PHP vs Javascript

Which sucks harder?

Rules

- Referee: **The Suckometer**™ (written in Perl)

- 60 seconds per topic

- Topics

  - Syntax, Data Types, Scope, Name spaces and Packaging, Standard Library, Extensions Libraries

  - Procedural, Object Oriented, Functional and Meta Programming, AOP

  - Networking, Error Handling, Multi Tasking, Reflection, Garbage Collection, Security, Tools

  - Server Side, Client Side, Community, Documentation

Syntax

- Easy – the best of your favourite languages!
  - "JavaScript borrows most of its syntax from Java, but also inherits from Awk and Perl, with some indirect influence from Self in its object prototype system." - Brendan Eich

- Sexy one-liners
  - $("p.surprise").addClass("ohmy").show("slow");

- Narcissus – Javascript Self Interpreter
  - it could almost be Lisp!

Core Data Types

- Strings with Unicode support(!)
- Objects are everywhere
  - (102).toColorPart(); // prototype
- Easy type conversion
  - + operator overloaded, parseInt(), parseFloat()
- Simple Collections
  - Arrays for stacks, queues etc.
  - Who needs hashes? In Javascript: Objects
- Literal arrays / objects easy to generate
  - e.g. JSON – it's the new XML!

Scope / Name spacing / Packaging

- Lexical scoping rules simple and easy to remember:
  - If it ain't local… it's global
- Functions as name spaces – highly flexible!
- Dynamic package loading on Internet scale!
  - The library is everywhere:
    - Adsense
    - Maps
    - Tracking users

Standard Library

- All the basics you need

  - RegExp, Math, Date

- Browser APIs

  - The joy of DOM (OK: jquery)

  - XMLHttpRequest - the worlds most exciting API!

- And lots more...

  - J2SE (via Rhino)

  - .NET (via JScript.NET)

  - XPCOM (e.g. Firefox extensions)

  - wxJS (Javascript on wxWidgets)

Extension Libraries

- prototype – the hottest library ever…
- …apart from jquery, which is hotter
- JSAN http://www.openjsan.org/
  - CPAN for Javascript
- Mozilla dying to blow our minds
  - E.g. E4X - http://en.wikipedia.org/wiki/E4X
  - Canvas
  - Etc.
- Lots more cool stuff at http://www.mozdev.org

Procedural Programming

- All the control statements you know and love
  - if, else, for, while, do...while, switch
- Scales down
  - Remember "DHTML for Dummies"?

Object Oriented Programming

- (Almost) everything is an object
- Implicit this variable makes Java programmers feel right at home!
- Prototype based inheritance radically reduces lines of code

  - No need for inherits!

- Easy mix-ins at runtime

  - add behaviour to prototypes
  - add behaviour to objects

Functional Programming

- Functions are objects too!
- Functional programming blows your mind!
  - …and shrinks your codebase!
- Closures, monads, currying
- Continuations
  - via jwacs: http://chumsley.org/jwacs/

Meta Programming

- Object.prototype !

- ```
  # Dynamic cow…
  var cow = new Object();

  Object.prototype.moo = function() {
      alert('Moooooo!');
  }

  cow.moo(); # Oh Yes!
  ```

Aspect-Oriented Programming

- No need for ugly byte code hacks!

- Easy to roll your own
  http://www.jadetower.org/muses/archives/000391.html

- Or find library e.g. dojo.event.connect()

- And CSS selectors == dependency injection!!!

  – http://softwareas.com/css-the-tech-ajax-forgot

Networking

- XMLHttpRequest (AJAX)
  - When was the last time a network client API caused this much excitement?
- Via flash proxy to anywhere
- Otherwise take your pick of networking from;
  - Java (via Rhino)
  - .NET (via JScript.NET)
  - XPCOM
  - wxWidgets

Error Handling

- Exceptions, just like Java
- Including `finally`!

Multi Tasking

- Asynchronous XMLHttpRequest

- setTimeout() is so easy!

