X-Smiles XML Browser

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X-Smiles History

• The XML browser was started as a student software project 1998-99
  – X-Smiles SMIL-browser
• XML support (XML parser and XSL processor) was improved during summer 1999
• More XML specifications were implemented in 2000
• Released as open source in 2001
X-Smiles Features

• XML parser + DOM
• Synchronized multimedia (SMIL)
• XSL stylesheet (XSL)
• Vector graphics (SVG)
• Future WEB forms (XForms)
• ECMAScript interpreter
• Source code and XML tree displays
• User interface prototypes
SMIL

- Currently SMIL 1.0 support
- Fully implemented by X-Smiles group
  - uses Java Media Framework (JMF) for audio and video
- CSS support for colors and fonts
- Limited ECMAScript support
- SMIL 2.0 (basic) under work
SVG

• Based on CSIRO SVG Toolkit (Open Source)
• Expansions
  – Namespaces
  – foreignObject (Xforms)
• Most of the SVG features
  – Animations
  – Dynamic DOM
  – No support for effects
XSL FO

- Documents requiring exact styling and placing
- Paged documents
- Printing
- Replaces Cascading Style Sheets (CSS)
XForms MLFC

- Supports XForms Feb. 2001 Working Draft
- Can be used with other MLFCs
- We participate XForms specification work in W3C

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User Interfaces

• Browser ”skins”
• Virtual prototypes
• Currently implemented
  – Desktop GUI
  – Digital TV
  – PDA GUI
  – Phone GUI

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X-Smiles DigiTV UI

1. Main menu
2. Highlight
3. Configuration
4. Content area
5. Arrow
6. Animator
7. Status bar
8. Lower bar
## Component status

<table>
<thead>
<tr>
<th>Component</th>
<th>Now</th>
<th>Near future</th>
</tr>
</thead>
<tbody>
<tr>
<td>XML parser (Xerces)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>XSLT process. (Xalan)</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>EcmaScript (Rhino)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>SVG (CSIRO)</td>
<td>3</td>
<td>5 (Batik)</td>
</tr>
<tr>
<td>XSL FO (FOP)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Schema processing</td>
<td>2</td>
<td>4 (Xerces 2.0)</td>
</tr>
</tbody>
</table>
Demo

- XSL FO: readme.fo
- SMIL: bikes
- SVG:
  - Finland
  - animation
- Embedding
  - SMIL in XSL FO: Ahma
  - SVG in SMIL
- XForms
  - EcmaScript
  - Model
  - config
  - CSS
- GUI
  - Desktop GUI
  - Digital TV
  - PDA GUI
  - Phone GUI