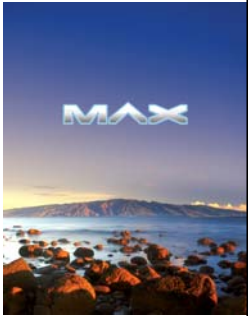


Advanced ColdFusion Printing and Reporting



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Biography

Dean Harmon
Computer Scientist

I've been married to my wife since August 1997 (that's 9 years for those who are counting) and we now have 4 children (8, 6, 3, and 0). I love spending time with my family and reading fantasy and sci-fi novels.

World of Warcraft (lvl 60 'lock on Black Dragon Flight) tends to occupy a tad bit of my time as well.

I've been working with the ColdFusion engine since CF 6 J2EE editions.


In CF 7, primarily responsible for the installers and for the reporting functionality (the ColdFusion Report Builder and the engine itself)

Passionate about Reporting

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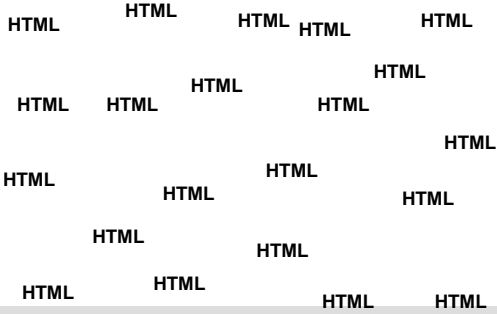
Overview

- **<cfdocument>**
 - How <cfdocument> really works
 - Why doesn't <cfdocument> do what I want it do and how do I make it?
 - CSS Styles, and <cfdocument>: the good, the bad, the ugly
 - Multiple Headers and Footers using <cfdocument>
- **<cfreport>**
 - Expressions vs. tags
 - Report Functions
 - Richer and Conditional formatting
 - Making decent Excel Files
 - Parameters, what you can and can't do
 - New 7.0.2 functionality
 - Sub-reports and Queries



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How <cfdocument> really works



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How <cfdocument> really works


- HTML, HTML, HTML, HTML
 - Did I mention the <html> tag
- Each document section needs to have a complete html document inside it.
 - This means everything inside the <html> tag
 - Any HTML-ish things (javascript, css, etc.) cannot be referenced if they are outside of the <cfdocument> or <cfdocumentsection> tags
 - There is an implicit <cfdocumentsection> if you do not specify one



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Why doesn't <cfdocument> do what I want it do and how do I make it?

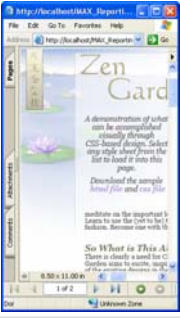
- See the previous slide about HTML
 - The most common thing that makes the visual appearance of content rendered with <cfdocument> incorrect is the lack of a complete document to render.
- <cfdocumentsection>'s force an implicit pagebreak, but wait, there's more.
 - Each <cfdocumentsection> needs to be a complete document, it cannot reference things in another section (like css for example)



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CSS Styles, and <cfdocument>: the good, the bad, the ugly


- Well-formed css works, well, really well
 - CSS Zen Garden ([html](#) | [pdf](#))
- If you don't have well formed css, it can work really "not" well
 - You know, I tried to find an example of this but I really couldn't.
 - I did find a few that don't work quite right yet, though
 - border-collapse, doesn't work
 - float:left, also doesn't work
 - Most things just work.



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CSS Styles, and <cfdocument>: the good, the bad, the ugly (continued)

- Even if the css *is* well formed, don't get tricky
 - Polygon Study ([html](#) | [pdf](#))



- <cfinclude> is your friend
 - Remember, if you have multiple sections, you must include the css in each section
 - Headers and Footers each need their own css as well


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<cfdocument> and the "src" attribute

```
<cfdocument src="http://www.yahoo.com" format="pdf"/>
```

or you can do something like this to combine pages

```
<cfdocument format="pdf">
  <cfdocumentsection src="http://www.yahoo.com"/>
  <cfdocumentsection src="http://www.google.com"/>
</cfdocument>
```



- Use 7.0.1's src attribute for <cfdocument> and <cfdocumentsection> it makes things easier

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Multiple Headers and Footers using <cfdocument>

- How most of us have been trying to do it

```
<cfdocument format="pdf">
  <cfdocumentsection>
    <cfdocumentitem type="header">
      This is the Header on <b>page 1</b>
    </cfdocumentitem>
    <cfdocumentitem type="footer">
      This is the Footer
    </cfdocumentitem>
    <p>Here is some content on page 1</p>
    <cfdocumentitem type="pagebreak"/>
    <cfdocumentitem type="header">
      This is a different header on page 2
    </cfdocumentitem>
    <p>More lovely content, isn't cfdocument great???
  </cfdocumentsection>
</cfdocument>
```

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Multiple Headers and Footers using <cfdocument>

- This doesn't work because of the way the document is rendered
 - Last one wins
 - Only rendered once
- The only way for it to work (currently) is with <cfdocumentsection>
- Wouldn't it be cool if we could make it work the "right" way, and have dynamic headers and footers?

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Expressions vs. tags

- Lots of things are expressions in a .cfr
- An expression is something that can pass through ColdFusion's "Evaluate" function
 - Things to remember about Evaluate
 - String concatenation is done with & (ampersand)
 - Strings need to be in quotes (double or single, doesn't matter)
 - A .cfr has access to anything the calling page has access to, including functions in Application.cfm and UDF's
 - IF () is extremely useful, but can be tricky
 - Everything is evaluated first, then it goes back and determines the true/false side of the commas.
 - This means that DE () (Delayed Evaluation) is handy so you can make it do what you really want
 - Using tags in place of an expression can have unexpected and undesirable results.

