

Web Testing Made Easy

with the Open Source tool WebTest

Marc Guillemot

Independent Consultant
Germany
mguillemot@yahoo.fr

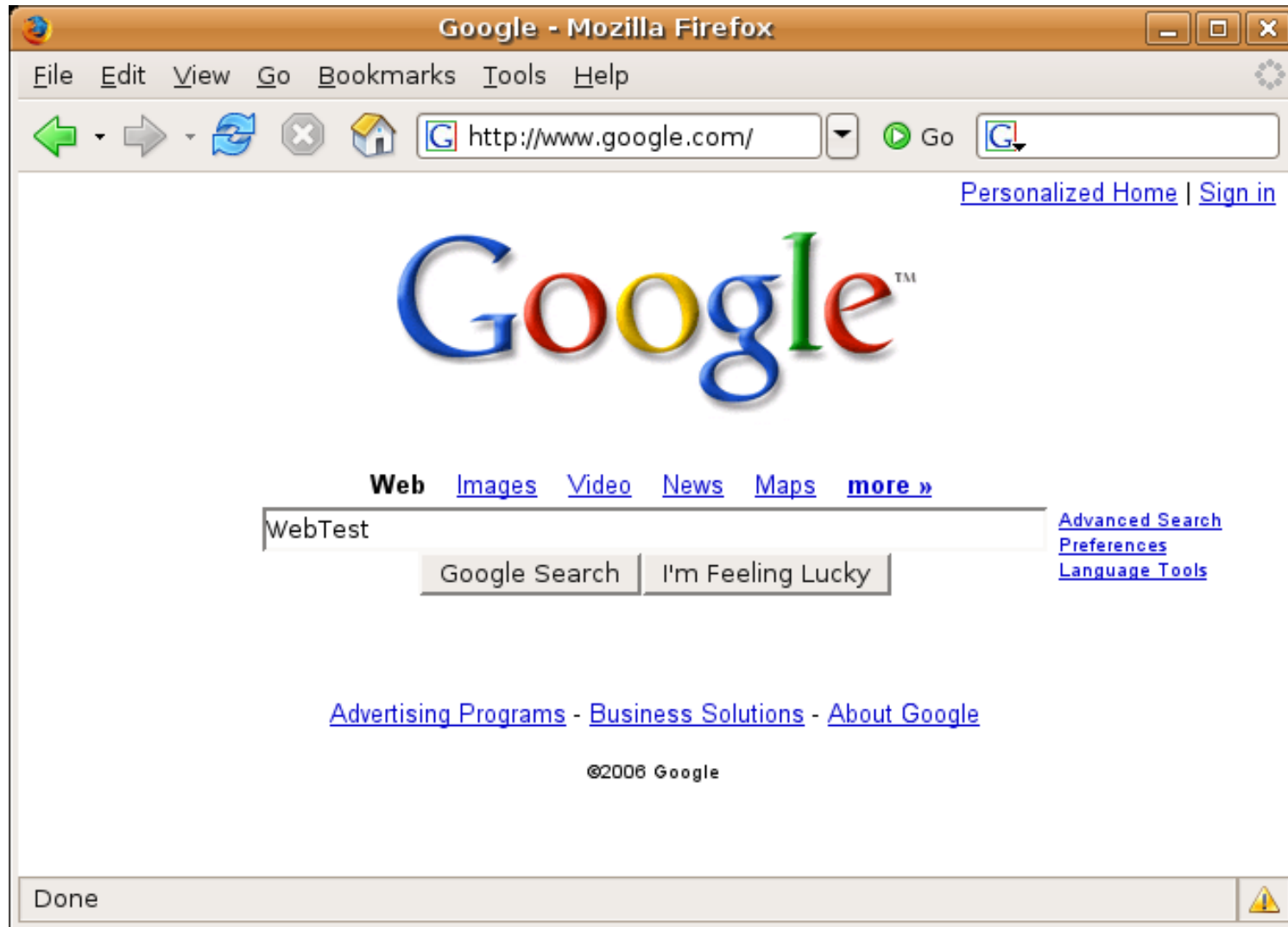
Dierk König

Canoo Engineering AG
Switzerland
dierk.koenig@canoo.com



Free open source tool for automated testing
of web applications.

