Applied Web Heresies

Avi Bryant

http://smallthought.com/avi/heresy

Seaside: a web framework in Smalltalk

http://www.seaside.st

Seaside:
a web framework in
Smalltalk

YOU AIN'T GONNA
USE IT

Seaside as a Recipe

Primo Levi’s “onions in the varnish”

Recipes have Structure

- Justification
- Inspiration
- Implementation
- Re-implementation
- Omissions

Equipment list:

- OOP
- Servlet-style app server
- Blocks/closures

Cooking with discipline: Try not to taste it ‘til it’s done

First thing we do, let’s kill all the templates

The Zen of HTML Generation

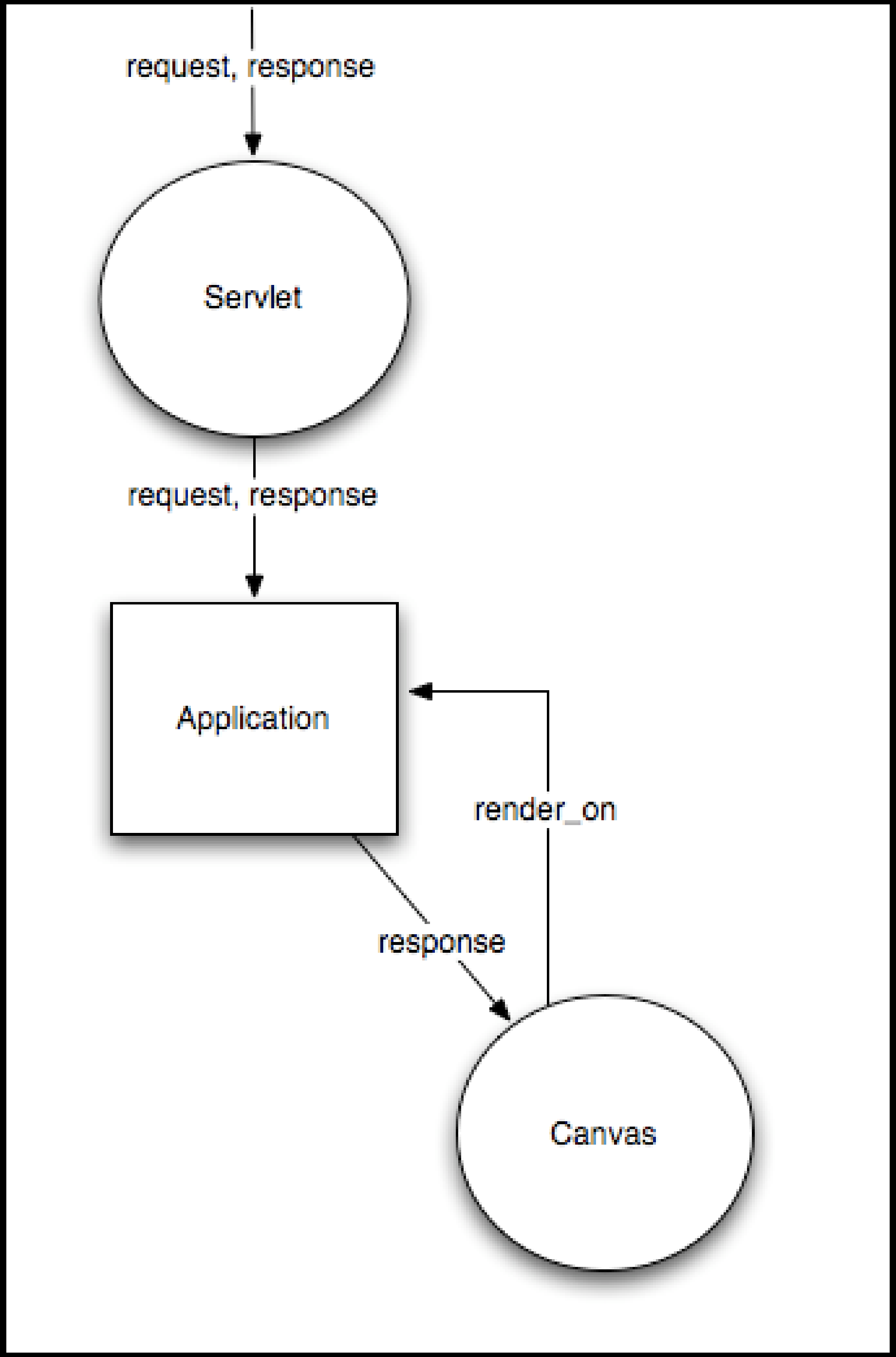
What about model/ view separation? What about web designers?

