Exploratory Testing
Rediscover the art of exploratory testing
Ingo Philipp
How your management looks like when you stop talking about automation and start talking about testing.
When you are at a release party and nobody wants to talk about the beauty of testing. Keep evangelizing testing!
If you don't pay **attention** to what has your attention, it will take more of your attention than it deserves.

:: David Allen :: Getting Things Done
Testing? There's only automation!
We automate everything

OK, there's testing, and testing is probably more than just automation.
We're just not convinced that we really need it

Software Testing Timeline

Oops

Damn!

:: Inspired by @semi_rad
Passing Test Case
Maybe you're stuck in mitigating risk because you're pushing a door that says pull.

Inspired by Mohd Shaquib Anwar
What does exploratory testing even mean?
TRICENTIS  Why do we press harder on the remote when the batteries are dead?
Why does the dentist talk to you when you can't respond?
These two things are basically the same!?
If you don’t understand modern art, it’s not your fault.
Everyone talks about it. Nobody really knows how to do it. Everyone thinks everyone else is doing it. So everyone claims they are doing it.
Software development is a lot like wrestling in the mud with a pig.
Testing is exactly like **washing** a pig. Because it’s messy. It has no rules. No clear beginning, middle, or end. It’s kind of a pain in the ass, and when you’re done you’re not sure if the pig is really clean or even why you were washing a pig in the first place.

:: Inspired by Luke Sullivan
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The purpose of testing is to close the **knowledge** gap.

The goal is **information**, not gratuitous automation.

We enable people to make better **decisions** based on the information we provide.
We go to crime scenes (software) and search for evidence (risks) to enable the police (developers) to arrest (fix) the culprits (bugs).
Mechanical Testing
Process pre-defined data in pre-designed steps

Confirmation
« Demonstrate your depth of knowledge »

Problem Detector
High Information Value
Learn something new

Creative Testing
Create new test ideas based on what you have learned

Exploration
« Demonstrate your breadth of knowledge »

Change Detector
Low Information Value
Check what you have already learned

Monitor Known Risks
Confirm what you already know

Analyze Potential Risks
Focus on the things you don't know

Creative
"Demonstrate your depth of knowledge "

Bolton • Kaner • Bach
Evaluate a product by applying **algorithmic** decision rules to specific observations of a product.

**Checking**

« Requires **Processing** »

**Problem Detector**

**High** Information Value

Learn something new

**Analyze** Potential Risks

Focus on the things you don't know

**Creative** Testing

Create new test ideas based on what you have learned

**Exploration**

« Demonstrate your **breadth** of knowledge »
Change Detector

Evaluate a product by applying algorithmic decision rules to specific observations of a product

Checking

« Requires Processing »

Problem Detector

Evaluate a product by learning about it through exploration and experimentation

Exploring

« Requires Thinking »

:: Bolton o Kaner o Bach
Problem Detector

Evaluate a product by learning about it through exploration and experimentation

Goal. Monitor Known Risks

- Verify through Instructions
- Pay attention to Deviations
- Create Test Cases
- Follow Procedure
- Examine Requirements
- Factory Process

Checking « Requires Processing »

Exploring « Requires Thinking »

:: Rich Rogers

:: Bolton • Kaner • Bach
Checking
« Requires Processing »

Goal. Monitor Known Risks
- Verify through Instructions
- Pay attention to Deviations
- Create Test Cases
- Follow Procedure
- Examine Requirements
- Factory Process

Exploring
« Requires Thinking »

Goal. Analyze Potential Risks
- Investigate through Experiments
- Pay attention to Oracles
- Create Test Ideas
- Follow Clues
- Examine Risks
- Adaptive Investigation

Mechanical Process

Cognitive Process

:: Rich Rogers
TRICENTIS » Never forget that the coin of testing has two sides.

Agile Testing Equation

Checking

Efficient Confirmatory Testing

Exploring

Effective Exploratory Testing

= Testing

Thorough Testing

:: Elisabeth Hendrickson
Checking Efficient Confirmatory Testing

Exploring Effective Exploratory Testing

Testing Thorough Testing

:: Elisabeth Hendrickson
If you think that this will happen soon to you then you're probably doing testing in the wrong way.
Exploratory testing is not a talent, it’s a set of **skills** that can be learnt

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Ingo Philipp

:: Inspired by **Edward de Bono**
Technique: Provides Systematic Procedure

Approach: Provides Orientation
Technique

Provides Systematic Procedure
Technique

Provides Systematic Procedure

Session-Based Testing
Structure exploratory testing to allow large-scale implementations

2
3
4
5

:: Jonathan Bach
Session-Based Testing
Structure exploratory testing to allow large-scale implementations

Straightjacketed Imagination
Chartered
Uninterrupted
Reviewable

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Structure exploratory testing to allow large-scale implementations

Requirements-Based Testing
Limit the scope to make it manageable

Scope

Straightjacket

3

4

5
Testing is more than just checking the specification.

**Validation**
Does our software meet the user's needs?

**Verification**
Does our software meet the specification?

**Actual Product**

**Product Description**

**Product Idea**

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**Requirements-Based Testing**
Limit the scope to make it manageable

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Michael Bolton • Rapid Software Testing
BDD is the art of using examples in conversations to illustrate behavior

Liz Keogh
What they can put into words

What they say to their teams

What product owners think

What you usually understand

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TRICENTIS • We don’t just explore the unknown in our software.

arcfly.blogspot.com
R ➔ **Recent**
What parts of the product changed recently?

C ➔ **Core**
What critical parts of the product must continue to work?

R ➔ **Risky**
What parts of the product are inherently risky?

C ➔ **Configuration**
What parts of the product depend on environment settings?

R ➔ **Repaired**
What parts of the product changed to address defects?

C ➔ **Chronic**
What parts of the product chronically break?

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Karen Johnson
**Structure**
Test what the product is made of.

**Function**
Test what the product does.

**Data**
Test what the product processes.

**Platform**
Test what the product depends upon.

**Operations**
Test how the product is used.

**Time**
Test how the product is affected by time.

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:: James Bach
Goals

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Requirements-Based Testing
Limit the scope to make it manageable

Tour-Based Testing
Set concrete goals to provide a clear focus

:: James Whittaker
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@speed Quality
It’s some value to some person

:: Jerry Weinberg
Quality is inherently **subjective**

**Different stakeholders** will perceive the same product as having different levels of quality

We must look for **different things** for different stakeholders

We must **diversify** testing

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Structure exploratory testing to allow large-scale implementations

**Requirements-Based Testing**
Limit the scope to make it manageable

**Tour-Based Testing**
Set concrete goals to provide a clear focus

:: Jerry **Weinberg**
Session-Based Testing
Structure exploratory testing to allow large-scale implementations

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Polychrome Testing
Explore the product from different viewpoints to diversify testing
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:: Edward De Bono
Ideas

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Polychrome Testing
Explore the product from different viewpoints to diversify testing

Scenario-Based Testing
Capture each test idea to make it reviewable
LESSONS LEARNED JUST AHEAD
Asking about exploratory testing is like asking about vegetarian cauliflower or metallic copper.

Michael Bolton
Testing is not about creating test cases, it’s about performing experiments.

James Bach
The test doesn't find the bug. A **human** finds the bug, and the test plays a role in helping the human find it

Pradeep Soundararajan
Automated checks *miss* the same obvious things every single time

Ingo Philipp
If you want to become better at testing, then don’t just hire somebody who is better at coding.

Steve Watson
Testing is not so much a thing you do, it’s far more a way you think.

Michael Bolton
Questions
The show is over. It's your turn.