

FORMS IN HTML

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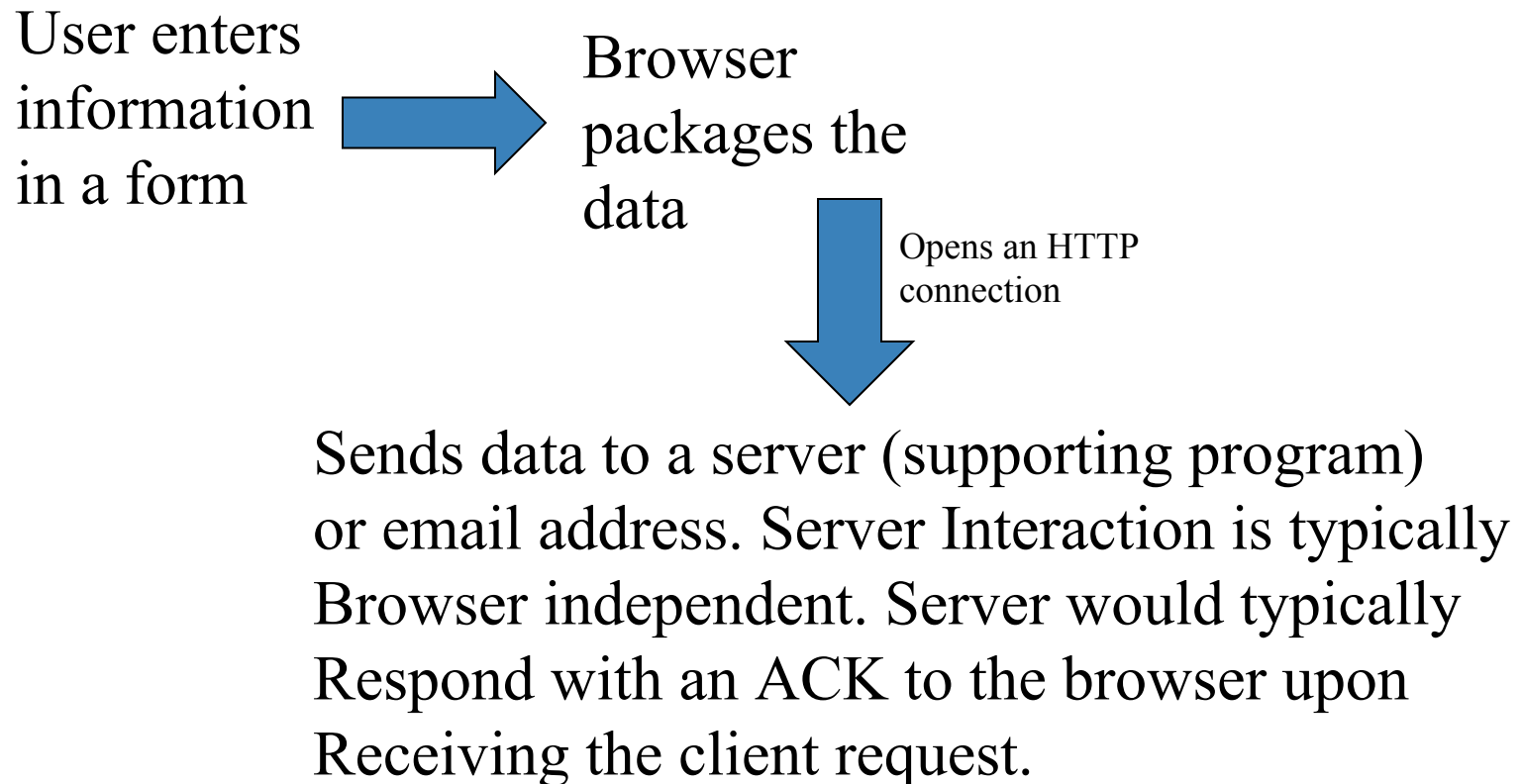
Applets and Forms

- Applets are difficult to write
- Need to know Swing
- Execute Slow
- Need to handle browser dependencies

Introduction

- **Form is comprised of form fields**
 - i. **Text Boxes**
 - ii. **Radio Buttons**
 - iii. **Check Boxes**
 - iv. **Pull-down menus**
 - v. **Image maps**
- **HTML can be made interactive by using JavaScript Event Handlers to add effects like client side validation, verifying form contents and calculations.**
- **Can add more than one form in a single HTML page.**
- **Text should be used to guide the user on how to use the forms**
- **Upon usage of submit button, the server passes the information in the form to the webserver or the supporting program in the server. The webserver would usually send an ack to the client.**
- **Server side processing of forms can be done in CGI or Servlets.**

What happens when a user clicks on a Submit button in a Form?



Creating Forms

Created using `<form>` tag – that is placed inside the html body of the form. One can use this tag multiple times.