CSS

(cf. http://www.csszengarden.com)

Inspiration: AWT

Implementation



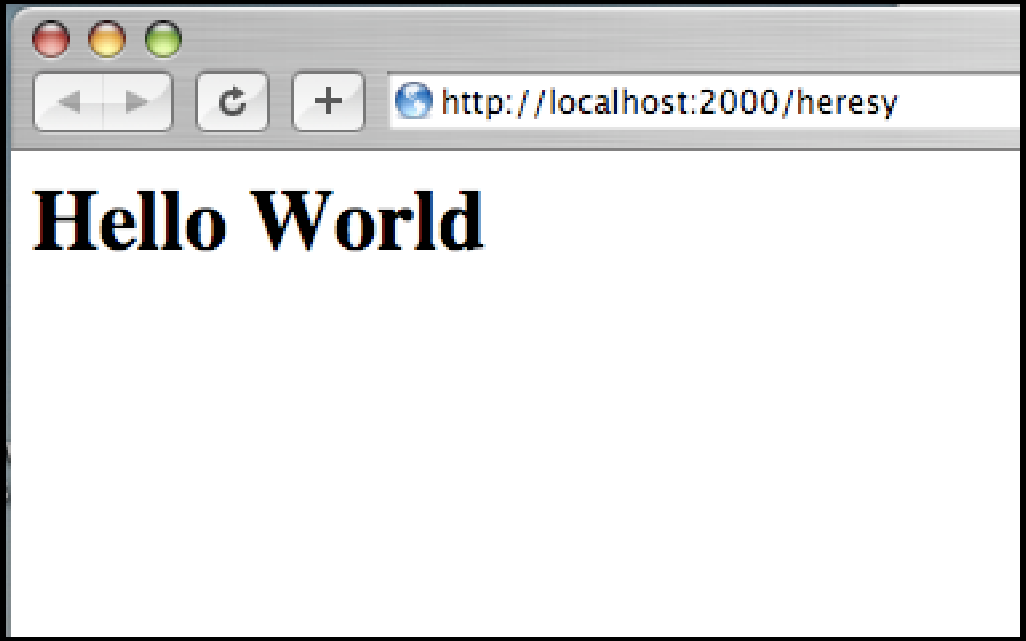
Re-implementation

```
require 'webrick'
require 'stringio'

server = WEBrick::HTTPServer.new(:Port => 2000)

server.mount_proc("/heresy"){|req, res| Application.new.handle(req, res)}
server.mount_proc("/favicon.ico"){|req,res| res.status = 404}
trap("INT"){ server.shutdown }
server.start
```

Re-implementation

```
class Application
    def handle(req, res)
        canvas = Canvas.new(res)
        render_on(canvas)
    end

    def render_on(html)
        html.heading("Hello World")
    end
end

class Canvas
    def heading(str, level=1)
      ...
    end
end
```

