EECS 1012: Introduction to Computer Science

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Assorted HTML input widgets

- Text

- Drop-down widgets

- Form (mechanism to group together input widgets)

  - NB: And submit (critical for buttons)

- Radio button

- Checkbox

- Textarea

- Range

Input

Drop-down widget

Radio button

```
<!DOCTYPE html>
<html>
  <head>
  <body>
    <form>
      <input id="radio1" type="radio" name="example">
      <input id="radio2" type="radio" name="example">
      <input id="radio3" type="radio" name="example">
    </form>
    <button onclick="clicked();">OK</button>
  </body>
</html>
```

```
function clicked()
{
  var input1 = document.getElementById("radio1").checked;
  var input2 = document.getElementById("radio2").checked;
  var input3 = document.getElementById("radio3").checked;
  alert("value " + input1 + " " + input2 + " " + input3);
}
```

name - only one radio button with this name will be selected

Checkbox

```
<!DOCTYPE html>
<html>
  <head>
    <script src="checkbox.js" type="text/javascript">
  </head>
  <body>
    <form>
      <input id="check1" type="checkbox" name="checkex">
      <input id="check2" type="checkbox" name="checkex">
      <input id="check3" type="checkbox" name="checkex">
    </form>
    <button onclick="clicked();">OK</button>
  </body>
</html>
```
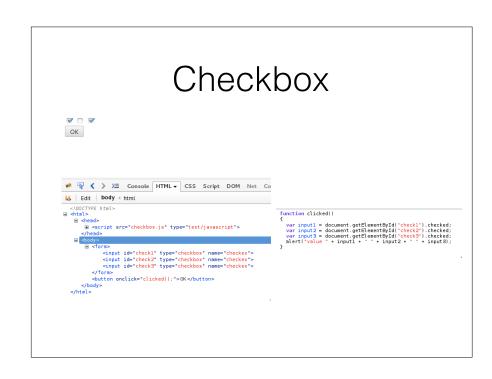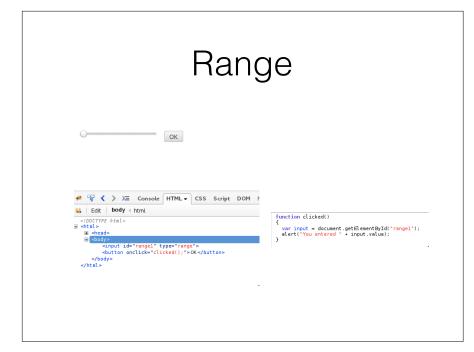
```
function clicked()
{
  var input1 = document.getElementById("check1").checked;
  var input2 = document.getElementById("check2").checked;
  var input3 = document.getElementById("check3").checked;
  alert("value " + input1 + " " + input2 + " " + input3);
}
```

Textarea

```
this is the first line.
this is the second line.
this is the third line.
this is the fourth line.
this is the fifth

this is the sixth line.
```

```
<!DOCTYPE html>
<html>
  <head>
  <body>
    <textarea id="textarea" cols="40" rows="10">this is the first line. this is the
    second line. this is the third line. this is the fourth line. this is the fifth
    line. this is the sixth line. </textarea>
    <button onclick="clicked();">OK</button>
  </body>
</html>
```

```
function clicked()
{
  var input = document.getElementById("textarea");
  alert("You entered " + input.value);
}
```

Range

```
<!DOCTYPE html>
<html>
  <head>
  <body>
    <input id="range1" type="range">
    <button onclick="clicked();">OK</button>
  </body>
</html>
```

```
function clicked()
{
  var input = document.getElementById("range1");
  alert("You entered " + input.value);
}
```

Slide 1: Ok, so lets put it all together

```html
<!DOCTYPE html>
<html>
  <head>
  <body>
    <form>
        Text goes here
        <input id="text" type="text">
        Some text
        <br>
        Three radio buttons
        <input id="radio1" type="radio" checked="" name="example1">
        <input id="radio2" type="radio" name="example1">
        <input id="radio3" type="radio" name="example1">
        and two more
        <input id="radio4" type="radio" checked="" name="example2">
        <input id="radio5" type="radio" name="example2">
        <br>
        Three check boxes
        <input id="check1" type="checkbox" name="example">
        <input id="check2" type="checkbox" name="example">
        <input id="check3" type="checkbox" name="example">
        <br>
        A pull down menu
        <select id="select1">
        and another
        <select id="select2">
        <button onclick="clearForm();" type="button">clear</button>
        <button onclick="ok();" type="button">OK</button>
    </form>
    <div id="output">
  </body>
</html>
```

