



July
2018



GOLDFUSION
user group **Seattle**



Agenda

- Welcome to the Seattle ColdFusion User Group
- Introductions
- Goals
- Upcoming ColdFusion Events
- Add Your Bio to the Seattle CFUG site
- CFSpreadsheet demo by William Frankhouser of Everett CC / WilzDezign
- Fun with PDFs and ColdFusion by Jim Bates of Cherwell Software / Latreia
- Get Your Questions Answered. Ask the Group!
- Next Month's Meeting



Introductions

Tell Us a Little About You

- Your name
- Where You Work/What You Do
- What You're Hoping to Get From Attending Our User Group Meetings



Goals

- Assist ColdFusion Developers Throughout the Pacific Northwest
- Promote ColdFusion Developers Throughout the Pacific Northwest
- Connect Employers with ColdFusion Developers
- Establish a Community of Friendship Between ColdFusion Developers
- Provide Speaking Opportunities for ColdFusion Developers
- Change the Perception of ColdFusion as a viable platform



Upcoming ColdFusion Events

Adobe ColdFusion Summit 2018

Hard Rock Hotel and Casino – Las Vegas

October 1st – 3rd

Register at <https://cfsummit.adobeevents.com/register/>

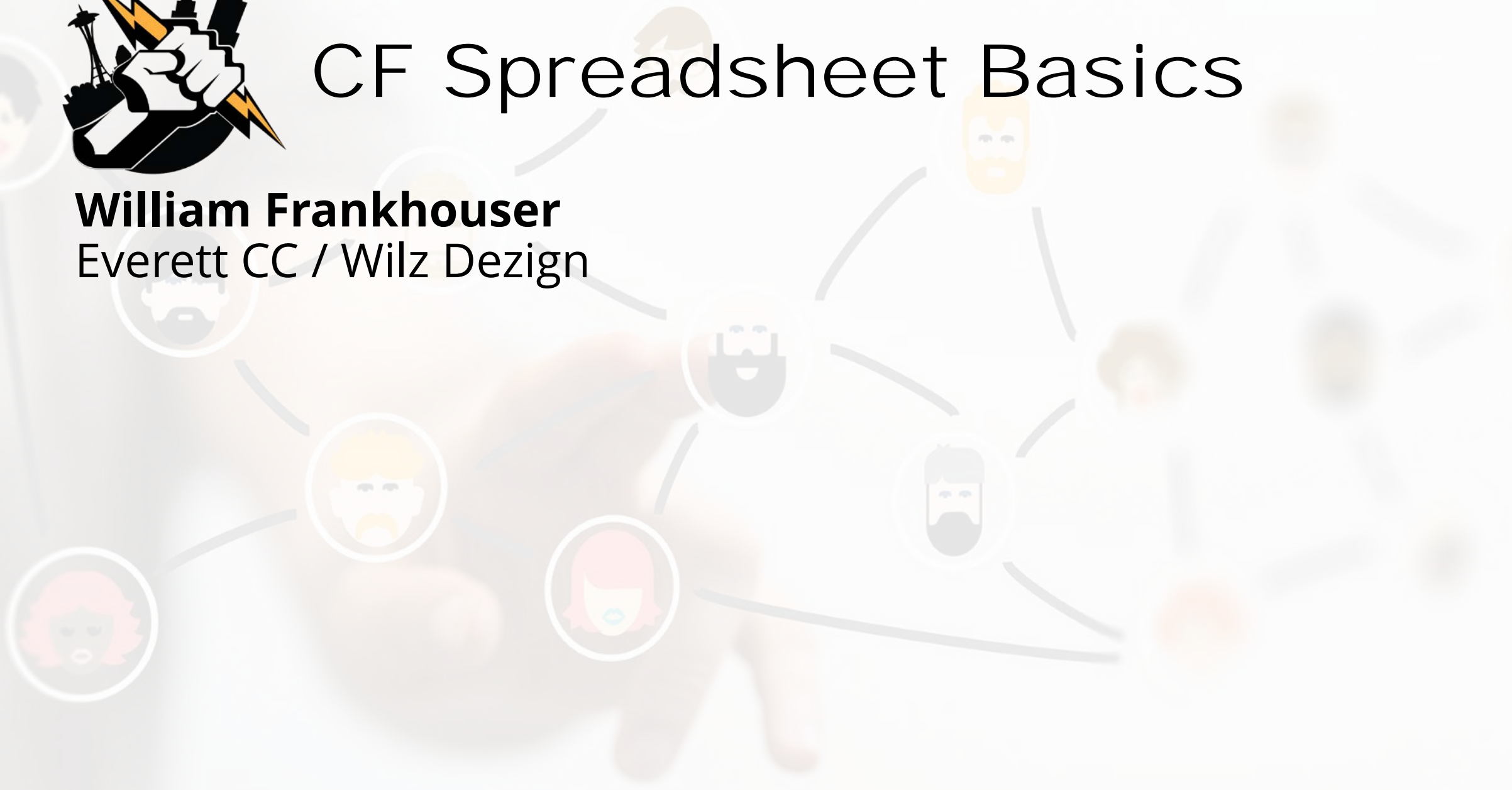
- Announce Pricing (until Jun 30th) - \$249.00
- Advance Pricing (until Aug 31st) - \$349.00
- Full Price (Sep 1 to Oct 3rd) - \$399.00