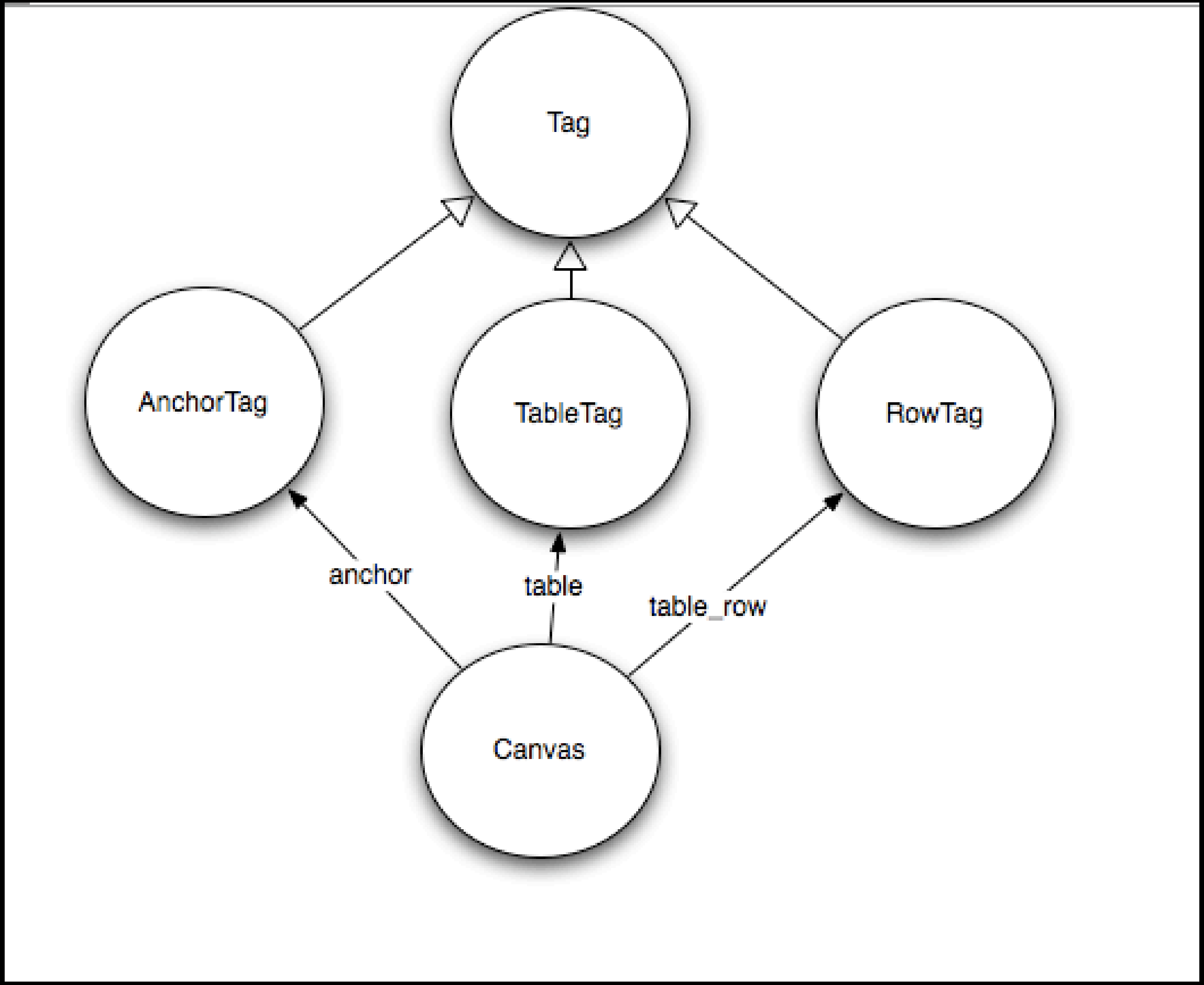
Goal



http://localhost:2000/heresy

Hello World

Omission: Tag Objects



Sessions are too valuable to persist

All the good stuff’s in memcached anyway

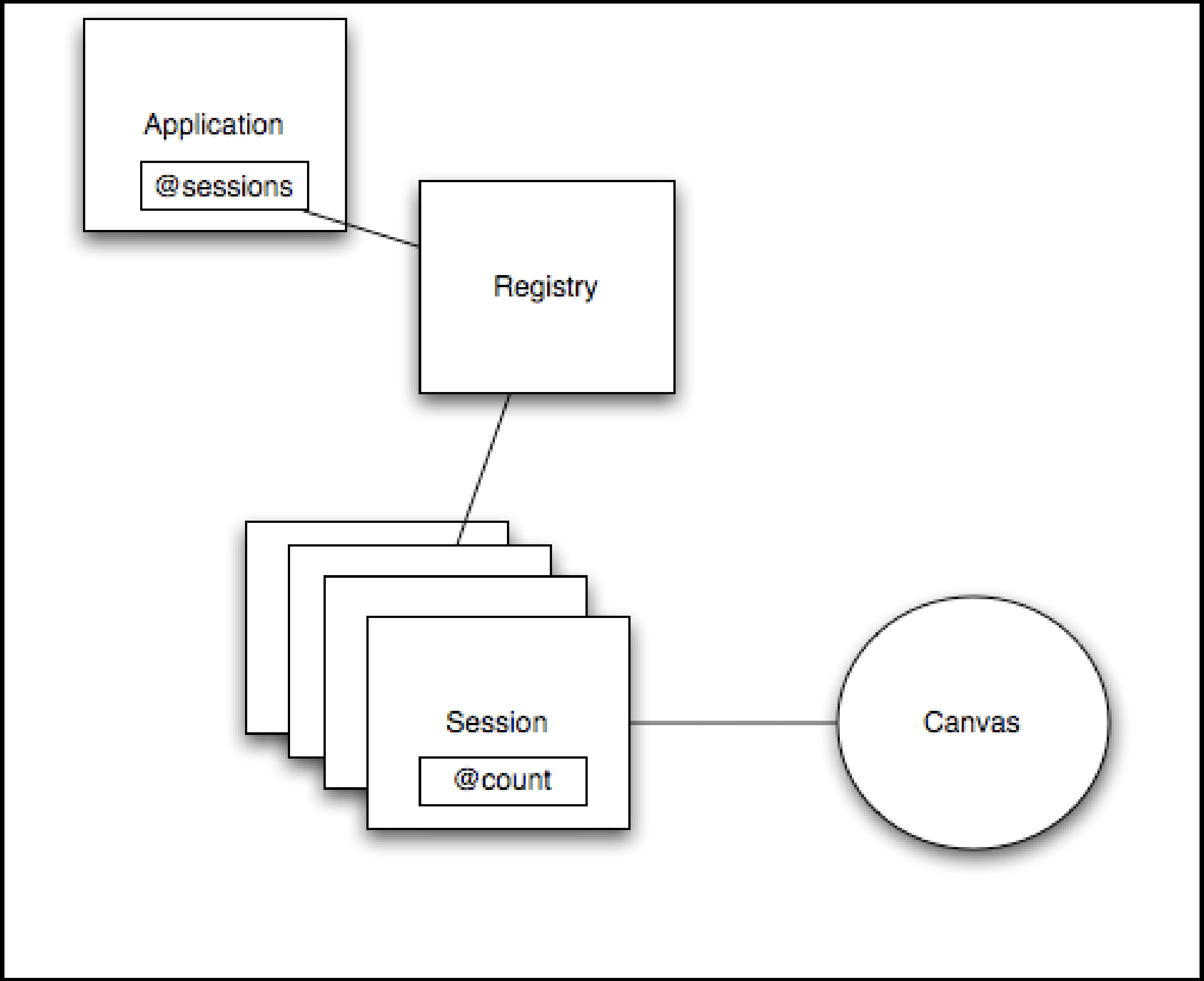
What about load balancing and fail-over?

