

Inside The Tester's Mind

Describing exploratory testing skill

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First, a haiku...

Oh, Masters of Test,

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Oh, Masters of Test,
Describe to me your methods

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First, a haiku...

Oh, Masters of Test,
Describe to me your methods
...we ship in an hour...

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Assumption

* you've done exploratory testing...

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Assumption

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* or might need to do it...

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- * or might need to do it...
- * so you'll want to know how it's done

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- * you've done exploratory testing...
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- * or at least care about it enough

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Assumption

- * you've done exploratory testing...
- * or might need to do it...
- * so you'll want to know how it's done
- * or at least care about it enough
- * to know if it's done well

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The problem

1) *"What's the big deal? Exploratory testing is random pounding on the keys. A child could do it, and that's the point, right?"*

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2) *"How she finds those great bugs without test cases, I'll never know. I guess some people are just natural explorers -- you either have it or you don't -- and I just don't have her knack for it."*

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These are limited perspectives, but common sentiments I've heard over the years, so this talk is my counter-argument. It is about how exploratory testing is a compilation of systemically observable, evaluatable and *teachable* skills.

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Common Questions

- 1) ET is for expert testers only, right?
- 2) ET is unstructured and unmeasurable, right?
- 3) ET is just testing randomly based on experience, right?
- 4) ET is only for testing things that have no specs, right?
- 5) Is there such a thing as exploratory test automation?
- 6) How do I get my management to accept ET? They believe in rigorous testing.
- 7) Surely you wouldn't use ET for mission or life-critical software, right?

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Some ET Definitions

- **Sabourin**: "continuous test design as testing continues; continuous testing as design continues; continuous test planning as testing continues"
- **Hendrickson**: a style of testing in which you explore the software while simultaneously designing and executing tests, using feedback from the last test to inform the next (Test-Driven Testing?)
- **Bolton**: Operating and observing the product with the freedom and mandate to investigate it in an open-ended search for information about the program.
- **Kaner**: Simultaneous learning, design and execution, *with an emphasis on learning.*

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"Ad hoc" testing?

1a : concerned with a particular end or purpose (an *ad hoc* committee)

1b : formed or used for specific or immediate problems or needs (*ad hoc* solutions)

2 : fashioned from whatever is immediately available

<http://www.m-w.com/dictionary/ad%20hoc>

Note: All ET is ad hoc, but not all ad hoc is ET.

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Analogies

Driving a car

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Analogies

Psychologist

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"20 Questions"

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Analogies

Psychologist
Driving a car
Sports
"20 Questions"
Bounty Hunter
Going to a testing conference
Job Interview
Jam session
Newspaper reporter

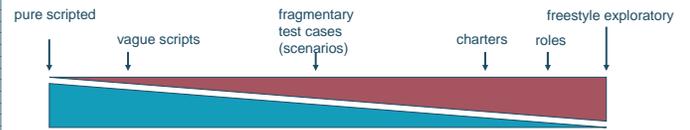
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Paradigmatic examples

- **Mike Kelly:** Retesting and testing around a defect
- **Scott Barber:** The developer walks to my desk and asks "can you whip up a test to see if..."
- **Michael Bolton:** Working with a new build of an existing product, checking for bug fixes by using old test paradigms with new variations; not under the control of a script
- **James Bach:** "Please investigate this puzzling situation", "Please test this product that doesn't yet exist"
- **Cem Kaner:** Tests from a bug taxonomy or "quick test" list
- **James Lyndsay:** Once a script has executed, choosing different data and re-executing

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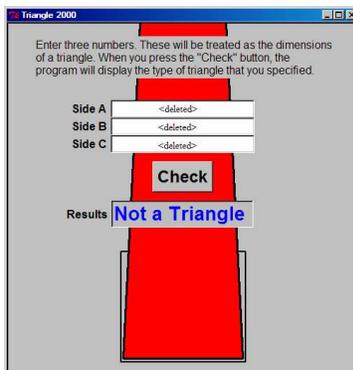
Scripted vs. exploratory



To know where a test falls on this scale, ask yourself: *"to what extent am I in control of the test, and from where did the idea originate?"*

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ET in action: Repro this bug



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How did you *find* that?

