

Measuring LibreOffice Interoperability

LibreOffice Conference 2014, Bern

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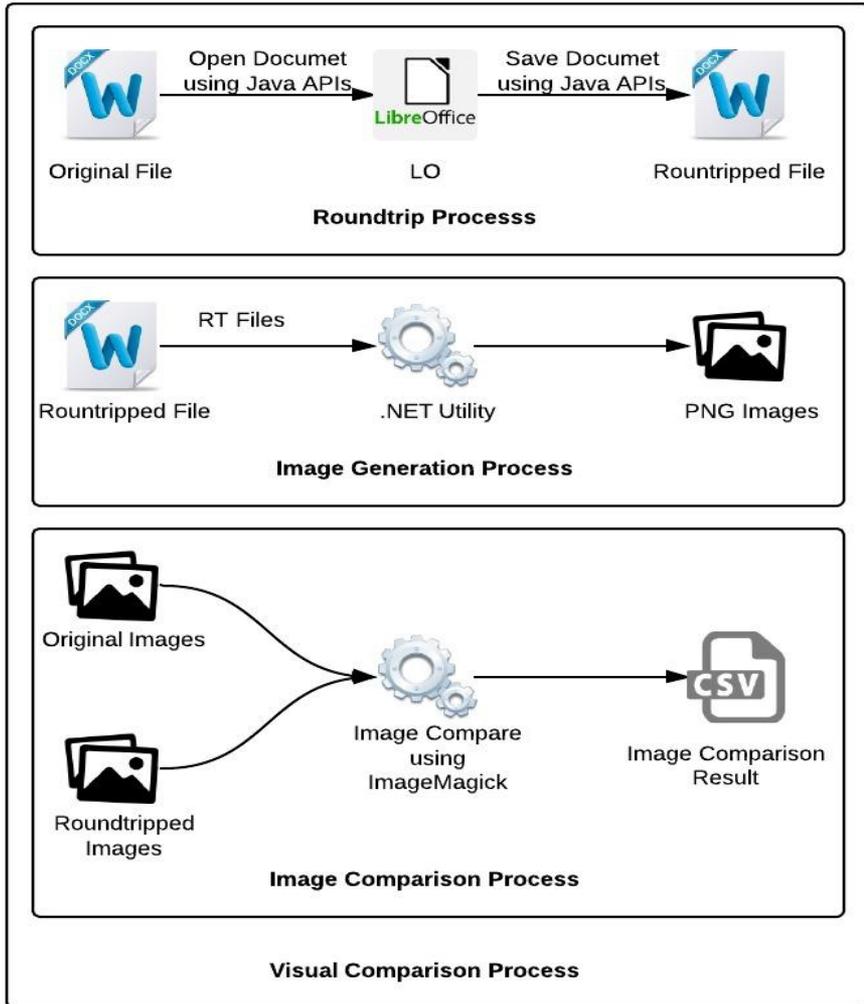
About Me

- QA Architect at Synerzip, Pune, India
- Member of TDF
- 7 Years of Experience in Automation Testing; with 2 Years in dealing with OOXML format
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- IRC: #libreoffice-qa: dushyant

Topics

- Visual Comparison
 - Methodologies
 - Challenges
- Non-Visual Comparison
 - Methodologies
 - XML Level Comparison (FCT - Feature Comparison Tool)
 - Data Level Comparison
 - Plain Text Analysis
 - Non-Visual Comparison Approach for Calc & Impress
 - Challenges
- Test with Light Editing

