

Balisage 2009 Visual Designers: Those XML tools with any angle bracket AT ALL! Montréal

Présentation Innovimax

De nombreuses technologies émergent chaque jour et toute société a besoin de s'appropriier et d'intégrer ces atouts pour leurs développements. A travers la jungle des sigles, XML, Java, .Net, SOA, XSLT, AJAX, XUL, vous cherchez à comprendre et à utiliser la bonne technologie. La société *Innovimax* a été créée dans cette optique. *Innovimax* vous accompagne dans toutes les phases de votre projet en vous fournissant le conseil, le suivi, les prestations et la formation nécessaire à sa bonne réalisation.

Basée à Paris (France), *Innovimax* est une société privée spécialisée en technologies émergentes et en innovations. *Innovimax* propose donc ses services regroupés autour de quatre pôles : *Média*, *Software*, *Consulting* et *Learning*.

11/08/2009

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Innovimax Learning

Le pôle **Innovimax Learning** est le second pôle important de la société. Point clefs de la réussite de toutes évolutions technologiques, la formation se doit d'être claire, accessible et adaptée. Les technologies émergentes sont légions et il vous semble difficile de faire le tri parmi les sigles : HTML, XML, XSLT, CSS, AJAX. Pour ce faire, le département Learning d'Innovimax vous propose des formations pour vous y retrouver dans ce dialecte et savoir quels sont les technologies dont vous avez besoin.

A destination des décideurs, les formations *Manager* vous propose des formations concrètes expliquant les tenants et les aboutissants de chaque technologie, les gains attendus et les success stories.

A destination des utilisateurs/collaborateurs, les formations *Client* vous propose des formations essentiellement axées sur les technologies en place dans leur environnement de travail et rétablit les réflexes à prendre avec les nouvelles technologies (sauvegarde, sécurité, spam, etc.)

A destination des acteurs technologiques, les formations *Designer* vous propose des formations ciblées sur votre domaine (Web, graphique, applicatif) afin de vous enseigner les bases approfondies de chacune des technologies et d'être en capacité de mettre rapidement en application ces technologies.

Innovimax & standards

W3C (World Wide Web Consortium), ISO, AFNOR :

Innovimax is a W3C member at XSLT, XML Processing, XML Core and MathML WG and endeavour all XML ecosystem.

Innovimax is also an actif member at ISO and AFNOR.

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<Hello>

</Bonjour>

Who we are?

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Mohamed ZERGAOUI

- INNOVIMAX (small French company) Founder and CEO
- W3C Member (XSL, XProc, XQuery, XML Core ...)
- ISO JTC 1/SC 34 French Head of Delegation
- AFNOR (French national body); French Official Publication Office (DJO) ; OECD Publication
- XML Guild
- Co-organizer of XML Prague **(13/14 March 2010)**

Jean-Michel CAU

- INNOVIMAX (small French company) Partner and CTO
- Senior Java and XSL Developer
- Visual Designers tool Developer
- XProc engine developer

***Very LATE
BREAK!!!***



Probably broken...



Visual Designers

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DO

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WE

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NEED

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ANGLE BRACKET

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Visual Designer – 7/7

?

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What is it?

- A software (web based sometimes)
- Able to read **and** write XML files
- Uses graphics or visual conventions (most of the time, you use pointer and click)
- Tries to hide all kind of angle bracket and encoding issues
- Mostly based on the semantic the XML dialect it is carrying

What shouldn't it be?

(but sadly is, most of the time...)

- A crash machine
- Exporting binary format by default
- Exporting crappy XML
- Not fully ergonomic
- Missing features

Why?

- Not enough 64 pages book on XML
- XML is hard: whitespace, namespace, Xlink,
 - Well, SGML is **also** hard: Entities, CDATA Section, Notation ...
- XML Dialect are (mostly) using crappy and non consistent naming conventions (vs. icons)
- Looks easier until you hit the limits

Side effects of using XML

- Tree structure
- QNames
- Whitespaces
- Unicode
- Namespaces
- Angle brackets
- Funky stuff: CDATA, etc.

