
METHODS & TOOLS

Practical knowledge for the software developer, tester and project manager

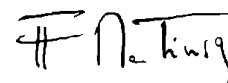
ISSN 1661-402X

Summer 2010 (Volume 19 - number 2)

www.methodsandtools.com

Are Software Developers Worth More than Accountants?

Methods & Tools is located in Switzerland, a country famous for its chocolate, watches... and banks. I was therefore participating to a banking IT conference last month. The CIO of a very large private banks revealed that 15% of employees of his company were working for the IT department. He described them as the "mechanics" supporting all the business. And I thought this was nice. Then a CEO of a retail bank came to present the results of a survey of Swiss bank top managers. They were asked what would make their bank different or better than their competitors. None of the answers mentioned IT. And I thought this was not nice. Thus came the question: do software developers make more difference than accountants for their CEOs? Are they just something you need to have, but don't really contribute to the performance of the organization? The software development function is separated from the other operational activities and developers are considered as a support function as accounting could be. This comparison is not so awkward, as accountants belong also mostly to the introverted psychological category, like developers. And accountants could also deliver information that could change the way a company works, finding for instance which products or customers are truly profitable. In a book from Watts Humphrey, he quotes Dick Garwin, the designer of the hydrogen bomb, saying: "You can get credit for something or get it done, but not both." Software developers may belong more to the second part of this alternative. Despite all problems that impact our projects, we deliver solutions that allows organizations do perform better, but we don't get all the recognition that we deserve. Some might be happy with our current lack of visibility, but then we should not complain if we are often considered only as a cost variable that should be minimized and not elements that could increase revenues. To achieve this objective, it is important that developers get closer to their users and improve their knowledge of business. Users don't want a cool Ruby on Rails Ajax apps, they want solutions for their problems. If we want more consideration from the management, we have to express more our positive impact in organizations. After all, even some accountants managed to do this.



Inside

Aspects of Kanban	page 3
Test Language -Introduction to Keyword Driven Testing	page 15
A High Volume Software Product Line.....	page 22
Better requirements definition management is better for business	page 31
The Core Protocols, an Experience Report.....	page 39
Tool: eValid	page 52
Tool: Hudson	page 57
Tool: FitNesse.....	page 60
Tool: VoodooMock: Mock Objects Framework for C++	page 65
Conference: Jazoon.....	page 74

eValid

Franco Martinig, Martinig & Associates, <http://www.martinig.ch/>

eValid, is a testing tool suite built into an IE browser. eValid performs every function needed for detailed Web Site static and dynamic testing, regression testing, QA/Validation, page timing and tuning, transaction monitoring, realistic and scalable server loading

Web Site: <http://www.e-valid.com>

Version Tested: eValid V9 Build 301, tested during May-June 2010 on Windows XP Home Edition SP3

System Requirements: eValid V9 relies on certain properties of the IE DLLs that are only available in IE 5.50 and later versions until IE 9.0. Similarly, certain features of the technology require use of Windows operating system features that are only present in Windows 2000/SP4, Windows XP, Windows Vista, Windows 7 and Windows Server 2008. At launch eValid will provide an advisory notice (popup) in case the minimum required operating capabilities are not present.

License & Pricing: Commercial

Prices are visible <http://www.e-valid.com/Products/bundle.pricelist.9.html>

Support: User mailing list, forum and blog

Installation

The installation runs smoothly through an InstallShield process. After registering the license key(s) (Help/Manage License), you can start working with the product.

Documentation

The documentation (user manuals, tutorials, movies, demos, etc) is comprehensive and fully accessible from the tool. To have a first glance at the tool features, I will recommend looking at these online resources:

Tutorials: <http://www.e-valid.com/Products/Training.9/index.html>

Videos: <http://www.e-valid.com/Products/Documentation.9/Movies/inventory.html>

Configuration

eValid has a "Settings" panel that allows modifying general options and those dedicated to a specific feature (record, playback, site analysis). The user manual gives a detailed explanation of each configuration field. The default configuration allows working well, but there are many parameters that could change your assessment of the results, especially in the site analysis area.

