

Powering Air with Rails

Daniel Wanja & Tony Hillerson | RailsConf 2008

Agenda

Overview of AIR

AIR APIs

10 AIR Apps

Questions

Get the slides and apps

If you have git:

```
git clone git://github.com/danielwanja/railsconf2008.git
```

If you don't have git:

<http://github.com/danielwanja/railsconf2008>

Resources

<http://www.adobe.com/products/air/> - AIR home

<http://www.adobe.com/go/marketplace> - AIR apps

AIR with HTML:

<http://livedocs.adobe.com/air/1/devappshtml/>

<http://ajaxian.com/archives/adobe-air-free-book-download>

AIR with Flex:

<http://www.adobe.com/products/air/develop/flex/>

<http://livedocs.adobe.com/flex/3/langref/index.html>

Watch This Space:

<http://flexonrails.com>

Daniel Wanja

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Started coding 28 years ago

Professionally since 23 years

Switzerland, Australia, Denver

d@n-so.com

Love Rails, Love Flex/AIR

Own Consulting Firm (wife+me)

Industries: eCommerce, Banking,
Insurance, online food ordering

Own startup: MySpyder.net (not
starting up!)

<http://onrails.org>

twitter: danielwanja

Customer Work

Digital-Seed.com - Rails

Hey there! You have a pod group meeting in 3 days and you haven't said if you'll be there. [Respond now!](#)

You have 2 new discussion items.

You are logged in as Sean C. [Logout](#) 

[Home](#) [Learning Modules](#) [Your Pod](#) [Your Notebook](#) [Settings](#) [Account](#)

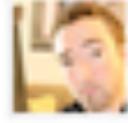
Overview

View [Thumb](#) [List](#)

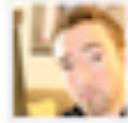
	Introduction	Welcome and Introduction	
Week 1	Mindfulness, Presence and the Mastery of Attention	Oct 23 - Oct 28	
Week 2	Living on Purpose: Exploring Mindfields of Personal Mastery	Oct 30 - Nov 4	
Week 3	Living and Working in the Zone	Nov 6 - Nov 11	
Week 4	Synergy of Inner and Outer Work	Nov 13 - Nov 18	
Conclusion	Wrap-Up and Conclusion		

[Hide Module Navigator](#)

Latest Comments from Your Pod Group

 Sean said:
Posted about 6 hours ago on October 10 at 11:45 AM...
Hi mom!

[Respond to this comment](#) or [see all discussions](#) ➔

 Sean said:
Posted about 6 hours ago on October 10 at 11:45 AM...
Hi mom!

Keep in Mind ... 

You have not completed any activities yet. Head on over to [Welcome & Introduction](#) to get started.

You have 27 days left before your pod group moves to the next module.

Upcoming Events 

 Friday, October 13 (2 days away)
What: Kickoff
Where: San Diego Office (San Diego)
When: 11:00AM on October 13

EffectiveUI - Rails - helped out with beta signup



Gately's - Rails

GATELY'S
SERVICE, QUALITY & RELIABILITY
SINCE 1917

FREE SHIPPING ON ALL ORDERS EVERY DAY!

My Account | About Us | Our Guarantee | Customer Service | FAQ | Business Sales

0 Items

FABULOUS FALL SALE! UP TO 40% OFF STOREWIDE!

Buy Fast. Feel Secure. Enjoy No Payments for 90 Days with **BillMeLater** on orders over \$250 View Disclosure >

Workout Room

Exercise Machines

- Exercise Bikes
- Elliptical Machines
- Treadmills
- Home Gyms
- Stair Steppers

[View all 7 subcategories >](#)

Free Weight Equipment

- Dumbbells/Barbells
- Weight Sets
- Weight Racks
- Weight Bars
- Collars

[View all 11 subcategories >](#)

Accessories

- Boxing Equipment
- Inversion Tables
- Pilates Balls
- Pedometers
- Massage Tables

[View all 16 subcategories >](#)

Women's Fitness

- Pilates
- Yoga
- Fitness Balls
- Dumbbells & Weights
- Accessories

Spas

- Keys 2 Person 7 Jet Corner Spa
- Keys 3 Person 30 Jet Corner Spa
- Keys 6 Person 31 Jet Spa
- Keys 6 Person 40 Jet Spa with Stainless Accents
- Keys 7 Person 50 Jet Spa

[View all 5 products >](#)

SAFE SHOPPING     

[Click Here](#) to sign up to receive discounts, promotions and special offers via email!

Where is my order?
[Order Status](#)
[Questions About My Order](#)
[Ask Us A Question](#)

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Copyright ©2007 Gatelys. All Rights Reserved.

LT2SYS

 Joe's All American Grill

You have a pending order! [Edit Order](#) | [Checkout](#)

[Log In](#) | [Create Account](#)

[Locations](#) | [Order History](#) | [Order The Usual](#)

You have chosen location **1962 E. Colfax Avenue, Denver, Colorado 80206** Phone: 720 482-7823
ORDER TO BE READY AT: **May 21, 2008 09:29 AM**

[1. When Are You Coming?](#) | [2. What Are You Hungry For?](#) | [3. Check Out: See You Soon!](#)

[Starters and Sides](#) | [Salads](#) | [Sandwiches](#) | [Burgers](#) | [Steak & Entrees](#) | [Pizza](#) | [Desserts](#)


Choose from these great Sides and Starters!

 **ONION RINGS - \$4.25**

 **BUFFALO WINGS - \$6.25** X
They flew to town just for you

[Select this item »](#)

 **CHICKEN FINGERS - \$5.95**

[View Order](#)

Create your **TERIYAKI WINGS**
Base price: \$6.25

[Add to Order](#)

Who is this for?
How many of these do you need?

Special Instructions:

[Add to Order](#)

Compassionate Communication - Rails

Your Account | Sign out

Hello, Daniel. (Not Daniel? [Sign in here.](#))

STEP 1
Choose a charity.

STEP 2
Select recipients. **Selected**

STEP 3
Place your order.

Select Recipients

Your Card Recipients

You have selected 5 card recipients. Congratulations! Please [place your order »](#)

 **Jordan H.**  **Sarah C.**  **Matthew C.**  **Annalisa T.**  **Savannah R.**

Make A Child Smile

Want a different charity? [Go back to step 1.](#)



Tyler B.

Treatment Status: *In Treatment*

Tyler was born 5/12/93. At the age of 6 months, custody of him and his 3 year old sister was transferred to his g ...