Side effects on the users

- They don't need to know the XML dialect related to their market
-But sometimes, as advanced users, they have to use XML for configuration tools!!
- They don't know how it is serialized (flat, tree, ?)

Categories

- Specific business related tools: XBRL tools, HL7 tools
- Domain specific: SVG and CGM, MathML, CML, etc.
- Office tools: OpenOffice, MS Office, etc.
- Programing tools
- Generic tools: WYSIWYG editor

Outside categories

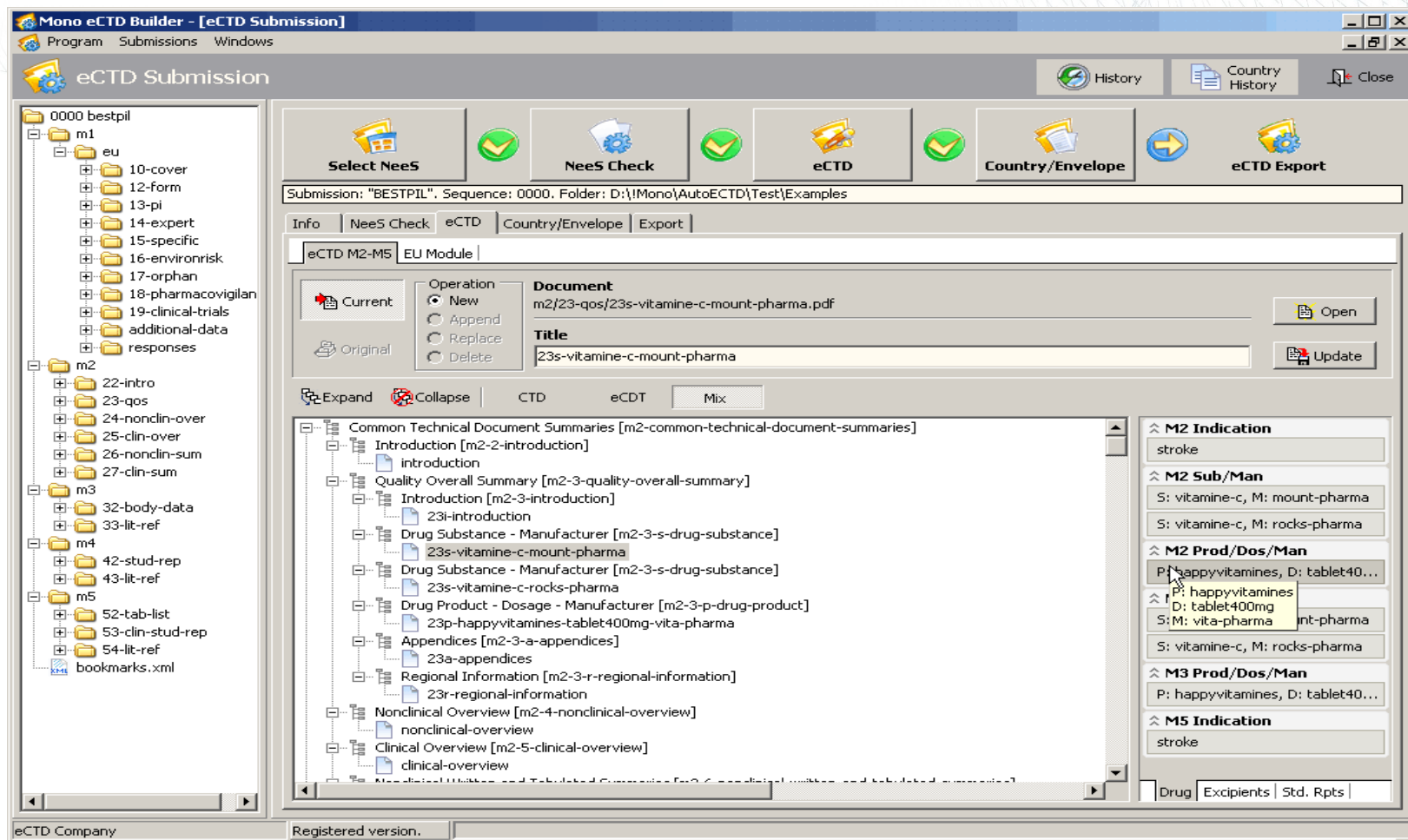
- Developer tools: Too much angle bracket
- Binding Tools: Share a lot with visual designers but they are just not visual!!!

