Why Smalltalk

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Origins

- Xerox PARC

  - Where all the other good stuff came from

  - Designed to be easy to learn

Origins

- Message Passing: You tell objects what to do

- Easy to read syntax: More like human language

- Complexity in the library, not in the language

What's Cool About It?

Maturity

- Smalltalk has been in widespread use since the mid '80s

- Multiple implementations

  - Commercial

  - Open Source

- It's influence is felt beyond the Smalltalk community

Influences

- Sun almost picked Smalltalk

  - ParcPlace was too greedy for license fees

  - Instead, Oak became Java, with major influences from Smalltalk

Influences

- Java

  - Class Based

  - Single Inheritance

  - VM/byte code system

  - Portability

Influences

- Erlang

  - Joe Armstrong originally wanted to use Smalltalk

  - At the time, it was not ready for what he needed, and the vendors were slow to respond

  - Developed the concurrency model for Erlang around message passing

  - Erlang itself has gone on to influence concurrency models in language design

Influences

- Dart

  - Developed by Gilad Bracha and Lars Bok

  - Both have delivered Smalltalk derived systems (Newspeak, OOVM)

Influences

- Dart

  - Class Based

  - Single Inheritance

  - Optional Typing (Dynamic)

  - Supports Named Parameters (readability)

  - Built to Support Better Tooling

Dart Example

Dart

```
aMap.
    at: 'one',
    ifAbsent: ()=>
throw SomeException;
```

Smalltalk

```
aMap
        at: 'one'
        ifAbsent: [someException raise]
```

Influences

- Unit Testing/XP/Test Driven Development

  - Originated in Smalltalk (C3 Project)

  - SUnit (father of all unit testing frameworks)
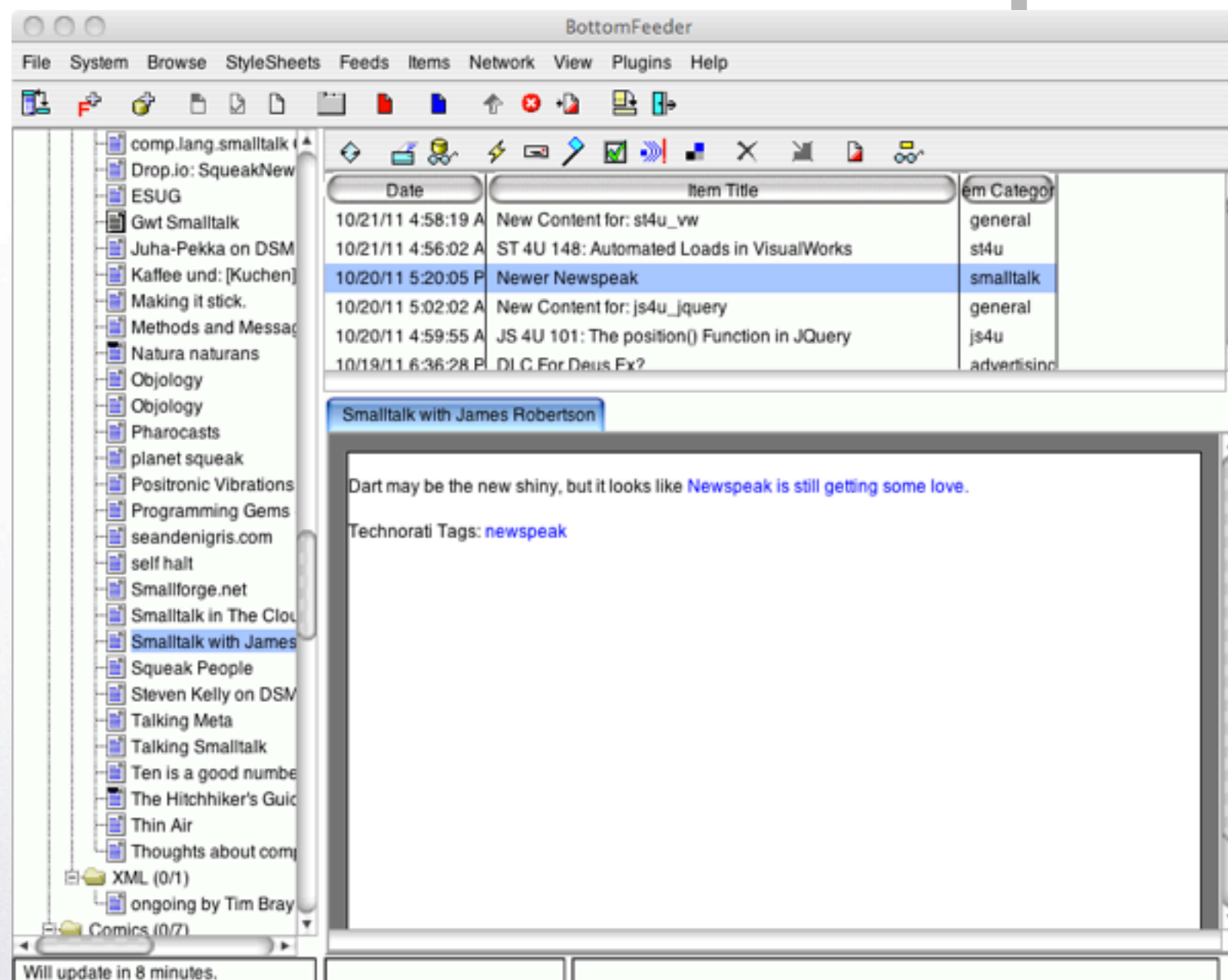
  - Now industry standard

