



JavaScript Wrap Up

JavaScript is a versatile programming language ... if you know it, you can learn others

© 2009, K. Rexel, Berlin



The Big Picture

Without JavaScript, HTML is quite limited

- * Only static page-layouts are possible
- * JS allows
 - Adaptivity ... the page can be customized to the browser, site, user, etc.
 - Interactivity ... users can give information and a response can be displayed: Memory Bank
 - Applications ... tasks unrelated to documents can be created
 - Animations



Big Picture

Notice the standard HTML process

- HTML is parsed -- read & "decoded"
- During parse JavaScript runs ... allowing it to generate HTML, e.g. document.write()
- Browser generates the page from HTML
- After page generated, all is quiet until an event happens, caused by user or timer
- Event handlers handle the events, and then all is quiet again

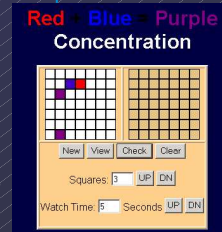
This sequence defines the action



Consider The PC

Analyze the process for Purple Con

- HTML is parsed
- JavaScript runs ... HTML generated
- Browser makes page
- All is quiet except for events from user
- Event handlers handle events, quiet returns



Consider The PC

Analyze the process for an animation

- HTML is parsed
- JavaScript runs ... HTML generated
- Browser makes page
- All is quiet except for events from timer
- Event handlers handle events, quiet returns




Other Languages

JS is a "modern" programming language like C, C++, Java, etc.

- Expect to find numbers, strings, Booleans,
- Variables (of same form) must be declared
- There are **if**-statements & **else**-statements
- There is a **for**-statement


```
for (j=0; j<5; j++){  
  <statement list>  
}
```

It is not easy to teach yourself, but you can learn quickly



Review & Tutorial

Can you create an animation?
Can you take in data and compute answers?
Got questions?



Emoticons

Adding a smile to
Adding a wink to
Adding a bomb to
Misc:

Now

Memory Bank

A comment bank of all the computations I can never remember

Tue Feb 17 17:16:33 2004

Calculator


Conversion: Fahrenheit to Celsius

Body Mass Index

References

Classes

fm619266119 seconds old: What am I doing with my life?



JavaScript As Variable & String

Consider ...

```


for (j = 0; j < 7; j++) {
  document.write("<img src='gifpix/BrownBox.gif' ' +
'onMouseOver = 'here(' + j + ')'" +
'onMouseOut = 'gone(' + j + ')'">");
}

```

```

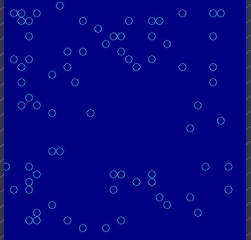
for (j = 0; j < 7; j++) {
  document.write("<img src='gifpix/BrownBox.gif' ' +
'onMouseOver = 'here()'\" +
'onMouseOut = 'gone()'\">");
}

```



One More Application


Bubbles ...



```

<html><head><title>Bubbles</title></head>
<body bgcolor="navy">
<script language="JavaScript">
var i, h, pix=new Array(2), timerID;
pix[0]=new Image; pix[0].src="NavyBox.gif";
pix[1]=new Image; pix[1].src="bubble.gif";
for (i=0; i<30; i++) {
  for (j=0; j<30; j++) {
    document.write("<img src='NavyBox.gif' ' +
'onClick='clearBubble(' + i + ',' + j + ')'">");
  }
}
timerID=setTimeout("animate()",2000);
function animate() {
  var row, col;
  row = randNum(30);
  col = randNum(30);
  document.images[row*30+col].src=pix[1].src;
  timerID=setTimeout("animate()", 200+randNum(5)+50);
}
function clearBubble(row, col) {
  document.images[row*30+col].src=pix[0].src;
}
function randNum(range) {
  return Math.floor(range*Math.random());
}
</script></body></html>

```



Summary

JavaScript can build Web pages,
process forms and animate ... it's a
whole lot more interesting than HTML!

Add the applications you've written
in JS to your personal Web page