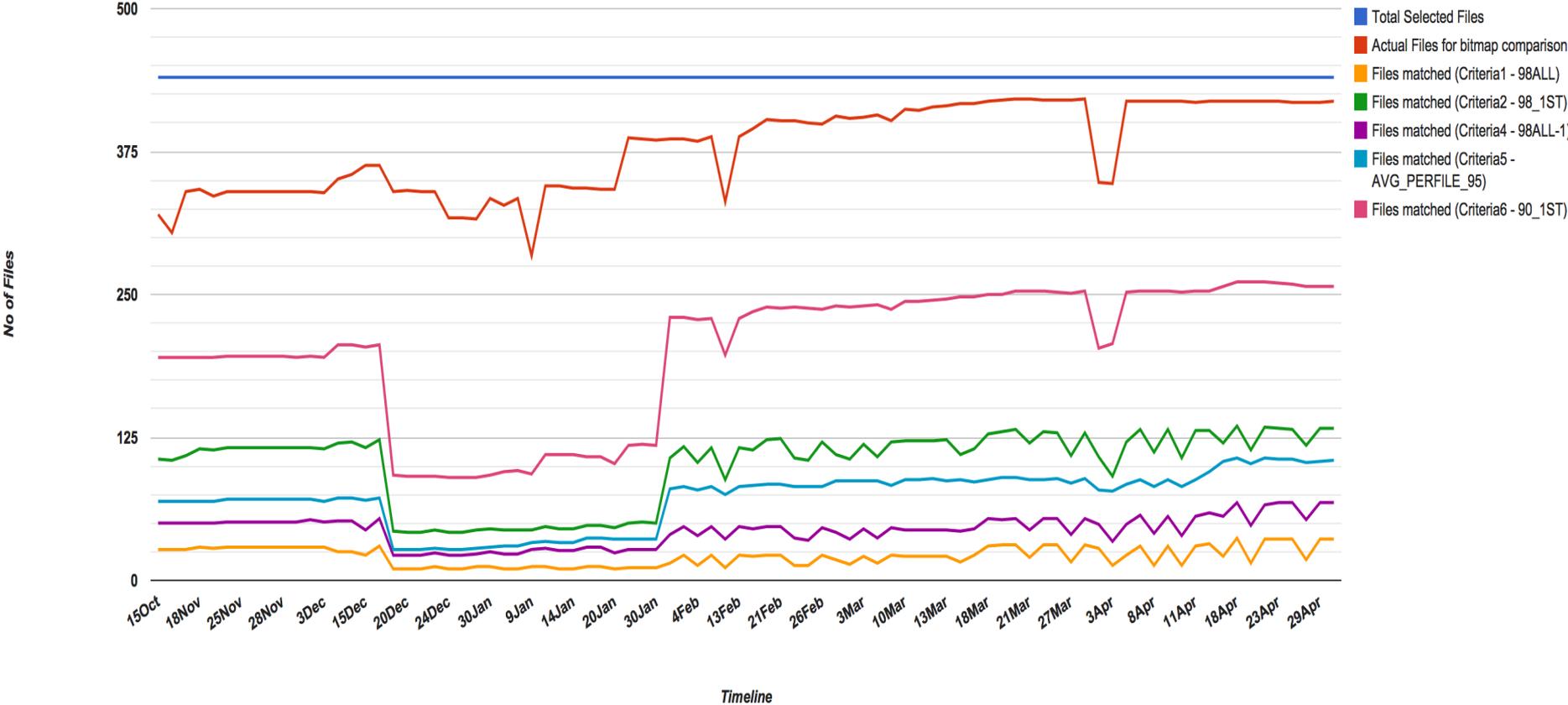
Visual Comparison Process



Sample Merge Image

Visual Comparison - Analysis #1

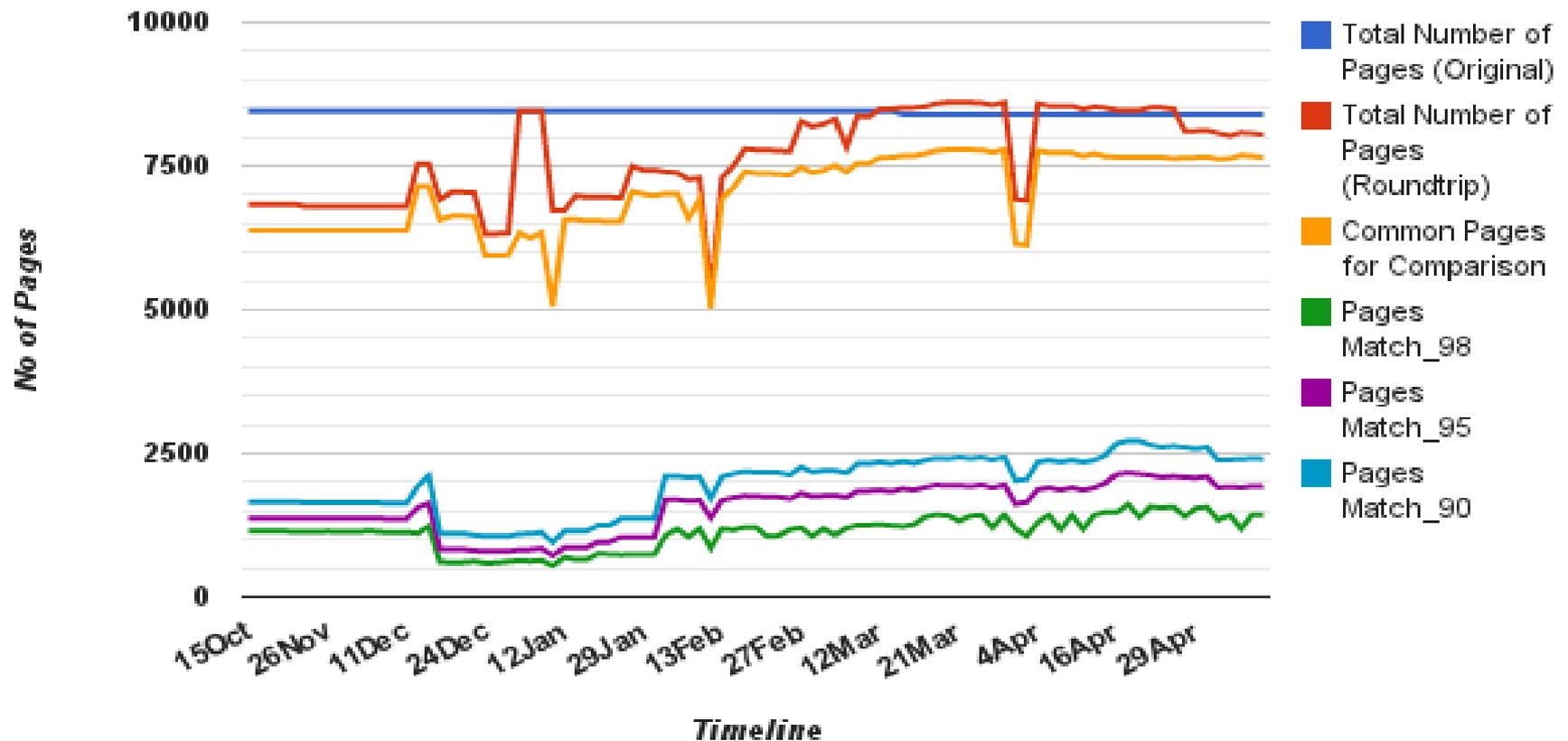
Visual Roundtrip Macro Analysis - Real World Files - File Match