CF Spreadsheet Basics

William Frankhouser

Everett CC / Wilz Dezipn





CF Basics - CFSpreadsheet

- Goal to create and update easy to use spreadsheets for reports with simple formatting using [<cfspreadsheet>](#)
- Functionality existed before using drivers, parsing of data, changing MIME type and using cfheader to export the data out.
- Adobe introduced CFSpreadsheet in ColdFusion 9
- Minor attribute updates in 9.0.1 and 11 added autosize
- Not Supported in Lucee
- However, [extension available for Lucee 5](#) via Leftbower



CF Spreadsheet Basics

- READ a Spreadsheet
- UPDATE a Spreadsheet
- WRITE a Spreadsheet



CFSpreadsheet READ

```
<cfspreadsheet  
  action="read"  
  src = "filepath"  
  columns = "range"  
  columnnames = "comma-delimited list"  
  excludeHeaderRow = "true | false"  
  format = "CSV | HTML"  
  headerrow = "row number"  
  name = "text"  
  query = "query name"  
  rows = "range"  
  sheet = "number"  
  sheetname = "text">
```



CFSpreadsheet UPDATE

```
<cfspreadsheet  
  action="update"  
  filename = "filepath"  
  format = "csv"  
  name = "text"  
  password = "password"  
  query = "query name"  
  sheetname = "text" >
```



CFSpreadsheet WRITE

```
<cfspreadsheet  
  action="write"  
  filename = "filepath"  
  format = "csv"  
  name = "text"  
  overwrite = "true | false"  
  password = "password"  
  query = "queryname"  
  sheetname = "text"  
  autosize = "true | false" >
```



CFSpreadsheet Functions

[Full Function List](#)

▪ **Add**

SpreadSheetAddAutofilter, SpreadsheetAddColumn, SpreadsheetAddFreezePane, SpreadsheetAddImage, SpreadsheetAddInfo, SpreadSheetAddPagebreaks, SpreadsheetAddRow, SpreadsheetAddRows, SpreadsheetAddSplitPane

▪ **Create**

SpreadsheetCreateSheet

▪ **Delete**

SpreadsheetDeleteColumn, SpreadsheetDeleteColumns, SpreadsheetDeleteRow, SpreadsheetDeleteRows

▪ **Format**

SpreadsheetFormatCell, SpreadsheetFormatCellRange, SpreadsheetFormatColumn, SpreadsheetFormatColumns, SpreadsheetFormatRow, SpreadsheetFormatRows

Plus Many More...

Fun with PDFs ...and Coldfusion

Jim Bates



COLDFUSION
user group **Seattle**



Overview

- What, why and how?
- Basic pattern
- Four specific functions:
 - cfdocument
 - cfreport
 - cfpdf
 - cfpdfform