[Read more ...](#)

Narrow Your Search

Age Range:

Gender:

Language:

Treatment Status:

Fiserv - Flash/Flex Insurance Software

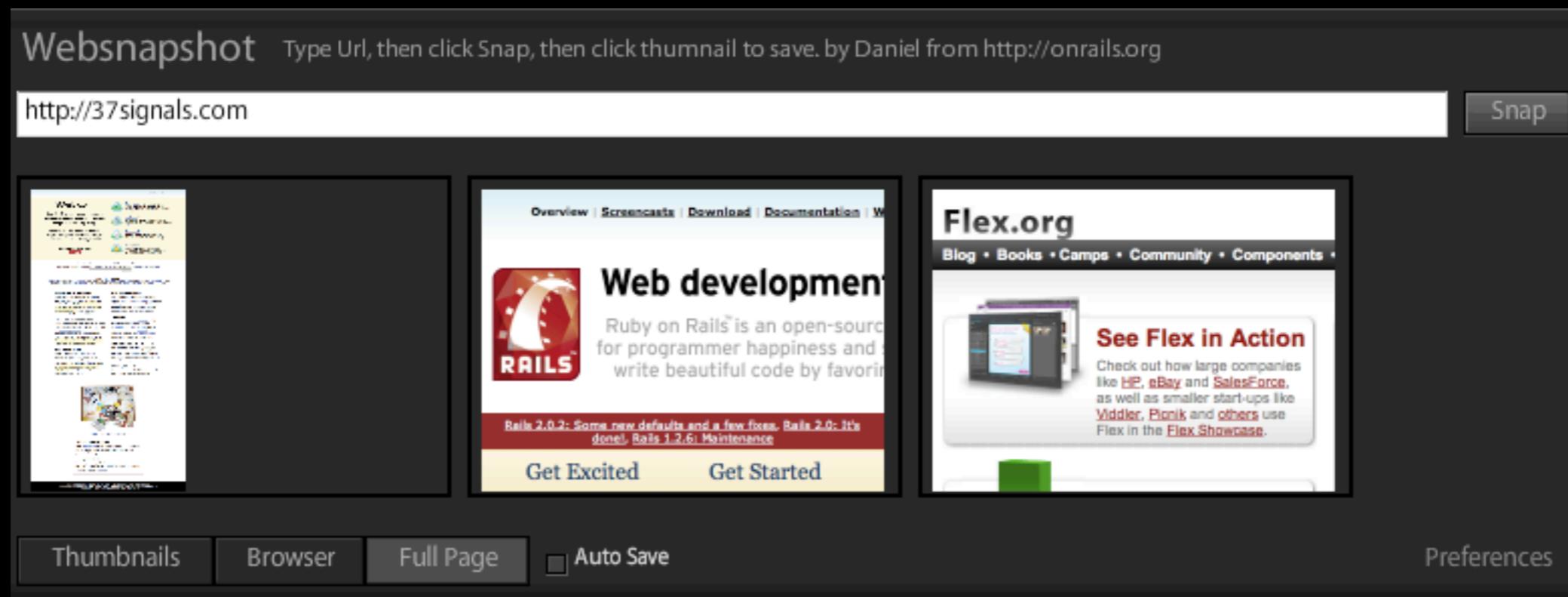


My Work

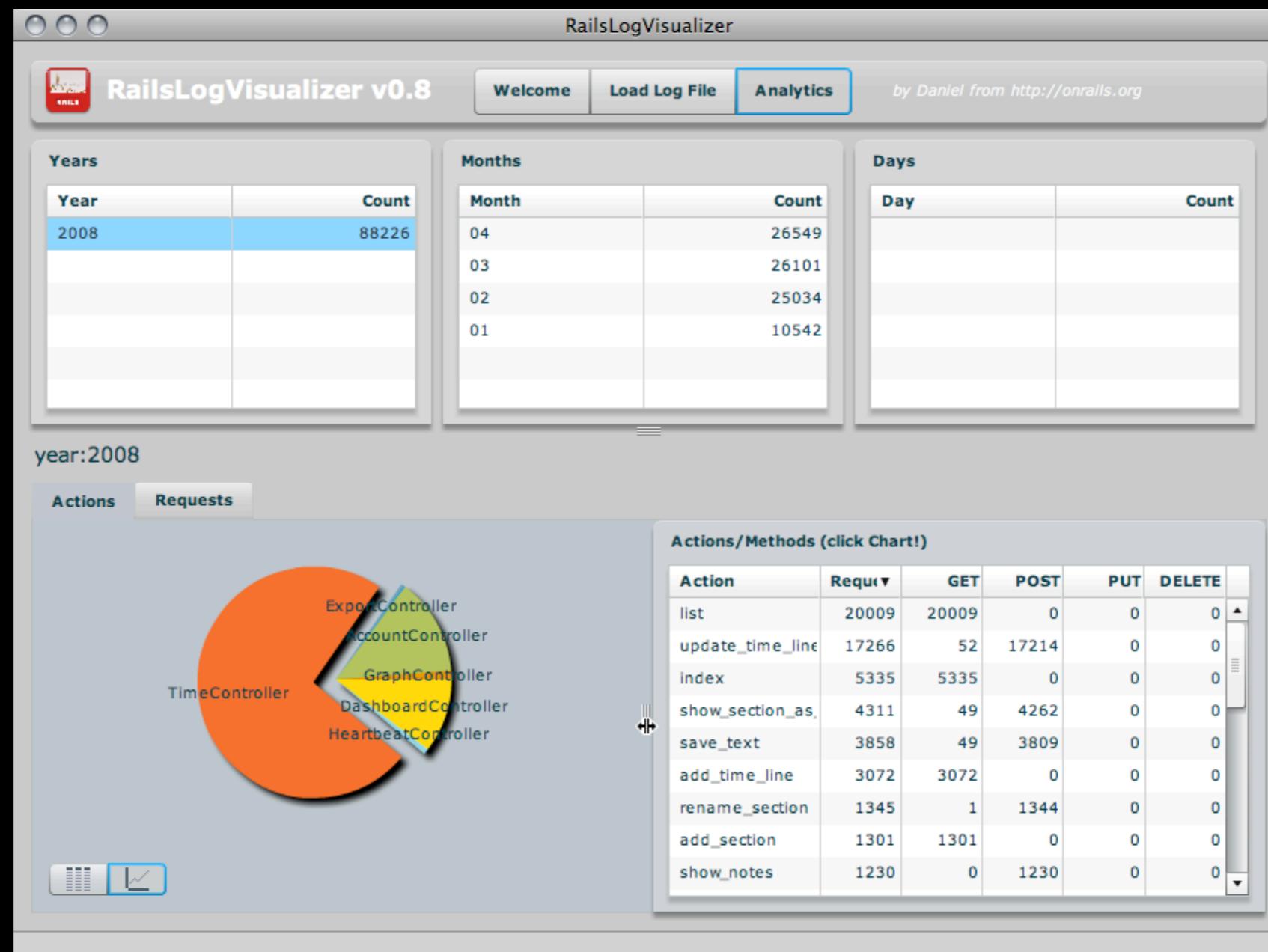
time.onrails.org - Rails (2005)