Influences

- Test First has been an implicit part of Smalltalk

- Explore in a workspace

- Then commit to code

- SUnit formalized the process

- Now seen as a best practice

A Small Example

A Small Example

- BottomFeeder RSS Aggregator
  - Developed in Smalltalk
  - Happened by accident
  - I needed a way to verify the RSS feed for my blog (also in Smalltalk)
  - .... Started in a Workspace
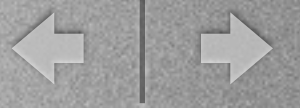
Influences

- The Web

    - It's all about message passing

    - Send a message to a system

    - Get a response

    - Loosely typed

    - Respond in some way to all requests

    - Don't just fail

So Why Smalltalk Now?

Exploration

- Nothing Supports Exploratory Programming Better

    - Quite Often, you don't understand the problem fully

    - You want to try multiple approaches

    - You don't want to feel locked in

Exploration

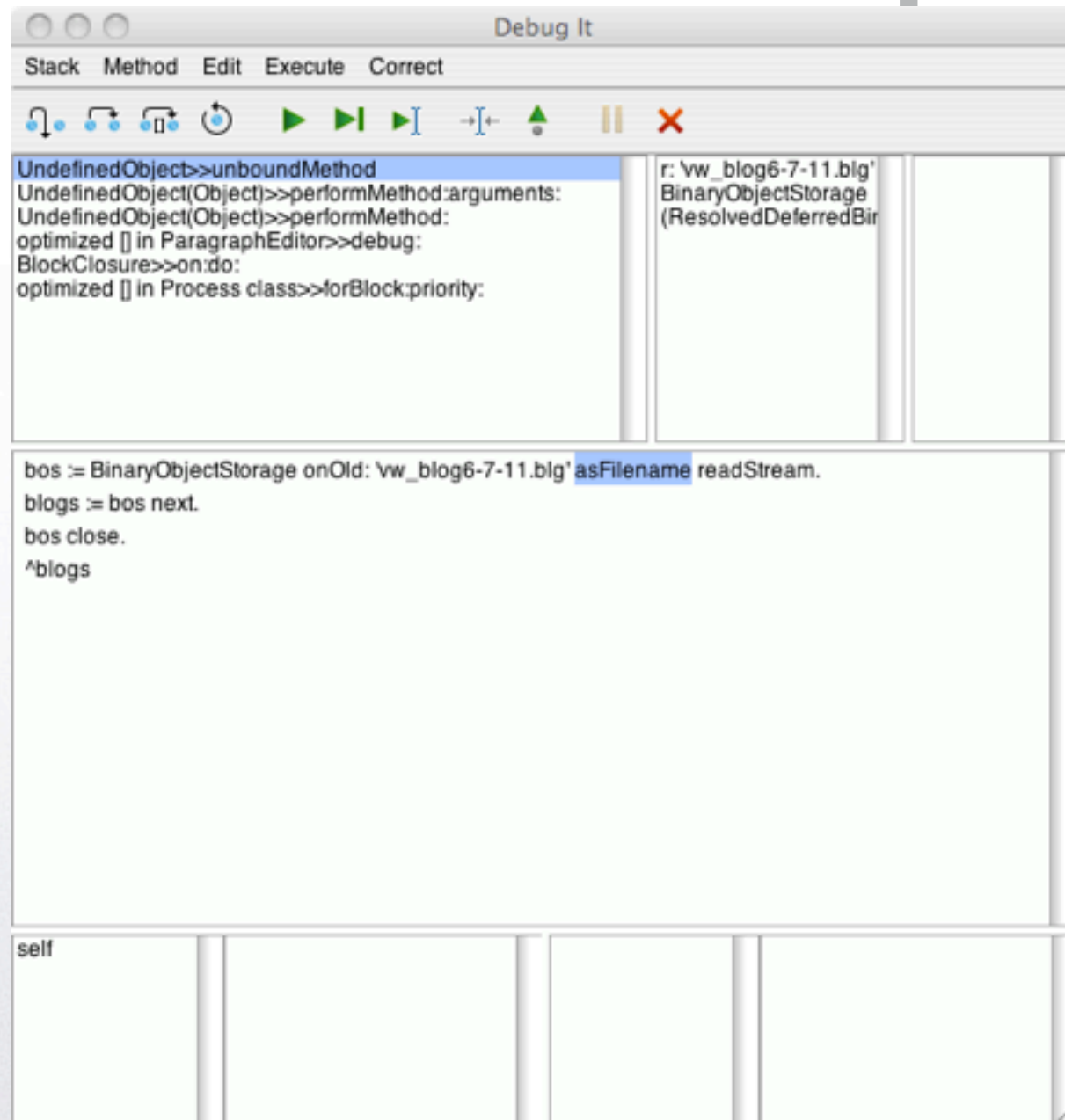**Ad Hoc Coding
Explore without
Committing**