File Match Analysis for Real World Files

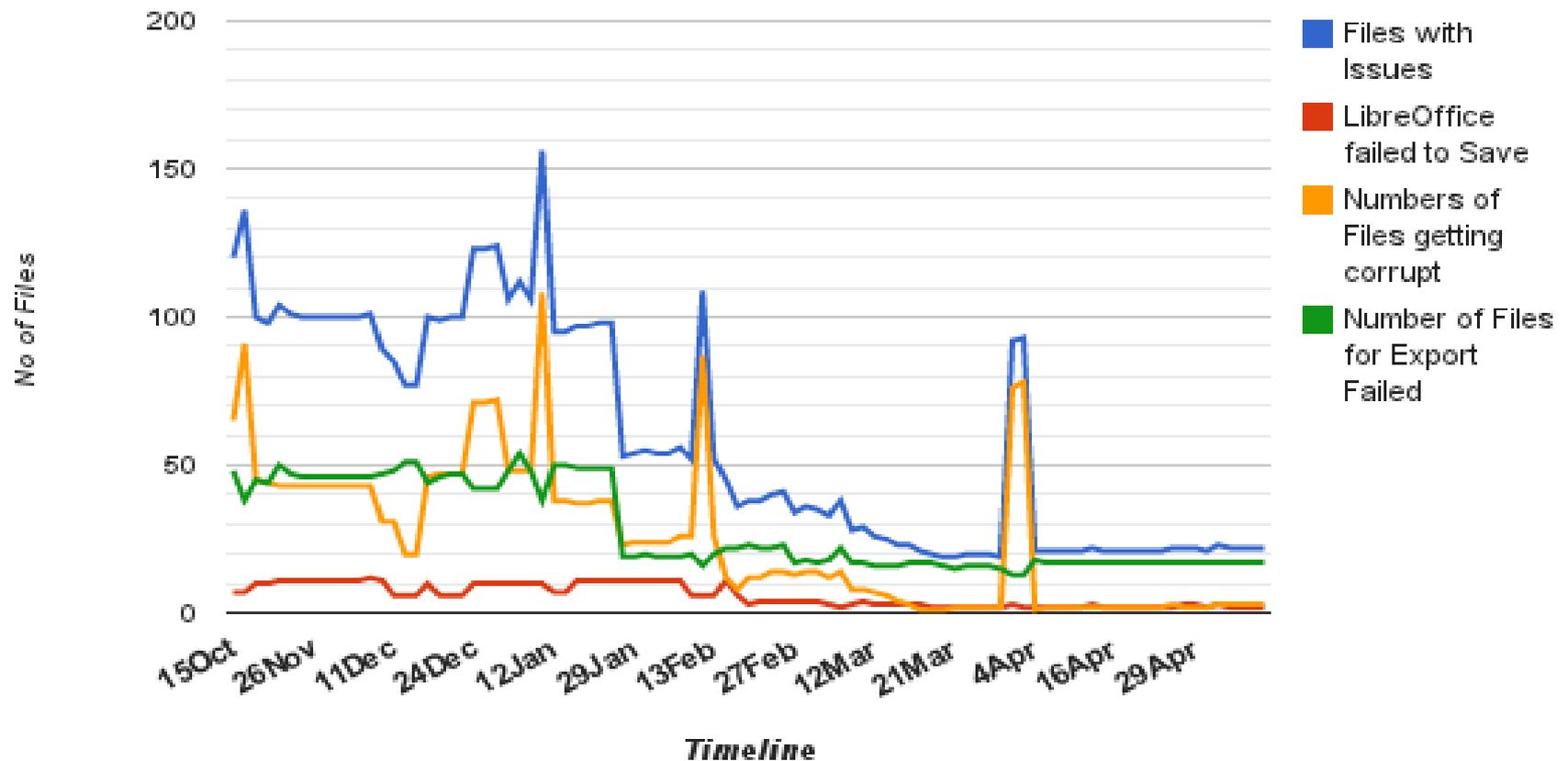
Visual Comparison - Analysis #2

Visual Roundtrip Macro Analysis - Real World Files - Page Level Match



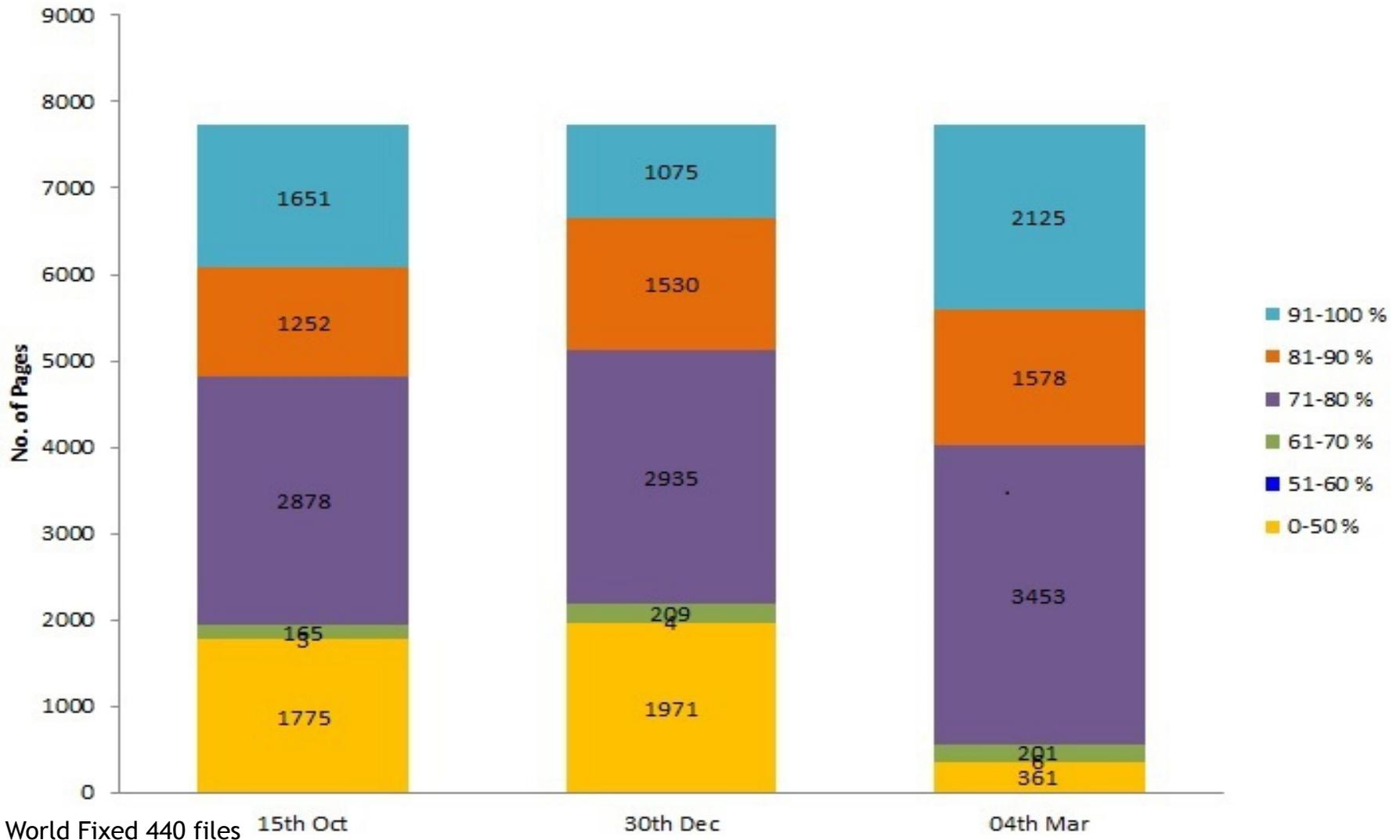
Visual Comparison - Analysis #3

Visual Roundtrip Macro Analysis - Real World Files - File Issues