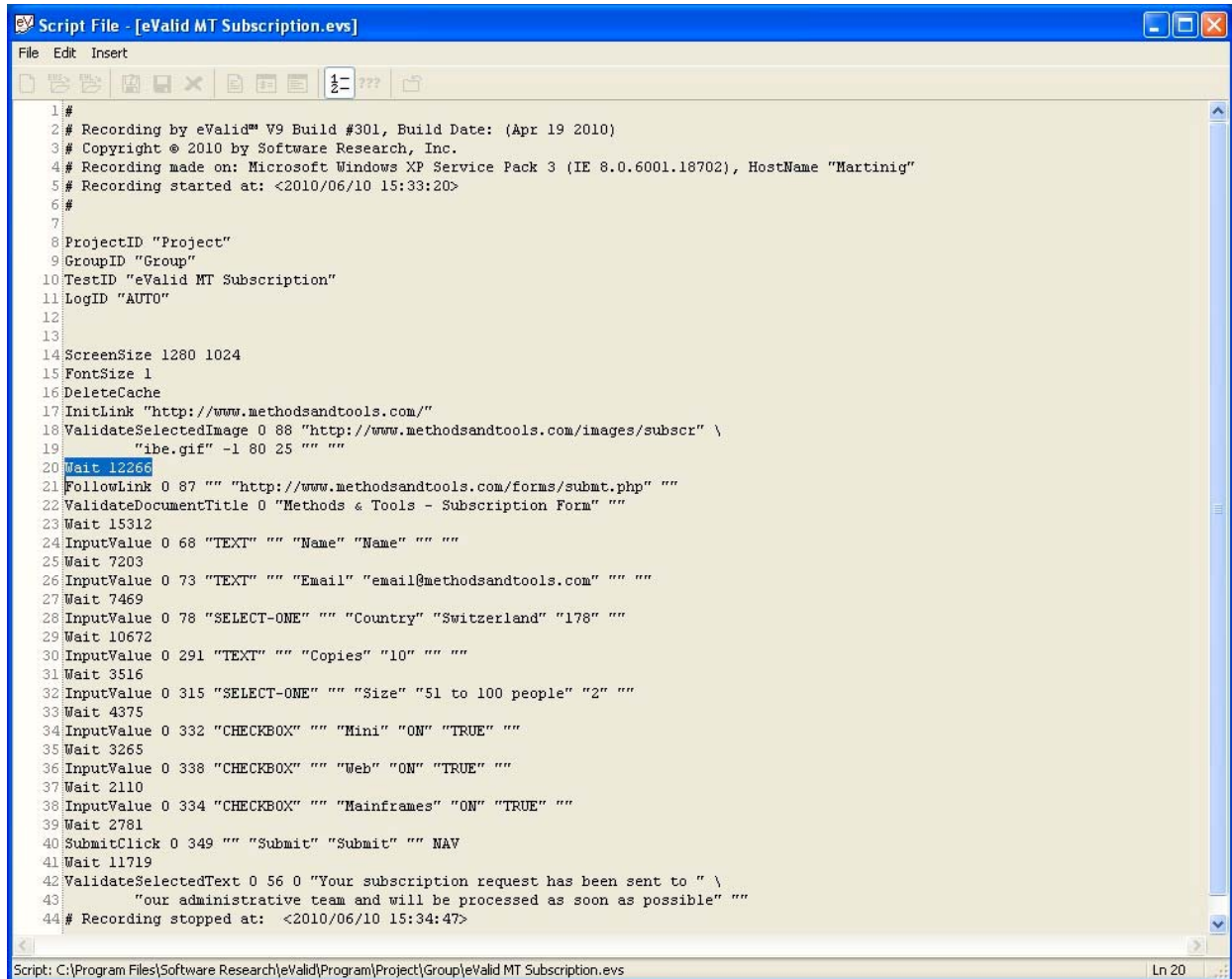
Features

Architecturally, eValid is an "overload" of the IE browser. It adds functions to the browser by incorporating the entire browser as a support engine.

