

# Code Reuse with Flex and AIR

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# What I'm Going to Teach You

- What is AIR and why should we care?
- Why reuse code between Flex and AIR?
- Project Structure
- Creating SWC files
- Dealing with Dependencies / Interfaces

# Who Am I

- Owner of DotComIt, an Adobe Partner
- I'm the producer of The Flex Show
- Adobe Community Expert
- Blog Routinely on Flex and ColdFusion
- Author of 3 ColdFusion Books, tons of articles
- Spoke at tons of Conferences / User Groups

# What is AIR?

- Adobe Integrated Runtime
- A way to deploy Flex (and HTML) applications to the desktop
- Cross Platform
- Adobe created an alternate browser
- Deploy Web Applications to a desktop; Not create desktop applications

# Why AIR?

- Adobe is putting a lot of 'moxie' behind it
- If it takes off we want to be ready
- We want to play with the new toy
- In reality, I'm not sure; very niche

# What Would I Use AIR For?

# Partially Connected / Sync Later

- On an airplane
- At a client site (w/ locked down network)
- Conference Surveys
- Email (Yahoo Mail and Gmail)

# Casual Games Market

- Advanced 3D not needed
- Very easy to deploy a web version and a desktop



# Web 2.0

- Twitter
- Seesmic
- Pownce

# Why do we care code reuse?

- Encapsulation is good!
- We want to developer quicker
- We want to maintain easier

# RSS Watcher

- Retrieve an RSS Feed
- Display the most recent item in Feed
- Flex will display it in browser
- AIR app will reside in System Tray, show popup; like IM

# What are items of similarity?

- Retrieve an RSS Feed
- Processing RSS feed into usable variables.

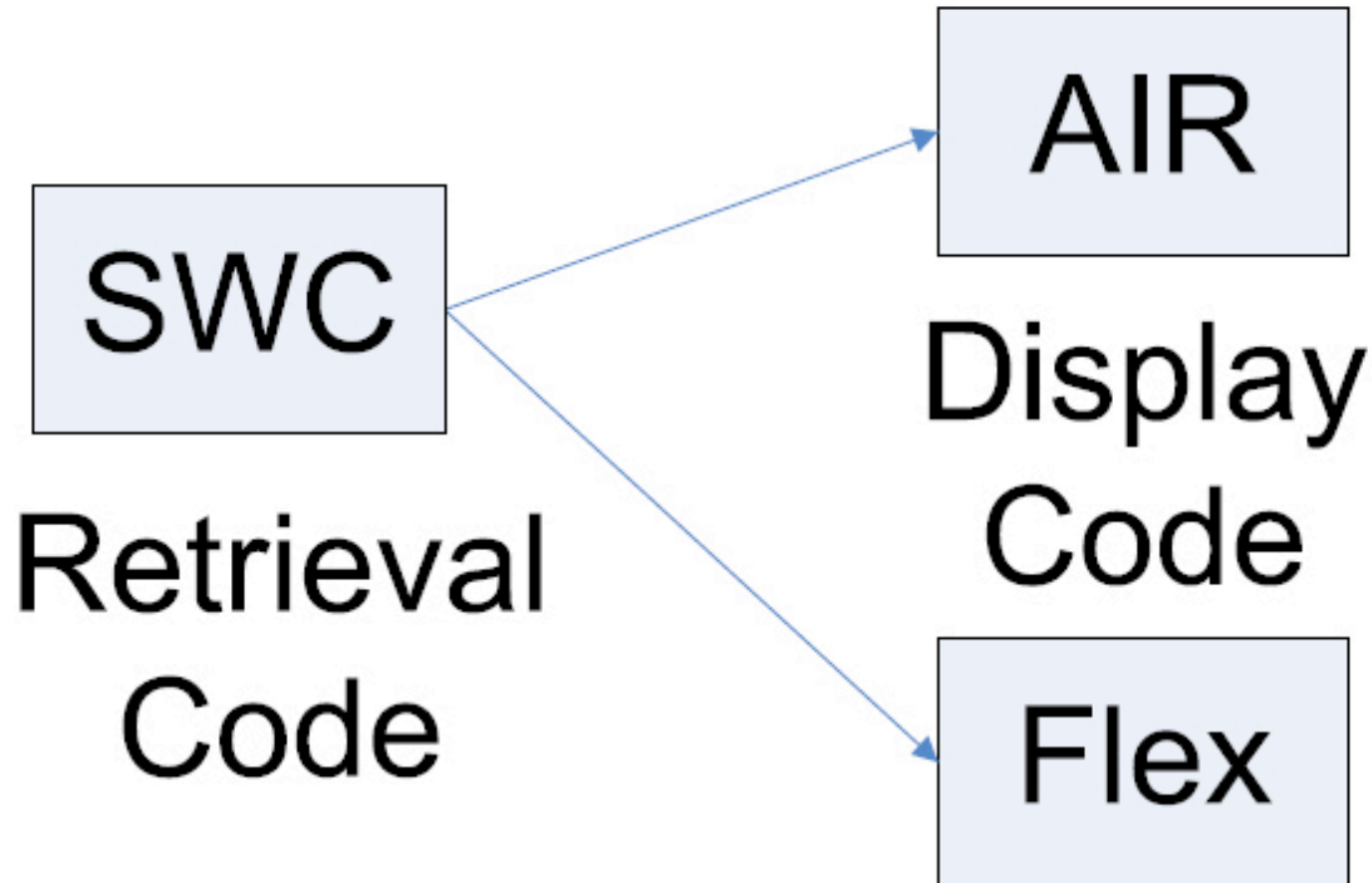
# What are items of difference?