Lucee

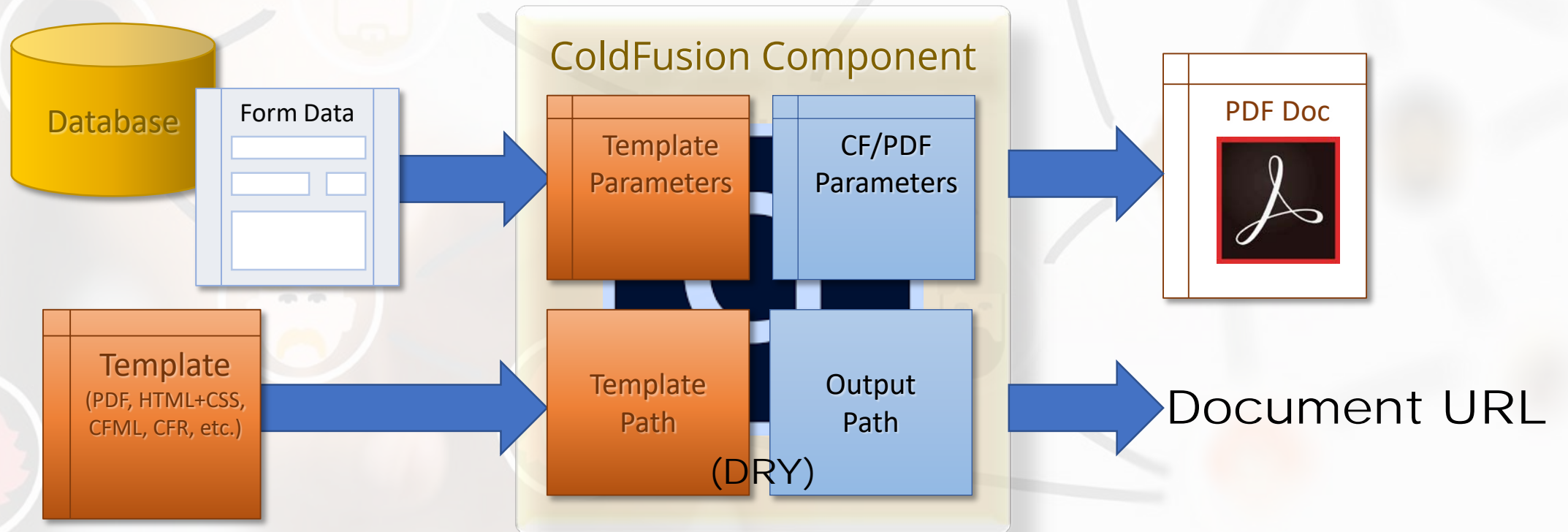


What and Why?

- Use CF to **add dynamic data** to PDF
 - In an MVC world, PDF as the view
- Why? **Consistent** user experience
 - Printable
 - Emailable
 - Offline data storage
- Nice formatting
- Ubiquitous software



Basic Pattern





Tonight's examples

- PDF publishing using **cfdocument**
 - Simple certificate
- Banded Reports with **cfreport**
 - Avery labels
- PDF concatenation using **cfpdf** and **DDX**
 - Assemble a brochure
- PDF form data ingestion with **cfpdfform**
 - Feedback form



cfdocument

CFML + CSS to PDF



cfdocument

- Use cases
 - Certificates, posters, signage
 - Output code examples
- Anything that:
 - Requires consistent UX
 - May be printed
 - Is distributed digitally



cfdocument

- Easiest way to generate PDFs
- Block of cfml & html wrapped in <cfdocument>
- Additional feature tags
 - <cfdocumentSection>
Generates page break, formatting, gives name for TOC
 - <cfdocumentItem>
Force page break, special header/footer

Syntax

```
1 <cfdocument
2 format = "PDF|FlashPaper"
3 authPassword = "authentication password"
4 authUser = "authentication user name"
5 backgroundVisible = "yes|no"
6 bookmark = "yes|no"
7 encryption = "128-bit|40-bit|none"
8 filename = "filename"
9 fontEmbed = "yes|no"
10 formFields = "yes|no"
11 formsType = "FDF|PDF|HTML|XML"
12 localUrl = "yes|no"
13 marginBottom = "number"
14 marginLeft = "number"
15 marginRight = "number"
16 marginTop = "number"
17 mimeType = "text/plain|application/xml|image/jpeg|image/png|image/bmp|image/gif"
18 name = "output variable name"
19 openPassword = "password to open protected documents"
20 orientation = "portrait|landscape"
21 overwrite = "yes|no"
22 ownerPassword = "password"
23 pageHeight = "page height in inches"
24 pageType = "page type"
25 pageWidth = "page width in inches"
26 pdfa = "yes|no"
27 permissions = "permission list"
28 permissionsPassword = "password to access restricted permissions"
29 proxyHost = "IP address or server name for proxy host"
30 proxyPassword = "password for the proxy host"
31 proxyPort = "port of the proxy host"
32 proxyUser = "user name for the proxy host"
33 saveAsName = "PDF filename"
34 scale = "percentage less than 100"
35 src = "URL|pathname relative to web root"
36 srcfile = "absolute pathname to a file"
37 tagged = "yes|no"
38 unit = "in|cm"
39 userAgent = "HTTP user agent identifier"
40 userPassword = "password">
41 HTML and CFML code
42 </cfdocument>
```



cfdocument in cfc function

```
/**
 * @displayname Create Preface
 * @hint Generates a personalized Preface
 * @description Uses template to generate personalized Preface
 * @output false
 * @returnFormat json
 * @secureJSON yes
 * @verifyClient yes
 */
public string function createPreface(required string name, required string template, required any suffix)
{
    var tempPath = instance.tempPath;
    var prefacePath = tempPath & "Preface-#arguments.suffix#.pdf";
    cfdocument( format="pdf", filename=expandPath(prefacePath), overwrite=true, bookmark="yes" ) {
        cfdocumentSection(name="Preface") {
            include "/classes/templates/#arguments.template#";
        }
    }
    return prefacePath;
}
```



cfdocument in cfc function

```
<!-- Create Preface -->
<cffunction name="createPreface" access="public" output="false" returntype="string" returnformat="JSON"
  hint="Generates a personalized Preface" secureJSON="Yes" verifyClient="Yes">
  <cfargument name="name" type="string" required="yes">
  <cfargument name="template" type="string" required="yes">
  <cfargument name="suffix" type="any" required="yes">
  <cfset variables.tempPath = instance.tempPath>
  <cfset variables.prefacePath = tempPath & "Preface-#arguments.suffix#.pdf">
  <cfdocument format="pdf" filename=prefacePath overwrite=true bookmark="yes">
    <cfdocumentSection name="Preface">
      <cfinclude template="/classes/templates/#arguments.template#.cfm">
    </cfdocumentSection>
  </cfdocument >
  <cfreturn prefacePath>
</cffunction>
```

So where are margins,
page type, etc?