`<form>` -- start of the form

`</form>` -- end tag

- In `<form>` tag two attributes must at least be defined. Name of the processing server and the method by which the parameters entered in the form are to be sent to the server. A third optional attribute lets you change how the parameters get encoded for secure transmission over the network.

Attributes Form - Action

Action attribute

- Specifies the URL of the application, which is supposed to receive and process the form's data.

For example

```
<form action = http://www.xyz.com/cgi-bin/update>
```

... .

```
</form>
```

- The cgi-bin folder holds the applications that are invoked dynamically when the http request is made to the server.

Attributes Form - Enctype

enctype attribute

- Tells the browser how the form data is being encoded. This avoids data scrambling or data corruption during transmission. There are 3 types of encoding:
 - application/x-www-form-urlencoded.
 - Converts any spaces in form values to a + sign, non-alphanumeric characters to % sign, followed by two hexadecimal digits that are ASCII Code of the characters and line breaks are %0D%0A
 - multipart/form-data
 - This is required for those forms that contain file selection fields for upload by the user(using the POST method).
 - There is no conversion of data, since the data upload can be a binary image. Each field being transmitted has its own section with a delimiter. Each section has header information accompanied with value set entered by the user.
 - text/plain
 - This encoding type should be used when a form processing server is not available. Can be used with form action mailto URL

Attributes Form – Enctype (Contd)

- Usage =
- `<form enctype = "multipart/form-data" action = <"SomeURL">" method = "post">`

Attributes Form – Method

Method attribute

Specifies to HTTP, which method to use, when passing the data to the server for processing.

Two methods

- i. GET method
- ii. POST method

Attributes Form (Method contd.)

- GET is a request for information located at a specified URI on the server. Small piece of information can also be sent along with the get method.
 - Usage = `<form method=GET action="URL"> </form>`
- POST sends the form data to the server in 2 separate HTTP transactions
 - Contacts the Server specified in the action attribute and sends the data in single transmission once the contact is made.

Attribute Form – Method (Get vs Post)

Which method to use?

- For best form-transmission performance, send forms with a few short fields via the `GET` method.
- `POST` method should be used to send forms with many long text fields.
- If security is an issue, `POST` should be used. `Get` throws the value name pairs in the URL.
- `GET` should be used if you don't have lot of experience writing server-side form-processing application.

Passing parameters explicitly

Usage = `http://www.sukhjit.com/cgi-bin/update?x =10&y=20`

``

This can cause problems

& percent is character-entity insertion character. Browser will replace it with its corresponding character entity causing the URL to fail

Solution is to change it to

``

Attribute Form - Target

- This contains the form/frame to which the results of another form are redirected.
- Usage =
 - `Preface`

Attribute Form - Id, Title and name

- id attaches a unique string label to the form
- Name gives the form a unique name
- Title entitles the form segment – it gives the form a label.

Attribute Form- Class, Style lang and dir

- Style creates an inline style for the form including body content, text. Bring uniformity to HTML pages
- Class lets you format the form based on a predefined class.
- Lang address the localization of pages by browsers
lang=en-UK tell the browser to speak English as is spoken in UK
- Dir attribute tell the browser which direction to display the list content. For e.g. ltr or rtl
- Lang and dir attributes are supported by most browsers

Attribute Form - Events

- Forms have 2 event related attributes
 - onSubmit
 - Typically used for client-side verification program that scans the form data and prompts the user complete one or missing elements
 - onReset
 - Typically resets all values in the form to null or default values.
- The value of event attributes is enclosed in a quotation marks or as a sequence of semicolon-separated JavaScript Expression, methods and function references.

Using Email to submit the form

```
<form method=POST action="mailto:sukhjit98@yahoo.com"
  enctype="text/plain"
  OnSubmit="window.alert('This form is being sent by
email')">
  Name:
    <input type=text name=name size=32 maxlength=80>
  <p>
  Sex:
    <input type=radio name=sex value="M"> Male
    <input type=radio name=sex value="F"> Female
  <p>
  <input type=submit value="Submit">
</form>
```

Named <input>Tag

- Defines the following common form controls
 - i. Text boxes
 - ii. Multiple choice list
 - iii. Clickable images
 - iv. Submission buttons

Each control is given a specific name, which becomes a variable name in the processing script.

<input> tag requires the following attributes to be set

type and name

name attribute should not have any non-alphanumeric characters or punctuation characters.

