T9
Test Automation
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11:15 AM

Not Your Parents' Test Automation: Application of Non-Traditional Automation

Presented by:

Paul Grizzaffi

Magenic

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350 Corporate Way, Suite 400, Orange Park, FL 32073

Paul Grizzaffi
Magenic

Paul Grizzaffi is a principal automation architect at Magenic. His career focus has been on the creation and deployment of automated test strategies, frameworks, tools, and platforms. Paul has created automation platforms and tool frameworks based on proprietary, open source, and vendor-supplied tool chains in diverse product environments of telecom, stock trading, e-commerce, and healthcare. A Certified ScrumMaster, he is on the Industry Advisory Board of the Advanced Research Center for Software Testing and Quality Assurance at UT Dallas. Contact Paul via LinkedIn or Twitter and read his blog.

Not Your Parents' Automation

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Who Is This Guy?

Paul Grizzaffi

Principal Automation Architect at Magenic

"Software Pediatrician"

Career focused on automation

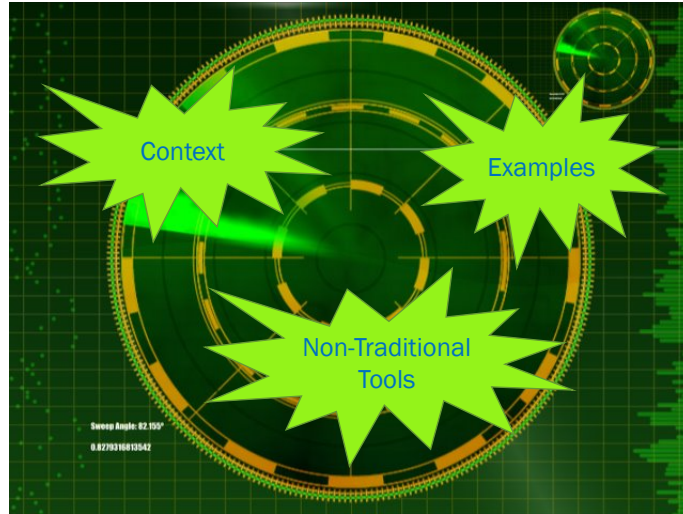Advisor to Software Test Professionals (STP)

✉ paulg@magenic.com

in http://www.linkedin.com/in/paulgrizzaffi

🐦 @pgrizzaffi

Ⓦ http://responsibleautomation.wordpress.com

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What's Coming
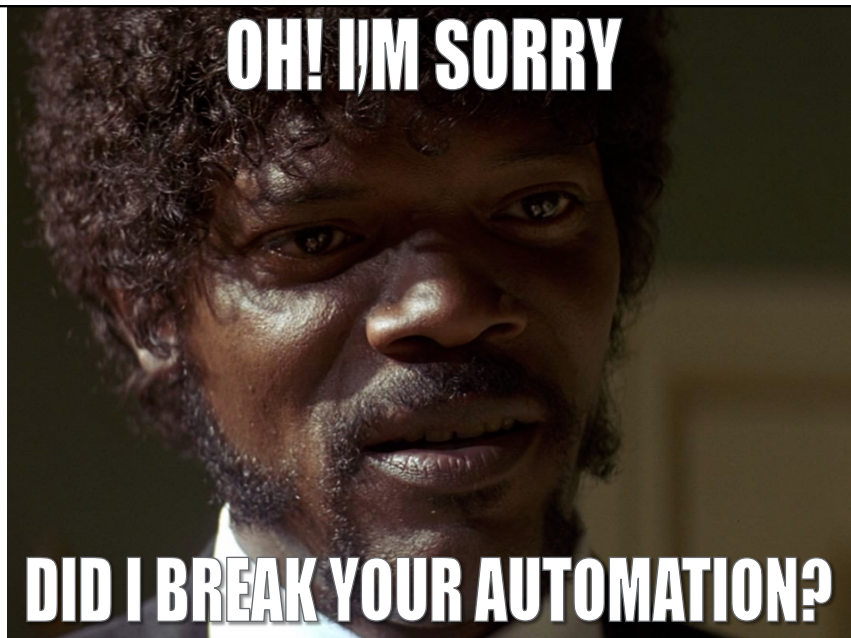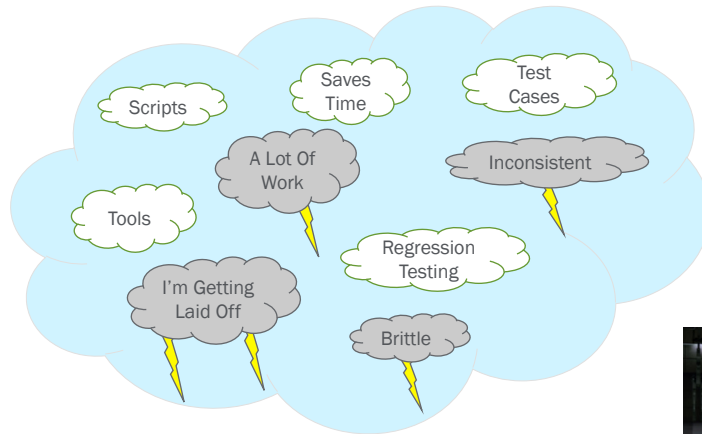

Context

Examples

Non-Traditional Tools

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What Comes To Mind?

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What Comes To Mind?

Traditions Can Be Important

Traditions Can Be Important

Traditional automation
> Detect behavior changes
> Reduce effort on smoke and regression testing
> Earlier execution, earlier alerts
> Scheduled execution

My previous organizations have this and it's valuable

Is there something else?