YAGNI

(really)

Inspiration:
NeXT's WebObjects

Implementation



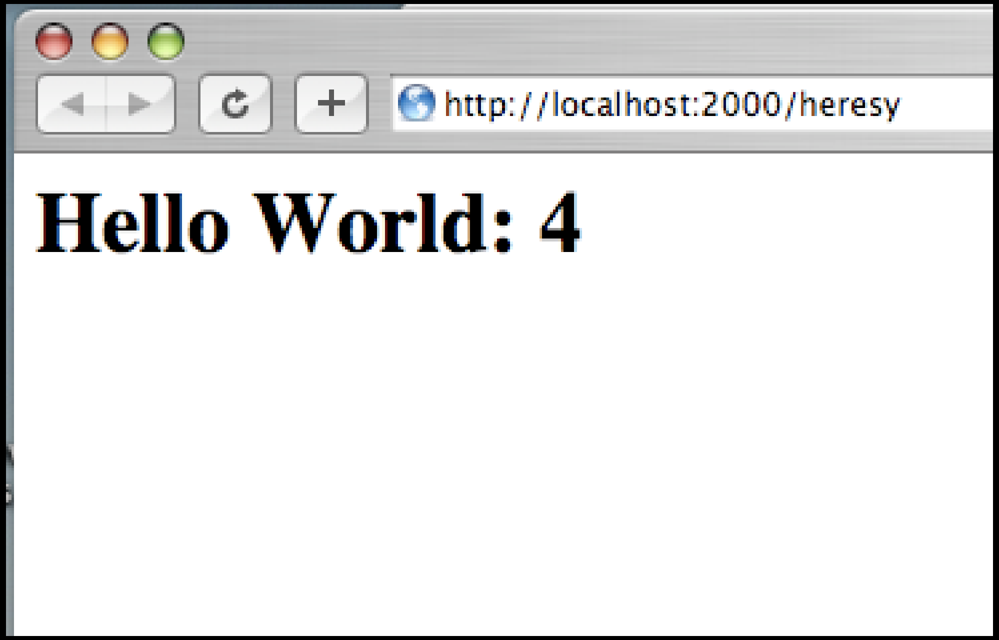
Re-implementation

```
class Registry
    def initialize
        @items = []
    end

    def register(item)
        @items << item
        (@items.size - 1).to_s
    end

    def find(key)
        @items[key.to_i]
    end
end
```

Re-implementation

```
class Session
    def initialize
        @count = 0
    end

    def handle(req, res)
      ...
    end
end
```

Goal


http://localhost:2000/heresy

Hello World: 4

Omissions

- Unguessable session keys
- Session keys as query params
- Session locks
- Expiration from registry

Meaningful URLs don't carry enough meaning

Names make me think too much

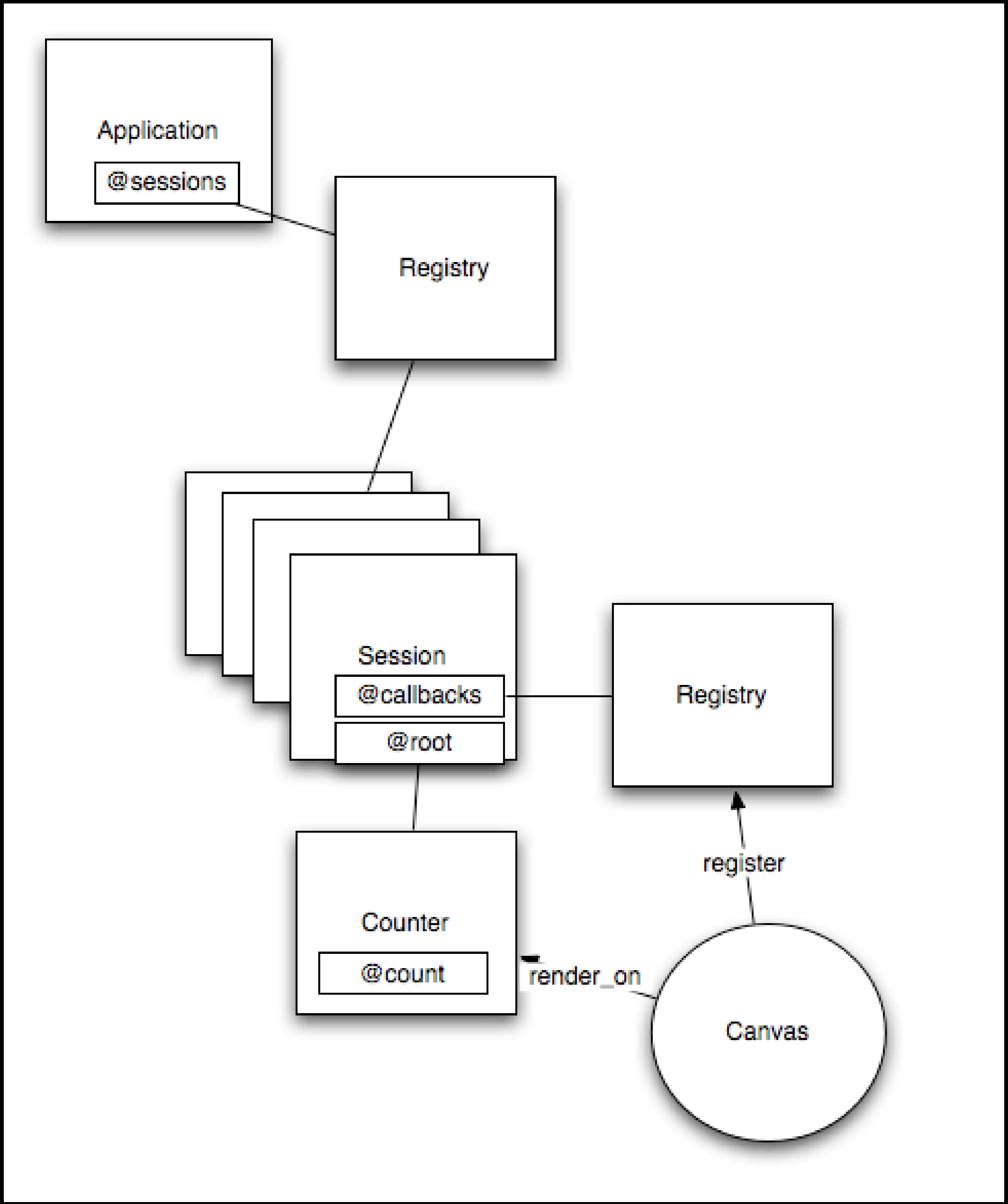
What acronym do we get this time?

