

HTML Forms and JavaScript Processing

- Provide a standard data entry method for users to send information
 - Clicking button calls a CGI script on server
 - CGI = Common Gateway Interface
 - CGI scripts are usually provided by your ISP
 - Can be written in PERL, C, C++, Java, etc.
- Forms can be sent using email
- Provide a Graphical User Interface (GUI) for JavaScript programs
 - Clicking a button calls a JavaScript function

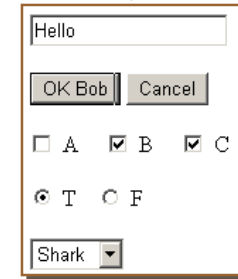
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The Form's Shell

- The form layout which may contain different user information entry modes:

- Text box
- Button: Submit, Reset
- Check boxes
- Radio buttons
- Menus



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Form Tag

- **FORM** tag is a block level tag
 - All tags contained within FORM are part of the form
- **<FORM NAME="frmBob" METHOD="POST" ACTION="/cgi-bin/scriptname.cgi">**
 - NAME attribute is the identifier (or label) of the form
 - METHOD specifies how data is sent to server (CGI)
 - POST = Appends data to browser HTTP request
 - ACTION specifies the CGI script on web server to process the sent data
- **</FORM>**
 - All forms must be closed

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Text Box, and Text Area Tag

- **Text box** is for single line text box
<INPUT TYPE="TEXT" NAME="txtFieldBob" VALUE="Hello" SIZE="20">
 - TYPE defines as a text box
 - NAME is the optional identifier for the text box
 - VALUE is the data initially displayed in the field
 - SIZE is the width of text box
- **Text area** is for multi line box with scroll bars
<TEXTAREA ROWS="4" COLS="30" NAME="txtboxBob" WRAP> Hello </TEXTAREA>
 - ROWS is the height, COLS is the width
 - NAME is the optional identifier for the text box
 - WRAP enables line wrapping

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- Select menus utilize both **SELECT** and **OPTION** tags
- Calculate button click calls **Calculate()** function

```
<HTML><HEAD><TITLE>Forms Example</TITLE>
<SCRIPT TYPE="text/javascript">
<!-- Calculate() function will go here --> </SCRIPT>
</HEAD> <BODY BGCOLOR="#FFFFCC" TEXT="#000000">
<FORM NAME="frmCalc" ACTION=""> <P>Enter a number:<BR>
  <INPUT TYPE="text" NAME="txtEntry" SIZE="20">
</P> <P> Select Math Operation:<BR>
  <SELECT NAME="mnuMathOp">
    <OPTION SELECTED>- Choose One - </OPTION>
    <OPTION>Square</OPTION>
    <OPTION>Square Root</OPTION>
    <OPTION>Factorial</OPTION>
  </SELECT>
</P> <P> Result:<BR>
  <INPUT TYPE="text" NAME="txtResult" SIZE="20"> </P> <P>
  <INPUT TYPE="BUTTON" NAME="btCalc" VALUE="Calculate"
  onclick="Calculate()" >
  <INPUT TYPE="RESET" NAME="btClear" VALUE="Clear">
</P> </FORM></BODY></HTML>
```

- **Calculate()** function must be placed in head and can be called anywhere in body or head portion of document

```
function Calculate() // Function will work in Version 3 and higher browsers
{
  var Entry, Result="", I, Selection;
  Entry = parseFloat(document.frmCalc.txtEntry.value);
  Selection = document.frmCalc.mnuMathOp.selectedIndex;
  if(Selection == 1) Result = Entry * Entry;
  else if(Selection == 2)
    Result = Math.sqrt(Entry);
  else if(Selection == 3)
  {
    Result = 1;
    for(I = 1; I <= Entry; I++)
      Result = Result * I;
  }
  else window.alert("Select an Operation!");
  document.frmCalc.txtResult.value = Result;
}
```

Select Menu **onchange** Event

```
<HTML><HEAD>
<TITLE>Forms Example</TITLE>
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</HEAD>
<BODY BGCOLOR="#FFFFCC" TEXT="#000000">
<FORM NAME="frmCalc" ACTION="">
<P>Enter a number:<BR>
  <INPUT TYPE="text" NAME="txtEntry" SIZE="20">
</P> <P> Select Math Operation:<BR>
  <SELECT NAME="mnuMathOp" onchange=Calculate() >
    <OPTION SELECTED>- Choose One - </OPTION>
    <OPTION>Square</OPTION>
    <OPTION>Square Root</OPTION>
    <OPTION>Factorial</OPTION>
  </SELECT>
</P> <P> Result:<BR>
  <INPUT TYPE="text" NAME="txtResult" SIZE="20"> </P> <P>
</P> </FORM></BODY></HTML>
```

Linking to an External JavaScript File

- JavaScript functions can be stored in a separate file and linked to from multiple HTML documents

Advantages:

- Code Reuse and HTML Coding Simplification
- Caching of a shared script improves performance
- Can be shared across multiple servers using URL

- Simply use a SRC attribute in <SCRIPT> tag

```
<HTML><HEAD>
<TITLE>Forms Example</TITLE>
<SCRIPT TYPE="text/javascript" SRC=../MathOp.js> </SCRIPT>
</HEAD>
```