Improvements in Crash/Corrupt for Real World Files

Visual Comparison - Gross Improvement



Real World Fixed 440 files 15th Oct

30th Dec

04th Mar

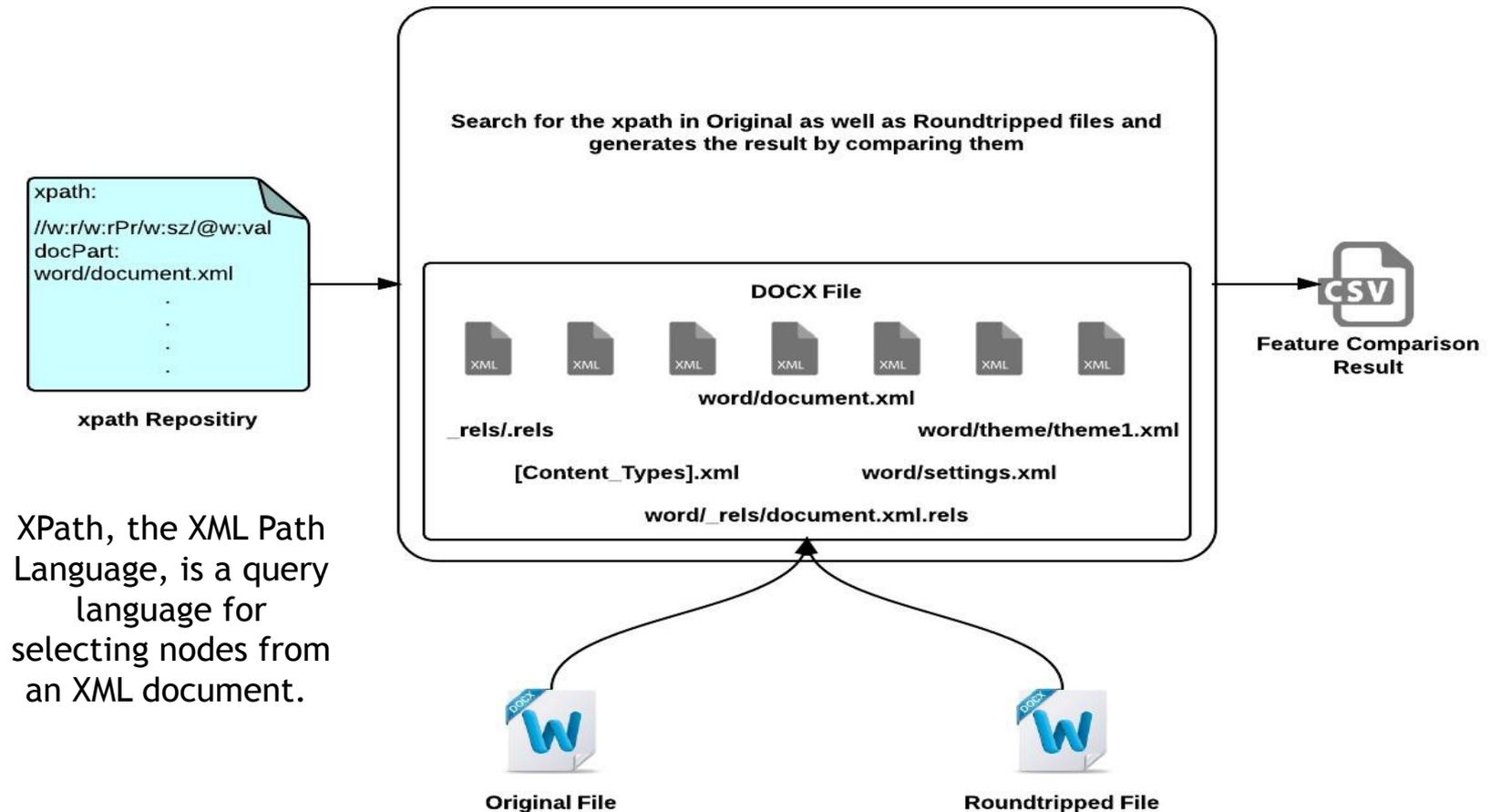
Challenges in Visual Comparison Process

- Same visual comparison methods can be used for each office file formats, with constraint per file type:
 - **Document:** Demarcation of content in form of 'Page' is difficult as the contents are in free flow format, logical break is depends on the application
 - **Spreadsheet:** WorkBook is having multiple WorkSheets; and WorkSheet comprises data and pictorial data like Images
- 'ImageMagick' compares the images pixel by pixel; hence a slight shift in the pixel can lead to the wrong results.
- Visual Comparison is not foolproof and is depends on following parameters
 - Version of MS Office including Service Pack, Updates
 - Rendering Technique of native OS

Non-Visual Comparison Process

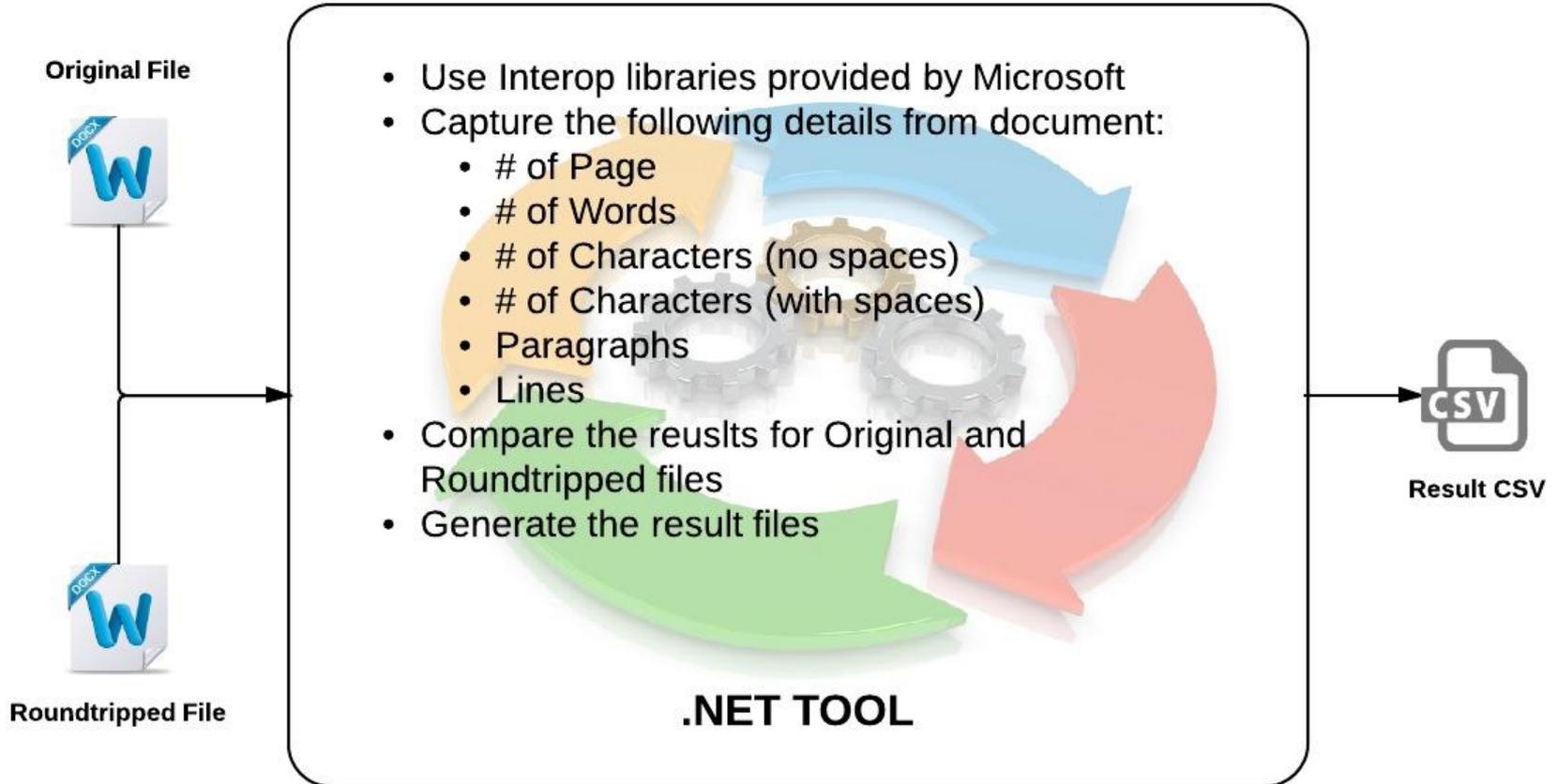
- FCT (Feature Comparison Tool)
- Writer Comparison Engine
- Calc Comparison Engine
- Impress Comparison Engine

