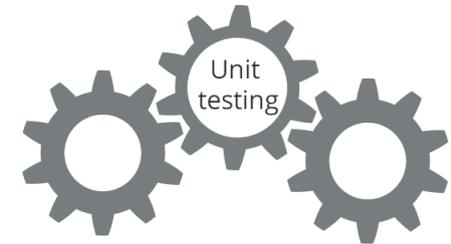


# XSLT Unit Testing

Alex Jitianu

[alex\\_jitianu@oxygenxml.com](mailto:alex_jitianu@oxygenxml.com)



XSLT Development



# Agenda

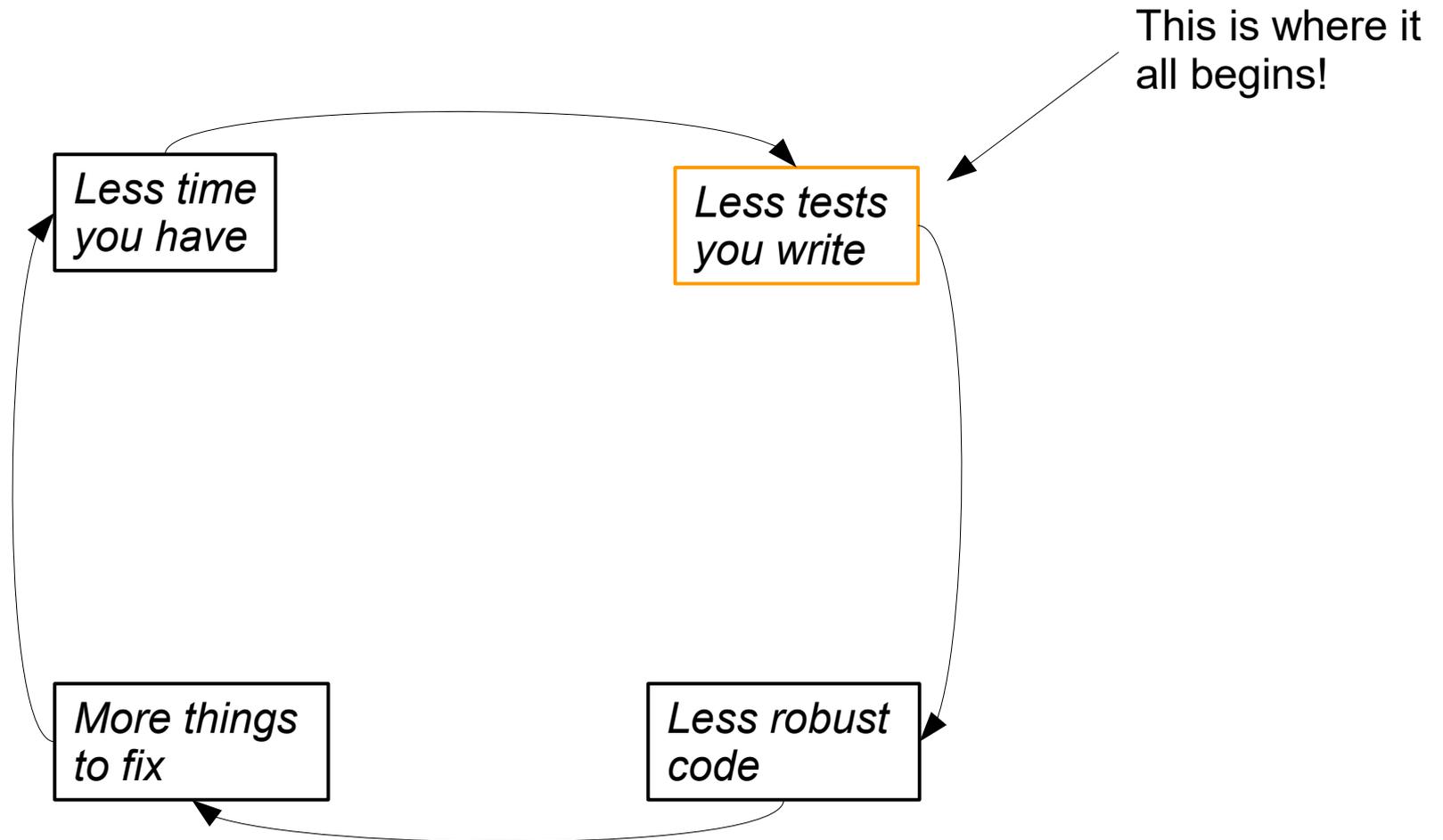
- Unit testing and XSLT development
- XSpec framework
- Creating test scenarios in Oxygen
- XSLT documentation