- Template has defaults
- Parameters passed in the Arguments scope are visible to the included template.
- So they are passed in via the argumentCollection, and rendered by the <cfoutput> in the template.



practical considerations

- Customized filenames need to be unique
 - So customer files don't get muddled
 - Use a suffix (random number or datetime) to keep unique
- Be sure to include file cleanup
 - After timespan – *and/or* –
 - Programmatic: after confirm email sent, etc.
 - Serve with cfcontent with deletefile="yes"
- I recommend creating a template .cfm, with embedded CSS
 - Output whatever variables needed
 - Allows separation of concerns 😊



cfdocument example

- Quick demo:
 - Log into <http://training.latreia.com> as cfug / seattle
 - My courses > Fun with PDF
 - Click 'eyecon' on cfdocument to expand the topic
 - Click [demo of cfdocument](#).
- Fill in name, select presentation
- Click button 'Make the Certificate!'

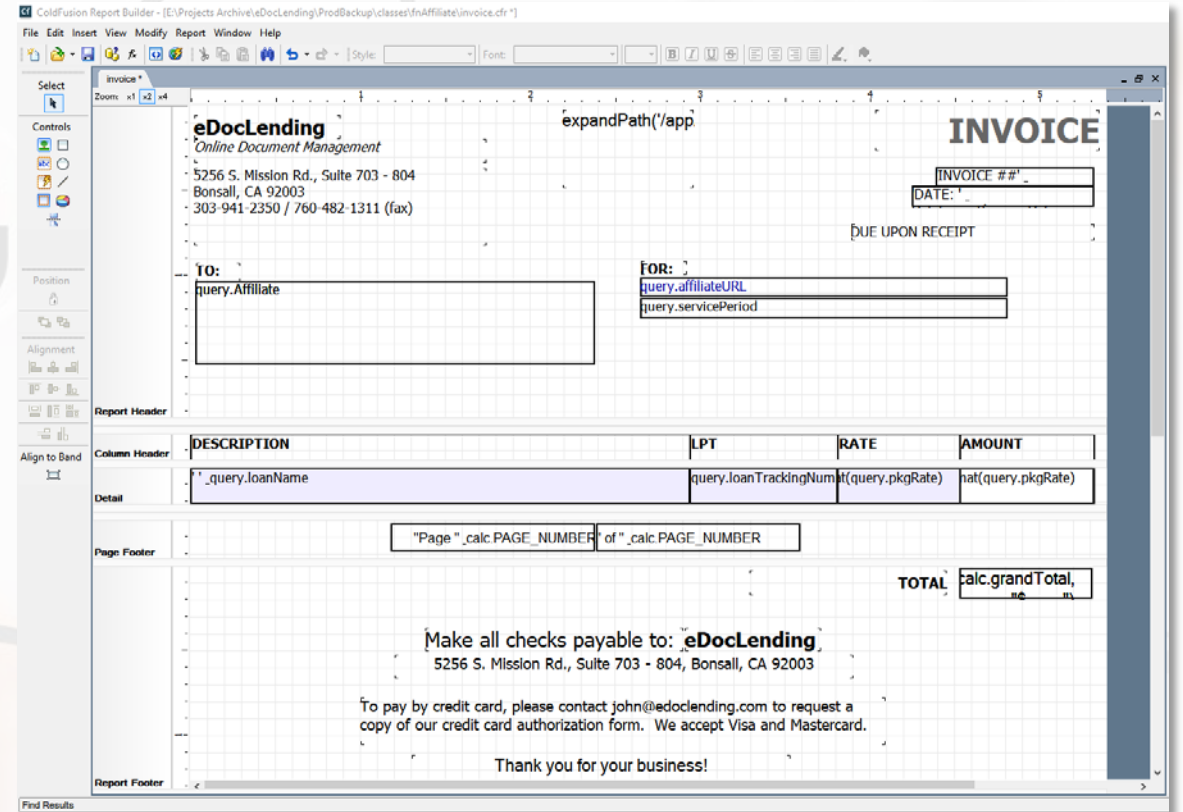
cfreport

Banded reports using CF Report Builder



cfreport

- In 2005, with ColdFusion MX7, Macromedia released ColdFusion Report Builder
 - Banded report generator
 - Fairly decent
- Use query builder or write custom query
- Output is a .cfr **template** file



Select

Controls

Position

Alignment

Align to Band

invoice

Zoom: x1 x2 x4

eDocLending
Online Document Management
 An Affiliate of Capital Development, LLC

PO Box 982
 Fallbrook, CA 92028
 Phone: (303) 941-2350 Fax: (303) 593-7335

INVOICE

INVOICE ##' _

DATE: ' _DateFormat(invoiceDate, 'MMM d,

DUE UPON RECEIPT

TO: query.Affiliate

FOR: query.affiliateURL
 query.servicePeriod

DESCRIPTION	LPT	RATE	AMOUNT
'_query.loanName	query.loanTrackingNum	at(query.pkgRate)	hat(query.pkgRate)

"Page " _calc.PAGE_NUMBER " of " _calc.PAGE_NUMBER

TOTAL calc.grandTotal,

Make all checks payable to: **eDocLending**
 PO Box 982, Fallbrook, CA 92028

To pay by credit card, please contact Kelly@capitaldev.com to request a copy of our credit card authorization form. We accept Visa, Mastercard, and American Express.