June [Edit Rename Delete Blinksale Invoice]					
9	12:00-13:54	Start Now			01:54 [1.90]
10	07:19-08:00	09:57-11:39	12:48-13:11	16:12-16:29	Start Now 03:03 [3.05]
11	12:45-13:15	16:00-16:39	Start Now		01:09 [1.15]
12	08:27-09:40	11:30-End Now			11:19 [11.33]
13	08:00-12:00	13:00-17:00	Start Now		08:00 [8.00] 
Total 25:25 [25.43]					
New Day			Add Notes		

WebSnapshot - AIR



RailsLogVisualizer - AIR

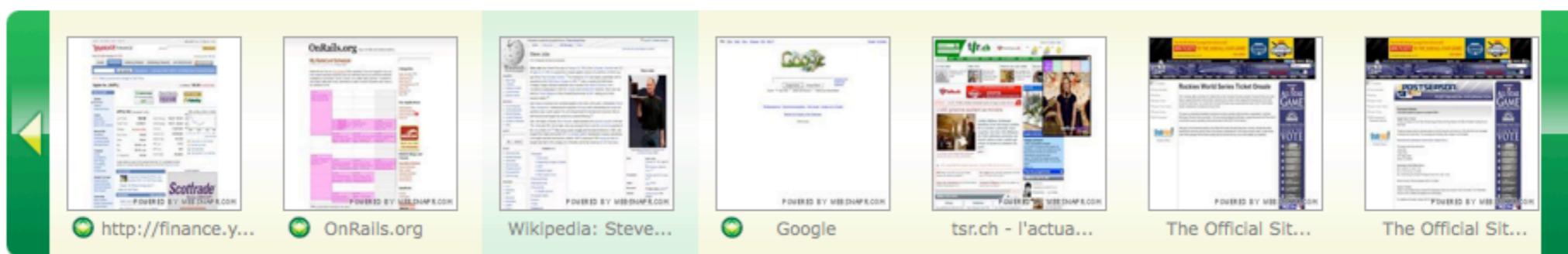


MySpyder.net - Rails (not public yet)

 **myspyder.net**
Watching the web for you

Pages Account Logout
daniel@nouvelles-solutions.com 

You are currently watching... 



http://finance.yahoo.com
OnRails.org
Wikipedia: Steve Jobs
Google
tsr.ch - l'actualité suisse
The Official Site...
The Official Site...

WATCHED RESULTS FOR: Wikipedia: Steve Jobs [Delete](#) | [Edit](#)

Page: http://en.wikipedia.org/wiki/Steve_Jobs Watching: Every hour

2007-07-16 22:45:07	Changes from 2007-07-16 21:30:11 to 2007-07-16 22:45:07	
2007-07-16 19:15:08	Steve Jobs	Steve Jobs
2007-07-16 09:45:07	Born:	Born
2007-07-15 00:30:06	February 24, 1955 (1955-02-24) (age 52)[1]	February 24, 1955 (1955-02-24) (age 52)[1]
2007-07-14 19:30:13	San Francisco, California[1]	San Francisco, California[1]
2007-07-14 12:00:06	Occupation:	Occupation
2007-07-14 09:30:06	CEO of Apple Inc.[2]	CEO of Apple Inc.[2]
2007-07-14 03:30:07		
2007-07-14 02:15:14		
2007-07-14 01:00:07		
2007-07-13 21:15:13		

Tony Hillerson
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EffectiveUI

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effectiveui

A Brief History (not to scale)

1998 ---- dot bomb! ----- Present

Flash => Flex/AIR

Perl => Cold Fusion =>

Java => Rails

Fiserv - Flash/Flex Insurance Software



effectiveui

eBay Desktop

The screenshot shows the eBay Desktop application window. At the top, there's a search bar with the text "wii console". The eBay logo is in the center of the header, and the user's name "danielvanja (logout)" is on the right. Below the header, there are sections for "Top Keywords" and "Categories". The "Top Keywords" section includes links like "Nintendo (30)", "Game (15)", "New (15)", "Games (10)", "For (7)", "Sports (8)", "Remote (6)", and "System (5)". The "Categories" section includes "Video Games (1547)", "Everything Else (10)", "Clothing, Shoes & Accessories (1)", and "Specialty Services (1)". On the left, there's a sidebar titled "Results" showing search results for "wii console". The first result is a "Holographic SKIN CASE COVER MOD" for \$7.99. The main content area displays a listing for "Item #432012672470" titled "Nintendo Wii - Game console". It shows a photo of the console and a remote, and includes details like "Seller (99.4%)", "Bids (0)", and "Shipping/Payment (\$30.00)". A large orange box on the right says "ITEM ENDED" and shows the high bidder was "armywfe07" who bid \$325.00. The bottom of the screen has a footer with the text "***** Brand New In Box Nintendo Wii Console. I Have This Item IN HAND WITH RECEIPT. I will ship really fast and You can check my Excellent Feedback. Includes 5 Snoots Games, Boxing, Tennis.", the text "eBay San Dimas Beta 0.5.012", and buttons for "Watching", "Bidding", and "Checkout".

fectiveui



Short Cuts

Enterprise Application Development with Flex

by Tony Hillerson and EffectiveUI Inc.

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Released: January 23, 2008

This Short Cut takes a look at a set of tools and technologies that work together to allow developers to build Rich Internet Applications (RIAs) quickly and easily on top of proven enterprise technologies that are traditionally associated with long, complex development efforts.

Tony Hillerson is a Software Architect for EffectiveUI. He graduated from Ambassador University with a BA in MIS. On any given day he may be working with Flex, Java, Rails, Maven, Ant, Ruby, or shell scripts. Tony has contributed to many community projects, such as RubyAMF. Tony has spoken at 360|Flex and Adobe MAX, as well as local user groups.

Technical Reviewers: Jeff Vroom, Ben Elmore, Steven Webster, and Matt Chotin

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Enterprise Application Development with Flex

effectiveui



RubyAMF

Rails Remoting for Flash/Flex

<http://rubyamf.org>

<http://rubyamf.googlecode.com>

effective*ui*

<http://thillerson.blogspot.com>

twitter: thillerson

effectiveui

What is Air?

What is Air?

Adobe Integrated Runtime

What is Air?