Specific business tools

- Very business oriented
- Most of the time, those XML Dialect were just another XML serialisation of already existing ASCII serialisation (for example, EDI)
- In this category: HL7, XBRL, eCTD, etc.
- Mostly text editor or business tools; Not really fun, but huge potential market; Looks as confusing as XML sometimes.

Visual Designer – 9/x

eCTD



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Visual Designer – 10/x

HL7

The screenshot displays the 7Edit Professional interface for editing HL7 messages. The main window shows a message being edited, with a tooltip for the 'EVN-2-1 Time Of An Event' field. The left pane shows a tree view of the message structure, and the bottom pane shows a list of validation warnings.

Message Editor:

```
1 |-----+
2 | * Hold 'Ctrl' button to highlight segments and fields |
3 |-----+
4 MSH|^~\&|ADT1|MCM|LABADT|MCM|198808181126|SECURITY|ADT^A01|MSG00001|P|2.4
5 EVN|A01-|198808181123|
6 PID||PATID1234^5^M1|
7 NK1|1|JONES^BARBARA^
8 NK1|1|JONES^MICHAEL^
9 PV1|1|I|2000^2012^01|
10 AL1|1|||PENICILLIN||
11 AL1|2||^CAT DANDER
12 DG1|001|I9|1550|MAL NEO LIVER, PRIMARY|19880501103005|F||
13 PR1|2234|M11|111^CODE151|COMMON PROCEDURES|198809081123
14 ROL|45^RECORDER^ROLE MASTER LIST|AD|ROL|KATE^SMITH^ELLEN|199505011201
15 GT1|1122|1519|BILL^GATES^A|
16 IN1|001|A357|1234|BCMD|||||132987
17 IN2|ID1551001|SSN12345678
18 ROL|45^RECORDER^ROLE MASTER LIST|AD|ROL|KATE^ELLEN|199505011201
```

Validator Warnings:

| Description | Location |
|---|----------|
| Invalid field length (4) | line: 5 |
| No such value 'A01-' in the table #3 (Event type) | line: 5 |
| Invalid field length (2) | line: 6 |
| No such value 'M-' in the table #1 (Administrative sex) | line: 6 |
| No such value 'ADM' in the table #23 (Admit source) | line: 9 |
| Invalid field length (3) | line: 9 |
| No such value 'A0-' in the table #9 (Ambulatory status) | line: 9 |

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XBRL

The screenshot displays the Visual Designer interface for XBRL. The left pane, titled 'Elements', shows a list of XBRL elements under the 'File: All' filter. The right pane, titled 'Definitions', shows a hierarchical tree of elements. A context menu is open over the 'nanonull:Asia' element in the Definitions pane.

Elements Panel (Left):