DRY

(not everything is an API)

Inspiration:
TCL/TK

Implementation



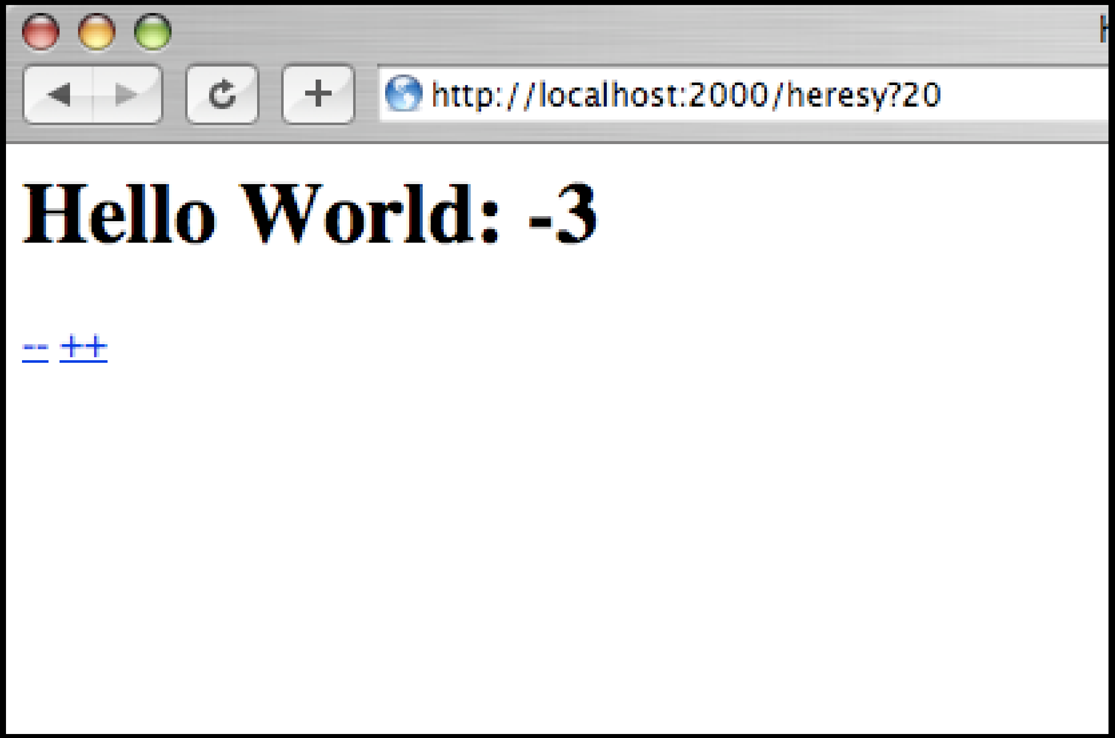
Re-implementation

```
class Session
    def initialize
        @callbacks = Registry.new
        @root = Counter.new
    end

   ....

end
```

Re-implementation

```
class Counter
    def initialize
        @count = 0
    end

    def render_on(html)
        html.heading("Hello World: #{@count}")
        html.link("--"){@count -= 1}
        html.space
        html.link("++"){@count += 1}
    end
end
```

Goal



http://localhost:2000/heresy?20

Hello World: -3

-- ++

Omissions

- Splitting callback registries up by page view
- Tracking the back-button
- Redirecting after side-effects
- Forms!