Desktop Applications

built with

Web Technologies

What is Air? > Desktop Applications

Offline/Online

Windowing

OS and File System

Device Access

What is Air? > Web Technologies

HTML/JS

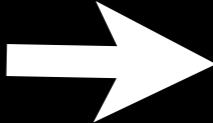
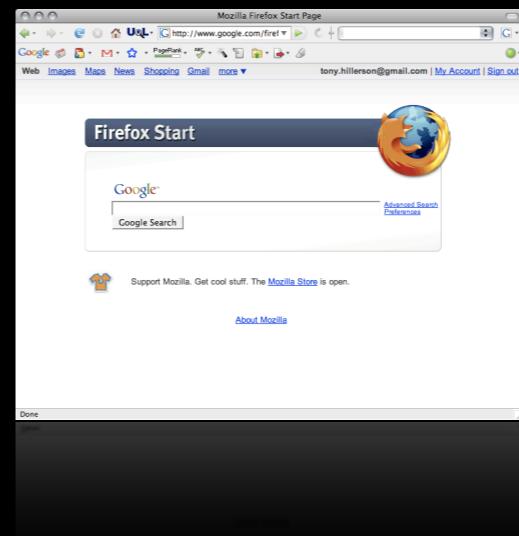
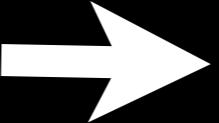
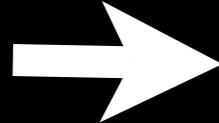
Flash