FCT - Feature Comparison Tool

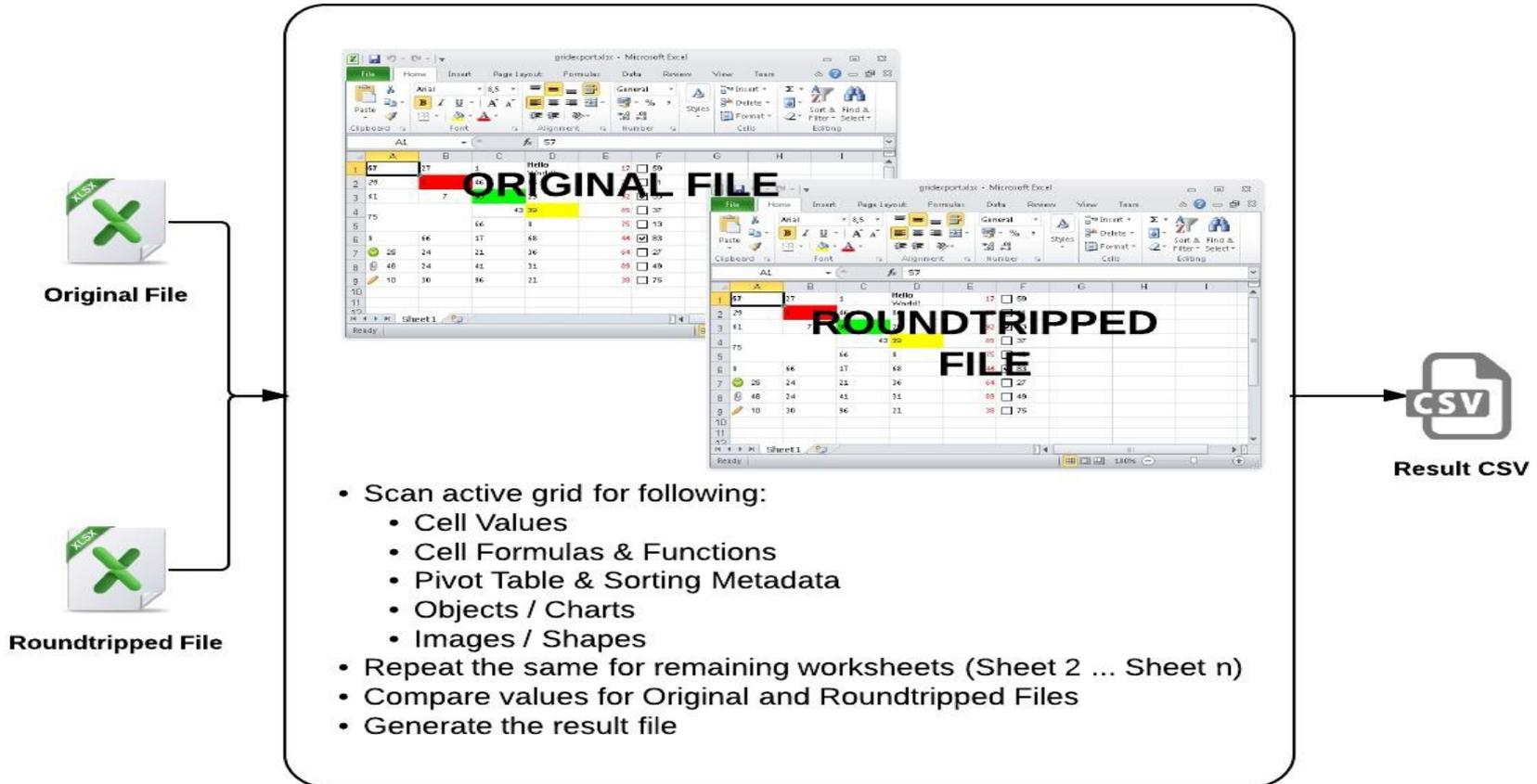


XPath, the XML Path Language, is a query language for selecting nodes from an XML document.

