DESIGN PROGRAMMING: WHAT’S NEXT
11.05.2010 | Martin Tomitsch | DECO1012 | Week 10

Schedule
1 HCI
2 Interaction Design
3 Web Development
4 Mobile Applications
5 Multitouch Interfaces
Teaching

DECO2200 Interaction Design
DECO3005 Advanced Interaction Design

Independent Study projects
Honours projects

Evolution of Human Computer Interaction

Van Dam, 1997
Evolution of Human Computer Interaction

Van Dam, 1997

Post-WIMP user interfaces
User-centred design

Preece, Rogers & Sharp (2002)

Interaction design

“… the art of facilitating or instigating interactions between humans (or their agents), mediated by products.”

(Saffer, 2003)
Interaction design

Affordances
Interaction design

Affordance?

Note: I won’t save this paper in your library until you click this button!
Interaction design

Context

http://www.flickr.com/photos/shevoo/2758223801/

Interaction Design studio

Programming

Web development

HTML & CSS

JavaScript & Python
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Hello, we sell things. - Featured Eyewear &amp; PC Games - MYEYGGLASSES.NET</title>
<link rel="stylesheet" type="text/css" href="style.css"/>
</head>
<body>
<div id="wrapper">
<div id="header">
<h1>Hello, we sell things.</h1>
<div id="logo">&nbsp;</div>
<ul id="nav">
<li class="active"><a href="index.htm" title="Featured Items">Featured (4)</a></li>
<li class="nav_eyewear"><a href="eyewear.htm" title="Eyewear">Eye wear (2)</a></li>
<li class="nav_pcgames"><a href="games.htm" title="PC Games">PC Games (2)</a></li>
<li class="nav_search"><a href="search.htm" title="Product Search">Search</a></li>
<li class="nav_viewcart"><a href="cart.htm" title="View Cart">View Cart (3)</a></li>
<li class="nav_checkout"><a href="checkout.htm" title="Checkout">Checkout</a></li>
</ul>
</div>
</div>
</body>
</html>
Web development

CSS

```css
body
{
/* background: #D1D1D1 url('template_guide.gif') no-repeat; */
background: #C6C6C6 url('images/source/bg.png') no-repeat top center;
background-position: center top;
margin: 0px;
padding: 0px;
font-family: Helvetica, Arial, sans-serif;
}

#header
{
border-bottom: 1px solid #000;
display: table;
}
```

Java [vs Java]

- Language constructs are very similar to Java (eg if, while, for, switch)
- Variable declarations are optional; a variable type is determined by the latest value assigned
- Functions = methods in Java
- No (or very limited) OO support
Web development

JavaScript

Variables

```javascript
var x=5;
var carname="Volvo";

x=5;
carname="Volvo";
x="Ford";
```

Functions

```javascript
<div onmouseover="function(){
    //code you want to execute on mouse over here
}">stuff</div>
```