Flex

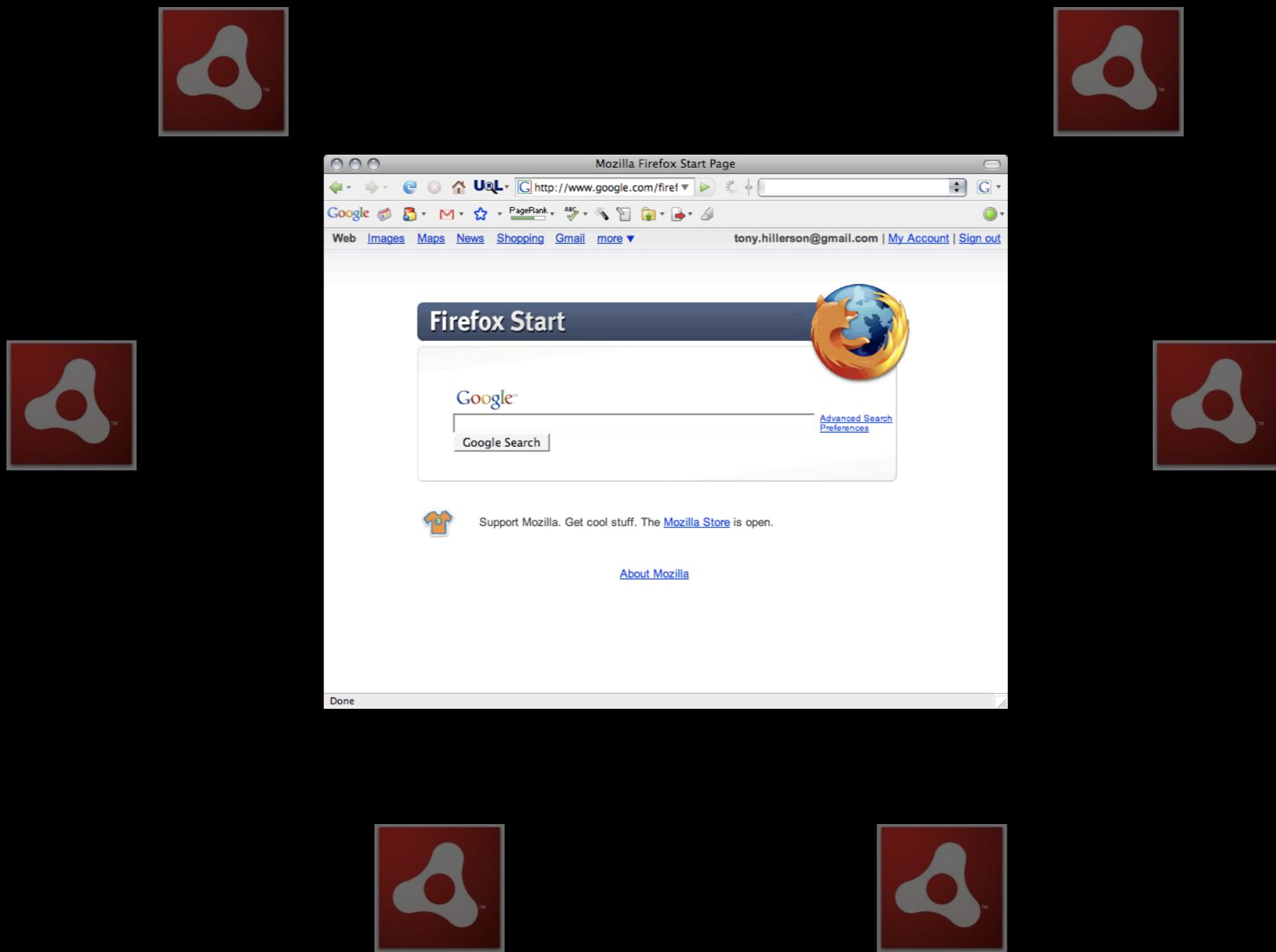
How To Think About AIR

How To Think About AIR

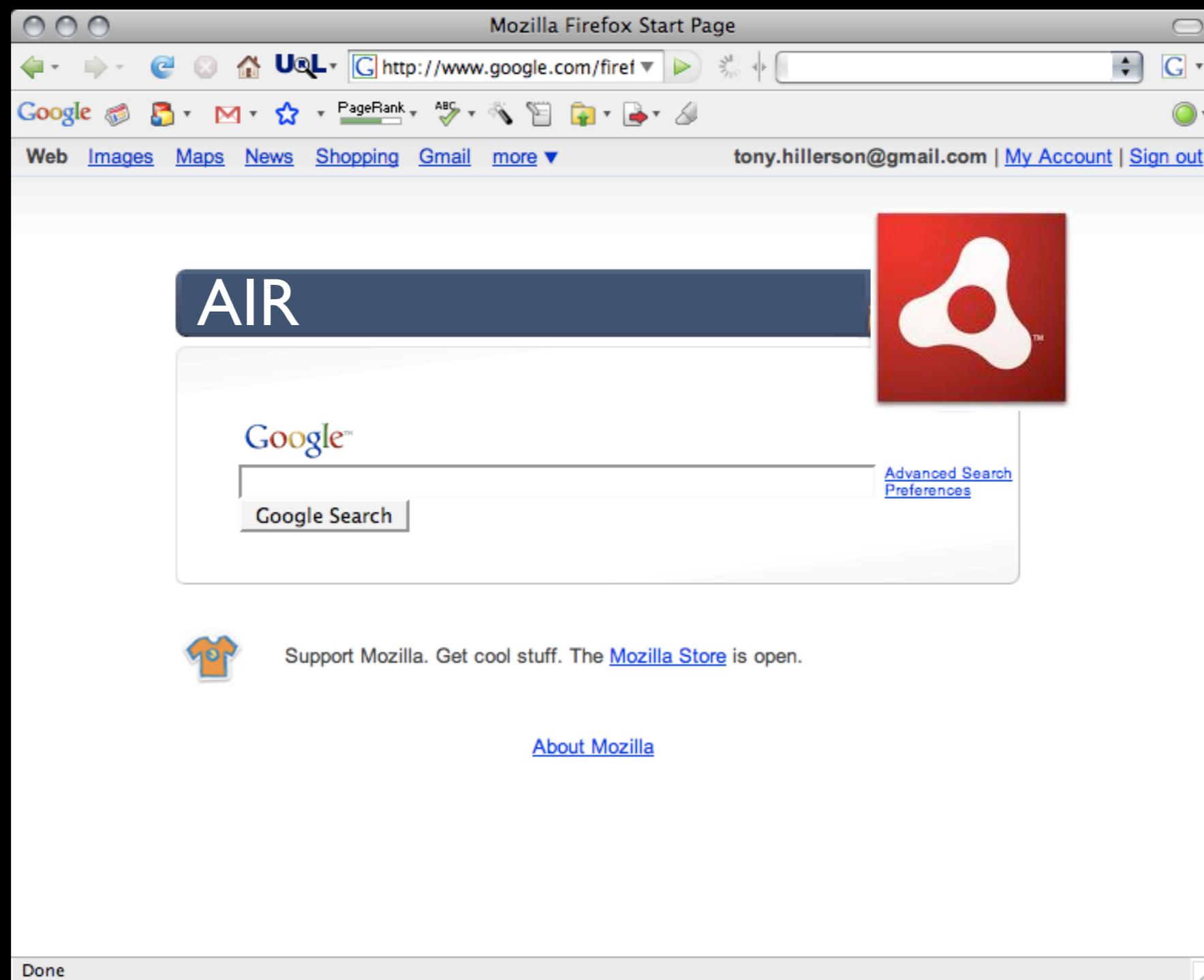
How NOT to think about AIR



How To Think About AIR



How To Think About AIR



How To Think About AIR

New Capabilities

for
Your Users

How To Think About AIR

AIR isn't a revolution,
it's a bunch of little wins

Why Air? > Why Rails?

Rails Apps don't need Air

Why Air? > Why Rails?

Air Apps don't need Rails

Why Air? > Why Rails?

You already know -
Rails is great
for building services

Why Air? > Why Rails?

AIR can extend the services
your app provides

Why Air?

With AIR, you can find
pictures on your hard drive

Why Air?

With AIR, you can find
pictures on your hard drive
... or take pictures

Why Air?

AIR works on airplanes
(if you're into that...)

Why Air?

AIR helps you break out of
the browser

Why Air?

AIR helps you stay out of
your users' faces

Why Air?

AIR helps you stay out of
your users' faces

... but stay in contact more
often

Five simple strategies to take
advantage of AIR

How? > Simple Strategies

Do something someone
already did

How? > Simple Strategies

Wrap your existing app

How? > Simple Strategies

Extend a specific use case

How? > Simple Strategies

Take advantage of your
services

How? > Simple Strategies

Take advantage of someone
else's services

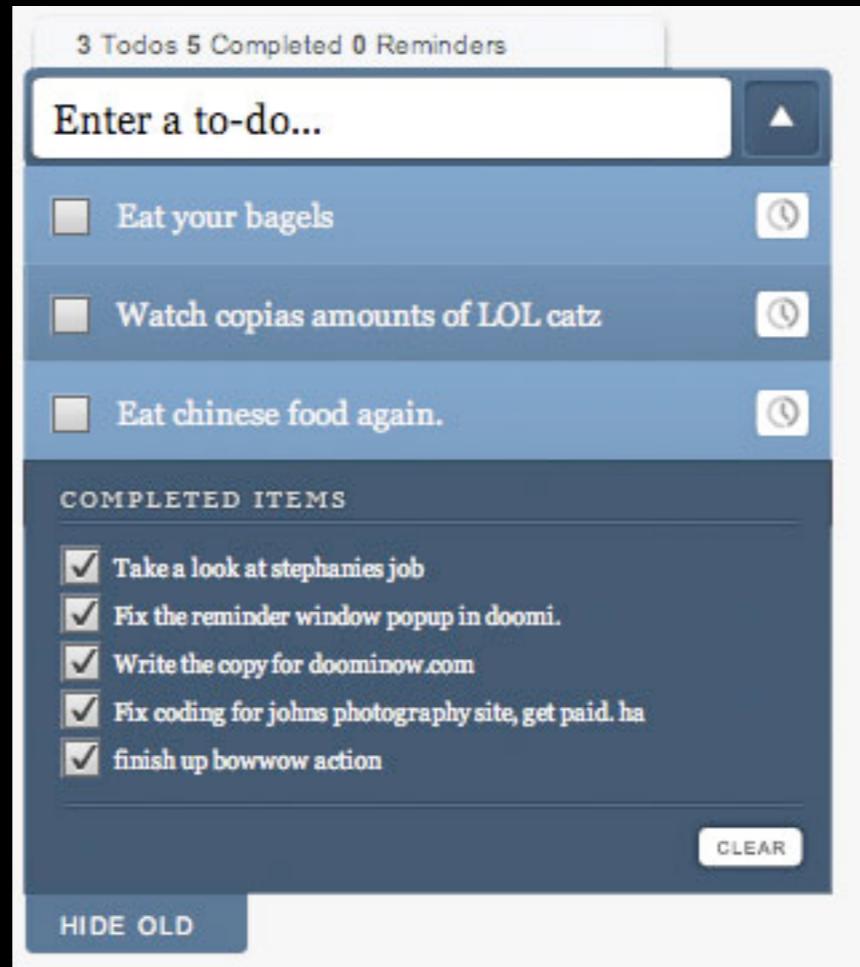
Why Air?

AIR isn't a revolution,
it's a bunch of little wins

AIR in the wild



Adobe Media Player



Doomi

<http://doominow.com>

<http://twhirl.org/>

<http://getsnitter.com/>

The Universe of Twitter Clients

<http://tweet-r.com/>

(and <http://pownce.com> too)

eBay Desktop



AIR APIs

Drag and Drop/Clipboard
Files and Local Data
System Integration
Network Monitoring
Windowing & Menu API