Thank you for your business!

Properties

Elements: DollarFormat(query.pkgRate) Field

Name	Value
Colors and Style	
Background Color	<input type="checkbox"/>
Style	detailDataCentered
Transparency	Transparent
Data	
Bookmark Level	0
Expression	DollarFormat(query.pkgRate)
Hyperlink Information	None
Hyperlink Target	Self
Name	LPRate
Font	
Embedded Font	False
Font Color	█
Font Name	Tahoma
Font Style	Bold:False, Italic:False, Strike-through:False, Underline:...
Size	8
Formatting	
Alignment	Right
Blank When Null	False
Border	
Line Spacing	Single
Stretch with Overflow	False
Text Rotation	None
Vertical Alignment	Top
XHTML Text Forma...	False
Layout	
Height	22 px

Fields and Parameters

Fields and Parameters Report Styles

Drag and Drop: Label Field Label & Field

- Query Fields
- Calculated Fields
- Input Parameters

Find Results

Location	Text



cfreport

- Use cases:
 - Banded reports
 - Invoicing
 - Labels
- Anything that:
 - Has strict format for multiple data elements
 - Requires visual presentation of data
 - Will be printed and/or distributed digitally



cfreport

- `<cfreport>`
 - Uses .cfr **template** with **data**
- Additional feature tag
 - `<cfreportparam>`
Pass input parameters, override query data in subreports and charts, override styles

<https://helpx.adobe.com/coldfusion/cfml-reference/coldfusion-tags/tags-r-s/cfreport.html>

```
1 ColdFusion Report Builder syntax:
2 <cfreport
3   format = "PDF|FlashPaper|Excel|RTF|HTML|XML"
4   template = "absolute pathname or pathname relative to the report file"
5   encryption = "128-bit|40-bit|none"
6   filename = "output filename"
7   name = "ColdFusion variable"
8   ownerpassword = "password"
9   overwrite = "no|yes"
10  permissions = "permission list"
11  query = "query variable"
12  resourceTimespan = #CreateTimeSpan (days, hours, minutes, seconds)#
13  style = "CSS style definition or css file pathname"
14  userpassword = "password">
15  <cfreportparam ...>
16 </cfreport>
17
18 Crystal Reports syntax:
19 <cfreport
20   report = "report path"
21   dataSource = "data source name"
22   formula = "formula"
23   orderBy = "result order"
24   password = "password"
25   timeout = "number of seconds"
26   type = "standard|netscape|microsoft"
27   username = "username">
28 </cfreport>
```



using cfreport

I let the database do the work wherever it is appropriate...

```
<cfset template = expandPath("/templates/Avery5162.cfr")>
<cfquery name="qLabels" datasource="training">
  SELECT Firstname, Lastname,
  CASE
    WHEN Address2 IS NULL THEN Address1
    WHEN datalength(Address2) = 0 THEN Address1
    ELSE Address1 + CHAR(13)+CHAR(10) + Address2
  END AS Address,
  City, State_Prov, ZIP_Postal
  FROM Addresses ORDER BY Lastname, Firstname
</cfquery>
<cftry>
  <cfreport format="PDF" template="#template#" query="qLabels" name="labels" />
  <cfheader name="Content-Disposition" value="attachment;filename=Avery5162.pdf">
  <cfcontent type="application/pdf" variable="#labels#">
  <cfcatch>
    <cfdump var="#cfcatch#">
  </cfcatch>
</cftry>
```



cfreport in a cfc function

```
/**
 * @displayname Publish Report
 * @description Given path to cfreport, recordset and output path, publishes PDF report
 * @hint .cfr path and output path are URLs from server root
 * @output false
 * @returnFormat json
 * @secureJSON yes
 * @verifyClient yes
 */
public string function publishReport( required string templatePath, required query recordSet, required string outputPath, required string filename )
{
    var result = "Must specify templatPath (path of .cfr file), a valid recordset, outputPath (path to PDF file) and filename for report PDF.";
    try {
        templatePath = expandPath(arguments.templatePath);
        outputPath = expandPath(arguments.outputPath);
        if( right(outputPath, 1) != '\' ) {
            outputPath &= '\';
        }
        outputPath &= arguments.filename;
        cfreport( format="PDF", template="#templatePath#", query="recordSet", filename="#outputPath#", overwrite="yes" );
        result = outputPath;
    }
    catch (any excpt) {
        result = excpt;
    }
    return serializeJSON(result);
}
```




practical considerations

- Good use for anything with repetitive, small elements
 - Name tags
 - Tickets
 - Asset tags for IT items managed in CMDB
- Best to create a CFC that takes template and query as arguments
 - You can use same dataset with multiple files
 - (I printed item labels with just names, and shipping labels)
- Don't persist the PDF, only the data



cfreport example

- Quick demo:
 - Log into <http://training.latreia.com> as cfug / seattle
 - My courses > Fun with PDF
 - Click 'eyecon' on **cfreport** to expand the topic
 - Click [demo of cfreport](#).
- Click button 'Generate Labels!'