Pages are a lousy unit of reuse

And partials ain’t much better

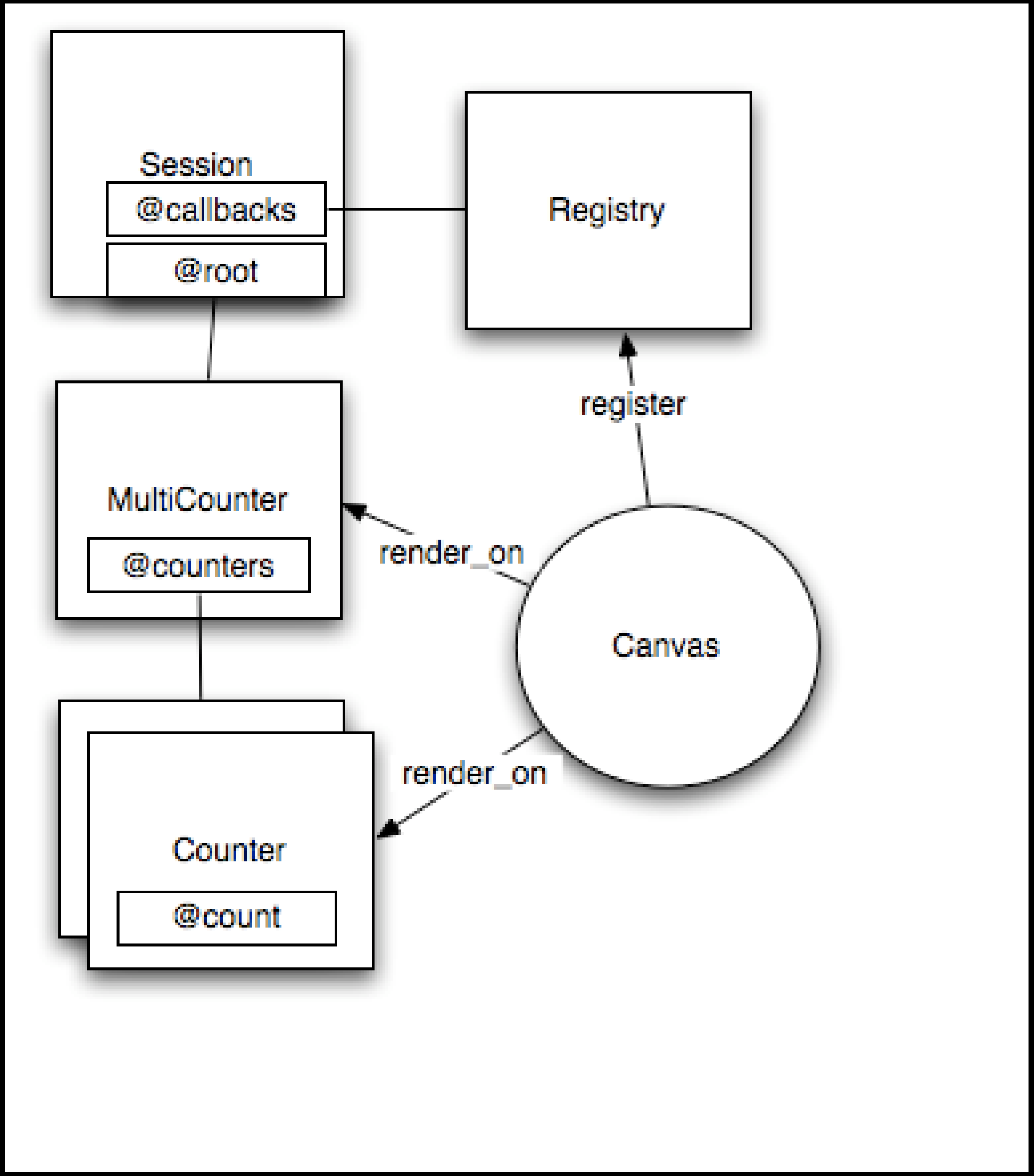
But every piece of my application is a beautiful and unique snowflake.

CSS

(cf. http://css.maxdesign.com.au/listamatic/)

Inspiration:
Can I say WebObjects again?

