



Guardians of the Formatting, awesome documents vol.1!



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Agenda

// Evolved over time...

// A Java Approach

// Core Application

// SAS Integration

// The Data Step Way

// The Execute Way

// Summary



Evolved over time... 1/2

Background Information

- Various different output Types
- Handover to medical Writing is Word Document
- Corporate (and also authority) Document Guidelines and Policies
- Strict Style restrictions (downstream systems..)
 - Margins
 - Styles
 - Fonts
 - TOC





Evolved over time... 2/2

In a roundabout way

- Tool (VBA) to ComBOlate a single Document
- VBA vs. non Windows SAS

SAS

rsubmit / Java

Windows Server VBA





A Java Approach 1/3

Core Application

- Inherit a nearly perfect Tool
- But:
 - 95% of Word Bugs workarounded
 - Maintenance of evolved VBA Monolith
- Replace VBA by pure Java
- No Need for MS Word





A Java Approach 2/3

Word Documents with Java

- Step 1: Find Framework



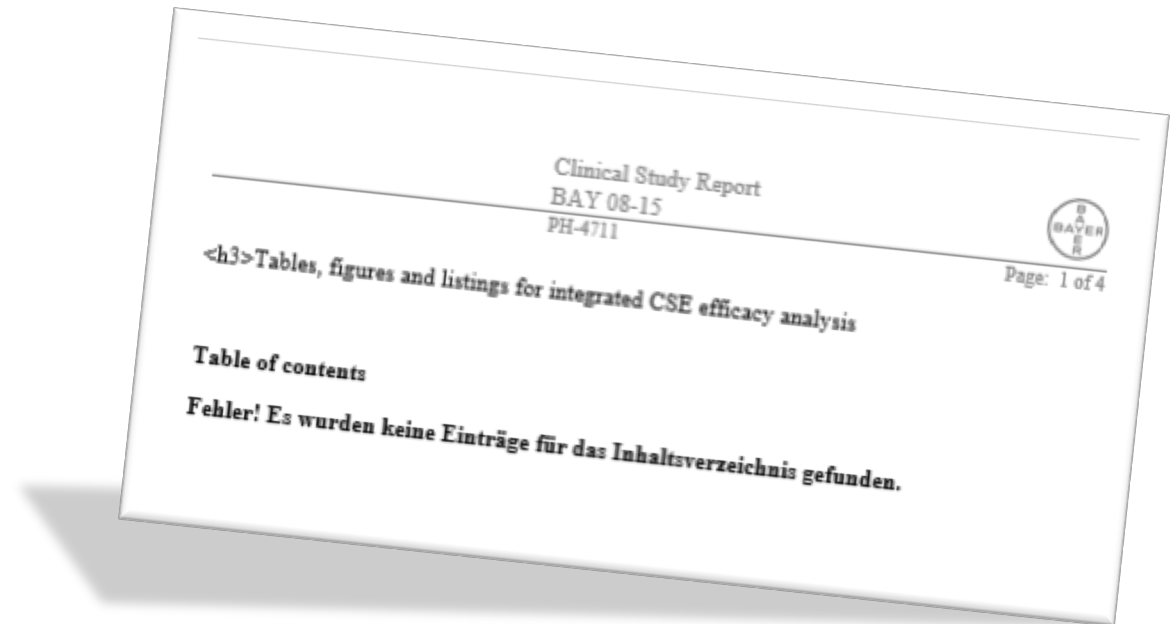
- Apache POI
Open Source, Community driven
- Aspose.Words
expensive License, huge format variety
API similar to VBA



A Java Approach

Process Design

- Templates with `<tags>`
Headlines, Numbering,
- Processings running over Document
- Table numbering
- Layout/Style Settings
- Different Input/Output Formats
(additional APIs)





SAS Integration

The DataStep Way

```
DATA _NULL_;  
  DECLARE javaObj obj;  
  obj = _new_ javaObj('com/bayer/docfish/DocFishMain');  
  
  ...  
  
  obj.callIntMethod("init", "&_server.", _initOK);  
  
  ...  
  
  obj.callBooleanMethod("setOutputDirectory", "&_outDir.", _setOutOK);  
  
  ...  
  
  obj.callVoidMethod("setRenameResultFiles", "no");
```



SAS Integration

The Filename Pipe Way

- Create Text File with commands
- Use filename .. pipe statement and Data Step

```
filename jcombo pipe "SHLIB_PATH=; /opt/java7/jre/bin/java -jar &clientjar. < &cmdfilepath.";
```

```
data _null_;  
    INFILE jcombo DSD dlm='09'x truncover END=_lastobs;
```

...

Summary

- Use Framework to handle Word Documents
- Stay independent of OS and Formats
- Seamless integrate with SAS
- Future?
 - Add Client/Server again
 - Replace templates
 - Directly create outputs when files arrive



Questions?