*** Functional Testing**

You can create a script simply recording your actions on the web page and adding validation action that are proposed by the tool. By default the settings are for "real time" recording, which means that the "wait" time between two actions will be automatically recorded by the tool. This can be changed in the settings. An existing script can be modified, inserting new actions at a

particular point. The recorded script can be also manually edited, which allow to remove certain items, modified input, waiting times and validations parameters. Validations can be made at the document level (title, byte size, last modified date), on a page element (text, image, table cell) or on a page area. In fact the tool can validate and synchronize any DOM (Document Object Model) property anywhere on the current page.



```

Script File - [eValid MT Subscription.evsn]
File Edit Insert
1 #
2 # Recording by eValid™ V9 Build #301, Build Date: (Apr 19 2010)
3 # Copyright © 2010 by Software Research, Inc.
4 # Recording made on: Microsoft Windows XP Service Pack 3 (IE 8.0.6001.18702), HostName "Martinig"
5 # Recording started at: <2010/06/10 15:33:20>
6 #
7
8 ProjectID "Project"
9 GroupID "Group"
10 TestID "eValid MT Subscription"
11 LogID "AUTO"
12
13
14 ScreenSize 1280 1024
15 FontSize 1
16 DeleteCache
17 InitLink "http://www.methodsandtools.com/"
18 ValidateSelectedImage 0 88 "http://www.methodsandtools.com/images/subscr" \
19 "ibe.gif" -1 80 25 "" ""
20 Wait 12266
21 FollowLink 0 87 "" "" "http://www.methodsandtools.com/forms/submt.php" ""
22 ValidateDocumentTitle 0 "Methods & Tools - Subscription Form" ""
23 Wait 15312
24 InputValue 0 68 "TEXT" "" "Name" "Name" "" ""
25 Wait 7203
26 InputValue 0 73 "TEXT" "" "Email" "email@methodsandtools.com" "" ""
27 Wait 7469
28 InputValue 0 78 "SELECT-ONE" "" "Country" "Switzerland" "178" ""
29 Wait 10672
30 InputValue 0 291 "TEXT" "" "Copies" "10" "" ""
31 Wait 3516
32 InputValue 0 315 "SELECT-ONE" "" "Size" "51 to 100 people" "2" ""
33 Wait 4375
34 InputValue 0 332 "CHECKBOX" "" "Mini" "ON" "TRUE" ""
35 Wait 3265
36 InputValue 0 338 "CHECKBOX" "" "Web" "ON" "TRUE" ""
37 Wait 2110
38 InputValue 0 334 "CHECKBOX" "" "Mainframes" "ON" "TRUE" ""
39 Wait 2781
40 SubmitClick 0 349 "" "Submit" "Submit" "" NAV
41 Wait 11719
42 ValidateSelectedText 0 56 0 "Your subscription request has been sent to " \
43 "our administrative team and will be processed as soon as possible" ""
44 # Recording stopped at: <2010/06/10 15:34:47>
Script: C:\Program Files\Software Research\Valid\Program\Project\Group\Valid MT Subscription.evsn Ln 20

```

Figure 1. Functional test script created through navigation with element validation

"Point and click" is the first and simplest way to create functional tests with eValid, but the tool support "structural/algorithmic" testing and full programmatic testing. Thus eValid can automatically synchronize with AJAX applications using the built-in DOM interrogation capability. You can also parameterize scripts, manage control flow as they execute. Data from external files can be fed into scripts.

* Load Testing

The load testing function in eValid uses the same script repository than the functional testing part. You can therefore either reuse an existing script or create a dedicated item for load testing. You can specify the number of times that you want to run the script and the delay between each run. This playback multiplier allows increasing or decreasing the speed or repetition. The functional scripts and this additional information allow you to create load-testing scripts. The estimated number of users is dependent of these parameters. A script repeated 5 times that is complete in 20% of the normal time is the equivalent of a 25 users load. The load script runs each functional script in a separate eValid sub-browser without cache to assure that each page is

actually downloaded. Information used for the test (like user names) can be changed for each test. You can obtain 100 Browser Users per desktop session and eValid is able to run over 1,000 using multiple desktop sessions on a single machine.

My test scenario runs twice a test that just loads the home page, then twice a test that goes to a poll page, displays results and verifies the presence of a text on the result page, then again once the load home page test.