Testing Google



WebTest Starter

google.xml

```
<project name="example" default="test">
  <target name="test">

    <webtest name="check that WebTest is Google's top 'WebTest' result">
      <steps>
        <invoke url="http://www.google.com"/>
        <verifyTitle text="Google"/>
        <setInputField name="q" value="WebTest"/>
        <clickButton label="I'm Feeling Lucky"/>
        <verifyTitle text="Canoo WebTest Homepage"/>
      </steps>
    </webtest>

  </target>
</project>
```

```
# runWebtest google.xml
```



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OOPSLA 2006, 24-27.10.2006

webtest

Result Summary **Server Roundtrip Timing Profile**

Result	#	%	Graph
✓	5	100	
✗	0	0	
◻	0	0	
Sum	5	100	

Secs	#	%	Histogram
0 - 1	1	50	
1 - 5	1	50	
5 - 10	0	0	
10 - 30	0	0	
> 30	0	0	
Sum	2	100	
Avg		1	

Test Scenario Overview (1332)

No	Result	Name	# Steps	Duration	%	Timing profile	Graph	Failing step
1	✓	check that WebTest is Google's top 'WebTest' result	5 / 5	1332	100			

✓ **check that WebTest is Google's top 'WebTest' result**

Test started at Mon Oct 23 18:49:48 CEST 2006, lasting 1332 ms.
 Source: /home/marc/fmr/OOPSLA2006/build.xml:4:
 Base URL (used by **invoke** steps with a relative URL): <http://localhost/>

No	Result	Name	Parameter	Duration
1	✓	invoke	method GET url http://www.google.com Resulting page	1138
2	✓	verifyTitle	text Google	8
3	✓	setInputField	name q value WebTest	3
4	✓	clickButton	label I'm Feeling Lucky Resulting page	183
5	✓	verifyTitle	text Canoo WebTest Homepage	0

[Back to Test Report Overview](#)

WebTest results (zoomed)

✓ check that WebTest is Google's top 'WebTest' result

Test started at Mon Oct 23 18:49:48 CEST 2006, lasting 1332 ms.

Source: /home/marc/fmr/OOPSLA2006/build.xml:4:

Base URL (used by **invoke** steps with a relative URL): <http://localhost/>

No	Result	Name	
1	✓	invoke	method GET url http://www.google.com Resulting page
2	✓	verifyTitle	text Google
3	✓	setInputField	name q value WebTest
4	✓	clickButton	label I'm Feeling Lucky Resulting page
5	✓	verifyTitle	text Canoo WebTest Homepage



Over 100 WebTest Steps

- General:
 - <invoke .../>
 - <clickLink.../>
 - ...
- Forms
 - <setInputField.../>
 - <setRadioButton.../>
 - <setCheckBox.../>
 - <clickButton.../>
 - ...
- Verification
 - <verifyTitle.../>
 - <verifyXPath.../>
 - <verifyInputField>
 - ...
- PDF
 - <pdfDecryptDocument.../>
 - <pdfVerifyField.../>
 - <pdfVerifyText.../>
 - ...
- Excel Documents
 - <excelFindRow.../>
 - <excelSelectSheet.../>
 - <excelVerifyCellValue.../>
 - ...
- ...

Comprehensive online documentation:
<http://webtest.canoo.com/>



Google - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.google.fr

Webtest Recorder

Enable recording

XML **Groovy**

```

<invoke description="Get the page"
url="http://www.google.fr/">
<setInputField description="Set text
field q" name="q" value="Webtest"/>
<setRadioButton description="Check
radio button meta: lr=lang_fr"
name="meta" value="lr=lang_fr"/>

```

XPath Debug Log


XPath: //a

Type	No...	value
ele...	A	<A href="/url?sa=p&p...
ele...	A	<A href="https://ww...
ele...	A	<A href="/search?q=j...
ele...	A	<A id="1a" class="q"...
ele...	A	<A id="2a" class="q"...
ele...	A	<A id="3a" class="q"...
ele...	A	<A id="4a" class="q"...
ele...	A	<A href="/intl/fr/op...
ele...	A	<A href="/advanced s

Nb results:15

Done

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Webtest

Recherche Google | J'ai de la chance

Rechercher dans : Web Pages francophones Pages : Fran

Publicité - Solutions d'entreprise - A propos de Google - Google.com in En

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Add verifyTitle for this page: "Google"

Open Link in New Window

Open Link in New Tab

Bookmark This Link...

Save Link As...

Send Link...

Copy Email Address

Copy Link Location

View Image

Copy Image Location

Save Image As...

Send Image...

Set As Desktop Background...

Back

Forward

Reload

Stop

Bookmark This Page...

Save Page As...

Send Link...

View Background Image

Lessons learned

- use recorder only to give you a jump start
- specify expectations
- distinguish guaranteed from accidental behavior
- apply rules of software engineering
 - remove duplications, extract modules
 - use source control
- consider modifications and extensions
 - Ant, Java, Groovy
- design for testability
 - valid html code, test early



Future plans

- dedicated AJAX support
- WebTestClipse
- (even) better reports
- ...





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Happy Testing!