[Javascript vs] Java (Processing)

```java
void setup() {
    noLoop();
}

void draw() {
    int i, next;
    String container = 'bottles';
    String s;
    for (i = 99 ; i > 0 ; i--) {
        s = i + " " + container + " of beer on the wall, " +
        i + " " + container + " of beer, " + "take 1 down, pass it around.";
        next = i - 1;
        if (next > 0) {
            if (next == 1) {
                container = "bottle";
            }
            s = s + next + " " + container + " of beer on the wall.";
        }
        else {
            s = s + "No more bottles of beer on the wall!";
        }
        println(s);
    }
}
```
```java
void setup() {
  noLoop();
}

void draw() {
  int i, next;
  String container = "bottles";
  String s;
  for (i = 99; i > 0; i--) {
    s = i + " " + container + " of beer on the wall, " +
      i + " " + container + " of beer, " + "take 1 down, pass it around, " +
      i + " " + container + " of beer on the wall."
    next = i - 1;
    if (next > 0) {
      if (next == 1) {
        container = "bottle";
      }
      s = s + next + " " + container + " of beer on the wall.";
    } else {
      s = s + "No more bottles of beer on the wall!"
    }
    println(s);
  }
}
```

```javascript
function do99Bottles() {
  var i, next;
  var container = "bottles";
  var s;
  for (i = 99; i > 0; i--) {
    s = i + " " + container + " of beer on the wall, " +
      i + " " + container + " of beer, " + "take 1 down, pass it around, " +
      i + " " + container + " of beer on the wall."
    next = i - 1;
    if (next > 0) {
      if (next == 1) {
        container = "bottle";
      }
      s = s + next + " " + container + " of beer on the wall.";
    } else {
      s = s + "No more bottles of beer on the wall!"
    }
    document.write(s);
  }
}
</script>
</head>
<body onLoad="do99Bottles()">
</body>
</html>
```
Web development!

```html
<html>
<head>
<script language=JavaScript>
function do99Bottles() {
    var i, next;
    var container = "bottles";
    var s;
    for (i = 99; i > 0; i--) {
        s = i + " bottles of beer on the wall, " + i + " bottle of beer, take 1 down, pass it around, 
        1 bottle of beer on the wall."
        next = i - 1;
        if (next > 0) {
            if (next == 1) {
                container = "bottle";
            }
            s = s + next + " bottles of beer on the wall."
        } else {
            s = s + "No more bottles of beer on the wall!"
            document.write(s);
        }
    }
</script>
</head>
<body onload="do99Bottles()">
</body>
</html>
```

Javascript [ vs Java (Processing)]

Try your own Javascript!
http://www.w3schools.com/js/tryit.asp?filename=tryjs_variable

University Design Challenge
Fall '09

In early September we challenged students from universities around the world to develop concepts and solutions to the question: "Browsing History - How can we make sense of this rich source of data and how do we best present this data to the user?" (read the full brief here)

[UPDATE] The students from the Interaction Design Studio at the University of Sydney, Australia, submitted their mockups and prototypes. See below for links to the individual submissions.

Students from four schools took the challenge and worked intensively on their ideas - some in the form of a Design Jam next to their normal course work, other as part of their university assignments.

In the last few weeks students from Parsons The New School for Design presented their concepts to an excited crowd of Mozillians during one of the Mozilla Design Lunches. The students presented their concepts and excellent mockups via video conference and received direct feedback from both the Mozilla Labs and Add-ons teams. The teams are now busy polishing their mockups, incorporating the feedback and submitting their final work in the next few weeks.
Web Tree
Everyone has a story,
your browser has a story too.

Aiden Benton & Ryo Yambe, Team GO!
DECO2200: Interaction Design Studio
Faculty of Architecture, Design & Planning
University of Sydney
Advanced Interaction Design

Mobile applications

Objective-C and Interface Builder

Hard...
Advanced Interaction Design
PhoneGap: HTML, CSS & Javascript

http://phonegap.com

Kristina Mah & Trent Robinson (Advanced Interaction Design 2009)
Advanced Interaction Design
PhoneGap: HTML, CSS & Javascript

Processing.js & Phonegap

http://processingjs.org

Processing.js is an open programming language for people who want to program images, animation, and interactions for the web without using Flash or Java applets.
Advanced Interaction Design

iProcessing

http://iprocessing.org

Information Visualisation studio

3rd year studio, semester 1
Information Visualisation studio

3rd year studio, semester 1

Adrian Bott, Ellis Lum Mow, Michael Tomkins & Gordon Whyte (Information Visualisation studio 2008)
Information Visualisation studio

Multitouch

Microsoft Surface: Multitouch
HCI in movies

Minority report (2002)
What do people look at?

Häkkinen et al. (2010)
Conclusion

You can get quite far with Processing

If you know one language you should be able to master any programming environment.

Experiment with Javascript:
http://www.w3schools.com/js/tryit.asp?filename=tryjs_variable

Run your Processing code on the iPhone simulator (Mac Lab):
http://iprocessing.org/

Interaction Design studio

Programming

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