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Report Functions

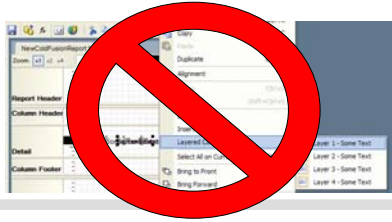
- You can use tag syntax in a .cfr through the use of Report Functions
- Report Functions are UDF's
 - They can take arguments
 - They can call other UDF's
- To use them in an expression, don't forget the parentheses
 - `report.myFunction` is different than `report.myFunction()` (note the parentheses)



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Richer & Conditional Formatting – The Past

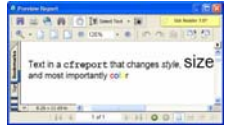
- Rich and Conditional Formatting, in CF 7.0
 - Place multiple items with the exact same information in them on top of one another with different Print When expressions
 - An individual word or phrase could not be emphasized
 - Not optimal.



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Richer & Conditional Formatting – The Present

- Rich and Conditional Formatting, in CF 7.0.2
 - You can use a limited set XHTML compliant markup to help with formatting
 - "HTML Formatted Text" must be true
 - ``, ``, `<i>`, ``, `<u>`, `<u:underline>`, `<u>`, `<strike>`
 - ``
 - `<p>`, `
`
 - ``
 - ``, ``, `` (no optional attributes for the `` and `` tags)
 - Works in all formats
 - Still not perfect for conditional formatting, but better



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Richer & Conditional Formatting – The Future?

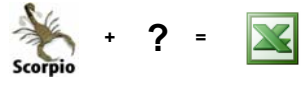
- What could be done in the future?
 - Wouldn't it be cool if you could do conditional formatting like you can do in Excel?
 - Wouldn't CSS in a CFR be cool, especially if you could pass it in via the `<cfreport>` tag?
 - Wouldn't it be cool if text styles could be expanded to have other attributes besides just font information?

Insert new, cool looking graphic here

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Making decent Excel Files


- Everything depends on spaces, or better yet, lack of spaces
 - To make everything line up properly, zoom is your friend
 - Don't overlap, overlapped things won't print
 - Be aware of margins (Top, Left, Bottom, Right) and their affect on spacing
- Simple is definitely better
 - Fancy formatting makes for funky files
- Be careful with formatting
 - NumberFormat and LSNumberFormat will make numbers be imported as strings
- Functions are not made for calculated fields
 - Nothing special here, just a note that it's like a piece of paper with text, in other words no special excel-y things like functions
- Wouldn't it be cool if there was a wizard or a menu or something that could excel-ify a report?



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Parameters, what you can and can't do

- Parameters are uni-directional
- What you can do
 - Pass data from a cfm to a cfr,
 - Pass data from a master report to a child report
 - Use it in the report's query
 - Display it in a field
- What you cannot do
 - Pass data from a cfr to a cfm
 - Pass data from a child report to a master report
- It's a good thing we're in ColdFusion land, huh?
 - Use a shared scope, like request, session, or application



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7.0.2 report functions - InitializeReport

- void InitializeReport()
 - Allows you to make sure things are initialized properly so your report will not blow up
 - The "report" scope does not exist yet (although this may change in the future), so you can't call UDF's inside the report
 - If there is an error in your code, it will dump a standard CFML error to the screen

```
<cffunction name="InitializeReport">
  <!-- do some initialization code here -->
</cffunction>
```

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7.0.2 report functions - BeforeExport

- int[] BeforeExport(int PageCount)
 - Allows you to do cool things like re-ordering pages, inserting blank pages, etc.
 - Needs to return an array of integers corresponding to the order in which the generated pages are to print
 - Blank pages can be added by inserting a 0 on a specific page and the generated page number
 - If there is an error in your code, it will dump a standard CFML error to the screen

```
<cffunction name="BeforeExport">
  <cfargument name="pagecount">
  <!-- change this to return the pages you need -->
  <cfset pages=StructNew()>
  <cfloop index="i" from="1" to="#arguments.pagecount#">
    <cfset pages["i#"]="i#">
  </cfloop>
  <cfreturn pages>
</cffunction>
```

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7.0.2 report functions - FinalizeReport

- void FinalizeReport()
 - Do any clean up you need to do, just remember that the report has already been sent to the screen, or placed in the file or variable you defined
 - If an error in your CFML shows up here, it only goes to the error log, not to the screen.

```
<cffunction name="FinalizeReport">
  <!-- do any clean-up code here -->
</cffunction>
```


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Sub-Reports and Queries

- Charts are different but the same.
 - For the sake of argument, we'll treat them the same for this discussion.
- Two kinds of main report & sub-report combinations
 - The master report is simply an aggregator for the sub-reports
 - The master report passes data into the sub-report to limit it's output
- How do I get my query into my sub-report
 - Bake it into the .cfr
 - Use the Advanced Query to get it from another place, like say the calling page or the InitializeReport function for example
- Wouldn't it be cool if you could pass a query into a sub-report or a chart?

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Q & A



I suppose I ought to answer questions or something
a.k.a, lets try to stump Dean now

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Resources

- Information about <cfreport> and <cfdocument>:
 - <http://www.cfreport.org>
- Adobe's official ColdFusion site:
 - <http://www.adobe.com/go/ColdFusion>
- Where to enter bugs and enhancements:
 - <http://www.adobe.com/support/email/wishform/>

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