# Why Unit Testing?



XSLT Development

# Why Unit Testing?



# Unit Tests

- More unit tests means less stress
- It verifies the behavior of a **small part** of the application
- Is quite easy to implement
- When it fails you know exactly where the fault is

# Test Driven Development

- You describe a behavior (a.k.a. write a test)
- You test if the code has that behavior
- If it doesn't, you develop the code until it does (a.k.a. the test passes)
- On the long run you'll have regression tests
  - New functionality will not break the existing one
  - You can refactor without fear

# XSLT Test Driven Development

- focus on the expected behavior
  - “when processing a **shortdesc** element, it should create a **p** element”
  - “when processing a **fn** element with a **@label** attribute in *footnote* mode, it should create a **p** element with a **sup** child holding the value of the **@label** attribute”

```
<fn label="Some text">....</fn>  
↓ ↓ ↓  
<p><sup>Some text</sup>...</p>
```

# XSpec framework

- Unit test and BDD (Behaviour Driven Development ) framework for XSLT and XQuery
- <https://github.com/xspec/xspec/>
- A new version was just released: **0.5.0**

# XSpec framework integration

- bundled inside Oxygen
- support for working on XSpec scenarios
- an XSpec wizard
- built-in transformation scenarios to run XSpec scenarios

# XSpec framework scenario

```
<x:scenario label="Scenario for testing function total">
  <x:call function="f:total">
    <x:param name="books">
      <book>
        <title>The Green Mile</title>
        <author>Stephen King</author>
        <price>18</price>
      </book>
      <book>
        <title>The Catcher in the Rye</title>
        <author>J. D. Salinger</author>
        <price>25</price>
      </book>
    </x:param>
  </x:call>
  <x:expect label="The total price of the books">43</x:expect>
</x:scenario>
```

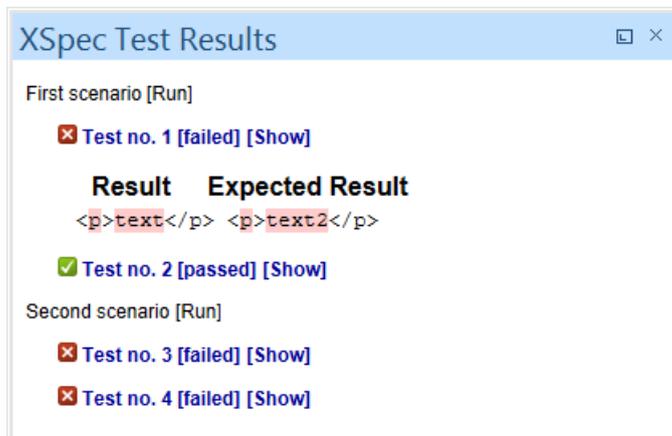
# XSpec Helper View

[https://raw.githubusercontent.com/AlexJitianu/oXygen-XML-editor-xspec-support/master/build/update\\_site.xml](https://raw.githubusercontent.com/AlexJitianu/oXygen-XML-editor-xspec-support/master/build/update_site.xml)



# XSpec Helper View

- Customizable through:
  - XSLT
  - HTML
  - Javascript
    - Interacts with Oxygen through a Javascript→Java bridge



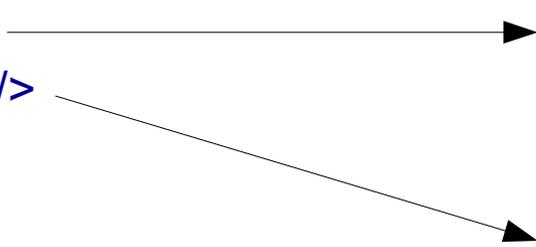
# XSLT documentation. Why?

- An XSLT may be written only **once**, but is read **many** times:
  - When debugging
  - When adding additional functionality
  - When refactoring
  - When others try to understand or use your code

# XSLT documentation

```
<xsl:function name="f:total">  
  <xsl:param name="books"/>
```

```
.....  
</xsl:function>
```



Total of what?

Should this be one <books>  
element or a sequence of <book>  
elements?

# Thank you!

Questions?

Alex Jitianu  
alex\_jitianu@oxygenxml.com  
@AlexJitianu