XSpec Users Meetup

hosted by

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XML Prague 2018

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What is XSpec?

- XSpec is an open source **unit test** and behaviour-driven development (BDD) framework **for XSLT, XQuery, and Schematron**

- **XSpec v1.0.0** was released on **4th February 2018**

- XSpec is **included in oXygen**

XSpec

Unit Test and Behaviour Driven Development (BDD) Framework for XSLT, XQuery, and Schematron

https://github.com/xspec/xspec

The Importance of Testing

- Testing forces developers to **write smaller units of code**

- Testing act as **self-documentation**

- Testing **reduces** the risk of **regression bugs** in software releases

- Unit testing contributes to **removing 30% of bugs** [McConnell]

From xkcd.com, revisited by Daniel Ballinger

The Importance of Testing

OK, I'm convinced. But where to start testing?

- **Functions**

- **Named Templates**

- Any piece of **code that get called more than once**

XSpec 101

- Testing an XSLT template

- Testing an XQuery function

title.xspec

```xml
<x:description
        xmlns:x="http://www.jenitennison.com/xslt/xspec"
        stylesheet="title.xsl">

    <x:scenario label="When converting a title element">

        <x:context>
            <title>My Title</title>
        </x:context>

        <x:expect label="it should return a h1 element">
            <h1>My Title</h1>
        </x:expect>

    </x:scenario>
</x:description>
```

title.xsl

```xsl
<xsl:stylesheet
    xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    exclude-result-prefixes="xs" version="2.0">

    <xsl:template match="title">
        <h2>
            <xsl:value-of select="."/>
        </h2>
    </xsl:template>

</xsl:stylesheet>
```

XSLT UNIT TEST REPORT

Stylesheet: **home/sandro/Documents/programming/xml.com/code/title.xsl**

Tested: 12 March 2017 at 16:25

Contents

	passed:0	pending:0	failed:1	total:1
❌ When converting a title element	0	0	1	1

When Converting A Title Element	**Passed:0 / Pending:0 / Failed:1 / Total:1**

| When converting a title element | passed:0 / pending:0 / failed:1 / total:1 |
| ❌ **it should return a h1 element** | Failure |

When Converting A Title Element

it should return a h1 element

Result	**Expected Result**
My Title	My Title

XSLT UNIT TEST REPORT

Stylesheet: **home/sandro/Documents/programming/xml.com/title.xsl**

Tested: 12 March 2017 at 14:49

Contents

	passed:1	pending:0	failed:0	total:1
✅ **When converting a title element**	1	0	0	1

When Converting A Title Element   **Passed:1 / Pending:0 / Failed:0 / Total:1**

When converting a title element	passed:1 / pending:0 / failed:0 / total:1
✅ it should return a h1 element	Success

```
module namespace functx = "http://www.functx.com";

declare function functx:capitalize-first
($arg as xs:string?) as xs:string? {

    concat(upper-case(substring($arg, 1, 1)),
    substring($arg, 2))
};
```

xquery-tutorial.xspec

```xml
<x:description
          xmlns:x="http://www.jenitennison.com/xslt/xspec"
          xmlns:functx="http://www.functx.com"
          query="http://www.functx.com"
          query-at="xquery-tutorial.xq">

  <x:scenario label="Calling function capitalize-first">

    <x:call function="functx:capitalize-first">
      <x:param select="'hello'"/>
    </x:call>

    <x:expect label="should capitalize the first character
                    of the string" select="'Hello'"/>
  </x:scenario>
</x:description>
```

oXygen Plugin for XSpec

Presented by **Alex Jitianu**

New Feature: Schematron Support

- Feature request came from **XML Prague 2017**

- Vincent Lizzi added **Schematron support in XSpec**

- Mark Dunn and AirQuick made **XSpec tests for Schematron runnable via Ant**

- The feature is **available in XSpec v1.0.0**

- **Documentation and tutorials available** on the XSpec wiki

Schematron Support

demo-01.xml

```xml
<?xml version="1.0"?>
<article>
  <title>Example</title>
</article>
```

Schematron Support
demo-01.sch

```
<sch:schema
    xmlns:sch="http://purl.oclc.org/dsdl/schematron"
    queryBinding="xslt2">

    <sch:pattern>
        <sch:rule context="article">
            <sch:assert test="title" id="a001">
                article should have a title
            </sch:assert>
        </sch:rule>
    </sch:pattern>

</sch:schema>
```

```
<x:description
        xmlns:x="http://www.jenitennison.com/xslt/xspec"
        schematron="demo-01.sch">

    <x:scenario label="Given an XML file with an article">

      <x:context href="demo-01.xml"/>

      <x:scenario label="article should have a title">
          <x:expect-not-assert id="a001"/>
      </x:scenario>

    </x:scenario>

</x:description>
```

Maven Plugin

Presented by **Christophe Marchand**

Use Case of Integration Test with Maven and XSpec

Presented by **Matthieu Ricaud-Dussarget**

Contribute to XSpec

- Checkout out **github.com/xspec/xspec** and star it

- Raise **issues**, send **pull requests**, contribute to tests, documentation, and **code reviews**

- **Integrate XSpec** test suites in your projects

- **Spread the word!**

Summary

- XSpec is an open source **unit test** and behaviour-driven development (BDD) framework **for XSLT, XQuery, and Schematron**

- Check out the latest release **XSpec v1.0.0**

- Check out **oXygen and Maven plugins**

- **Use and contribute** to XSpec!

Thank you for your attention!

XSpec:
github.com/xspec/xspec
github.com/xspec/xspec/wiki

oXygen plugin:
github.com/xspec/oXygen-XML-editor-xspec-support

Maven plugin:
github.com/xspec/xspec-maven-plugin-1

Slides:
github.com/xspec/xspec/issues/158