

Building Desktop RIAs with PHP, HTML & Javascript in AIR

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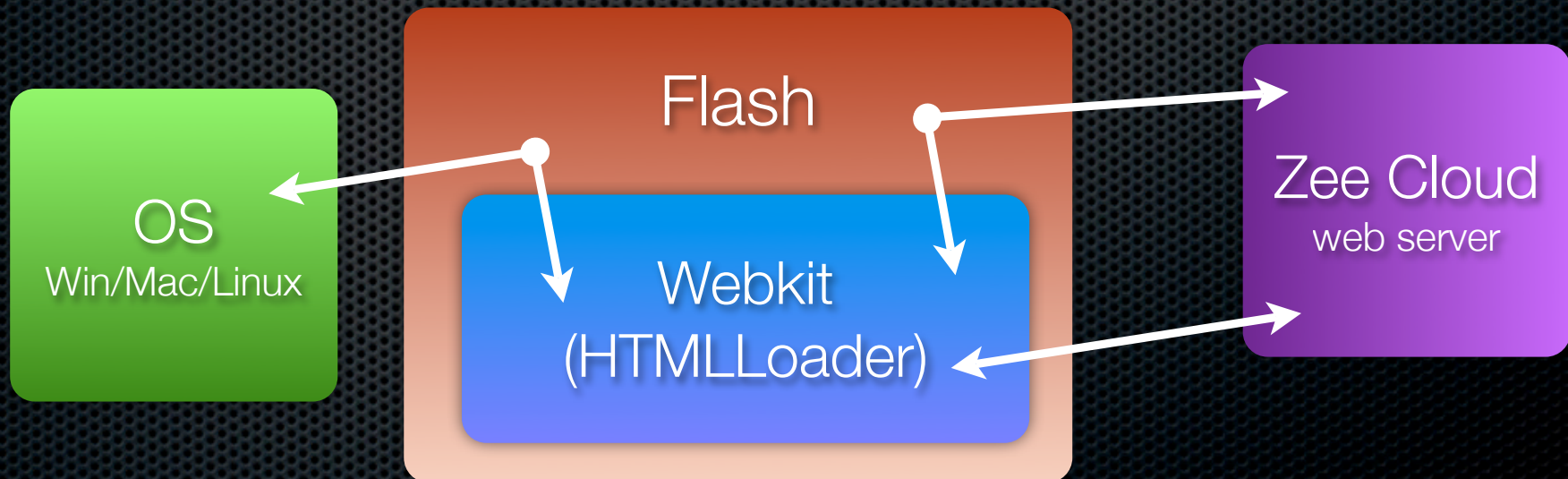
What is AIR?

- ✦ **For the desktop**
- ✦ *Not* a browser plugin
- ✦ Build desktop apps with web technologies



AIR architecture

- A flash player + special AIR-specific APIs
 - HTMLLoader control
 - Uses WebKit – like Safari 3



Building apps

- ✦ Flex (XML + Actionscript → SWF)
- ✦ Flash (the authoring tool → SWF)
- ✦ **HTML (HTML + JS + CSS)**
 - ✦ open standards!
 - ✦ just like regular web pages

The bare essentials

- Application descriptor (.xml)
- Initial content (.swf or .html)
 - If .html detected, auto-creates Flash wrapper with HTMLLoader control

App descriptor

```
<?xml version="1.0" encoding="UTF-8"?>
<application xmlns="http://ns.adobe.com/air/application/1.0">
  <id>book.csv</id>
  <filename>Book-CSV</filename>
  <version>1.0.0</version>
  <initialWindow>
    <content>example-csv.html</content>
    <visible>true</visible>
    <width>400</width>
    <height>600</height>
    <x>100</x>
    <y>100</y>
  </initialWindow>
</application>
```