Drag and Drop/Clipboard

Drag and Drop makes use of
the Clipboard

Drag and Drop/Clipboard

Drag from/to Desktop

Drag from/to an Application

Drag and Drop/Clipboard

Read from Clipboard

Write to Clipboard

Drag and Drop/Clipboard > Data Types

Text

HTML

URL

Bitmap

File List

Files and Local Data

File

SharedObject

EncryptedLocalStore

Embedded SQLite

Files and Local Data > File

The File API is very similar to
Java's File API

Files and Local Data > Useful Constants

File.applicationDirectory

File.applicationStorageDirectory

File.desktopDirectory

File.documentsDirectory

File.userDirectory

Files and Local Data > File

File Operations can be
Synchronous or
Asynchronous

Files and Local Data > SharedObject

SharedObjects are Serialized
Actionscript Objects

Files and Local Data > ELS

EncryptedLocalStore
for auth and pref data

Files and Local Data > SQLite

Embedded Local Database

Files and Local Data > SQLite

Create DB at Runtime or
Ship a Prepopulated File

Files and Local Data > SQLite

Event Driven,
Standard SQL APIs

Windowing & Menu API > Windows

Normal Windows

Utility Windows

Lightweight Windows

Windowing & Menu API > Chrome

System Chrome

Custom Chrome, Normal
Geometry

Transparent, Custom
Geometry

Windowing & Menu API > Windows

Maximize
Minimize
Restore
Resize
Position
Order
Close

Windowing & Menu API > Windows

Always on Top
Full Screen

Number of Screens
Main Screen

Windowing & Menu API > Menus

Application Menus (a la Mac)

Window Menus (a la Windows)

Dock Menus (Mac)

Systray Menus (Windows)

Popup and Context Menus

System Integration

Start at Login

File Associations

User Idling

Exiting

Network Monitoring

Network Events,
Not Offline/Online
Detection

IDEs & SDKs

Rails sdk

```
git clone git://github.com/  
rails/rails.git
```

AIR sdk?

[http://www.adobe.com/
products/air/tools/](http://www.adobe.com/products/air/tools/)

adl - Air Debug Launcher

application.xml - defines
content

index.html - your content

```
$ adl application.xml
```

adt - AIR Developer Tool

Package, Sign, and Distribute your app

```
$ adt -certificate -cn SelfSign -ou  
RailsDev -o "Example, Inc" -c US  
2048-RSA newcert.p12 password
```

```
$ adt -package -storetype pkcs12 -  
keystore newcert.p12 MyAIRApp.air
```

```
application.xml .
```

Flex sdk

amxmlc - compile Flex app

acompC - compile
Actionscript library

+ adl, adt

FlexBuilder

Eclipse based IDE

Heavier, Visual Editing

No HTML AIR apps (?)

Debugging, Profiling

IDEs

Aptana Studio - AIR support,
RadRails plugin

Eclipse - via Plugin

Others?



TextMate

[http://www.towerkraut.com/adobe-air-
textmate-bundle/](http://www.towerkraut.com/adobe-air-textmate-bundle/)

Air.tmbundle

[http://macromates.com/svn/Bundles/trunk/
Review/Bundles](http://macromates.com/svn/Bundles/trunk/Review/Bundles)

ActionScript 3.tmbundle

Flex.tmbundle/

| 0+ apps

10 apps

AIRBrowser HTMLFileBrowser SQLExample
TwitterFriends

HelloBlog OfflineCampfire PhotoBooth
WebSnippet S3Browser TwitterSpider

AIRBrowser



```
<mx:HTML id="browser" />
```

HelloBlog

rails

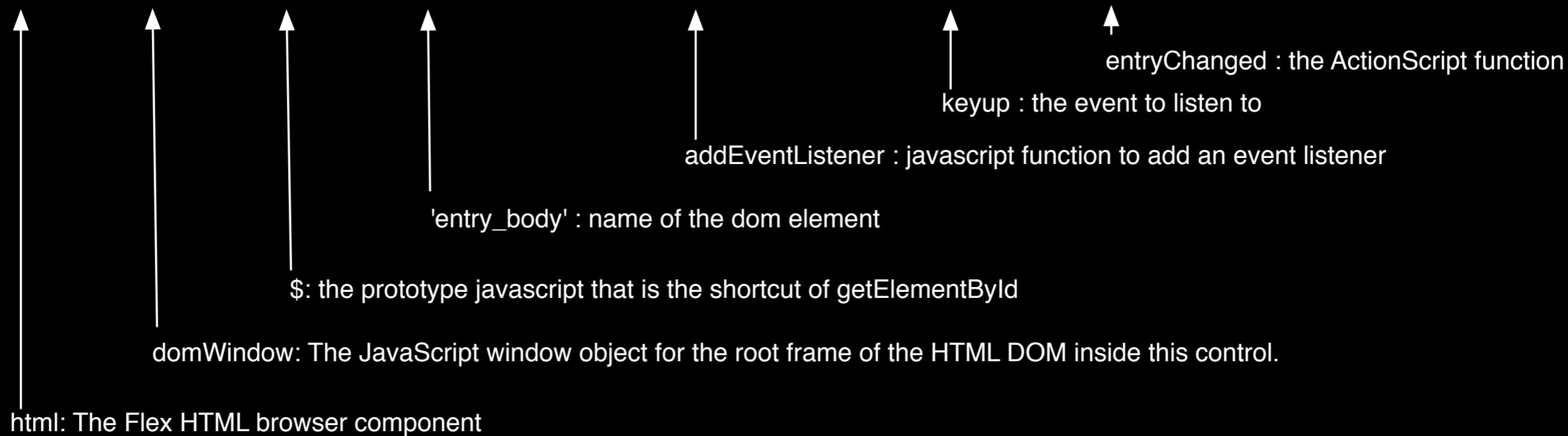
```
$ ./script/generate scaffold entry title:string body:text  
$ rake db:migrate
```

flex

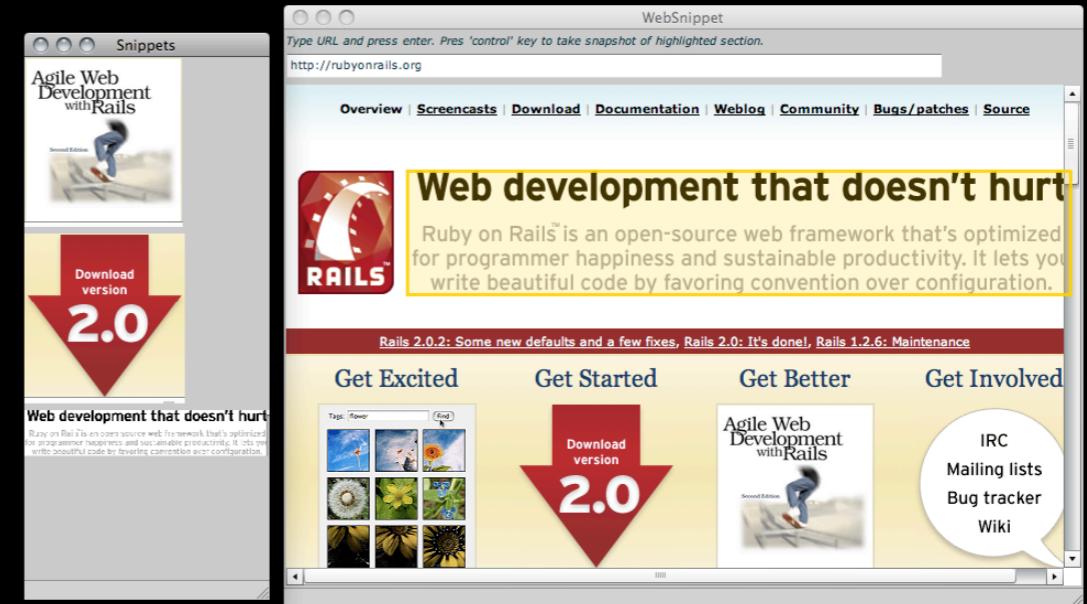
```
<mx:HTML id="html"  
         location="http://localhost:3000/entries"  
         width="100%" height="100%"  
         locationChange="checkEditMode()"  
         complete="if (currentState=='editMode')  
                   listenToBodyChange()" />
```