- File: All
- ifrs-gp:ReconciliationOfPerformanceIncomeStatement
- ifrs-gp:ReconciliationOfPresentValueDefinedBenefitPlanObligation
- ifrs-gp:ReconciliationOfPresentValueOfDefinedBenefitPlanAndFairValueOfPlanAssets
- ifrs-gp:ReconciliationOfPreviousGAAPToIFRSs
- Substitutiongroup: xbrli:item
- Type: xbrli:stringItemType
- Labels: http://www.xbrl.org/2003/role/link
- en http://www.xbrl.org/2003/role/label Reconciliation of Previous GAAP to IFRSs
- References: http://www.xbrl.org/2003/role/link
- http://www.xbrl.org/2003/role/presentationRef ref:Name IFRS ref:Number 1
- http://www.xbrl.org/2003/role/commentaryRef
- http://www.xbrl.org/2003/role/definitionRef
- http://www.xbrl.org/2003/role/disclosureRef
- http://www.xbrl.org/2003/role/exampleRef
- http://www.xbrl.org/2003/role/mandatoryDisclosureRef
- http://www.xbrl.org/2003/role/measurementRef
- http://www.xbrl.org/2003/role/presentationRef
- http://www.xbrl.org/2003/role/recommendedDisclosureRef
- http://www.xbrl.org/2003/role/reference
- http://www.xbrl.org/2003/role/unspecifiedDisclosureRef
- en http://www.xbrl.org/2003/role/label Reconciling Item of Equity
- References: http://www.xbrl.org/2003/role/link
- http://www.xbrl.org/2003/role/presentationRef ref:Name IFRS-CP
- ifrs-gp:ReconcilingItemOfEquityUnderPreviousGAAP

Definitions Panel (Right):

- Extended Link Role: All
- Element Arcrole
- http://www.nanonull.com/taxonomy/role/SegmentRevenueAndOperatingIncome
- us-gaap:SegmentReportingInformationLineItems
- us-gaap:ScheduleOfSegmentReporting
- us-gaap:StatementOperatingActiviti
- us-gaap:SegmentOperatingActivi
- us-gaap:SegmentOperatingActivi
- nanonull:Asia
- Substitutiongroup: xbrli:item
- Type: xbrli:stringItemType
- Labels: http://www.xbrl.org/2003/role/
- en-US http://www.xbrl.org/2003/ro
- nanonull:Europe
- nanonull:USA
- us-gaap:SegmentReportingInformationRevenue
- us-gaap:SegmentReportingInformationOperatingIncomeLoss

Context Menu (Over nanonull:Asia):

- Insert Arc...
- Set Target Role
- Add Label Linkrole
- Add Reference Linkrole
- Override Arc
- Remove Arc
- Show in Global Elements

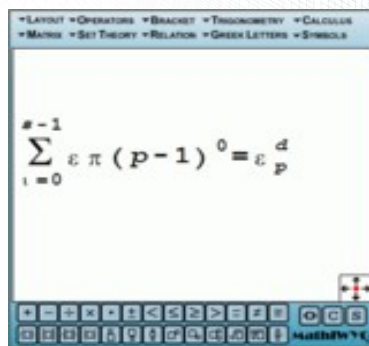
Bottom Panel:

- Text Grid Schema WSDL **XBRL** Authentic Browser

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Domain specific tools

- SVG or CGM: Inkscape, ITEDO, etc.
- MathML: Design Science MathType/MathPlayer, Jeucclid, etc.



Programming tools

- XQuery
 - Ok XQuery is not XML
- XForms
- XSL-FO
- XML Schema
- XProc

Visual Designer – 14/x

XQuery

Stylus Studio - [XMP-Q4.xquery *]

File Edit View Project Debug SourceControl Tools Window Help

Project

- examples
 - query
 - books.xml
 - bookstore.xml
 - mixedcatalog.xml
 - VideoCenter
 - movies.html
 - videos.xml
 - sampleVideo.xsl
 - videosDebug.xsl
 - sampleZVideo.xsl
 - XQuery
 - Multiplication table.xquery
 - PARTS-Q1.xquery
 - NS-Q7.xquery
 - R-Q2.xquery
 - XMP-Q4.xquery**
 - XML sources
 - simpleMappings
 - books.xml
 - catalog.xml
 - purchaseOrder.xsd
 - sampleBooksToCatalog.xsl
 - XSLFormattingObjects
 - catalog.xsl
 - minimal-catalog.xsl
 - SVG
 - chart.xml
 - chart.xsl
 - quotes
 - javaExtension
 - IntDate.xquery
 - IntDate.java
 - IntDate.xsl
 - Other Documents

bib.xml

- bib
 - book
 - year
 - title
 - author
 - publisher
 - price
 - editor
 - last
 - first
 - affiliation