- Web app needs a display piece
- AIR App needs to have code to put app in system tray and deal with the popups.

# How do we do it!

- Create Flex Library Project
- Creates a SWC files
- Use SWC Files in Flex and AIR Projects

## How do we do it - Visual!



# Directories in Flex Builder Project

- Eclipse Project Root
- Source Directory (With .AS / .MXML)
- Bin directory (.swc, .swf)
- HTML-template (we don't care about)
- Libs (we don't care about)



# Directory Structure

- ProjectName
  - Components (Flex Library Project)
    - bin (contains swc)
    - src
  - Flex (Flex Project)
    - bin (Virtual Host points here)
    - src
  - AIR (AIR Project)
    - bin
    - src

# Create SWC

- Create Flex Library Project
- Step through Wizard
- Create Code
- Right click on code to “include in class library”

# Create Flex Project

- Create Flex Project
- Add SWC To library path
- Use code
- Create new code

# Creating Projects

- I documented my project creation procedure.
- [www.jeffryhouser.com/index.cfm/2007/10/11/How-do-you-set-up-your-Flex-project](http://www.jeffryhouser.com/index.cfm/2007/10/11/How-do-you-set-up-your-Flex-project)

# Review SWC Code

- RSSDelegate

# Use Classes from SWC

- MXML
- ActionScript

# Use Classes from SWC: MXML

- In Design mode, listed under Custom
  - Click and Drag
- On top level Component:
  - `xmlns:ns1="com.dotcomit.rss.*"`
- Reference name space in code:
  - `<ns1:RSSDelegate/>`

# Use Classes from SWC:AS3

- import in script block using AS3
  - import com.dotcomit.rss.RSSDelegateAS;
- Create Instance:
  - private var rssDelegate : RSSDelegateAS;



# Create AIR Project

- Same exact approach as Flex Project

# AIR vs Flex Analysis

- Same data, different display approach
- In AIR I borrowed lots of code
- System Tray Code from saskovic : <http://www.saskovic.com/blog/?p=5>
- Popup Code from: AIR Docs WordUp Quickstart  
[http://download.macromedia.com/pub/labs/air/quickstart\\_apps/b3/WordUp.air](http://download.macromedia.com/pub/labs/air/quickstart_apps/b3/WordUp.air)

# Am I missing Anything?

- How do I deal with code dependencies?

# RSS Reader

- RSS == XML
- Read XML File
- Flex retrieves the file over HTTP
- AIR retrieves a local file
- Same display mechanism