HelloBlog

```
html.domWindow.$('entry_body').addEventListener("keyup", entryChanged);
```



WebSnippet



```
<mx:HTML id="html" complete="loaded()" />
```

WebSnippet

Inject Javascript in any page

```
var scriptElement:0bject =  
html.domWindow.document.createElement("script");  
  
scriptElement.setAttribute("type", "text/javascript");  
scriptElement.text = 'alert("I\'m in!");'  
  
html.domWindow.document.body.appendChild(scriptElement);
```

WebSnippet

Add JS event listener invoking AS method

```
html.domWindow.document.body.addEventListener('mouseover'  
, mouseOverHandler);
```

WebSnippet

Use Flex to draw over HTML

```
highlighter = new Sprite();
highlighter.mouseEnabled = false; // click goes behind

html.stage.addChild(highlighter);

highlighter.graphics.clear();
highlighter.graphics.beginFill(0xFFCC00, 0.2);
highlighter.graphics.lineStyle(3, 0xFFCC00, 0.9, false);
highlighter.graphics.drawRect(x, y, w, h);
```

HTMLFileBrower

include AIRAliases.js

air.File.desktopDirectory

folder.nativePath

folder.getDirectoryListing()

file.isDirectory

+

air.Inspector

KampfireKlient

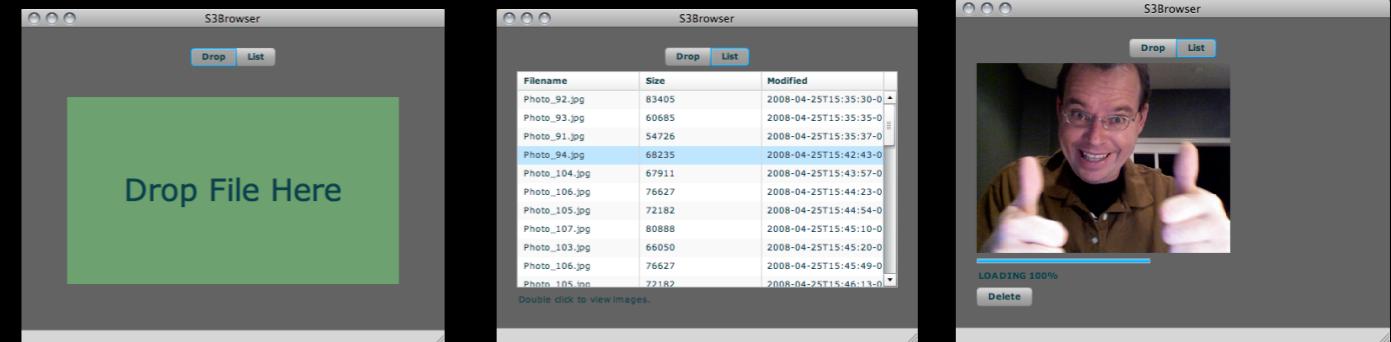
Local Storage

Network Detection

System

Non-standard Windows

S3 Browser



AIR → Rails → S3

attachment_fu (AWS::S3)

flash.filesystem.File.upload

S3 Browser

flex

```
var request:URLRequest = new URLRequest();  
request.url = "http://localhost:3000/assets";  
request.method = "POST";  
new File('path/name.txt').upload(request)
```

S3 Browser

rails

```
params[:asset] = {'uploaded_data' =>  
  params[:Filedata]}  
@asset = Asset.new(params[:asset])  
@asset.save
```

SQL Example

Database file Options

SQL API

PhotoBooth



Uses Flash Player Camera

```
import flash.media.Camera;  
import flash.media.Video;  
  
camera = Camera.getCamera();  
camera.setMode(640, 480, 5);  
video = new Video(camera.width, camera.height);  
video.attachCamera(camera);
```

PhotoBooth

Take Image

```
import flash.display.BitmapData;  
  
var snapshot:BitmapData = new BitmapData(640, 480, true);  
snapshot.draw(video)  
  
<mx:Image id="img" x="4" y="3" width="80" height="75"  
source="{new Bitmap(snapshot)}" scaleContent="true"/>
```

PhotoBooth

Send to Server

```
// 1. convert to Png
var pngEncoder:PNGEncoder = new PNGEncoder();
var bytes:ByteArray =
pngEncoder.encode(event.currentTarget.data.bitmapData);
// 2. send to server
var loader:URLLoader = new URLLoader();
loader.addEventListener(Event.COMPLETE,sendComplete);
loader.dataFormat = URLLoaderDataFormat.BINARY;
loader.load(MultiPartRequestData.getRequest("http://
localhost:3000/photos", bytes));
```

PhotoBooth

MultiPartrequestData

custom ActionScript class based on

<http://www.actionscript.org/forums/showpost.php3?p=636159&postcount=4>

```
var sendBytes: ByteArray = new ByteArray();
var request: URLRequest = new URLRequest(url);
request.data = sendBytes;
request.method = URLRequestMethod.POST;
request.contentType = "multipart/form-data; boundary=" +
boundary;
```

PhotoBooth

Rails using attachment_fu

```
class PhotosController < ApplicationController
  def create
    params[:photo] = {'uploaded_data' => params[:Filedata]}
    @photo = Photo.new(params[:photo])
    @photo.save
  end
end
```

TwitterSpider



Twitter Stats using Flex's
DataVisualization Framework

TwitterSpider

```
<mx:ArrayCollection id="tweetsReplies"/>

<mx:PieChart id="repliesChart"
dataProvider="{tweetsReplies}" width="100%" height="100%">
<mx:series>
    <mx:PieSeries
        field="value"
        nameField="key"
        labelPosition="insideWithCallout"
    />
</mx:series>
</mx:PieChart>
```

TwitterSpider

```
<mx:ArrayCollection id="tweetsByMonth"/>

<mx:ColumnChart id="c1"
    dataProvider="{tweetsByMonth}" >
    <mx:horizontalAxis>
        <mx:CategoryAxis categoryField="key"/>
    </mx:horizontalAxis>
    <mx:series>
        <mx:ColumnSeries
            xField="key" yField="value"
            displayName="Month"
        />
    </mx:series>
</mx:ColumnChart>
```