- Co-routines

  - Via jwacs: http://chumsley.org/jwacs/

- Iframes

Reflection

- typeof – it doesn't get any easier!
- ...except instanceof which is even easier!
- ...and is (Javascript 2.0)
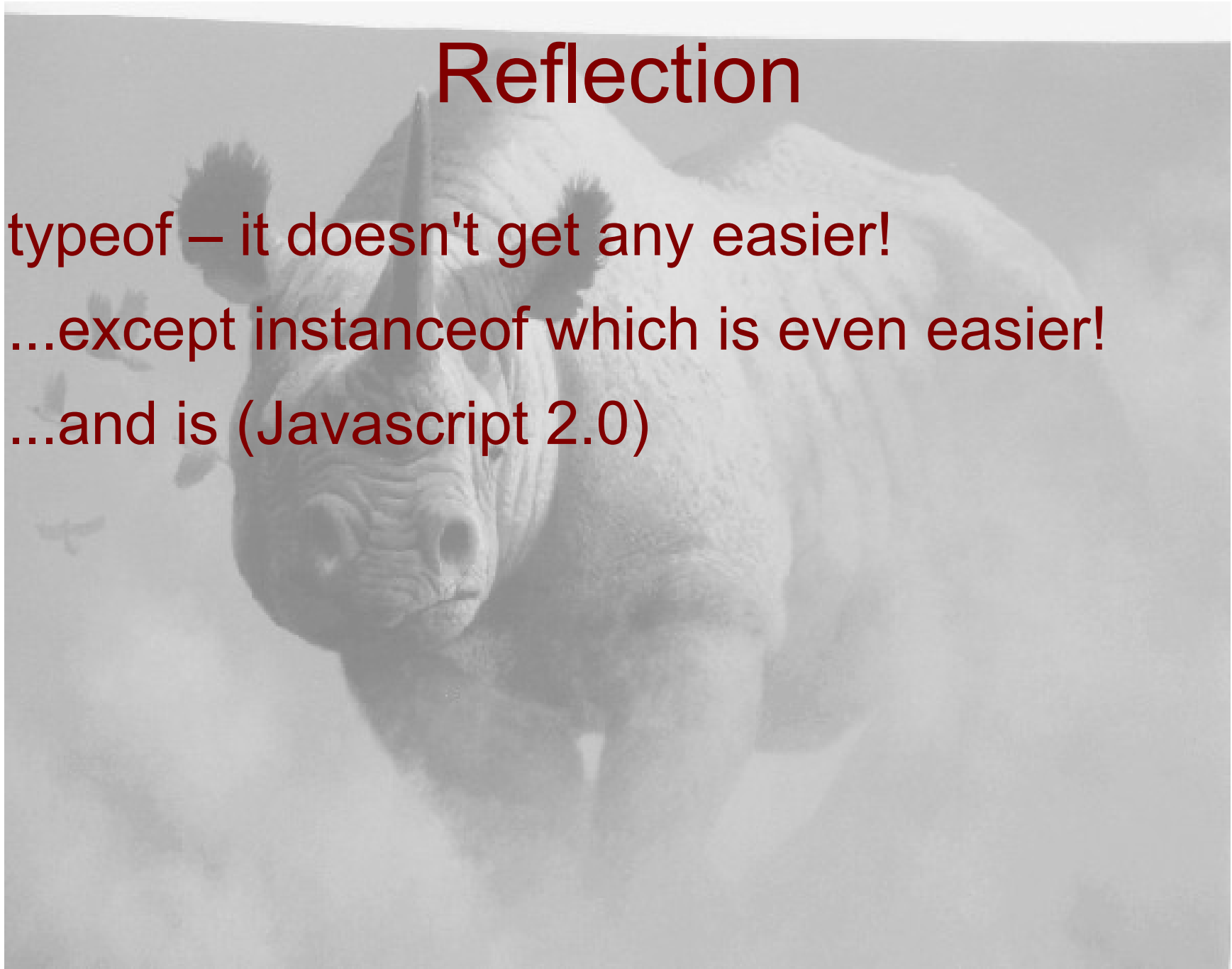
Garbage Collection

- Different implementations: easy to understand
  - Most: reference counting
  - Spidermonkey: mark and sweep
- Great tools
  - Leak Monitor
  - IE Leak Detector

