Electronic Forms: The XForms Specification

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Electronic Forms

- A way to gather complex/composite input from users using a variety of controls (e.g. Checkbox).

- Advantages compared to Paper Forms
  - Input validation.
  - Automated processing.

- Already popular method of interaction:
  - Collecting user information for website registration.
  - Search engines, for example
<html>
<head></head>
<body>
<form method="post" action="mailto:smconcert@nmail.com" enctype="text/plain">
<table border="0" cellspacing="0" cellpadding="0">
<tr>
<td colspan="2">
<input type="text" name="url" size="17" value="http://"/>
Your URL<br/>
<input type="text" name="user" size="17">Your Username<br/>
<input type="text" name="email" size="17">Your E-mail<br/>
</td></tr>
<tr>
<td><font size=1 face="arial" color="#000000"></font>
<input type="radio" name="subscribe" value="yes" checked> subscribe<br/>
<input type="radio" name="subscribe" value="no"> unsubscribe<br/>
</td>
</tr>
<tr>
<td><select name="choices" size="1">
<option value="">OPTIONS</option>
<option value="1">OPTION 1</option>
<option value="2">OPTION 2</option>
<option value="3">OPTION 3</option>
<option value="4">OPTION 4</option>
<option value="5">OPTION 5</option>
</select>
</td>
</tr>
<tr>
<td colspan="2">
<input type="checkbox" name="html" value="sendhtml" checked>
i can receive email as html<br/>
<input type="checkbox" name="receipt" value="sendreceipt"> send me a receipt for this email<br/>
<textarea cols=20 rows=10>
An example of a Text Area spanning multiple lines.
</textarea>
</td>
</tr>
<tr>
<td><input type="hidden" name="redirect" value="index.html"></td>
</tr>
</table>
</form>
</body>
</html>
XForms
The Next Generation of Web Forms
## Identity Verification Certificate

### Evidence of Name

<table>
<thead>
<tr>
<th>Current Full Signed Passport</th>
<th>✓</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference/Account Number:</td>
<td></td>
</tr>
<tr>
<td>Issuing Authority/Country:</td>
<td></td>
</tr>
<tr>
<td>Place of Birth:</td>
<td></td>
</tr>
<tr>
<td>Date Of Birth:</td>
<td>1953-12-12</td>
</tr>
<tr>
<td>Date of Expiry:</td>
<td>2012-04-22</td>
</tr>
</tbody>
</table>

- Resident Permit issued to EU nationals by Home Office
- Current UK Photo Driving Licence
- Current Full UK Driving Licence (old style)
- Firearms Certificate
- State Pension or Benefit Book/Notification Letter
- Sub-contractor’s Certificate
- Inland Revenue Tax Notification
Sample Tax Form
This is an example of the use of XForms.

<table>
<thead>
<tr>
<th>Income</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wages, salaries, and tips. This should be shown in box 1 of your Form(s) W-2. Attach your Form(s) W-2.</td>
<td>1</td>
<td>32000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Taxable interest. If the total is over $1,500, you cannot use Form 1040EZ.</td>
<td>2</td>
<td>1200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Unemployment compensation and Alaska Permanent Fund dividends.</td>
<td>3</td>
<td>4600.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Add lines 1, 2, and 3. This is your <strong>adjusted gross income</strong>.</td>
<td>4</td>
<td>37800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>If <strong>single</strong>, enter $7,950. If <strong>married filing jointly</strong>, enter $15,900.</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Subtract line 5 from line 4. If line 5 is larger than line 4, enter -0-. This is your <strong>taxable income</strong>.</td>
<td>6</td>
<td>37800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wages   | Interest   | Unemployment

<< Section 1: Label >>  Section 3: Payments and Taxes >>  view graph
XForms

- "XForms" is a W3C specification for Web forms.
- It can be used with a wide variety of platforms including desktop computers, hand holds, information appliances, and even paper.

- http://www.w3.org/MarkUp/Forms/
What is XForms

- XForms is an XML format for the specification of a processing model, and presentation of data.
- XForms separates data and logic from presentation.
- XForms is platform and device independent.
What is XForms

- XForms is the next generation of HTML forms.

- XForms is richer and more flexible than HTML forms.
What is XForms (…cont)

- XForms uses XML to define form data.
- XForms stores and transports data in XML documents.
- XForms contains features like calculations and validations of forms.
- XForms reduces or eliminates the need for scripting.
XForms architecture

- Model-View-Controller (MVC)
  - It separates the data model, user interface, and control logic into three distinct components so that modifications to one component can be made with minimal impact to the others.
XForm controls

- Select (1)
- Label element
- Submit Control
- Input Control
- Secret Control
- Text Area Control
XForm controls (...cont)

- Trigger
- Range
- Output
- Upload
- Select (multi)
Notable features of XForms

- XForms reduce the need for scripting.
  - Providing better user feedback with dynamic controls such as repeating tables and XForm Actions
- XML data – better structure for complex information.
- Separation of data and views allowing flexibility in display
- Platform Independent.
XForms Implementations
XForm Implementations

- **Chiba**
  - Open source browser.
**XForm Implementations**

- **X-Smiles:**
  - Open source
  - a complete browser written in Java
  - The project supports a wide variety of Java versions, including small device and PDA configurations
XForm Implementation

- Open Office (open source)
- Datamovil (proprietary)
- FormsPlayer (free download)
- Mozilla XForms project (free download)

See [http://www.w3.org/MarkUp/Forms/](http://www.w3.org/MarkUp/Forms/) for a more complete listing.
XForms for PDA and Mobile Devices

- X-Smiles - [http://www.xsmiles.org](http://www.xsmiles.org)
Proposed Application
Proposed Application

- Open source Browser Based Form Designer.
- An implementation of the XForms specification.
- Initial skeleton from which a more enriched application can evolve.
- 80/20 approach.
Risks for proposed application

- Lack of support from Open Source Community.
- Lack of mature XForms tools.
- Unknown interaction with OpenMRS.
Thank-you