



Saxon CE

Interactive browser based applications without
a single line of Javascript

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Slides at <http://www.kosek.cz/xml/2013webexpo>

XSLT Introduction

- Language for transforming XML to HTML, other kinds of XML or plain-text
- Version 1.0 from 1999 is supported by all browsers
- Version 2.0 from 2007 provides many new features
- Ultimate templating language
- Operates on document tree not on text stream

XSLT Example

```
<employee>  
  <name>John</name>  
  <salary>80000</salary>  
</employee>
```

XML

```
<xsl:template match="employee">  
  <tr>  
    <td><xsl:value-of select="name"/></td>  
    <td><xsl:value-of  
      select="format-number(salary, '#,##0.00 USD')"/></td>  
  </tr>  
</xsl:template>
```

XSLT

John	80,000 USD
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Output

Oh Wait! XML.WTF?

- Why average Web developer hates XML?
- Because of DOM

Documented Obscure Model

~~Document Object Model~~

Documented Object Mess

Death Or Madness

... fill in your favorite one ...

Why good developer should not abandon XML

- JSON is cool now
 - but it makes sense mainly for communication between browser and backend
- XML is deployed everywhere from enterprise systems to your media center
- Better APIs should be used
 - where is my E4X?
- Higher level query and transformation languages should be used
 - XPath, XQuery, XSLT, JSONiq, ...

What's bad with the current XSLT support in browsers

- Only old version 1.0 is supported
- Only classical static XSLT approach is supported
 1. Load XML
 2. Transform it to HTML
 3. Render resulting HTML
- No interactivity
- How to get XSLT 2.0 and interactivity into browser?
- Browsers are fast now, so complete and fast XSLT engine can be written entirely in Javascript

Saxon CE (Client Edition)

- Saxon is Java/.NET leading open-source and commercial XSLT/XQuery engine
- Saxon CE (Client Edition) is a streamlined version compiled into Javascript using GWT
- Provides XSLT 2.0 support in recent browsers
- Extends XSLT 2.0 by features allowing writing fully interactive pages
 - template can handle event
 - access to DOM and Javascript objects
 - read/write DOM access using XSLT features
- Transformation is not run at once, but can react to events and modify DOM
- Of course, Saxon CE can be also used only as a replacement of built in XSLT 1.0 engine

Demo

- Event handling

```
<xsl:template match="button[@id = 'pressme']"  
              mode="ixsl:onclick">
```

... *handle event* ...

```
</xsl:template>
```


Demo

- DOM manipulation

```
<xsl:result-document href="#result"
                    method="ixsl:replace-content">
  <table>
    <tr>
      <td>Foo</td>
      <td>Bar</td>
    </tr>
  </table>
</xsl:result-document>
```

So should I abandon jQuery and use Saxon CE instead?

- No
- When is Saxon CE/XSLT 2.0 suitable:
 - You need to process and render complex XML in browser
 - Rendering logic is shared between server and client
 - Longer first load time is not a problem (Intranet applications)

Conclusion

- Give it a try and download from <http://www.saxonica.com/ce/index.xml>
- Attend XML Prague conference to learn more about recent XML developments

<http://xmlprague.cz>

*Any
questions?*

