Seaside

Agile Web Development with Squeak
I: Introduction: Web Applications

II: Squeak on a Postcard

III: Seaside. A First Overview

IV: Examples, Pointers
Example: Simple Web App

- A very simple "Application"
  Add two numbers

Seaside: Agile Web Development with Squeak
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What is going on?

first.html

```html
<form action="second.html">
  <input type="text" name="value1">
  <input type="submit" value="OK">
</form>
```

second.html

```html
<form action="result.html">
  <input type="hidden" name="value1" value="\<\% value1 \%>" />
  <input type="text" name="value2">
  <input type="submit" value="OK">
</form>
```

result.html

```
<p>
  \<\% value1 + value2 \%>
</p>
```
Control-flow: HTTP request-response

User: Web Browser

first.html

get first.html

<a href="second.html?number1=...">

second.html

get second.html?number=....

<a href="result.html?number1=...?number2=...."
What we want

- Control-flow quite strange.
  - remember GOTO?

- We don't care about HTTP!
- How do you debug that?

And what about
- Back Button?
- Copy of URL?
- Why not this?

go
    | number1 number2 |

number1 := self request: 'First Number'.
number2 := self request: 'Second Number'.
self inform: 'The result is ', (number1 + number2) asString.
- Session as one piece of code
- HTML / CSS building
- Callback based model
- Composition and reuse
- Debugging and development tools
Part II: Squeak

- Smalltalk overview
- Smalltalk on a postcard
- Examples
- Where is Squeak used?
Squeak: Overview

- 100% Object Oriented: Everything is an Object
- Dynamically typed
- Virtual Machine, GC
- Huge Class Library
- IDE, Tools for debugging
exampleWithNumber: x

"A method that illustrates every part of Smalltalk method syntax except primitives."

|y|
true & false not & (nil isNil) ifFalse: [self halt].
y := self size + super size.
#($a #a "a" 1 1.0)
  do: [:each | Transcript show: (each class name);
      show: ' '].
^ x < y
3 factorial
3 raisedTo: 3
3 + 4
(100 factorial) + 1
(1 < 2) ifTrue: ['yes']
4 timesRepeat: [Beeper beep]

#(1 2 3) select: [:each | each > 1]
Squeak Usage

- Research

- Industry
  -- Prototyping
  -- Production (mostly with Seaside)

- There is lots of interesting stuff
  (Croquet, eToys, 100$ Laptop,
   TK4/Sophie, dabbleDB...)
Part III: Seaside

- Simple example: Counter
- HTML/CSS
- Calls and Callbacks
- Composition and Reuse
- Advanced Debugging and Tools
Example / Tools Overview

- Toolbar
- Halos: Browse/CSS/Inspector

- more on debugging later!
- WAComponent: #renderContentOn:

- WATask: #go

- Components: pages/widgets
  -- #call, #answer

- Task: Controlflow of Application
- Framework for generating XHTML
  -- Designer: CSS
  -- Programmer: HTML

- Have a look at
  www.csszengarden.com

- Alternative: Template System
  (not actively maintained)
html divNamed: 'title' with: 'Titel'
html divNamed: 'list; with: [
    html spanClass: 'item' with: 'Item 1'.
    html spanClass: 'item' with: 'Item 2'.
]

<div id="title">Title</div>
<div id="list">
    <span class="item">Item 1</span>
    <span class="item">Item 2</span>
</div>
Example3>>renderContentOn: html
    html form: [
        html submitButtonWithAction: [self inform: 'hi']
        text: 'Say hello'.]

<form method="post" action="/seaside/exampleCallBack1">
    <div>
        <input name="_s" value="OhkhwGAdwYxjcfFd" type="hidden" />
        <input name="_k" value="KukciTBW" type="hidden" />
        <input value="Say hello" name="_l" type="submit" />
    </div>
</form>
Callback

renderContentOn: html
  html form: [
    html text: 'Username:'.
    html textInputWithCallback: [:value | username := value].
    html submitButtonWithAction: [self inform: 'Hi', username]
      text: 'Say Hello'.
  ].

-Callback:
  Code to be executed as a parameter
Composition and Reuse

- Components can be nested
We have seen:
- Natural control flow
- Call pages like subroutines
- Return complex objects / callbacks

==> No GOTO-hell!

- Back-button:
  #isolate: for transactions

Example: Sushi Store
Running Example: Sushi Store

Anago
Conger Eel

Anago is one of the few pre-cooked sushi. It is grilled and basted with a thick teriyaki sauce. The soft, slightly warm eel, the sweet soy sauce, and the vinegared rice make a particularly delicious sushi.

$3.00
Add To Cart  Done

Your cart:
- Anago $3.00
- Akagai $3.00
$6.00
Debugging

- We can inspect, debug and change the running program

- No restart needed!

- Example
There is more...

- Implementation: Continuations...
- Seaside Testing
- Database Access
- Magritte / Pier
- Shore Components
- AJAX.... and Scriptaculous support

But: No Time!
Part IV: Example Apps / Links

- Some examples
  - SqueakSource
  - Health insurance App
  - DabbleDB

- Links to further information
Example: SqueakSource

http://squeaksource.com

Seaside: Agile Web Development with Squeak

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Example 2: Health Insurance

http://offerte.prolife.ch
http://www.dabbledb.com
More information on the web...

- Squeak:
  http://squeak.org
  http://squeakland.org
  http://squeak-ev.de

- Seaside
  http://seaside.st