Exploration

- This is how Most Smalltalk Developers Work

  - Write Some code to flesh out an idea

  - Twiddle

  - Rinse/Repeat

  - Commit to a design when it seems promising

Exploration

Managing State in Your Head is Hard

Smalltalk Doesn't Require That

The Debugger is a Browser

...That lets you debug code

Replacement

- No System Lasts Forever

    - Every Large System Evolves

- Smalltalk makes it easy to rip out a subsystem

- Dynamic typing makes it easier to support interfaces

Options

- There are a wide variety of Implementations

  - Commercial

  - Open Source

  - Easy to download and check out

Commercial Options

- Cincom Smalltalk

- http://www.cincomsmalltalk.com

  - VisualWorks

  - ObjectStudio

Commercial Options

- Instantiations

- http://www.instantiations.com/

  - VA Smalltalk

Commercial Options

- VMWare (Gemstone)

- http://www.gemstone.com/products/gemstone

  - Gemstone/S

    - GLASS

Commercial Options

- Object-Arts

- http://www.object-arts.com/

  - Dolphin Smalltalk

Commercial Options

- eXept

- http://www.exept.de/en/products/smalltalk-x/stx-overview

  - Smalltalk/X

Open Source Options

- Squeak
  - First OSS Smalltalk, derived from the original ST 80
- http://squeak.org

Open Source Options

- Pharo

  - Fork of the Squeak Project

  - Oriented at Professionals

- http://www.pharo-project.org/home

Open Source Options

- Amber

  - Smalltalk running on Javascript

  - http://www.amber-lang.net

Open Source Options

- Redline Smalltalk
  - Smalltalk on the JVM
  - http://www.redline.st

Other Resources

- Smalltalk Industry Council

  - http://stic.st

  - Annual Conference, next one in March 2011

- ESUG

  - http://esug.org

    - Annual Conference, next one in Fall 2012

Other Resources

- My Blog
  - http://www.jarober.com
  - Largely Smalltalk Focused

Other Resources

- Independent Misinterpretations

  - Weekly Podcast

  - Smalltalk/Dynamic Language Focused

  - http://www.jarober.com/blog/im.ssp

  - Look for it on iTunes

Other Resources

- Smalltalk 4 U
  - Screencasts 3 times a week
  - http://www.jarober.com/blog/st4u.ssp
  - Look for it in iTunes and Facebook

Questions?

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