Screen Input and Output

The form of <form>

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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

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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>
    …
    Enter data here:
        <input type="text" name="x" size=20> <br>
    …
</form>
```

- ∗ Notice
  - type
  - name
  - size
  - relationship to text
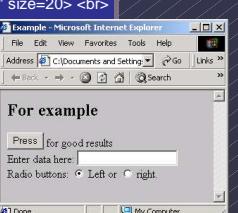
Radio Control

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

- ∗ Notice
  - type
  - name (common)
  - relationship to text
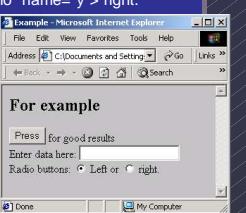
Input/Output

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

Slide 1 — 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

> In the <input …> tag an event handler gives the processing needed for the task using JavaScript

Slide 2 — Observe Actions

Emoticons

`:-)` `;-)` `:-(` `=8-O` [ ]

―――――――

Adding a smile to [ ]
Adding a wink to [ ]
Adding a frown to [ ]
Makes [ ]
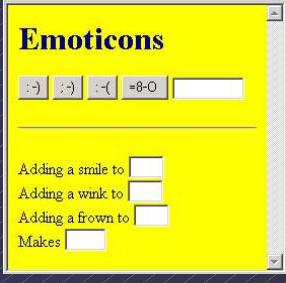
Slide 3 — onClick Event for Buttons

```
<h1>Emoticons </h1>
<input type="button" value=" :-) " onClick="x.value='Smiley'">
<input type="button" value=" ;-) " onClic
<input type="button" value=" :-( " onClic
<input type="button" value="=8-O " onC
<input type="text" name=x size=8><br>
...
```

- ∗ Event handlers say what to do if event happens … "put 'Smiley' in the output window"

Event handlers = mini programs

Emoticons

`:-)` `;-)` `:-(` `=8-O` Smiley

Adding a smile to [ ]
Adding a wink to [ ]
Adding a frown to [ ]
Makes [ ]

Slide 4 — onClick for Buttons

```
<h1>Emoticons </h1>
<input type="button" value=" :-) " onClick="x.value='Smiley'">
<input type="button" value=" ;-) " onClic
<input type="button" value=" :-( " onClic
<input type="button" value="=8-O " onC
<input type="text" name=x size=8><br>
...
```

- ∗ Notice …
  - `onClick` event does the task: place 'Smiley' in the output window

Emoticons

`:-)` `;-)` `:-(` `=8-O` Smiley

Adding a smile to [ ]
Adding a wink to [ ]
Adding a frown to [ ]
Makes [ ]

Slide 5 — x.value

```
<h1>Emoticons </h1>
<input type="button" value=" :-) " onClick="x.value='Smiley'">
<input type="button" value=" ;-) " onClick="x.value='Winky'">
<input type="button" value=" :-( " onClick="x.value='Frowny'">
<input type="button" value="=8-O " onClick="x.value='Omagosh!'">
<input type="text" name=x size=8><br>
...
```

- ∗ Notice …
  - the **value** of a text window is the contents of the window

window name → **x.value**

Emoticons

`:-)` `;-)` `:-(` `=8-O` Winky

Adding a smile to [ ]
Adding a wink to [ ]
Adding a frown to [ ]
Makes [ ]

Slide 6 — onChange Event

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

- ∗ Notice
  - names
  - + is concatenate

Emoticons

`:-)` `;-)` `:-(` `=8-O` [ ]

Adding a smile to :-
Adding a wink to [ ]
Adding a frown to [ ]
Makes :-)

Name A Different Window

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

"x.value = x2.value + ')' "

Result

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

"x.value = x2.value + ')' "

Emoticons
`:-)` `;-)` `:-(` `=8-O` `|-)`

Adding a smile to
Adding a wink to
Adding a frown to
Makes

Conditional

Conditionals test if an expression is true or not

- General form …

```
if (<Boolean expression>)
      <Then statement>;
```

- For 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;
```

Project 2: Overview

Larry's Memory Bank

a convenient table of all the computations I can never remember

Wed Feb 05 14:34:08 2003

|		
Celsius to Fahrenheit	Celsius:	Fahrenheit:
Fahrenheit to Celsius	Fahrenheit:	Celsius:
Body Mass Index ●English ○Metric	Height:	Weight:	BMI:
Electronic Coin Flip	Flip Outcome:	Totals: H: 0 T: 0
Pick A Random Number From 1 To 10	Pick Outcome from the range:
Weight In Gold	Weight:	lbs Worth As Gold $

IMPORTANT LINKS

References …
Classes …

I'm 586668848 seconds old. What am I doing with my life?

Last Modified: 02/02/2003 01:15:32

Purple Concentrate

Red + Blue = Purple
Concentration

New   View   Check   Clear

Squares: 3   UP   DN

Watch Time: 5   Seconds   UP   DN