

HTML Forms Guide

This document provides a comprehensive overview of HTML forms, their structure, controls, and HTML5 enhancements, as extracted from “Wiley HTML and CSS, October 2011.”

1 Why Forms?

Forms are essential for collecting user input on websites, enabling functionalities such as:

- Searching (e.g., Google’s search box)
- Registering for websites
- Online shopping
- Subscribing to newsletters

2 How Forms Work

1. **User Interaction:** A user fills out a form and submits it by clicking a button.
2. **Data Transmission:** The form control names and user-entered values are sent to the server as name/value pairs (e.g., username=Ivy, vote=Herbie).
3. **Server Processing:** The server processes the data using languages like PHP, C#, or Java, often storing it in a database.
4. **Response:** The server generates a new page to send back to the browser, confirming the submission.

3 Form Structure

Forms are contained within the <form> element, which typically includes:

- **action:** URL of the server page that processes the form data.
- **method:** Either get (for short forms or retrieving data) or post (for long forms, sensitive data, or file uploads).
- **id:** Uniquely identifies the form for scripting purposes.

Example:

```
<form action="http://www.example.com/subscribe.php" method="get">  
  <p>This is where the form controls will appear.</p>  
</form>
```

4 Form Controls

Various form controls collect different types of user input:

4.1 Text Inputs

- **Single-line Text:** For short inputs like names or email addresses.

```
<input type="text" name="username" size="15" maxlength="30" />
```

- **Password:** Masks entered characters for security.

```
<input type="password" name="password" size="15" maxlength="30" />
```

- **Text Area:** For multi-line text, such as comments.

```
<textarea name="comments" cols="20" rows="4">Enter your comments...</textarea>
```

4.2 Making Choices

- **Radio Buttons:** Allow selection of one option from a group.

```
<input type="radio" name="genre" value="rock" checked="checked" />  
Rock
```

- **Checkboxes:** Allow multiple selections.

```
<input type="checkbox" name="service" value="itunes" checked="checked" /> iTunes
```

- **Drop-down List:** Users select one option from a list.

```
<select name="device">  
  <option value="ipod">iPod</option>  
  <option value="radio">Radio</option>  
</select>
```

4.3 Submitting Forms

- **Submit Button:** Sends form data to the server.

```
<input type="submit" name="subscribe" value="Subscribe" />
```

- **Image Button:** Uses an image as a submit button.

```
<input type="image" src="images/subscribe.jpg" width="100" height="20" />
```

4.4 Uploading Files

- **File Input:** Allows users to upload files (requires method="post").

```
<input type="file" name="user-song" />
```

4.5 Button & Hidden Controls

- **Button:** Customizable button with embedded content.

```
<button> Add</button>
```

- **Hidden:** Stores data not visible to users.

```
<input type="hidden" name="bookmark" value="lyrics" />
```

5 Labeling Form Controls

The `<label>` element improves accessibility by associating text with form controls:

- Wraps around the control and text:

```
<label>Age: <input type="text" name="age" /></label>
```

- Uses the `for` attribute to link to a control's `id`:

```
<input id="female" type="radio" name="gender" value="f">  
<label for="female">Female</label>
```

Label Placement:

- Above or left: Text inputs, text areas, select boxes, file uploads.
- Right: Checkboxes, radio buttons.

6 Grouping Form Elements

- **<fieldset>**: Groups related controls, often displayed with a border.
- **<legend>**: Provides a caption for the group.

```
<fieldset>  
  <legend>Contact details</legend>  
  <label>Email: <input type="text" name="email" /></label>  
</fieldset>
```

7 HTML5 Enhancements

HTML5 introduces new form controls and validation features:

7.1 Form Validation

- The `required` attribute ensures fields are filled before submission.

```
<input type="text" name="username" required="required" />
```

7.2 New Input Types

- **Date:** For selecting dates.

```
<input type="date" name="depart" />
```

- **Email:** Validates email format.

```
<input type="email" name="email" />
```

- **URL:** Validates URL format.

```
<input type="url" name="website" />
```

- **Search:** Optimized for search queries.

```
<input type="search" name="search" />
```

Older browsers treat unsupported HTML5 inputs as type="text".

8 Example Form

A feedback and newsletter form demonstrating various controls:

```
<form action="http://www.example.com/review.php" method="get">
  <fieldset>
    <legend>Your Details</legend>
    <label>Name: <input type="text" name="name" size="30" maxlength="100"><
      /label><br />
    <label>Email: <input type="email" name="email" size="30" maxlength="100
      "></label><br />
  </fieldset>
  <fieldset>
    <legend>Your Review</legend>
    <p>
      <label for="hear-about">How did you hear about us?</label>
      <select name="referrer" id="hear-about">
        <option value="google">Google</option>
        <option value="friend">Friend</option>
      </select>
    </p>
    <p>Would you visit again?<br />
      <label><input type="radio" name="rating" value="yes" /> Yes</label>
      <label><input type="radio" name="rating" value="no" /> No</label>
      <label><input type="radio" name="rating" value="maybe" /> Maybe</
        label>
    </p>
    <p>
      <label for="comments">Comments:</label><br />
      <textarea rows="4" cols="40" id="comments"></textarea>
    </p>
    <label><input type="checkbox" name="subscribe" checked="checked" />
      Sign me up for email updates</label><br />
    <input type="submit" value="Submit review" />
  </fieldset>
</form>
```

9 Summary

- Forms, housed in <form> elements, collect user input via name/value pairs.
- Various controls (text, radio, checkboxes, etc.) cater to different input needs.

- HTML5 introduces new input types and validation to enhance user experience and reduce server load.