Slide 2

```javascript
function clearForm()
{
  document.getElementById("text").value = "";
  document.getElementById("radio1").checked = true;
  document.getElementById("radio4").checked = true;
  document.getElementById("check1").checked = false;
  document.getElementById("check2").checked = false;
  document.getElementById("check3").checked = false;
}

function ok()
{
  var x = document.getElementById("output");
  x.innerHTML += "Text is |" + document.getElementById("text").value + "|<br>";
  x.innerHTML += "Radio1 is |" + document.getElementById("radio1").checked + "|<br>";
  x.innerHTML += "Radio2 is |" + document.getElementById("radio2").checked + "|<br>";
  x.innerHTML += "Radio3 is |" + document.getElementById("radio3").checked + "|<br>";
  x.innerHTML += "Radio4 is |" + document.getElementById("radio4").checked + "|<br>";
  x.innerHTML += "Checked1 is |" + document.getElementById("check1").checked + "|<br>";
  x.innerHTML += "Checked2 is |" + document.getElementById("check2").checked + "|<br>";
  x.innerHTML += "Checked3 is |" + document.getElementById("check3").checked + "|<br>";

  var dropdown = document.getElementById("select1");
  var index = dropdown.selectedIndex;
  var value = dropdown.options[index].value;
  x.innerHTML += "Select 1 is |" + value + "|<br>";
  dropdown = document.getElementById("select2");
  index = dropdown.selectedIndex;
  value = dropdown.options[index].value;
  x.innerHTML += "Select 2 is |" + value + "|<br>";

}
```

Slide 3: Low-level Events

ondblclick		script	Fires on a mouse double-click on the element
ondrag	5	script	Script to be run when an element is dragged
ondragend	5	script	Script to be run at the end of a drag operation
ondragenter	5	script	Script to be run when an element has been dragged to a valid drop target
ondragleave	5	script	Script to be run when an element leaves a valid drop target
ondragover	5	script	Script to be run when an element is being dragged over a valid drop target
ondragstart	5	script	Script to be run at the start of a drag operation
ondrop	5	script	Script to be run when dragged element is being dropped
onmousedown		script	Fires when a mouse button is pressed down on an element
onmousemove		script	Fires when the mouse pointer is moving while it is over an element
onmouseout		script	Fires when the mouse pointer moves out of an element
onmouseover		script	Fires when the mouse pointer moves over an element
onmouseup		script	Fires when a mouse button is released over an element
onmousewheel		script	Deprecated. Use the onwheel attribute instead
onscroll	5	script	Script to be run when an element's scrollbar is being scrolled
onwheel	5	script	Fires when the mouse wheel rolls up or down over an element

Slide 4

```html
<!DOCTYPE html>
<html>
  <head>
    <title>This is the revised title </title>
    <script type="text/javascript" src="events.js">
  </head>
  <body>
    <p onmousedown="mousedown();" onmouseout="mouseout();" onmouseup="mouseup();" onmouseover="mouseover();">A paragraph</p>
    <div id="output">
  </body>
</html>
```

```javascript
function mousedown() {
    var x = document.getElementById("output");
    x.innerHTML ="mousedown<br>";
}

function mouseup() {
    var x = document.getElementById("output");
    x.innerHTML ="mouseup<br>";
}


function mouseover() {
    var x = document.getElementById("output");
    x.innerHTML ="mouseover<br>";
}


function mouseout() {
    var x = document.getElementById("output");
    x.innerHTML ="mouseout<br>";
}
```

Summary

- JavaScript/HTML provides a rich set of user interface devices and interaction events.

- All events are delivered asynchronously to your code

  - Event driven programming.

- Exist large number of 3rd party on-screen widgets to allow you to customize your application.