What If We Think Differently?

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What If We Think Differently?

"Let's help the humans"

What makes us more efficient or more effective?

What's valuable?

What hurts?

Instead of *automation*, how about *assistance*?

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Automation Assist

Umbrella term for non-traditional automation
- "Words mean things" – Patrick Amaku
- Changing meanings is difficult
- New vocabulary for new concepts

Things that increase the value of manual effort
- "Off label" tool usage
- New tools, applications, scripts
- Tools not traditionally used in automation

Lets Look At Some Examples

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High Volume Automated Testing

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High Volume Automated Testing

*"a family of testing techniques that enable the tester to
create, run and evaluate the results of arbitrarily many tests"*

Workshop on Teaching Software Testing (WTST) 2013

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High Volume Automated Testing

Aka HiVAT

Dr. Cem Kaner, J.D., Ph.D.: http://kaner.com/?p=278

Harry Robinson: http://wtst.org/?page_id=169

Interesting facets for the organization

Many executions
Random execution
Results vetted by humans

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Scud

Scud

The premise
  Product is large, complex, aging
  Not feasible to enumerate and follow all paths

The solution
  Random menu clicker – "Scud"
  Looking for things that "don't seem right"
  Selenium-based Python script: 32 hours of effort
  Found four issues in the first week of use

Why that solution?
  Value shown in previous organization
  Selenium was the right kind of tool kit
  Broad license usage and not competing with other tool

ACH File Checker

ACH File Checker

The premise
  Need to test that ACH files are created correctly
  Funding was cut; project to end early
  Development would not be completed

The solution
  Create a command line app to perform part of the testing
  C# program: ~5 hours of effort
  Eliminated hours of testing effort

Why that solution?
  The code was there, but provided no current benefit
  Cheap, fast way to enable value
  Something's better than nothing

Data Server Regressor

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Data Server Regressor

The premise
- "Regression" testing between software versions
- Volatile stock market data
- Takes about 8 hours of effort

The solution
- Comparison tool
- Connect to both servers and compare
- Time to test reduced 1 minute
- C++ program: "ROI": 6 weeks

Why that solution?
- Traditional test scripts not appropriate
- Existing API into the product
- C++ primary development language
- Product bug found during first execution

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Account Creator

Account Creator

The premise
   User account creation is a pain in the…well…you know…
   UI is a slow, lots of typing
   Multiple tables to update

The solution
   Script created in Selenium IDE
   Effort: "a couple of days"

Why that solution?
   Saved ~20 minutes per account entry
   Easy to automate via UI
   Hard to automate via database interaction
   Coding was not forte

Zero Remover

Zero Remover

The premise
    Thousands of "golden files"
    In some cases DB now returns NULL instead of 0.00
    Manual effort estimate: 4 – 6 weeks

The solution
    A program to do the file transformation
    C# program: 5 hours

Why that solution?
    Disposable
    Windows/.Net shop
    Easy to distribute executable

Some Words About Effort

Effort calculation is a funny thing

ROI can be difficult to calculate

http://blog.smartbear.com/testing/there-aint-no-roi-in-software-testing/

Dawn Haynes

"Opportunity cost" can be easier and as useful

Think about value

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Dammit Jim…I'm a Tester, Not A Programmer

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Dammit Jim…I'm a Tester, Not A Programmer

So?

The command line is your friend

Built in text and file processing commands

Chainable commands

Example: Incomplete transaction due to timeout

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Example Log File

So Close

The Pipe

A way of chaining commands together

`<command a> | <command b> | …`

Result of `<command a>` is input to `<command b>`

Supported on most command prompts/shells

LEAD PIPE

LEAD PIPE

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That's The Stuff!

Administrator: C:\Windows\system32\cmd.exe

```
C:\Users\pgrizzaffi>findstr INCOMPLETE c:\files\parents_log_file.txt | findstr TIMEOUT
2014-10-22 13:22:22 TRANSID: 098897879 STATUS: INCOMPLETE REASON: TIMEOUT
2014-10-22 13:24:22 TRANSID: 654683519 STATUS: INCOMPLETE REASON: TIMEOUT
2014-10-22 13:26:22 TRANSID: 852364789 STATUS: INCOMPLETE REASON: TIMEOUT

C:\Users\pgrizzaffi>_
```

C:\files\bin\find_incomplete.bat - Notepad++ [Administrator]

File Edit Search View Encoding Language Settings Macro Run Plugins Window ? X

scud.py | dyn.html | dynamic.html | Bumblebee Thoughts.txt | BaseFramework.sj | find_incomplete.bat

```
1   @echo off
2   findstr INCOMPLETE c:\files\parents_log_file.txt  findstr TIMEOUT
3
```

Bat length : 79 lines : 3   Ln : 1 Col : 10 Sel : 0 | 0   Dos\Windows   ANSI as UTF-8   INS

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Let's Be Flexible

Powershell & Unix/Linux/MacOs

Is that not automation assist?

Is that not a script?

Didn't we just program?

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Tools

| (aka pipe)
Search-String, findstr, grep
Get-Content —Wait, tail —f
wget
Unxutils
Cygwin
Bash on Windows!

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Takeaways

This is different

Scripting tests is OK, but it's an implementation

Situational – the "knowns" help guide

Ecosystem – running, distributing

Life span – disposable or long term

Notice anything?

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Questions?

✉ paulg@magenic.com

in http://www.linkedin.com/in/paulgrizzaffi

🐦 @pgrizzaffi

Ⓦ http://responsibleautomation.wordpress.com

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