Scenario1

Add Source Document

Set Target Document

Dynamic Document Node

- results
 - result
 - author
 - last
 - first

FLOWR

```
for $last in distinct-values($a/last),
  $first in distinct-values($a[last=$last]/first)
order by $last, $first
return
  <result>
    <author>
      <last>{ $last }</last>
      <first>{ $fi }</first>
    </author>
    {
      for $b in doc("bib.xml")/bib/book
      where some $ba in $b/author
      satisfies ($ba/last = $last)
      return $b/title
    }
  </result>
```

Preview

Data on the Web

- author
 - title
- result
 - author
 - last
 - first
 - title
- result
 - title

Stevens
W.
TCP/IP Illustrated
Advanced Programming in
the Unix environment

Scenario1 [XMP-Q4.xquery]

XQuery Source Mapper

Variable :fi does not exist

Visual Designer – 15/x

XForms

The screenshot shows the Orbeon Form Designer interface. On the left is a sidebar with various form controls like 'New Section', 'New Grid', 'Single-Line Text', 'Multi-Line Text', 'Date Picker', 'Dropdown', 'Radio Buttons', 'Single list box', 'Checkboxes', 'Multi list box', 'Text Output', 'Button', 'Image', and 'Attachment'. The main area displays a form titled 'Biographic Information' with a logo and a description: 'This form gathers biographic information.' The form includes a 'Personal Information' section with fields for Last Name, First Name, Middle Name, Gender, Birth Date, Citizenship, City and Country of Birth, and U.S. Social Security #.

The screenshot shows the Intalio Designer Form Editor interface. The top bar indicates the file is 'ApprovalForm.xform'. The main area displays a form titled 'ApprovalForm.xform' with a description: 'Approval required, please fill the following form:'. The form includes fields for Submitter ID, Submit Date, Category, Notes, and a section for Approval options (High Priority, Single Owner, Deadline Expired, Critical Impact, Irrelevant). There are also buttons for 'Approve' and 'Reject', and an 'Attachment' field with a 'Browse...' button. The bottom right corner shows a 'Properties' panel with a table of form properties.