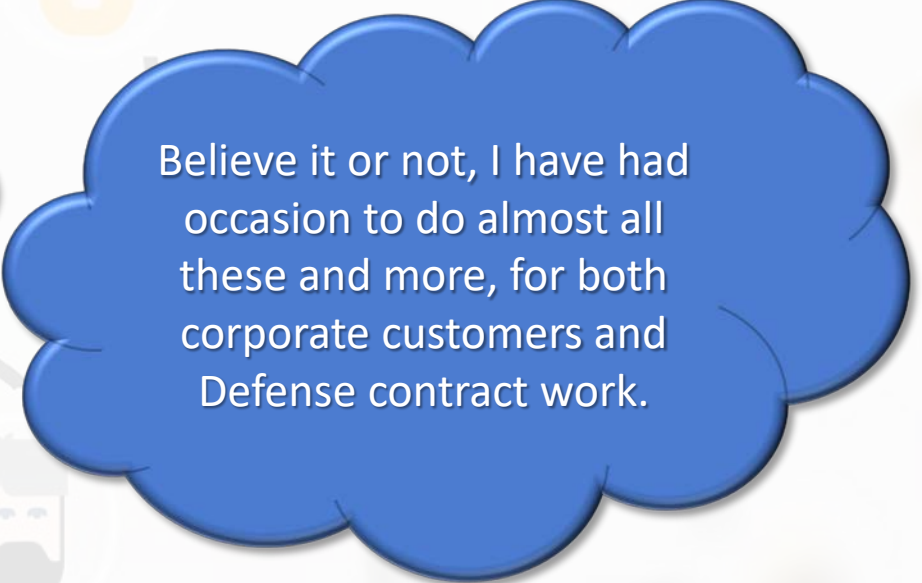
cfpdf

Manipulating existing PDFs



cfpdf

- Use cases
 - Merge documents into single PDF
 - Apply/remove header/footer
 - Apply password/encryption
 - Apply/remove watermark
 - Output to file system
 - Create thumbnails
 - Extract text or images



Believe it or not, I have had occasion to do almost all these and more, for both corporate customers and Defense contract work.



cfpdf

- `<cfpdf>`
 - The 'Swiss Army knife' of PDF manipulation
 - Used for manipulating **existing PDF files**, rather than building them
 - Many options, some totally bizarre (*watermarks, redaction, etc.*)
- Additional feature tag
 - `<cfpdfparam>`
Passes parameters for merge operations

The code examples for CFPDF take up more lines of code than the crew compliment of NCC-1701 (431).

Check out the documentation here:

<https://helpx.adobe.com/coldfusion/cfml-reference/coldfusion-tags/tags-p-q/cfpdf.html>



cfpdf process ddx

- One of the more useful and bizarre features:
Dynamic Document Exchange
 - Subset of the XML used in Adobe LiveCycle® Enterprise Suite
 - Bizarre: Proprietary (*AKA non-standard*) XML format
 - Useful: Assemble multiple PDF documents into a book
 - Headers and footers
 - Cover
 - Table of contents
 - Section breaks, etc.



DDX

- Basic code looks deceptively simple:
 - XML namespace
 - PDF result location ("Out1")
 - A couple documents
- Can add many features in the DDX
- But...
 - The DDX file is processed top to bottom, so necessary to add items in sequence... except styles
 - DDX is case-sensitive

```
<DDX xmlns="http://ns.adobe.com/DDX/1.0/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
xsi:schemaLocation="http://ns.adobe.com/DDX/
1.0/ coldfusion_ddx.xsd">
<PDF result="Out1">
  <PDF source="Doc1"/>
  <PDF source="Doc2"/>
</PDF>
</DDX>
```

Note the space!



cfpdf process ddx

■ General process:

1. Generate or assemble PDF docs
(if they are going into a TOC, be sure to set bookmarks)
2. Create the DDX file with the docs listed in order
3. Validate the DDX file
4. Add the docs to an inputStruct
5. Define the destination in an outputStruct
6. Use CFPDF to process the DDX
7. Pat yourself on the head if it works.

```
<!-- confirm DDX is valid. -->  
<cfif IsDDX("makeBook.ddx")>
```

```
<!-- Create a structure for the input files. -->  
<cfset inputStruct=StructNew()>  
<cfset inputStruct.Title="Title.pdf">  
<cfset inputStruct.Doc1="Chap1.pdf">  
<cfset inputStruct.Doc2="Chap2.pdf">
```

```
<!-- Create a structure for the output file. -->  
<cfset outputStruct=StructNew()>  
<cfset outputStruct.Out1="Book.pdf">
```

```
<!-- Process DDX to generates the book. -->  
<cfpdf action="processddx" ddxfile="makeBook.ddx"  
inputfiles="#inputStruct#"  
outputfiles="#outputStruct#"  
name="myBook">
```

```
</cfif>
```




cfpdf process ddx

- Another thing to remember:
You can only use fonts
installed
on the server for text that is
rendered by means of ddx.
 - (Headers, footers, etc.)

```
<!--- List installed fonts --->  
<cfset adminObj = createObject("Component",  
                                "cfide.adminapi.administrator")>  
<!--- change to use your CF Admin password --->  
<cfset adminObj.login("yourpass")>  
<cfset rtService = createObject("component",  
                                "cfide.adminapi.runtime")>  
<cfset fonts = rtService.getFonts()>  
<cfdump var="#fonts#">
```

Courtesy of Tim Cunningham, <https://gist.github.com/timcunningham/3794186>



DDX

- Before attempting to do DDX, read Adobe online docs!

<https://helpx.adobe.com/coldfusion/cfml-reference/coldfusion-tags/tags-p-q/cfpdf.html>

<https://helpx.adobe.com/coldfusion/developing-applications/working-with-documents-charts-and-reports/assembling-pdf-documents/using-ddx-to-perform-advanced-tasks.html>



cfpdf example

- Quick demo:
 - Log into <http://training.latreia.com> as cfug / seattle
 - My courses > Fun with PDF
 - Click 'eyecon' on **cfpdf** to expand the topic
 - Click on [demo of cfpdf](#).
- Enter your name
- Click button 'Build the brochure!'

cfpdfform

Data into and out of PDF forms



cfpdfform

- PDF forms can be a great way to capture data offline
 - Ingest data online
- Forms are ubiquitous
- Many applications, from HR forms to surveys

شخص نامزد برنامه صلح و جذب مجدد (دوسیه انفرادی)

درج گزارش

ارگان گزارش دهنده: دارالانشای مشترک

ولایت کابل

تاریخ ایجاد ریکارڈ: ۱۳ ۲ ۱۳۹۰

ولسوالی شهر کابل

کوردینات طول البلد/عرض البلد

گزارش دهی

ارگان گزارش دهنده: تیم حمایتی ولایتی جذب مجدد

ولایت ارزگان

تاریخ ثبت: ۷ ۱ ۱۳۹۰

ولسوالی (مرکز ولایت ارزگان) ترینکوت

کوردینات طول البلد/عرض البلد

معلومات شخصی

نمبر تذکره

جنس مذکر

اسم ملا محمد منصور

قوم پشتون

ولدهیات خان اکا

سال تولد ۱۳۶۷

والد

Portion of GIROA PDF – Reintegration / Government ID Card Application
(individual from a village in Shahidi Hassas district of Uruzgan Province)



cfpdfform

- Populate fields on PDF form
- Read data from PDF forms
 - XFA or FDF
 - Store in CF struct or file
- `<cfpdfformparam>`

*(for filling out forms, maps
PDF form field to CF variable)*

```
1  populate
2  <cfpdfform
3  required
4  action = "populate"
5  source = "PDF file pathname|byte array"
6  optional
7  XMLdata = "XML object|XML string|XML data filename|
8  URL that returns XML data"
9  destination = "output file pathname"
10 overwrite = "yes|no"/
11 fdf = "true|false" <!--New attribute that populates data in FDF format instead of
12 XML with subforms and params-->
13 fdfdata = "file name to be imported" <!-- New attribute populates data in FDF format
14 from the AcroForm-->
15 read
16 <cfpdfform
17 required
18 action = "read"
19 source = "pathname|byte array"
20 at least one of the following:
21 XMLdata = "variable name for XML data"
22 result = "structure containing form field values"
23 optional
24 overwrite = "yes|no"/>
25 fdfdata = "filename to be exported to"
```



cfpdfform

- Sadly, not in Lucee
- Ortus has an extension
 - Pricy but if you need it...
 - <https://www.ortusolutions.com/products/ortuspdf>





Using cfpdfform

```
<cfpdfform source="#demoFile#" result="resultStruct" action="read"/>
<cfscript>
  /* WHITE LIST: No matter what is in the form file, only use input elements we trust
  Appearance, Comments, Content, Delivery, Examples, Interest, Presenter, Title
  Only Title is required */
  // String fields
  if(structKeyExists(resultStruct, 'Title') && isValid("string", resultStruct.Title) ) {
    Title = encodeForHTML(resultStruct.Title);
  }
  ...etc...
</cfscript>
```

SECURITY ALERT:

