

# Don't Fear the Platform

Integrating GemStone and OS X

# Mac OS X

- Programming Language: Objective-C
- Libraries: Cocoa (Foundation / AppKit)

# Objective-C

## The Good

- Superset of C
- Smalltalk message passing semantics
- Class extensions
- Optional compile-time type checking

# Objective-C

## The Bad

- Not everything is an object
- Blocks were not added until OS X 10.6
- Garbage collection is optional
- **become:** is nowhere to be found

# Cocoa

## The Good

- Well-designed views (widgets)
- Interface Builder
- CoreData for local applications

# Cocoa

## The Bad

- No network-ready data store

# GsKit

## Goals

- Make GemStone object instances first-class citizens in the Objective-C runtime
- Be simple

# GemStone Browser



# GsKit

## Usage

```
GSConnection * con = [GSConnection new];
BOOL success = [con connectToStone:@"!tcp@localhost#server!seaside"
                    asUser:@"DataCurator"
                    withPassword:@"swordfish"
                    usingService:@""];
id anAssociation = [con execute:@" 'ice cream' -> 'gelato' "];
[anAssociation key];           // @"ice cream"
[anAssociation value];        // @"gelato"
[anAssociation class];        // GSProxy
// Estem en Catalunya, doncs...
[[anAssociation key:@"helado"] value:@"gelat"];
[anAssociation displayString]; // @"'helado'->'gelat'"
```

# GsKit

## Implementation

- **Immutable types are copied:**
  - String > NSString
  - Number > NSNumber
  - Boolean > NSNumber (what the...?)
- **Collections are specially wrapped:**
  - Dictionaries are wrapped in GSDictionary
  - OrderedCollections are wrapped in GSArray
- **All other objects (for now) are “GSProxy”**

# Demonstration

# Unresolved Issues

- **Boolean values**
  - Objective-C can't tell a bool from a number!
- **Lack of Interest**

# Future Features

- Multi-user Change Notification
- Automatically persisting ObjC classes
  - Just storing instance variables, logic would stay in Objective-C
- Dynamically create ObjC proxy classes
- Magritte?

# A Smalltalk Sandwich