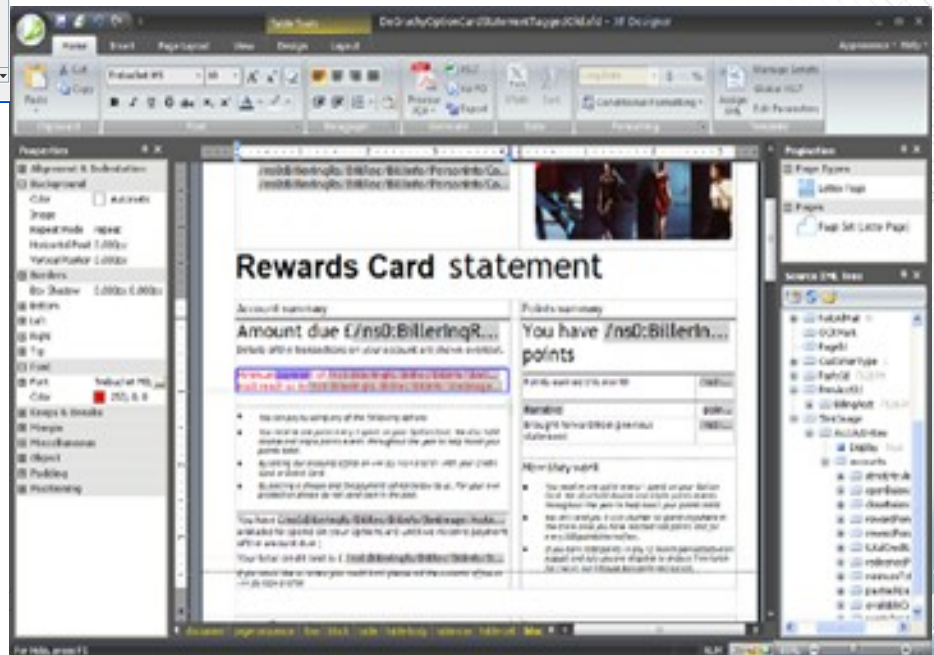
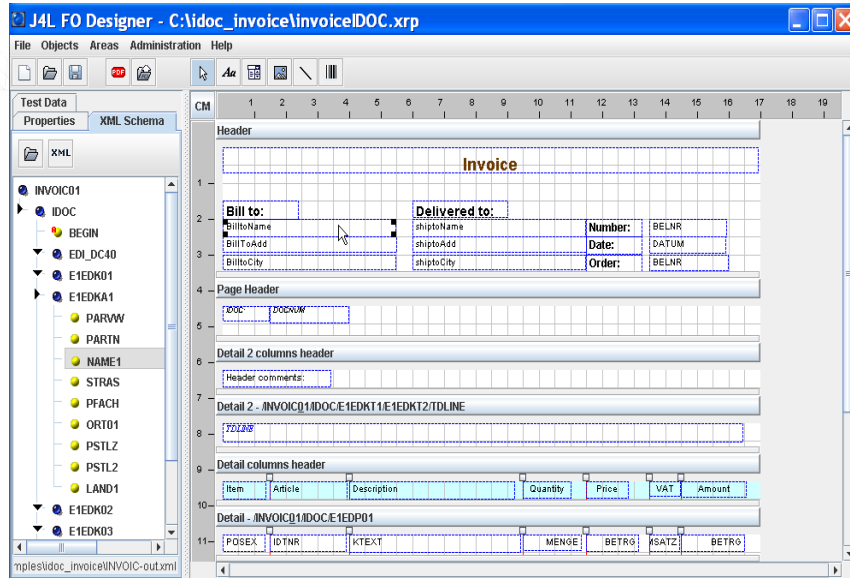
| Property | Value |
|---------------|-------------------------------------|
| Basic | |
| Appearance | full |
| Control Label | Approval options: |
| Control type | select |
| Items | High Priority=HP; Single Owner=S... |
| Name | Approval_options |
| Behavior | |
| Input/Output | in-out |
| Read-only | |
| Rendered | true() |
| Required | |
| Layout | |
| X Position | 15 |
| Y Position | 15 |
| UI Helpers | |
| Help message | |
| Tooltip | |
| Validation | |

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Visual Designer – 16/x

XSL-FO



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Visual Designer – 17/x

XProc

The screenshot displays the EMC Documentum XProc Designer application running in Mozilla Firefox. The browser's address bar shows the URL: `http://localhost:8888/com.emc.documentum.xml.xproc.designer.XProcDesigner/index.html`. The application window has a menu bar with 'Bestand', 'Bewerken', 'Beeld', 'Geschiedenis', 'Bladwijzers', 'Extra', and 'Help'. Below the menu is a toolbar with various icons for file operations and pipeline management.

The main workspace contains a flow diagram with the following components and connections:

- source** (blue box) connects to **xquery** (orange box).
- query** (blue box) connects to **xquery**.
- xquery** connects to **xslt** (orange box).
- stylesheet** (blue box) connects to **xslt**.
- xslt** connects to **result** (blue box).

The left sidebar, titled 'Library', lists 'Built-in Steps' and a link to www.w3c.org/ns/xproc. The 'Built-in Steps' list includes: choose, for-each, group, try, viewport, add-attribute, add-xml-base, compare, count, delete, directory-list, error, escape-markup, exec, filter, hash, http-request, identity, insert, and label-elements.