PDF Form fields can contain *anything*, and conceivably could be used as an attack vector. Scrub all field values and compare to a whitelist before doing anything with the data.



cfpdfform example

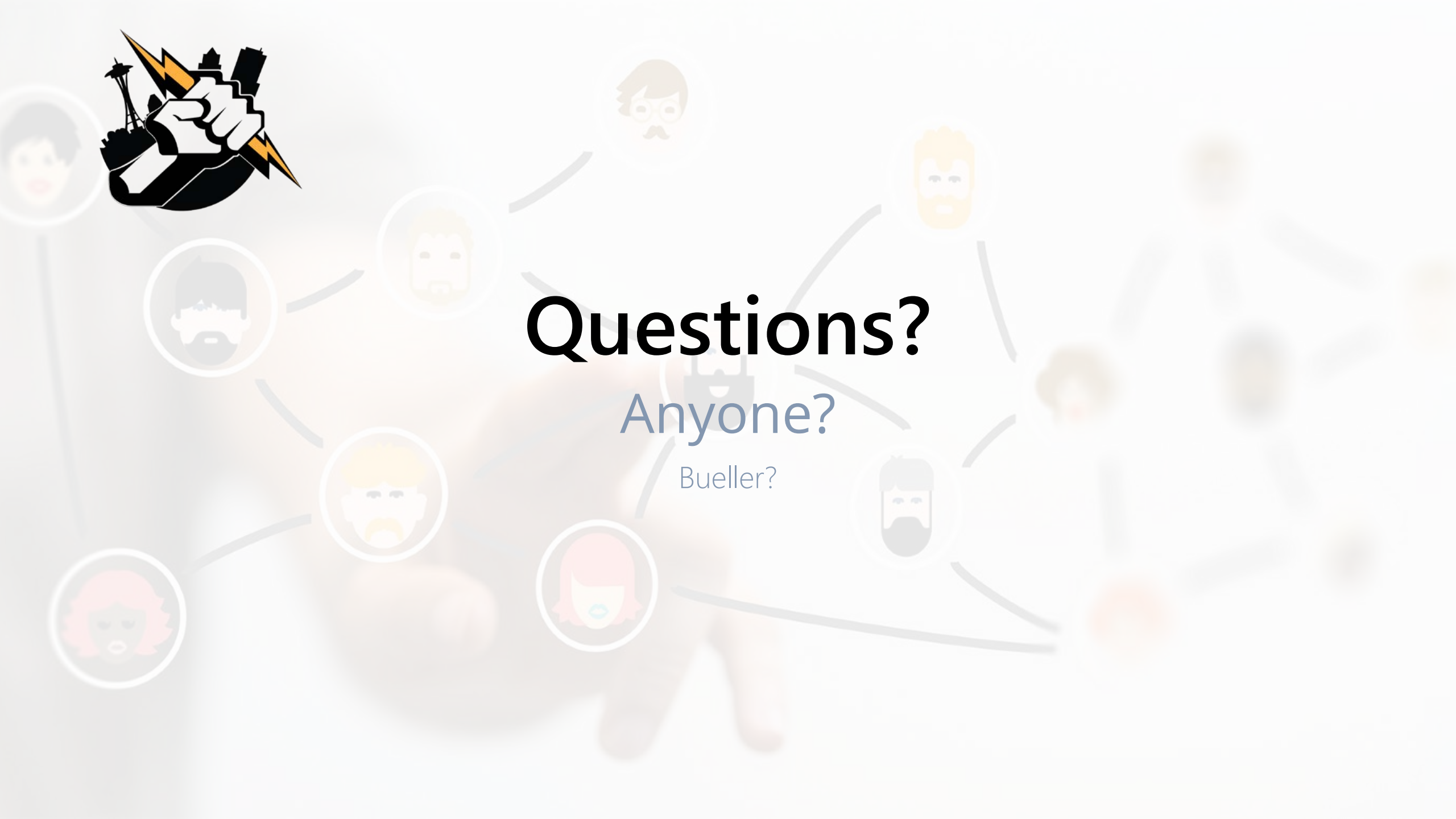
- Quick demo:
 - Log into <http://training.latreia.com> as cfug / seattle
 - My courses > Fun with PDF
 - Click 'eyecon' on cfpdfform to expand the topic
 - Click on [demo of cfpdfform](#).
 - Download form
 - Fill out and save (*open in Acrobat*)
 - Upload form
- Click button 'Ingest data!'



Questions?

Anyone?

Bueller?





thanks!

- Training Portal – This was an experiment, so may not leave up indefinitely. Feel free to grab what you can.
 - <http://training.Latreia.com>
- Email me with questions any time
 - jim@Latreia.com



I think we've heard
enough for tonight.
May we please go
home?



Get Yoour Questions Answered. Ask the Group!

Got problem that you're stuck on? Get advice with how to solve it from our user group.





Next Month's Meeting

August 15, 2018 – WeWork – Lincoln Square
(if WeWork will have us back)

What would you like us to present on?