting for something to happen … when we give input, it cause events

- Processing the input is the task of an event handler

  - Event types
    - onClick
    - onChange
    - onMouseOver

Observe Actions

In the `<input ...>` tag an event handler gives the processing needed for the task using JavaScript
Asian Emoticons

(^^^^;^) Shy
(ToT) Crying
m(_ _)m Apologising
(^_^) Laughing
(???;) Surprised
(^^;) Shy
(??;) Worried
(*´?`*) Infatuation
(ToT) Crying
(^^;) Shy
(??;) Grinning

Emoticons = Emotional Icons

:-) Smile or Happy
>:p "Raspberry" or 'tongue in cheek'
>:C Frown or Sad
>:S Confused
>:D Winking
>:/ Doubtful or confused
>:C Very, very sad
>:O or :O Surprised or shocked

Event handlers = mini programs

‘onClick’ Event for Buttons

`onClick' Event for Buttons

* Event handlers say what to do if event happens...
  "put ‘Smiley’ in the output window"

Event handlers = mini programs

‘onClick’ for Buttons

* Notice...
  * ‘onClick’ event does the task: place ‘Smiley’ in the output window

x.value

* Notice...
  * the value of a text window is the contents of the window x.value
‘onChange’ Event

Adding a smile to `<input type="text" name="x2" size=2 onChange="x5.value = x2.value + ')' ">
Adding a wink to `<input type="text" name="x3" size=2 onChange="x5.value = ';' + x3.value ">
Adding a frown to `<input type="text" name="x4" size=2 onChange="x5.value = x4.value + '(' ">
Makes `<input type="text" name="x5" size=3 onChange="x5.value = x2.value + ')' ">

Notice
• names
• + is concatenate

Result

Review from last lecture ...

Conditional
Conditionals test if an expression is true or not
• General form ...
  if (<Boolean expression>)
    <Then statement>;
• Example ...
  if (day == "Friday")
    evening_plan = "party";

If-Then-Else
Branch both ways with If-Then-Else
  if (<Boolean expression>)
    <Then statement>;
  else
    <Else Statement>;
• Example ...
  if ({year%4)== 0} { ------
    leapYear = true;
    febDays = febDays+1;
  } ------
    else
      leapYear = false;

Name A Different Window

... `<input type="text" name=x size=8><br>`
Adding a smile to `<input type="text" name="x2" size=2 onChange="x5.value = x2.value + ')' ">
Adding a wink to `<input type="text" name="x3" size=2 onChange="x5.value = ';' + x3.value ">
Adding a frown to `<input type="text" name="x4" size=2 onChange="x5.value = x4.value + '(' ">
Makes `<input type="text" name="x5" size=3 onChange="x5.value = x2.value + ')' ">

∗ x.value = x2.value + ')'
Study
• For Monday, read QuickStart to JavaScript, pages 108-113.
• Monday I'll introduce the next project.

Schedule Changes
• Monday and Tuesday:
  * Keep working on Lab 7
  * Due at your Wednesday or Thursday lab this week
• Deadline for next project is postponed

Study
• Next week's quiz
  * Review the questions at the end of these chapter:
    • Fluency chapters 20, 21, and 22
    • QuickStart chapters 1 and 2
  * Expect lots of questions on JavaScript!

• JavaScript topics will include:
  * Variables
  * Values
  * Assignment statements
  * Conditionals
  * Functions
  * Curly brackets
  * Relationship to HTML