The right sidebar, titled 'Explorer', shows the pipeline structure:

- inputs**
 - source**
 - bindings
 - p:pipe
 - query**
 - bindings
 - p:pipe
 - parameters**
 - bindings
 - p:empty
 - options**
 - parameters**
 - logs**
 - outputs**
 - result

At the bottom right, there is a table with two columns: 'Attribute' and 'Value'.

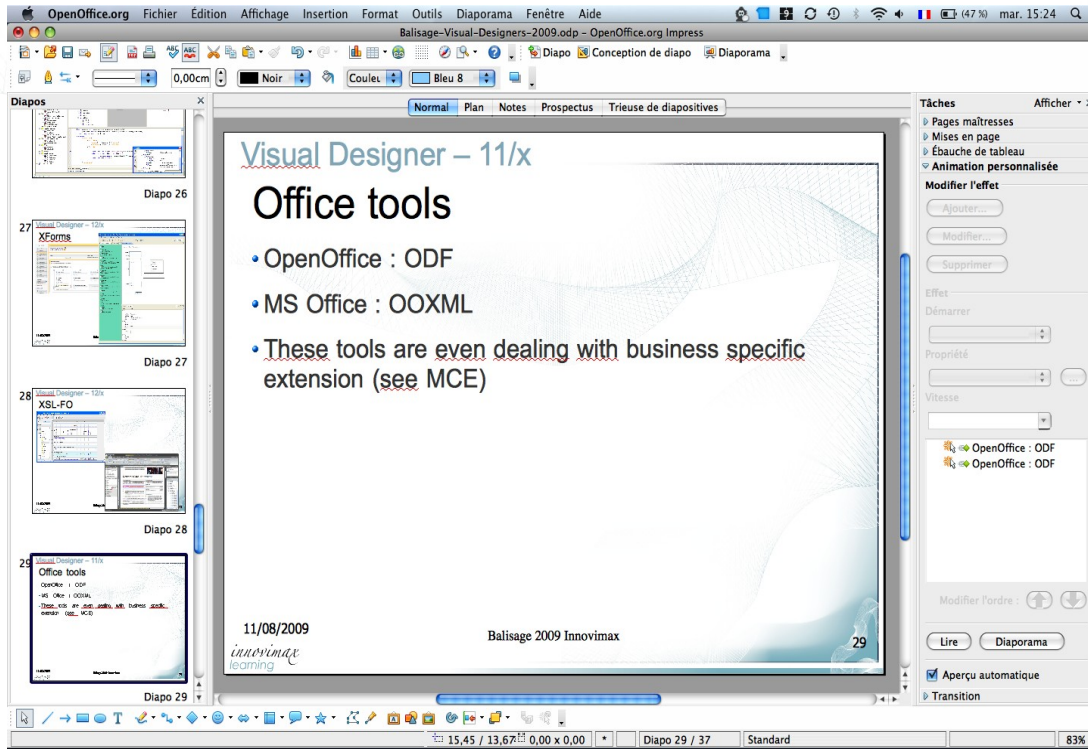
Klaar

Office tools

- OpenOffice: ODF
- MS Office: OOXML
- These tools are even dealing with business specific extension (see MCE)