Input tag attributes (required and optional)

| Form Tag or <input> Type | accept | accesskey | align | alt | border | cols | checked | disabled | maxlength | multiple | name | notab | onBlur | onChange | onClick | onFocus | onSelect | readonly | rows | size | src | tabindex | taborder | usemap | value | wrap |
|--------------------------------|--------|-----------|---|-----|--------|------|---------|----------|-----------|----------|------|-------|--------|----------|---------|---------|----------|----------|------|------|-----|----------|----------|--------|-------|------|
| button | | o | | | | | | o | | | r | o | o | o | o | o | | | | | | o | o | | r | |
| checkbox | | o | | | | | o | o | | | r | o | | | o | o | | o | | | | o | o | | r | |
| file | o | o | | | | | | o | o | | r | o | o | o | o | o | | o | | o | | o | o | | o | |
| hidden | | | | | | | | | | | r | | | | | | | | | o | | | | | r | |
| image | | o | o | o | o | | | o | | | o | o | | | o | | | | | | r | o | o | o | | |
| password | | o | | | | | | o | o | | r | o | o | o | o | o | o | o | | o | | o | o | | r | |
| radio | | o | | | | | o | o | | | r | o | | | o | | | o | | | | o | o | | r | |
| reset | | o | | | | | | o | | | | o | | | o | | | | | | | o | o | | o | |
| submit | | o | | | | | | o | | | o | o | | | o | | | | | | | o | o | | o | |
| text | | o | | | | | | o | o | | r | o | o | o | o | o | o | o | | o | | o | o | | o | |
| <button> | | o | | | | | | o | | | r | | o | | o | o | | | | | | o | | | o | |
| <select> | | o | | | | | | o | | o | r | | o | o | o | o | | | | o | | o | | | | |
| <textarea> | | o | | | | o | | o | | | r | | o | o | o | o | o | | o | | | o | | | | o |
| | | | o = optional r = required blank = not supported | | | | | | | | | | | | | | | | | | | | | | | |

Text Box and Password Box

- Accepts text values
- Difference - the text typed in the password box appears on the screen as asteriks(*)

For e.g.

```
<input type=text name=name size=3 maxlength=3 value="abc">
```

name -- unique name of the control

size – text input box 3 characters wide

maxlength -- restrict the number of inputted characters

value – default value in the text box

```
<input type=password name=name size=3 maxlength=3 value="abc">
```

type password controls the appearance of textbox on screen with (*)

Check Boxes

- Provide users with several choices
- Can select as many choices as they wish to
- Set `type` attribute of the `<input>` to checkbox
- For e.g.

Which languages do you know?

```
<input type=checkbox name=language value="java"> Java <br>
```

```
<input type=checkbox name=language value="c"> c <br>
```

```
<input type=checkbox name=language value="vb"> vb <br>
```

Radio Buttons

- Similar to checkboxes except they provide user with a set of choices, from which the user can choose only one
- Set `type` attribute of the `<input>` to `radio`
- For e.g.

Which languages do you know?

```
<input type=radio name=language value="java"> Java <br>
```

```
<input type=radio checked name=language value="c"> c <br>
```

```
<input type=radio name=language value="vb"> vb <br>
```

Menus

- Use `<select>` and `</select>` container tags to create menus
- For e.g.

```
<select name=language multiple size=4>  
    <option> Java  
    <option> C  
    <option value=VB> Visual Basic      </select>
```

Action Buttons

- **Submit** and **Reset** buttons
 - i. **Submit** button -- instructs the browser to package the form data and send it to the server
 - ii. **Reset** button clears out any data entered in the form and sets all the named input fields to their default values

Use `<input>` tag with `type` attribute to be `submit` or `reset`

For e.g.

```
<input type=submit value="Submit Data">
```

```
<input type=reset value="Reset Data">
```

- Set the value to a text string that clearly describes the function of the button

Action Buttons (contd.)

Image Button

Creates a custom button that is a “clickable” image.

For e.g.

```
<input type=image src="pics/abc.gif" name="Submit">
```

Push Buttons

Uses the `<input type=button>` tag.

The value attribute can be used to set the label on the button and the name attribute is passed to the form processing script.

For eg

```
<input type=button name=action value="Add">
```

```
<input type=button name=action value="Sub">
```

```
<input type=button name=action value="Mul">
```

```
<input type=button name=action value="Div">
```

Hidden Fields

- This form input is hidden from the view. Hidden fields cannot be simply ignored or altered by the user. It requires name and value attribute that get submitted in form's parameter list.
- It can be used for session mgmt.
- For e.g.
 - `<input type=hidden name=action value=change>`

Button tag

- Same as Input button. Gives more flexibility to display the information in the browser
- Everything between `<button>` `</button>` becomes part of the contents for the button.
- Button type can be submit, reset or button working similar to input tag.

Multiline Text Window

- Create multiple line text windows using `<textarea>` and `</textarea>` container tags

For e.g

```
<textarea name=comments cols=50 rows=10
```

```
    Enter Default Text here
```

```
</textarea>
```

The rows and cols attribute defines the size of the text area

The wrap attribute is off by default. It can be virtual (doesn't embed newline character or physical(embeds new line characters.)

Optgroup

- Menu choices can be nested and cascaded by using this tag.
- For e.g.

```
<select name=state>
  <optgroup label=Northwest>
    <option>New Hampshire
    <option>Maine
  </optgroup>
  <optgroup label=South>
    <option>Georgia
    <option>Florida
  </optgroup>
```

It's introduced in HTML 4.0 - Understood by most server but cannot be viewed in the browser. IE 6.0 beta might have the support for optgroup