TwitterSpider

```
<mx:ArrayCollection id="tweetsHourAndDay"/>
<mx:SeriesInterpolate id="interpolateIn" duration="1000"/>
<mx:BubbleChart id="chart" dataProvider="{tweetsHourAndDay}" maxRadius="25">

    <mx:horizontalAxis>
        <mx:LinearAxis id="hAxis" labelFunction="formatHours"/>
    </mx:horizontalAxis>
    <mx:horizontalAxisRenderers>
        <mx:AxisRenderer axis="{hAxis}" showLabels="true" canDropLabels="false" />
    </mx:horizontalAxisRenderers>
    <mx:verticalAxis>
        <mx:LinearAxis id="vAxis" labelFunction="formatDays" />
    </mx:verticalAxis>
    <mx:verticalAxisRenderers>
        <mx:AxisRenderer axis="{vAxis}" showLabels="true" canDropLabels="false" />
    </mx:verticalAxisRenderers>
    <mx:series>
        <mx:BubbleSeries yField="w" xField="h" radiusField="count"
showDataEffect="{interpolateIn}" />
    </mx:series>
</mx:BubbleChart>
```

TwitterSpider

save to file system

```
private function saveData():void {  
    var tweets:Array = dataAggregator.getTweets();  
    var file:File = File.documentsDirectory;  
    file = file.resolvePath("TwitterSucker/testFile.txt");  
    var fileStream:FileStream = new FileStream();  
    fileStream.open(file, FileMode.WRITE);  
    fileStream.writeObject(tweets);  
    fileStream.close();  
}
```

TwitterSpider

load from file system

```
private function loadData():void {  
    var file:File = File.documentsDirectory;  
    file = file.resolvePath("TwitterSucker/testFile.txt");  
    var fileStream:FileStream = new FileStream();  
    fileStream.open(file, FileMode.READ);  
    var tweets:Array = fileStream.readObject();  
    fileStream.close();  
}
```

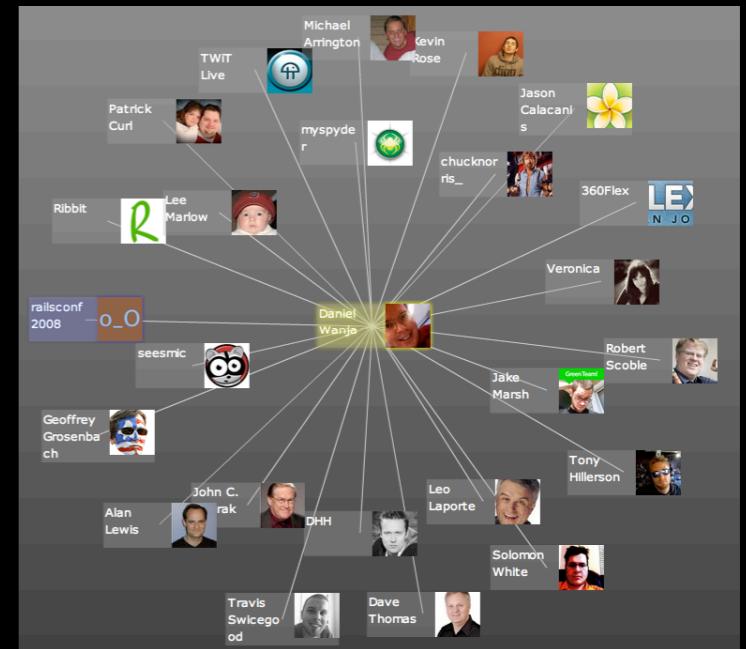
TwitterFriends

Rails:

twitter4r

AIR:

com.adobe.flex.extras.controls. springgraph.Roamer



twitter4r

Configuration API

Friendship API

Messaging API

Model API

twitter4r

```
twitter = Twitter::Client.from_config(config_file)
user = Twitter::User.find('danielwanja', twitter)
user.friends
user.name
user.location
user.profile_image_url
```

TwitterFriends

Rails

```
class TwitterController < ApplicationController
  @@twitter = Twitter::Client.from_config(config_file)
  def user
    u = Twitter::User.find(params[:id], @@twitter)
    render :xml => to_hash(u).to_xml(:root => :user, :dasherize => false)
  end
  def friends
    u = Twitter::User.find(params[:id], @@twitter)
    f = u.friends
    a = f.collect { |f| to_hash(f) }
    render :xml => a.to_xml(:dasherize => false)
  end
end
```

TwitterFriends

AIR (Flex) - Getting Data From Rails

```
<mx:HTTPService id="user" url="http://localhost:3000/twitter/user/{currentUser}"  
    resultFormat="e4x"  
    showBusyCursor="true"  
    result="showUser(event)"  
    fault="mx.controls.Alert.show(event.fault.faultString, 'Retrieve User  
Failed')"/>  
  
<mx:HTTPService id="friends" url="http://localhost:3000/twitter/friends/{currentUser}"  
    resultFormat="e4x"  
    showBusyCursor="true"  
    result="showFriends(event)"  
    fault="mx.controls.Alert.show(event.fault.faultString, 'Retrieve  
Friends Failed')"/>
```

TwitterFriends

Flex

```
<fc:Roamer id="roamer" width="100%" height="100%"  
    itemRenderer="XMLItemView"  
    maxDistanceFromCurrent="2"  
    itemLimit="400"  
    autoFit="false"  
    repulsionFactor="1.5"  
    motionThreshold="1" />
```

TwitterFriends

```
import com.adobe.flex.extras.controls.springgraph.Graph;

private function showUser(event:ResultEvent):void {
    var user:XML = event.result as XML;
    var item:Item = new Item(user.name);
    item.data = user;
    graph.addItem(item);
    roamerdataProvider = graph;
}
```

TwitterFriends

```
private function showFriends(event:ResultEvent):void {
    var result:XML = event.result as XML;
    var users:XMLList = result.record;
    var currentUser:Item = event.token.currentUser;
    graph.disableNotification();
    try {
        for each (var user:XML in users) {
            var friend:Item = new Item(user.name);
            friend.data = user;
            graph.add(friend);
            graph.link(currentUser, friend);
        }
    } finally {
        graph.enableNotification();
    }
    roamer.currentItem = currentUser;
}
```

Resources

<http://www.adobe.com/products/air/> - AIR home

<http://www.adobe.com/go/marketplace> - AIR apps

AIR with HTML:

<http://livedocs.adobe.com/air/1/devappshtml/>

<http://ajaxian.com/archives/adobe-air-free-book-download>

AIR with Flex:

<http://www.adobe.com/products/air/develop/flex/>

<http://livedocs.adobe.com/flex/3/langref/index.html>

Watch This Space:

<http://flexonrails.com>

Thank You!

Questions?