

Building Dynamic WAP Applications with ColdFusion

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Why Should You Stay?

In this session you'll learn:

- What dynamic content is, and why it's useful
- What ColdFusion (CF) is, and why it's powerful
- How to build dynamic WAP applications with CF

Audience:

- WAP developers new to CF
- Experienced CF developers looking at WAP

What Will We Cover, Specifically?

Preaching the good news:

- What is a dynamically generated WAP application?
- What makes them so great?
- Introduction to ColdFusion, a stellar tool for building them

Preaching to the choir:

- Serving WAP content via ColdFusion
- Studio features for creating WAP applications
- Tricks and traps

What is a Dynamically Generated WAP Application?

Content generated on the fly

- Perhaps generated from database
- Or based on user input
 - Creating 2-way WAP applications

Requires web application server

- Such as ColdFusion, ASP, Perl, Java, etc.

Examples

Contrasting static and dynamic sites:

- Sample web sites
- Sample WAP sites

What Makes Them So Great?

Signs of a mature site:

- Content customized to visitor
- Securing site sections and features
- Query as well as update of server databases
- Generating e-mail on result pages
- Integrating content from other applications or even other sites
- Scheduled content (notifications)

Dynamic Site Possibilities

- Intranet application possibilities
- Business to business possibilities
- Business to consumer possibilities

Introduction to ColdFusion

Leading cross-platform web application server

- Runs on Windows, UNIX (including Linux)
- Runs with nearly all web servers (including Apache)

Recognized for:

- Security, scalability, integration, ease of use

Inexpensive:

- Ranging from just \$2,000-5,000 US

CF's Ease of Use

```
<card>
  <CFQUERY NAME='GetDepts' DATASOURCE='Test' >
    Select DeptName from Depts
  </CFQUERY>
  <p>Depts Found: <br/>
    <CFOUTPUT QUERY='GetDepts' >
      #DeptName#<br/>
    </CFOUTPUT>
  </p>
</card>
```

CF's Flexibility

Many operating systems and web servers supported

Databases supported:

- Any ODBC (Access, FoxPro, etc.)
- SQL Server, Sybase, Oracle, Informix, DB2

Integration:

- COM/DCOM, CORBA, EJB, etc.

CF's Scalability

Can handle substantial loads:

- Integrated load balancing
- Clustering
- Failover

High performance architecture

- Multi-threaded service, template caching, etc.
- State management

Serving WAP Content via ColdFusion

- CF-generated pages are .cfm files rather than .wml files

- Must set MIME type for the page:
`<CFCONTENT TYPE="text/vnd.wap.wml">`

- This tells the WML browser to expect WML
– tag not normally needed in HTML pages

- This is where things get different for experienced CF developers

Complete Skeletal CF/WML File

```
<CFCONTENT TYPE="text/vnd.wap.wml"><?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//PHONE.COM/DTD WML 1.1//EN"
"http://www.phone.com/dtd/wml11.dtd">
<wml>
  <card>
  </card>
</wml>
```

- Note <?xml > tag on first line
- Is placed next to CFCONTENT
 - Prevents extra carriage return before <?xml >
- Note Phone.com DTD: could use WAPForum's

Where to Go From Here?

Learn CF and learn WML:

- Place any valid WML on page
 - WML is different from HTML, do need to learn it
- Use any ColdFusion tags to create WML code
 - Can generate WML from database, or based on data gathered from other objects, applications, or sites
- Perform actions in support of WML processing
 - Can search/store data in databases, generate e-mail, pass data to other objects, applications, or sites

Cookin' Up Some CF Examples

- Form processing
- Query processing
- Form-driven query processing
- Table formatting
- Database updates
- Dynamic select list
- Site-stripping agents

Other Useful CF Features

- CFMAIL
- CFSCCHEDULE
- CFSEARCH
- Session, Client, Application, and Server variables
- Query caching

Studio/HomeSite Features for Creating WAP Applications

CF Studio is the IDE for CF developers
- HomeSite HTML editor shares most features

Both are advanced Text Editors
➤ Many useful features

As of 4.5, both support WML
➤ Creating new WAP templates
➤ Creating/editing WML tags
➤ Documentation of WML tags

A Quick Tour of Studio/HomeSite

- Creating a WML page
- Adding WML tags
 - Tag insight, validation
 - Tag chooser
- Editing WML tags
 - Tag editors
- Getting help
 - F1, help within tag editors

Some CF/WML Traps

- CFCONTENT problems
 - Can be turned off by administrator
 - Not supported in CF Express
- Studio/HomeSite support
 - Based on Phone.com WML
 - Option may enter tags in upper case
- CF's HTML heritage
 - CF error messages and debugging output are both in HTML format
 - Can alleviate problems with properly configured application.cfm file

An Ounce of Prevention

- Application.cfm is a special file run before any other
 - It can turn on features to solve some "HTML heritage" problems
- Place it in the same directory as WML code
 - Preferably a WML-only directory

Sample Application.cfm

```
<CFSETTING ENABLECFOUTPUTONLY="Yes">
<CFSET version=| |stgetat(Server.ColdFusion.ProductVersion,1," ")
& " " & | |stgetat(Server.ColdFusion.ProductVersion,2," ")>
<CFIF version ge 4.5>
  <CFSET type="exception">
  <CFERROR type="#type#" template="wml_error.cfm">
</CFIF>

<CFSETTING SHOWDEBUGOUTPUT="no">
<CFSETTING ENABLECFOUTPUTONLY="no">
```

Some CF Tricks

- Circumventing CFCONTENT restriction
- Browser detection
- Other items:
 - Converting semicolon-delimited "multiple SELECT" values
 - Escaping # and \$

Classic WML Traps

- Use well-formed WML
 - <p></p> surrounding text
 -
 rather than

- Lowercase WML elements
 - <wml >, not <WML>
- Do redirection with root-relative paths
 - Not simply relative to current file
 - Applies to CFLOCATI ON as well

Testing/Debugging

- Great site to view output being generated:
<http://updev.phone.com/dev/utl1s/geturl.html>
- Using Phone.com simulator
- Simulator's two modes:
 - HTTP direct versus UP.Link
- Finding error messages
 - In real phone; simulator

CF/WML Resources

- CF chapter in *Professional WAP Programming*

- Some sites:
 - http://www.wapuseek.co.uk/wap_cf.cfm
 - <http://www.systemmanage.com/wml/>
 - <http://forums.alalre.com>

- CF-WAP mailing list:
 - Sign up at <http://www.houseoffusion.com>

Crossing the Finish Line

- Dynamically generated WML is a powerful tool
- ColdFusion is especially well-suited
- Taking your sites to this next step will add tremendous value

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