Initial content

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>

  <title>csv-example</title>
  <script src="assets/AIRAliases.js" type="text/javascript" charset="utf-8"></script>
  <script src="assets/AIRIntrospector.js" type="text/javascript" charset="utf-8"></script>
  <script src="assets/jquery-1.2.3.js" type="text/javascript" charset="utf-8"></script>
  <script src="assets/json2.js" type="text/javascript" charset="utf-8"></script>

  <script src="assets/dojo/dojo/dojo.js" type="text/javascript" charset="utf-8"></script>
  <script type="text/javascript" charset="utf-8">
    $(function() {
      var csvstring = '';
      csvstring += '1997,Ford,E350,"ac, abs, moon",3000.00\n';
      csvstring += '1999,Chevy,"Venture ""Extended Edition""",4900.00\n';
      csvstring += '1996,Jeep,Grand Cherokee,"MUST SELL! air, moon roof, loaded",4799.00\n';
      $('#name').text(csvstring);
    });
  </script>
</head>
<body>
  <textarea name="Name" rows="8" cols="80" id="name"></textarea>
</body>
</html>
```

JavaScript in AIR

- ✦ Can use (almost) any available JS libs/frameworks
 - ✦ No cross-domain restrictions
 - ✦ security restrictions in app sandbox (eval())
- ✦ Access AIR APIs
- ✦ Access standard Flash APIs
- ✦ Use compiled AS3 libs

PHP vs JavaScript

- ✦ JavaScript is *fundamentally different*
- ✦ JS is a **functional language**
 - ✦ functions are objects
 - ✦ anon functions
 - ✦ define functions inside functions
- ✦ Object model is totally different