Implementation



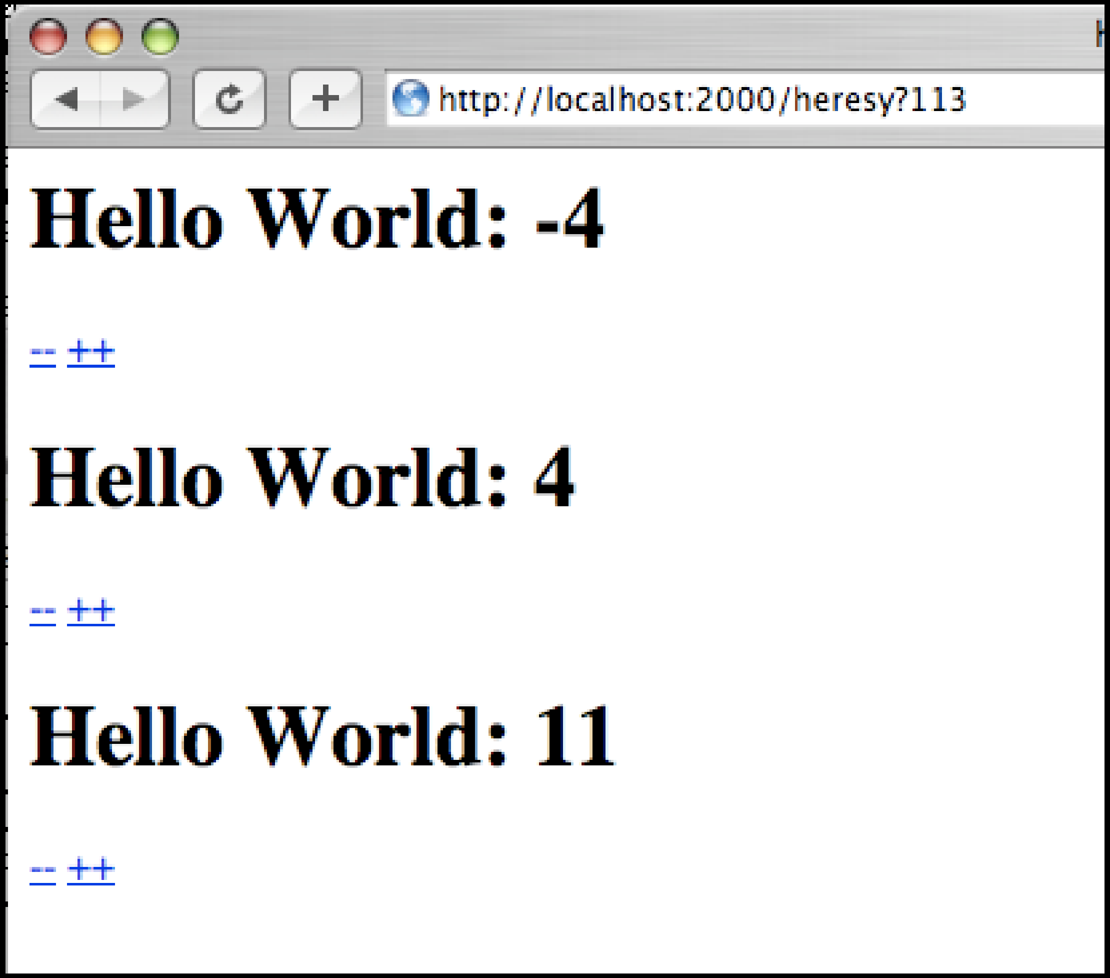
Re-implementation

```
class Session
    def initialize
        @root = MultiCounter.new
        ......
end

class Canvas
    def render(obj)
       obj.render_on(self)
    end
end
```

Re-implementation

```
class MultiCounter
    def initialize
        @counters = [Counter.new, Counter.new, Counter.new]
    end

    def render_on(html)
        @counters.each{|ea| html.render(html)}
    end
end
```

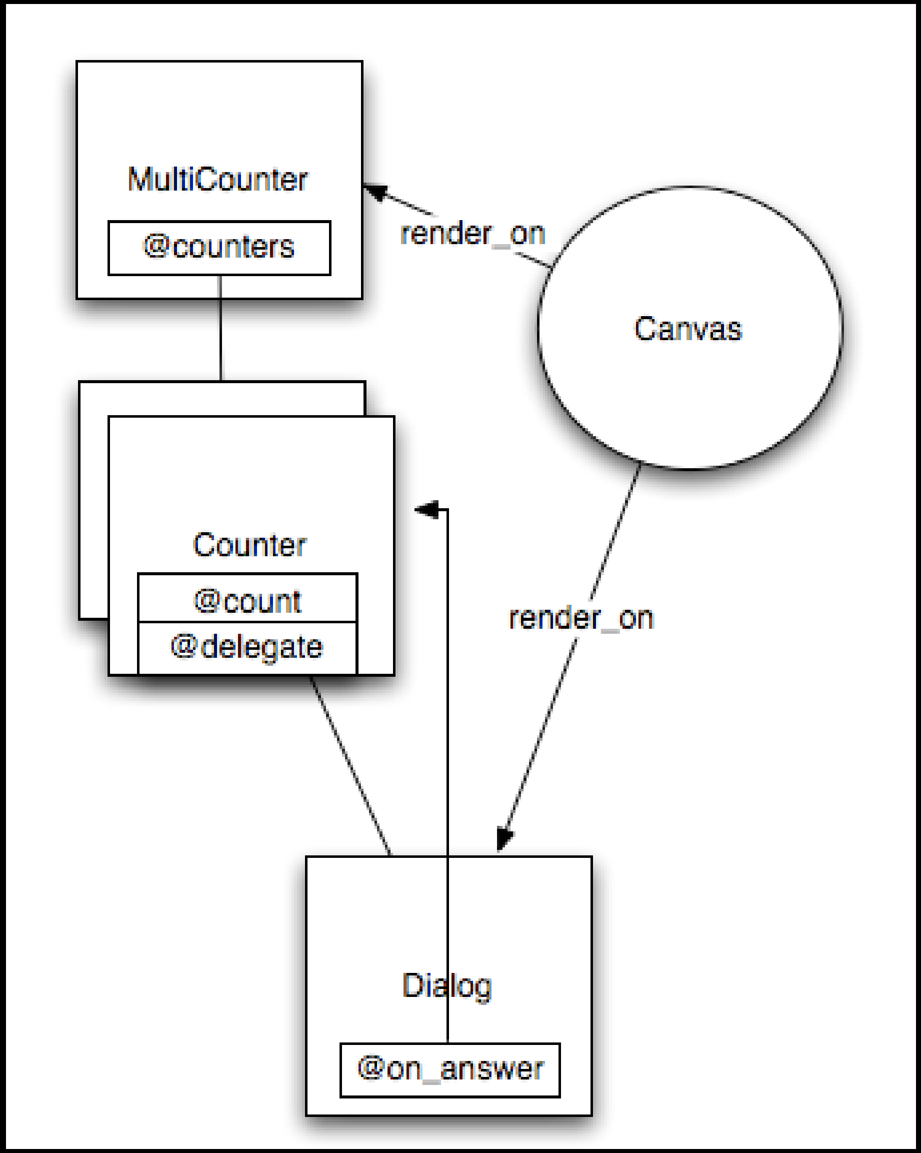
Goal



http://localhost:2000/heresy?113

```
Hello World: -4

-- ++

Hello World: 4

-- ++

Hello World: 11

-- ++
```

