



Automation Beyond User Interfaces

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@SPECTACLED BEAR

What You Won't Hear During this Talk

- ◆ An ROI analysis of test automation
- ◆ Why a tester should use automation
- ◆ Guidance on whether or not to use a kind of automation
- ◆ An assessment of alternative automation solutions

So Who is this Guy?

- ◆ Indoctrinated through Waterfall
- ◆ Survived the Tribulations of the Burndown Chart
- ◆ Too agile for Agile
- ◆ Ascended to He Who Sometimes Walks the Path of Automation

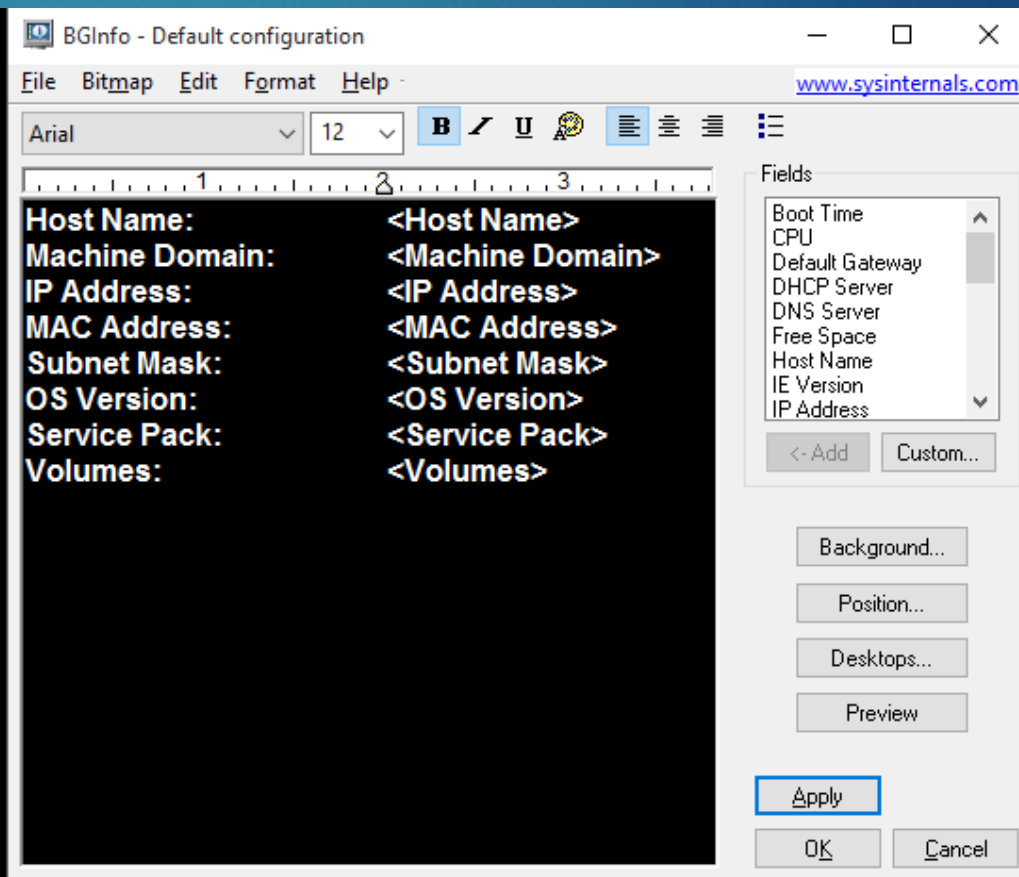


Environment Configuration

- ◆ Configure a computer before testing
- ◆ Executable configuration for test set up
- ◆ Get the system into a known state prior to testing
- ◆ Read the configuration prior to testing

Environment Configuration

Host Name: BERN
Machine Domain: WORKGROUP
IP Address: 192.168.3.104
(none)
(none)
192.168.56.1
MAC Address: 0C-8B-FD-B1-11-A1
08-9E-01-EC-71-91
0C-8B-FD-B1-11-A2
0A-00-27-00-00-00
Subnet Mask: 255.255.255.0
(none)
(none)
255.255.255.0
OS Version: Windows 8.1
Service Pack: No service pack
Volumes: C:\ 423.17 GB NTFS
D:\ 25.00 GB NTFS



Environment Configuration Demo



More Environment Configuration

- ◆ Isolating several environments that exist on the same computer
- ◆ Include configuration with a test application

Another Environment Configuration Demo



Data Generation

For when you need to

- ◆ Interact with interfaces that require data structured in a specific format
- ◆ Interaction with a data store prior to testing to insert data required for testing
- ◆ Perform idempotent actions against a system

Data Generation Demo



Search

HistoryCollections

Today

GEThttp://api.uwaterloo.ca/v2/foodservices/diets.json?key=

BuilderRunnerImport

DisabledSign inSupport

Run collections

http://api.uwaterloo.ca/v2/foodservices/diets.json?key=ParamsSend

AuthorizationHeaders (0)BodyPre-request scriptTests

No Auth

BodyCookiesHeaders (8)TestsStatus 200 OKTime 171 ms

PrettyRawPreviewJSON

```
1 {
2   "meta": {
3     "requests": 1,
4     "timestamp": 1443585240,
5     "status": 200,
6     "message": "Request successful",
7     "method_id": 1321,
8     "method": {}
9   },
10  "data": [
11    {
12      "diet_id": 2,
13      "diet_type": "Non Vegetarian"
14    },
15    {
16      "diet_id": 5,
17      "diet_type": "Vegan"
18    },
19    {
20      "diet_id": 6,
21      "diet_type": "Vegetarian"
22    },
23    {
24      "diet_id": 7,
```

Scroll to response

Code Analysis

- ◆ Provides more context for the system under test
- ◆ Can apply rule sets that match definition of code quality
- ◆ Code can be examined for clues

Code Analysis Terms

- ◆ **Static code analysis** runs against source code files
- ◆ **Dynamic code analysis** runs alongside executed code
- ◆ **Cyclomatic complexity** is a quantitative value of the complexity of the code
- ◆ **Code coverage** is a measurement of the branches exercised by automated tests

Code Analysis Demo



Continuous Delivery

- ◆ Central concepts are actions based on change and providing timely feedback
- ◆ An automated process that includes other techniques
 - ◆ Continuous Integration
 - ◆ Configuration management
 - ◆ Build pipeline and deployment automation
- ◆ This technique envelops all of the concepts in this talk

Sarcastic Management Slide

So this is about the number of hats I wear?

Or about increasing my productivity, right?

People are just about throughput and making that throughput more efficient is good, is it not?





Oh my goodness no.

Q&A

Tools used during demos:

- Puppet agent
- Vagrant and Virtualbox
- SonarQube and OpenCover
- Atom text editor and Visual Studio Community Edition

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This talk: <https://github.com/SpectacledBear/kwsqa-2015-09-presentation>