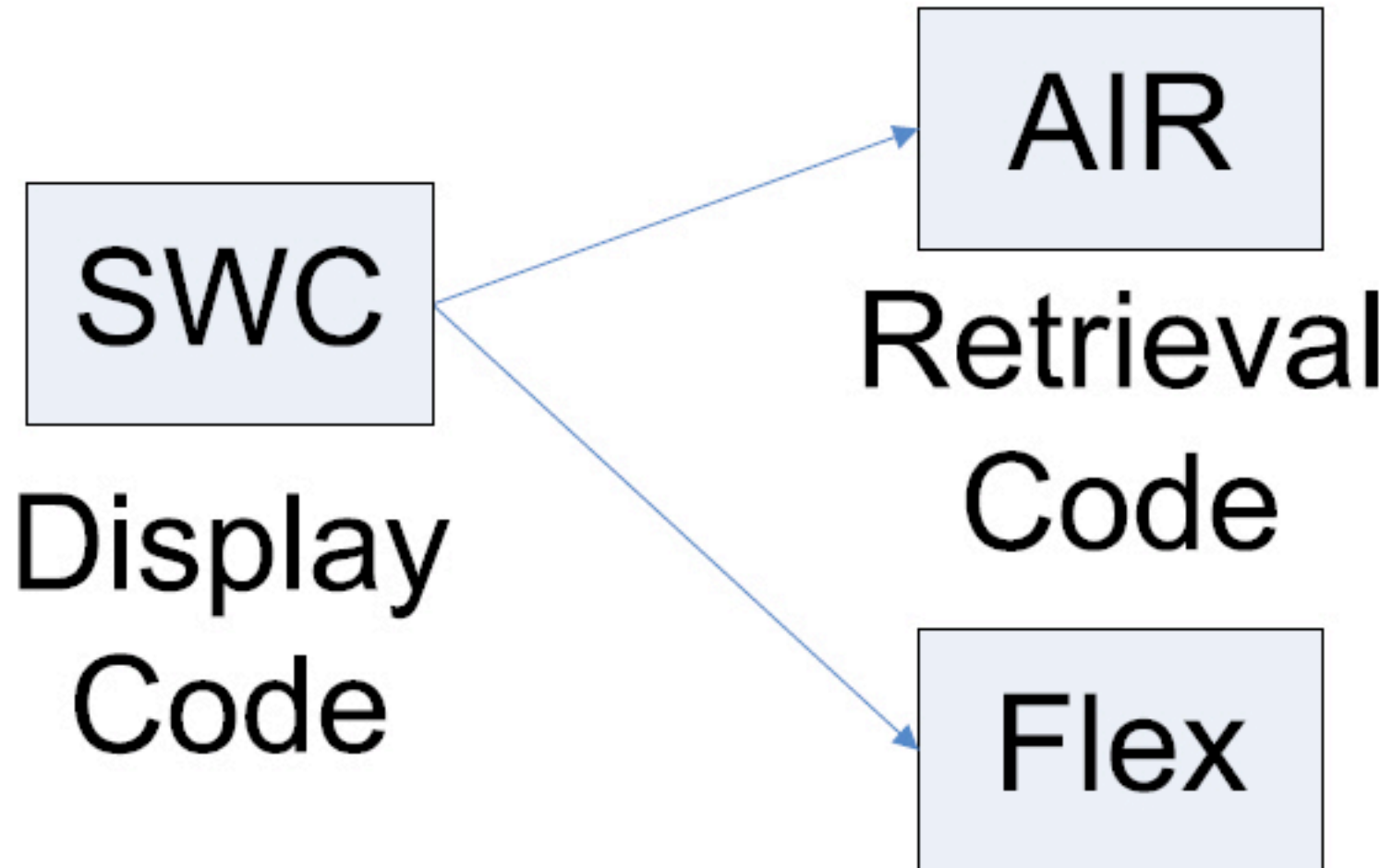
# RSS Watcher Approach

- Delegate in SWC
- Display mechanism in SWF
- Code in SWF access code in SWC

# RSS Reader

- Display mechanism in SWC
- Delegate in SWF.
- Display needs to access the delegate instance data
- How does display access the delegate?

## RSS Reader - Visual



# How do we do it!

- Create an Interface
- Code in SWC references Interface
- Flex and AIR Projects classes that implement interface with custom implementation



# What is an Interface?

- Definition of an API
- No Code Implementation
- Like a Class
- List of methods
- Exist in OO languages as an alternative to Multiple Inheritance

# How do I create an Interface?

```
package com.dotcomit.rss{  
    public interface IRSSDelegate{  
        function get title():String  
        function set title(arg:String):void  
        function update():void  
    }  
}
```

# Use Interface in Library Project?

- Import it
- Use it just like class
- Access properties and methods
- Can't create an Interface instance with with new keyword

# How do I implement Interface?

```
package com.dotcomit.rss{  
  public class RSSDelegateAS  
    implements IRSSDelegate {  
    [Bindable] public var title : String = "  
    public function update():void{  
      // implementation here  
    }  
  }  
}
```

# RSS Reader Delegate Flex

- Implements interface
- Uses HTTPService, retrieve URL
- Same as RSS Watcher Version

# RSS Reader Main Flex

- Imports display code (ns1)
- Creates Instance of Delegate
- Passes delegate into RSSDisplay

# RSS Reader Delegate AIR

- Doesn't extend HTTPService
- Implements interface
- Update completely different
- Uses AIR APIs to read local file

# RSS Reader Main AIR

- Almost Same as Flex “main”
- Same paths, but accesses different files



## Resources

- Adobe Developer Center article:
  - [http://www.adobe.com/devnet/air/flex/articles/flex\\_air\\_codebase.html](http://www.adobe.com/devnet/air/flex/articles/flex_air_codebase.html)
  - Written under assumption that AIR and Flex provide different features
  - Talks about Object Factories
  - In essence the article suggests “If AIR do X else do Y”

# What I Taught You

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# Self Promotion

- DotComIt is working on a line of commercial Flex Components
- Give me a business Card if you want to get on our monthly mailing list
- Or just E-mail me [jeff@dot-com-it.com](mailto:jeff@dot-com-it.com)

# Questions

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