Omission: Call/Answer



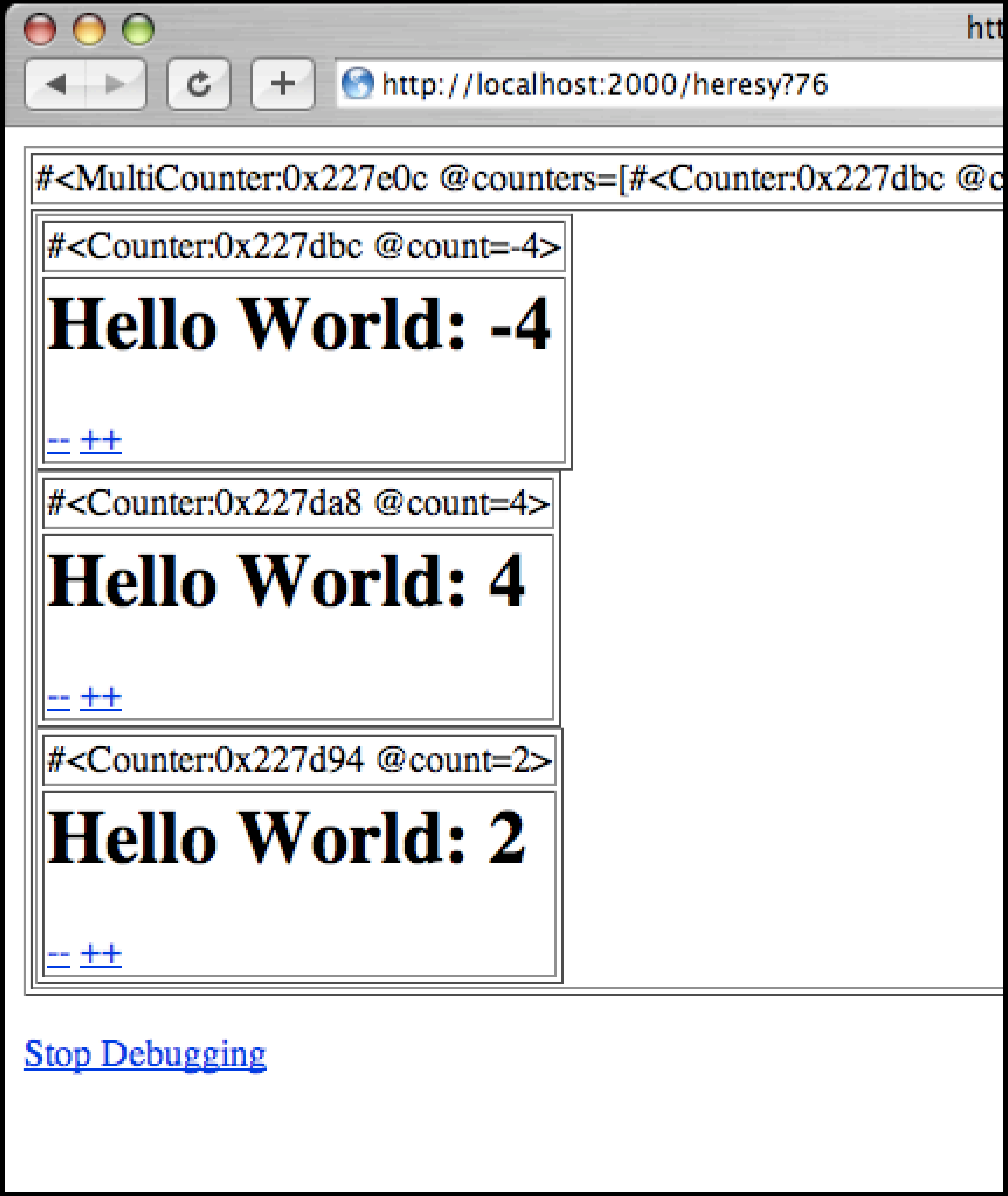
Extra Credit: Halos

Inspiration:
Squeak, Tapestry

Implementation

```
class Session
    def render_on(html)
        html.render(@root)
        html.p
        if @canvas_class == DebugCanvas
            html.link("Stop Debugging"){@canvas_class = Canvas}
        else
            html.link("Start Debugging"){@canvas_class = DebugCanvas}
        end
    end
end
```

Goal



#<MultiCounter:0x227e0c @counters=[#<Counter:0x227dbc @c

#<Counter:0x227dbc @count=-4>

Hello World: -4

-- ++

#<Counter:0x227da8 @count=4>

Hello World: 4

-- ++

#<Counter:0x227d94 @count=2>

Hello World: 2

-- ++

Stop Debugging