 - ✦ Prototype model – not “classic” Java/PHP5 model

PHP vs JavaScript

- ✦ Everything in JS is an object
- ✦ Arrays are not associative – objects serve as associative array equivalents
- ✦ No include/require statements available
- ✦ Event-driven model/asynchronous actions

Further reading:

- JavaScript: The Definitive Guide, *David Flanagan*
- JavaScript: The Good Parts, *Douglas Crockford*

JavaScript frameworks

- ✦ Some stuff is a huge pain without the help of a framework
- ✦ Lots of choices
- ✦ Must play well with AIR
 - ✦ eval usage

jQuery pwnz yoo

- jQuery is **teh awesome**

- lightweight, powerful, terse (esp DOM)
- plays well with others
- easily extensible
- large dev community
- decent docs



but you really can use almost anything...

PHP is your server-side buddy

PHP
tubby jedi master

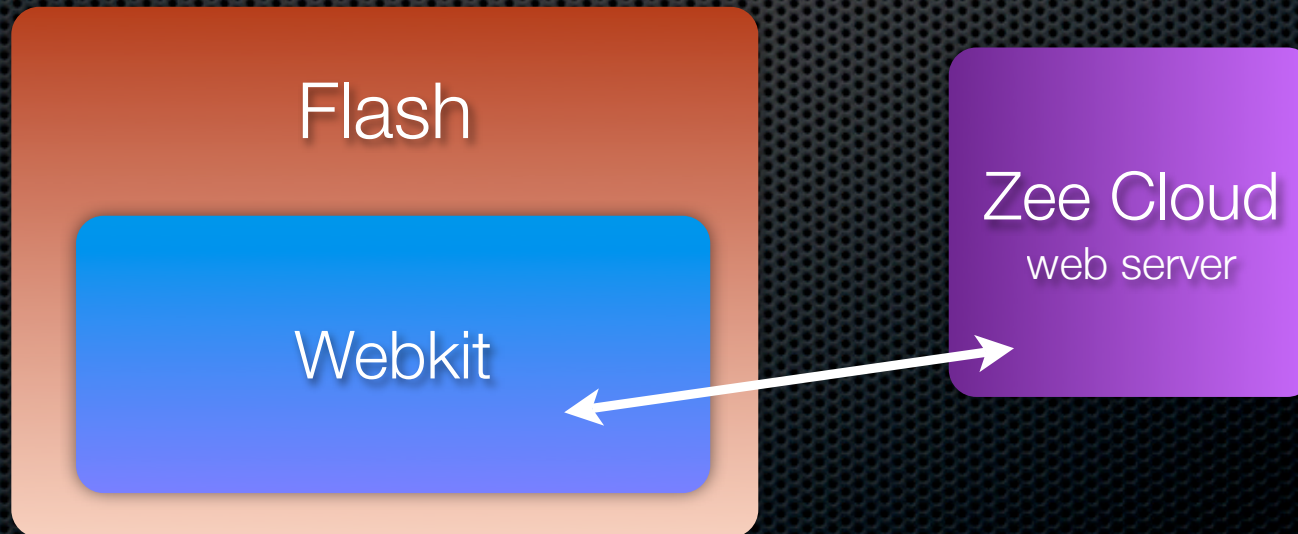
AIR
hyper frontman



- ✦ Use 5.2 at least
 - ✦ adds native JSON encoding/decoding
- ✦ Framework choices

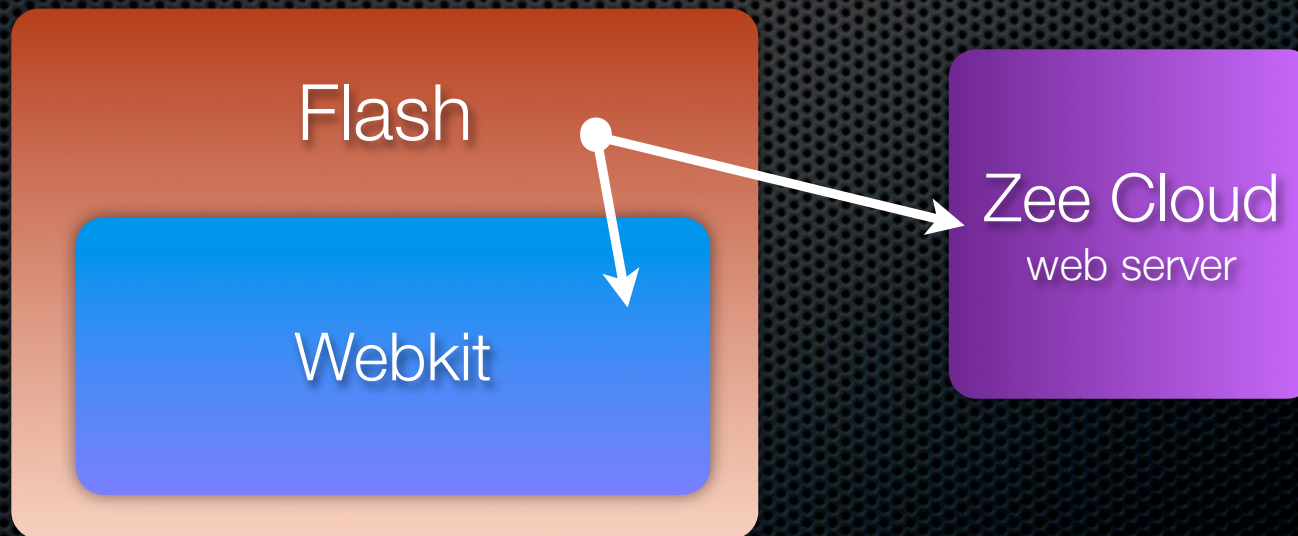
Example 1: PHP duz yer math

- Async calls using jQuery AJAX methods
- Communicate via JSON



Example 2: PHP shops yer pics

- ✦ Uploading via Flash APIs
- ✦ JSON based communication



Additional resources

- ✦ Developing Adobe® AIR™ Applications with HTML and Ajax – <http://livedocs.adobe.com/air/1/devappshtml/>
- ✦ Adobe AIR Developer Center for HTML and Ajax Quick Starts – <http://www.adobe.com/devnet/air/ajax/quickstart/>
- ✦ Spaz source code – <http://code.google.com/p/spaz/>

Questions?