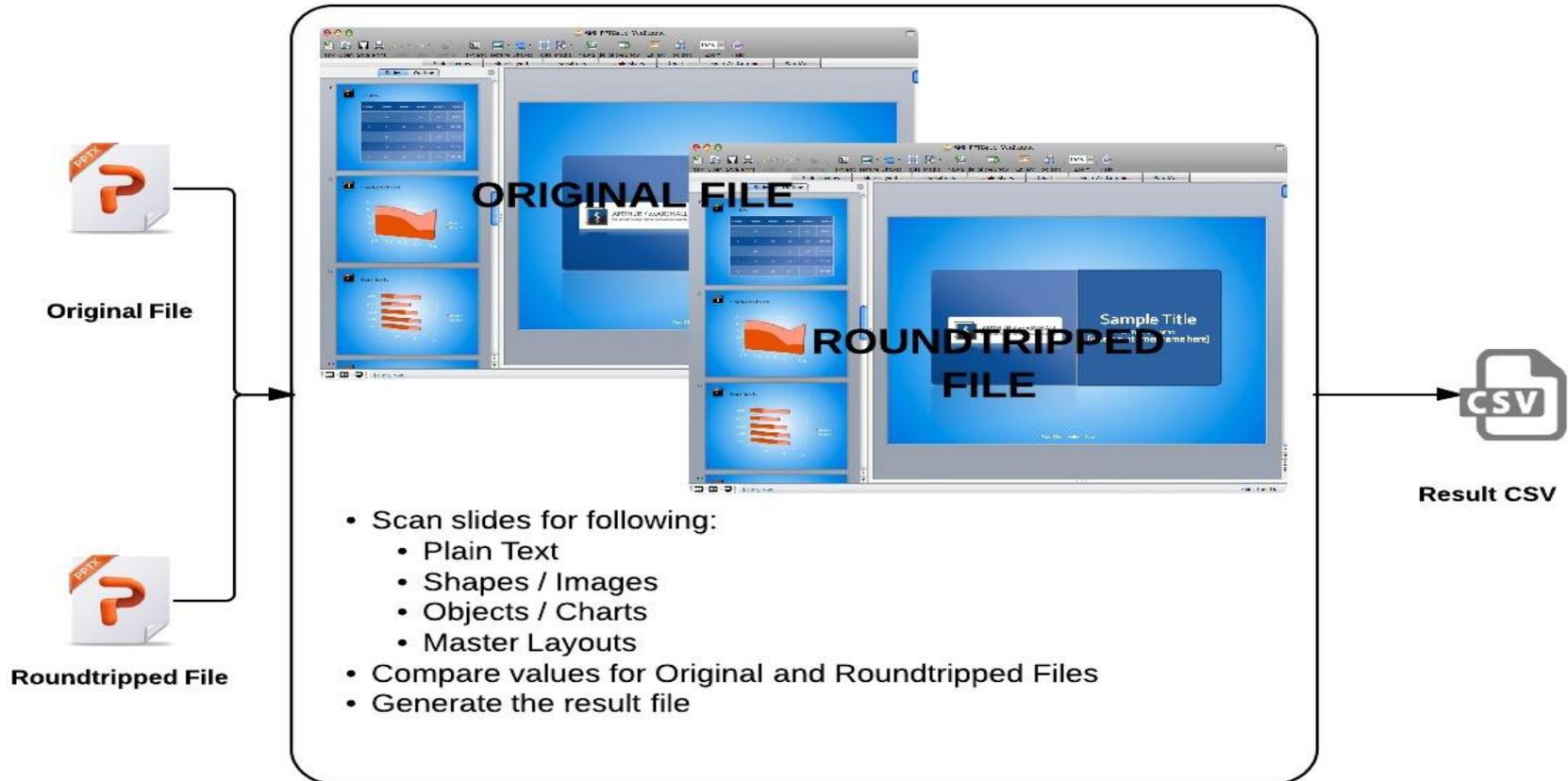
Writer Comparison Engine



Calc Comparison Engine



Impress Comparison Engine



Challenges in Non-Visual Comparison

- **FCT (Feature Comparison Tool)**
 - FCT is not able to ensure that whether the feature is preserved as it was in the original file after Roundtrip or not
- **Writer Comparison Engine**
 - This tool might give false result, for example it might be possible that some white space are not preserved after Roundtrip
- **Calc Comparison Engine**
 - This tool will be used to determine the correctness of individual Image/Shape/Chart but this tool can't make sure that their position has been preserved or not after roundtrip
- **Impress Comparison Engine**
 - This tool will be used to determine the correctness of individual Image/Shape/Chart but this tool can't guarantee that layer wise properties have been preserved after roundtrip or not

Light Editing + Crash / Corruption Finder



DEMO