<http://webtest.canoo.com/>



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Bonus



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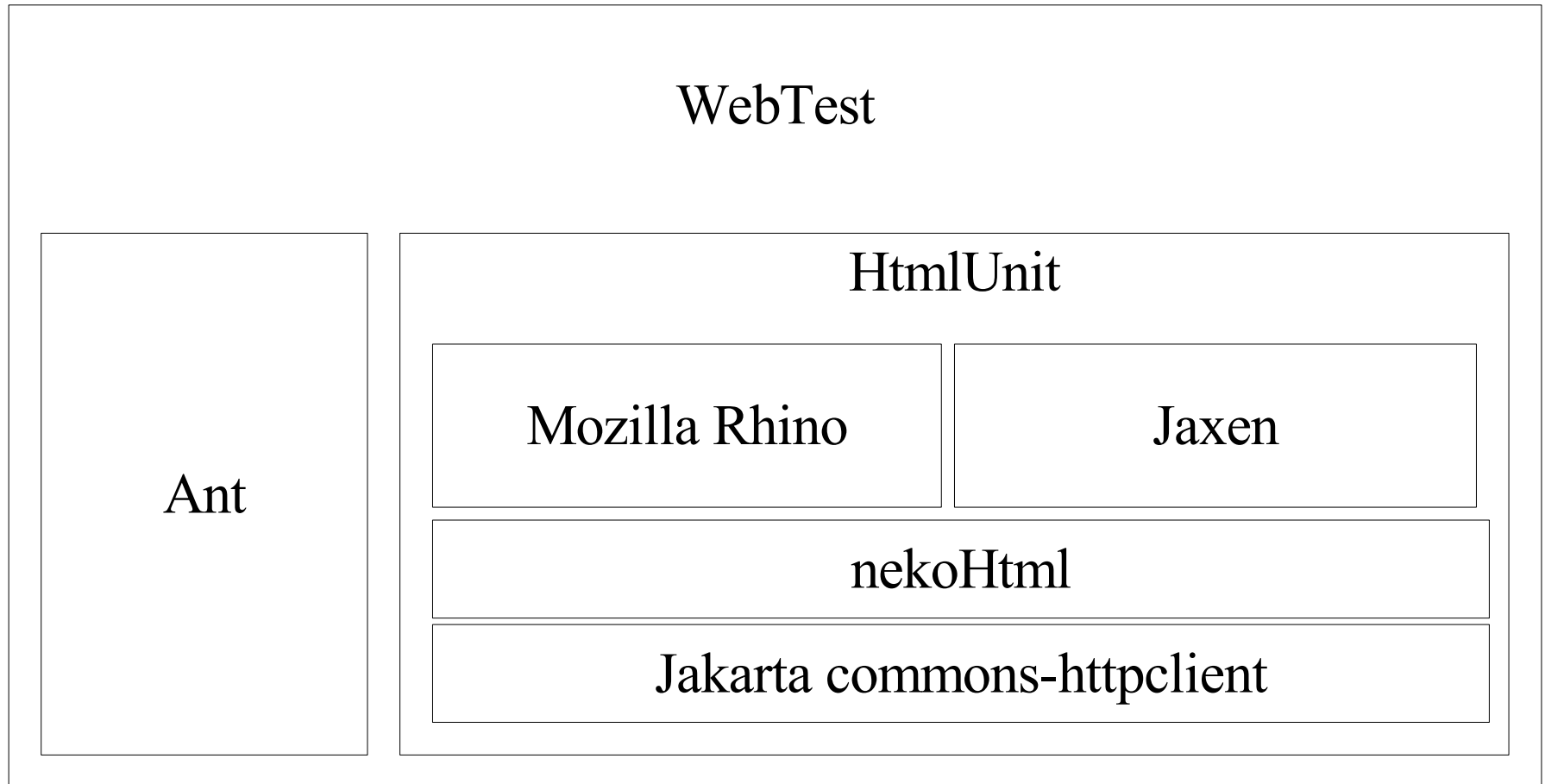
webtest

Sustainable Tests

- exploit XPath wisely
 - good: `//*[@id='total']`
bad: `/html/body/div[2]/table[3]/tbody/tr[6]/td[4]`
- testable HTML code
- structured tests
 - property files
 - XML entities
 - Ant macros



Building blocks



Groovy WebTest

```
ant.webtest(name: 'Test Google with Groovy, AntBuilder and WebTest')
{
  steps()
  {
    invoke(url: 'http://www.google.com')
    verifyTitle(text: 'Google')
    setInputField(name: 'q', value: 'Groovy')
    clickButton(name: 'btnG')
    verifyXPath(xpath: "//a[@href='http://groovy.codehaus.org/']")
  }
}
```

Grails automatically generates WebTests for the generated CRUD operations



Simply extend WebTest

```
<groovyScript>
class MyExtension extends com.canoo.webtest.steps.Steps
{
    String myProp
    void doExecute()
    {
        // do something
    }
}
project.taskDefinitions['myNewStep'] = MyExtension
</groovyScript>

....
<steps>
    ...
    <myNewStep myProp="whatever"/>
    ...
</steps>
```

