

HTML Forms

IT403 Handout

Basic concepts

Forms are the basis of the interactive Web

- Allow users to provide input to programs that get run on a server

Form controls – text input, submit button, radio buttons, checkboxes, menus, text areas, etc.

- Treated like large characters of text – must be structured with other HTML elements

Form processors – programs that run on server to process a submitted form

Form data set – set of name-value pairs compiled by browser and sent to form processor

- Names come from HTML code, values typically provided by user filling in form

- Only successful controls included – controls that have both a name and a value at submission

Form submissions are easily observable in transit

- Special arrangements must be made to make traffic between the browser and server secure

Basic form structure

form element – represents form as a whole

- method attribute – tells browser how to submit the form data set – get or post

 - Use get when you want the form submission to be bookmarkable – ex. search engine

 - Use post when you want the form submission to be hidden or large – ex. logins

- action attribute – tells browser where to send the form data set – URL of form processor

fieldset element – groups related elements within a form – use to structure forms

legend element – use as first child of fieldset – provides text browser can use to label fieldset

label element – used to label form controls

- for attribute – value matches id attribute of associated control

Form processors

Programs – require programming – server-side processing vs. client-side processing

Some are available “off-the-shelf” – typically must be installed on server by an administrator

- Need to know its URL, what it does, and its usage details

- System administrator can provide URL – <http://amgilder.wcit.cs.unh.edu/cgi-bin/test403>

- Documentation explains what it does – returns a page showing the name-value pairs

- Typically, documentation provides usage details – use get or post method

Simple form controls

input element – empty, replaced element that produces a wide variety of control types

- name attribute – establishes name that will be used for control's value in form data set

 - Typically unique throughout a form – radio buttons are an exception

- id attribute – establishes unique identity of each control

 - Must be unique throughout the page

- type attribute – determines which type of control is produced

Text input controls (type="text")

Accept a single line of text input – text may exceed control size, scrolls to left as needed
size attribute – numeric value – sets width of control in “average character widths”

More precise to use CSS width property

maxlength attribute – numeric value – sets maximum number of characters user may enter

value attribute – establishes default contents of control – typically avoided

Password input controls (type="password")

Accept a single line of text input hidden without displaying the actual characters typed

Security extends only to people viewing screen, no protection for data storage or transmission
size and maxlength attributes are applicable

Radio buttons (type="radio")

Produces a single circular control that can be on or off – used in collections of two or more

Mutually exclusive choices – when one in a group is turned on, all others are turned off

All must have same name to be considered a group – each should have a different value

checked attribute – tells browser to turn radio button on by default – set to value of checked

Toggle attributes

Best practice: Check one (and only one) radio button per group by default.

Checkboxes (type="checkbox")

Produces a single square control that can be on or off – may be used singly or in collections

Possibly inclusive choices – when one is turned on or off, others are unaffected

All must have different names to distinguished from one another by form processor

Only checkboxes that are on are included in form data set

Can determine value of name value pair using value attribute – default is “on”

checked attribute – tells browser to turn checkbox on by default – set to value of checked

Best practice: Ensure each checkbox’s label clearly conveys what it means to check that box.

Hidden input controls (type="hidden")

Provides a fixed name-value pair that will always be submitted within form-data set

Allows HTML to determine the value without user’s knowledge or intervention

Commonly used to pass instructions to form processor

Submit buttons (type="submit")

Produces a button the user can click to submit the form

Typically doesn’t require a name attribute

Use value attribute to determine text displayed within button – default is “Submit Query”

Best practice: Include a submit button in every form.

Menu controls

May be presented as popup menu or scrolling list of choices

Typically used for large groups of mutually exclusive choices – less space than radio buttons

select element – represents control as a whole – must contain two or more options

name attribute – provides name for name-value pair in form data set

Value is contents of option selected at time of submission

size attribute – if value > 1, displays as scrolling list

option element – may only appear within select element – represents one choice in menu

selected attribute – indicates default choice – set to “selected”

Text area controls

Allows user to enter multi-line text responses – scroll bars appear as necessary

textarea element – produces large box for textual input – container, replaced element

Contents of element used as default contents of text area control – typically, empty

name attribute – provides name for name-value pair in form data set

rows attribute – sets height of text area in lines of text

cols attribute – sets width of text area in average character widths