Visual Designer – 19/x

ODF

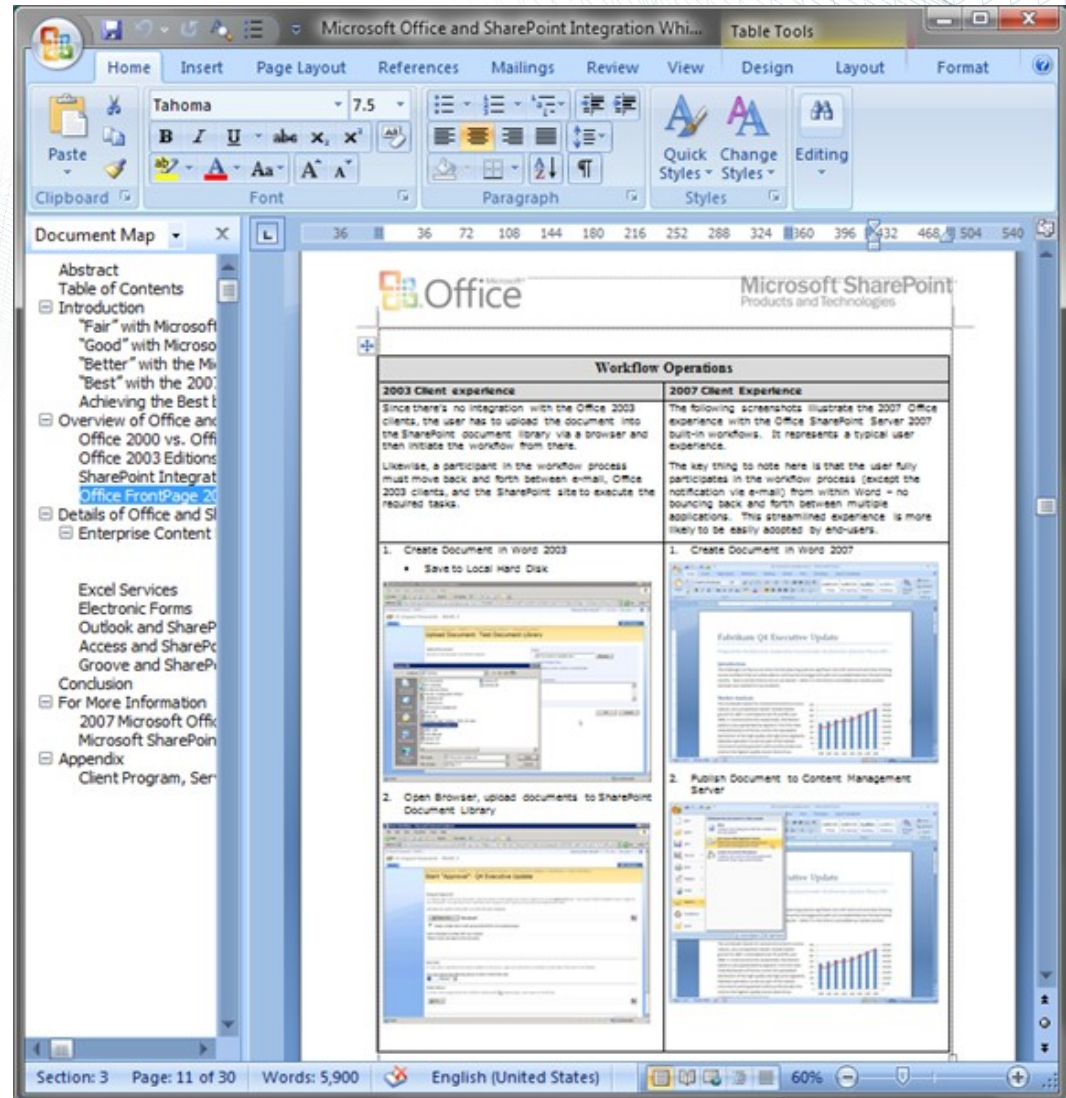


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Visual Designer – 20/x

OOXML



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WYSIWYG tools

- SGML dinosaurs are still around: Arbortext (EPIC, Adept), XMetal (A/E), FrameMaker
- Pure player: XMLMind, OxygenXML
- Graphical: InDesign, Quark Express
- Lightweight: XOpus

Resistance

- XSLT:
 - Very XML oriented
 - Hard to make decent visual tools (although mapping tools like MapForce may help)
 - Even XQuery has visual tools

Conclusions

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Conclusions

- There's no need for angle bracket
- After all, XML is just another serialization language
- XML is Machine to Machine oriented
- Users don't have to know XML
- Tool maker may need help to be generate better XML

*Let's do another
job then !!*

Questions ? – 1/1



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