Some Exploration Skills and Tactics

"MR.Q COMP GRABC R&R?"

Modeling	Chartering	Generating/Elaborating	Recording
Resourcing	Observing	Refocusing	Reporting
Questioning	Manipulating	Alternating	
	Pairing	Branching/Backtracking	
		Conjecturing	

Exploratory testing is a mindset using this skillset.

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Modeling

Composing, describing, and working with mental models of the things you are exploring. Identifying relevant dimensions, variables, and dynamics. A good mental model may manifest itself as having a "feel" for the product; intuitively grasping how it works.



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Resourcing

Obtaining tools and information to support your effort. Exploring sources of such tools and information. Getting people to help you.



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Questioning

Identifying missing information, conceiving of questions, and asking questions in a way that elicits the information that you seek.



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Chartering

Making your own decisions about what you will work on and how you will work. Understanding your client's needs, the problems you must solve, and assuring that your work is on target.



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Observing

Gathering empirical data about the object of your study; collecting different kinds of data, or data about different aspects of the object. Designing experiments and establishing lab procedures.



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Manipulating

Making and managing contact with the object of your study; configuring and interacting with it.



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Pairing

Working and thinking with another person on the same problem; group problem-solving.



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Generating/Elaborating

Working quickly in a manner good enough for the circumstances. Revisiting the solution later to extend, refine, refactor, or correct it.



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Refocusing

Managing the scope and depth of your attention. Looking at different things, looking for different things, in different ways.



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Alternating

Switching among or contrasting different activities or perspectives so as to create or relieve productive tension and make faster progress.



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Alternating -- Polarities

Warming up vs. cruising vs. cooling down
Doing vs. describing
Doing vs. thinking
Careful vs. quick
Data gathering vs. data analysis
Working with the product vs. reading about the product
Working with the product vs. working with the developer
Product vs. project
Solo work vs. team effort
Your ideas vs. other peoples' ideas

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Alternating -- More Polarities

Lab conditions vs. field conditions
Current version vs. old versions
Feature vs. feature
Requirement vs. requirement
Test design vs. execution
Coverage vs. oracles
Testing vs. touring
Individual tests vs. lab procedures and infrastructure
Testing vs. resting

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Branching/Backtracking

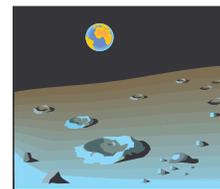
Allowing yourself to be productively distracted from one course of action in order to explore an unanticipated new idea. Identifying opportunities and pursuing them without losing track of the process.



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Conjecturing

Considering possibilities and probabilities. Considering multiple, incompatible explanations that account for the same facts.



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Recording

Preserving information about your process, progress, and findings. Taking notes.



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Reporting

Making a credible, professional report of your work to your clients in oral and written form.



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Useful mental triggers

[Test Plan Evaluation Model](#)

[Test Planning Checklist](#)

[Heuristic Test Strategy Model](#)

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Last, a haiku...

We ship in an hour...

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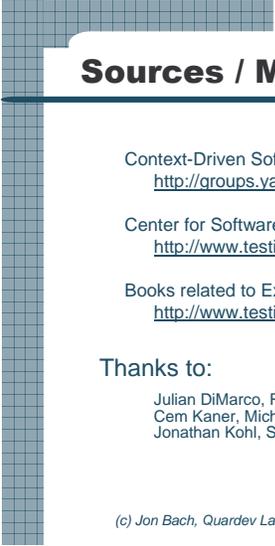
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Oh, where could bugs be hiding?

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Last, a haiku...

We ship in an hour...
Oh, where could bugs be hiding?
Engage the skillset!

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Sources / More info

Context-Driven Software Testing

<http://groups.yahoo.com/group/software-testing>

Center for Software Testing Education and Research

<http://www.testingeducation.org/BBST>

Books related to Exploratory Testing skills and tactics

<http://www.testingreflections.com/node/view/3190>

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