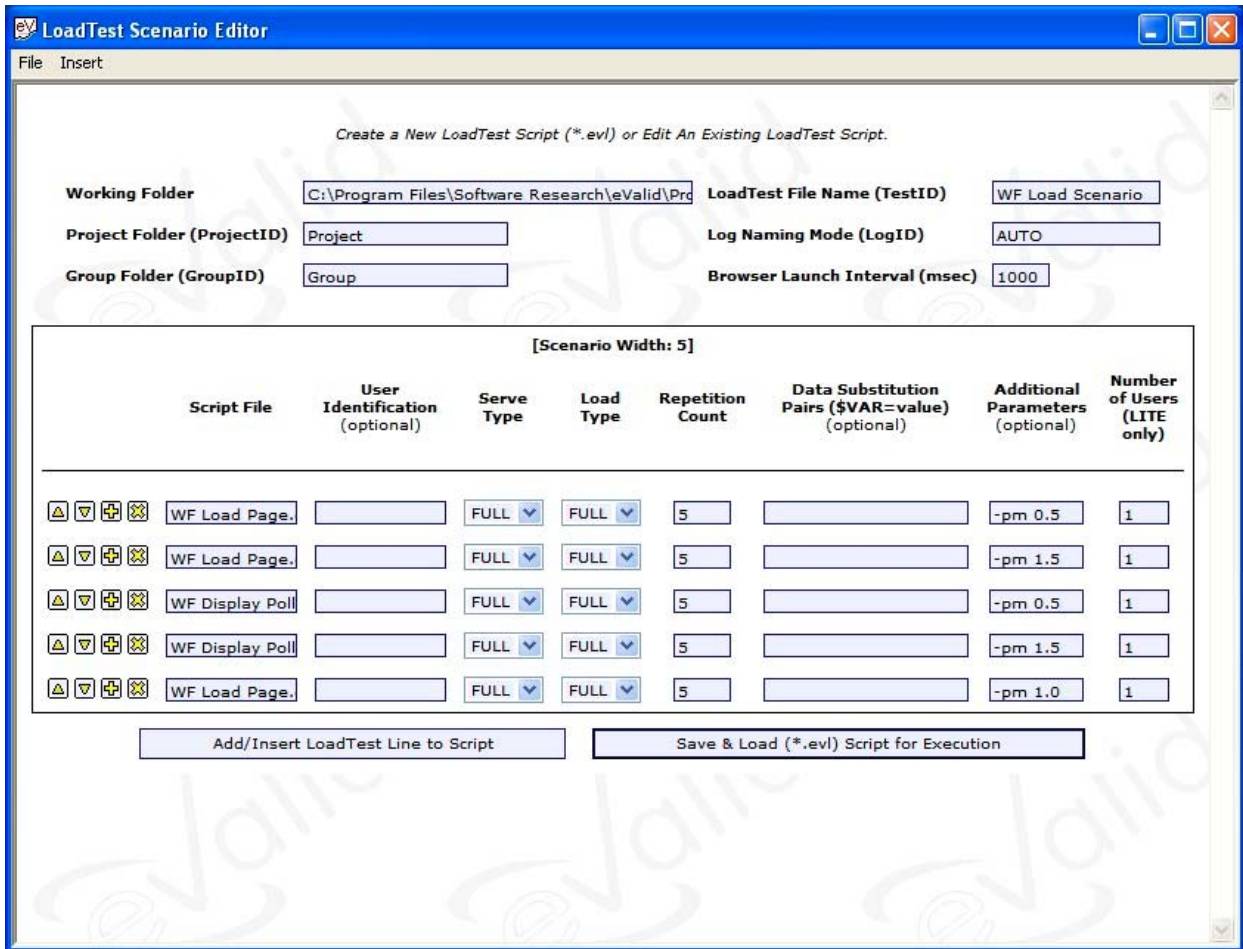


Figure 2. Load testing scenario



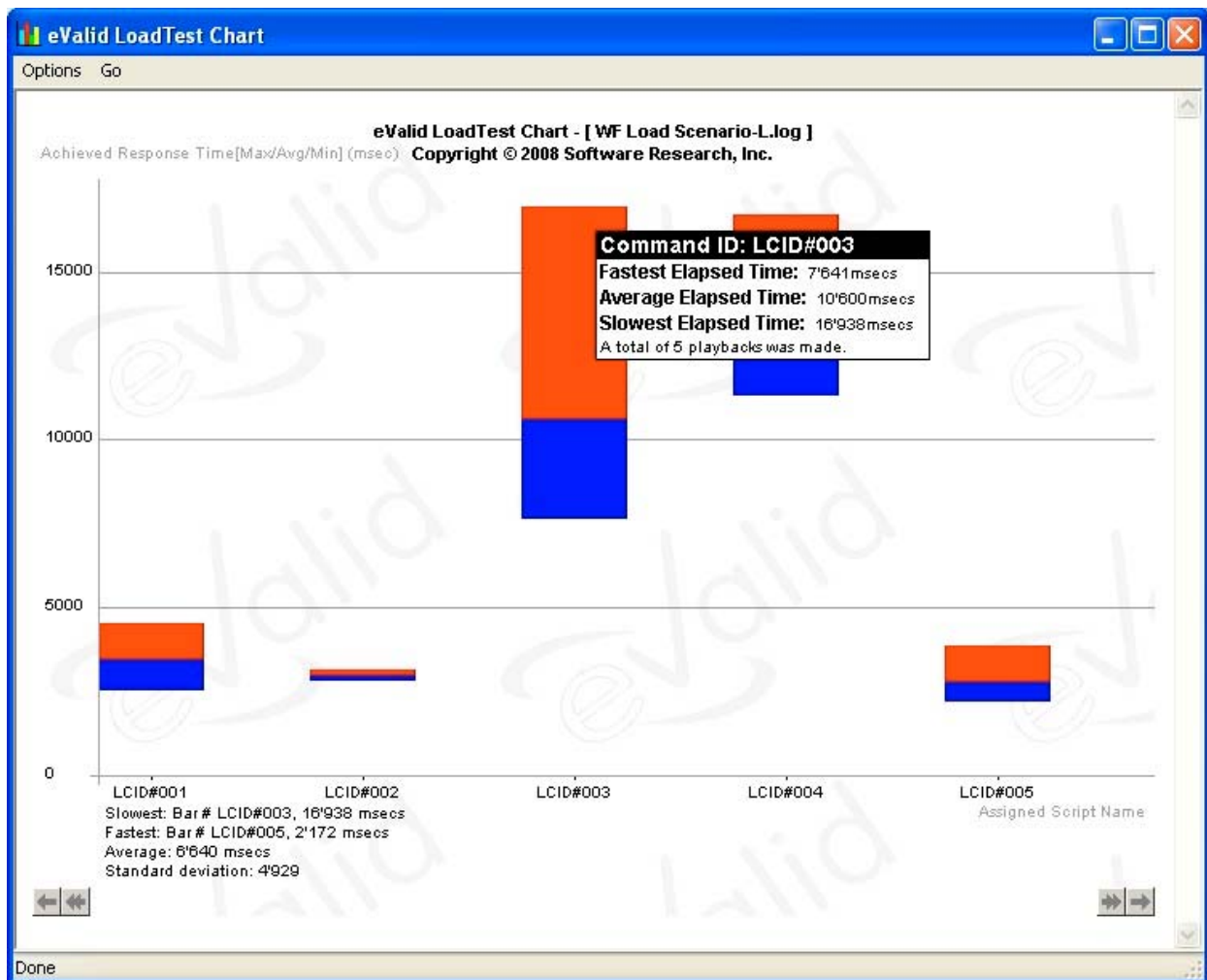


Figure 3. Load testing results

* Web Site Analysis

You can launch the web site analysis either in automatic or controlled (interactive) mode. Many setting screens that allow you to control the analysis (depth of pages, links to follow or exclude, etc), manage the degree of analysis and your own definition of what is an old, large or small page. It took 30 minutes to analyze automatically the complete Methods & Tools web site with the default analysis settings. For a simple web site like waterfallalliance.org, it takes 20 seconds. A 3D-SiteMap shows inter-relationships of all scanned pages. Reports are generated in real time.

* Additional Functions

The eValid suite contains a dedicated test suite management engine. This system organizes a suite of eValid tests into groups and complete projects when you locate test scripts in the same folder. It launches and analyzes eValid test results and provides a compact PASS/FAIL report summary. You can use eValid as an AJAX monitoring agent with its synchronization capabilities.

eValid offers also a test data generator. All test results are usually stored in text files, but you can also use a MySQL access to store them. The tool proposes also a batch interface (command line operation) and an available C++ interfacier.

Conclusion

eValid is a software testing tool suite that allows testing both the functionality and the performance of a web site. You can also do a site analysis. The tool is quite intuitive and the training level needed for a first usage not important, watching the short movies available that explain the basic functions. This allows people without technical experience to build and run their own tests. It is nevertheless a powerful tool that goes far beyond a simple "point and click" technology and you can spend time adjusting the settings and the scripts to your technical needs for more sophisticated testing, especially for AJAX applications.