Security

- No files, no problem!
  - Browsers keep all Javascript tightly locked down
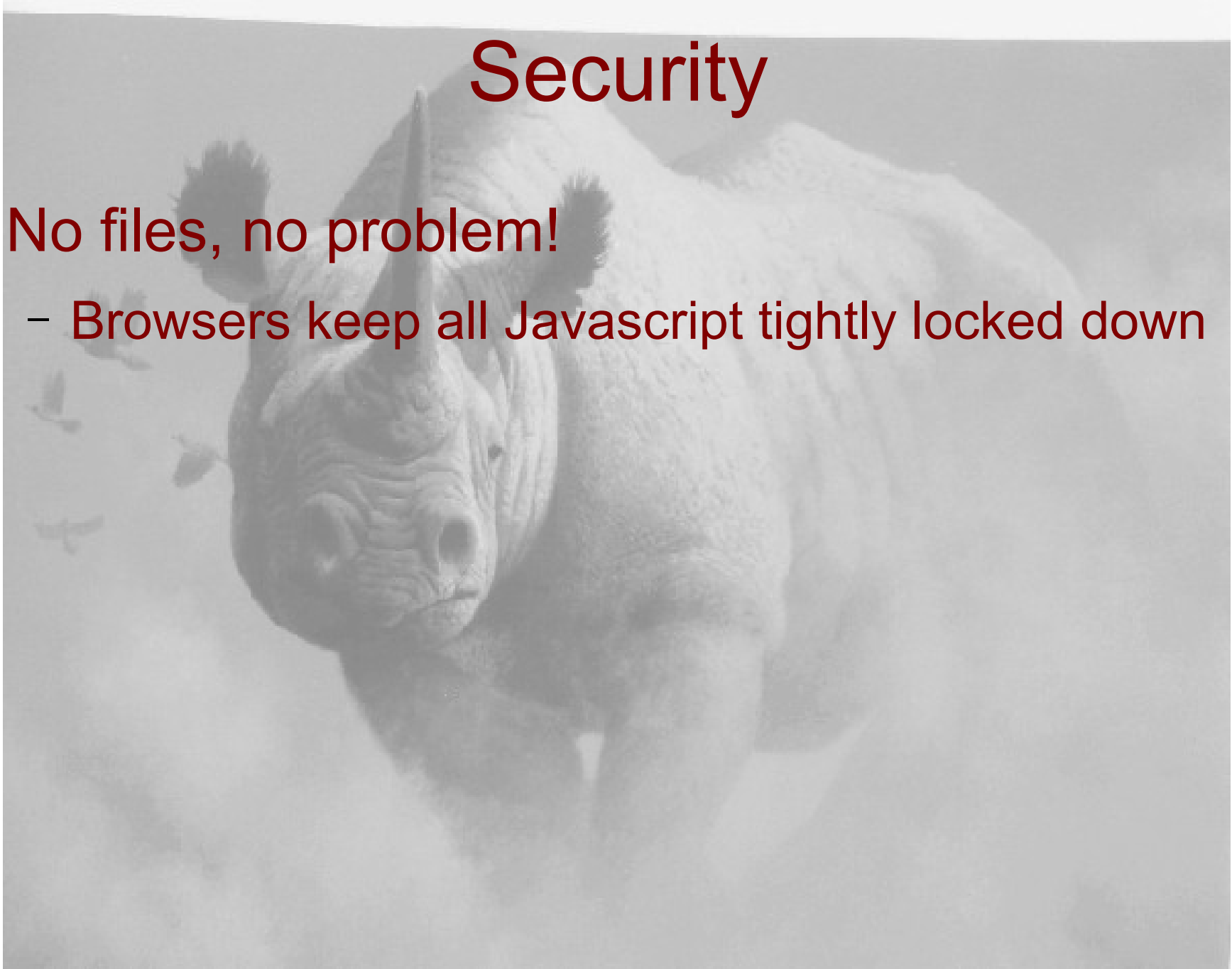
Tools

- They get better every day!
  - Selenium : *the* web app tester
  - Firebug
  - Visual Studio Debugger
  - JSEclipse

Server Side

- http://haxe.org/

- http://users.skynet.be/saw/wxJS/mod_wxjs/

- Javascript Servlets

- IIS: JScript + ASP.NET / ASP 3.0

- More: http://en.wikipedia.org/wiki/Server-side_JavaScript

Client Side

- Your browser! AJAX! Revolution.
- Mozilla
  - Firefox extensions
  - Xulrunner
- wxJS!

Final Rave

- Steve Yegge (ex-Amazon, now Google)

  "**JavaScript is probably the most important language in the world today**."

- Are you still stuck on the server-side?