Updates

- This presentation is ALWAYS under construction
- Updated slides at http://www.developsense.com/past.html
- All material comes with lifetime free technical support

Flight Itinerary

Flight	From	To	Stops	Aircraft	Fa
AC597	**Toronto, Pearson Int'l (YYZ)** Sat 16-Oct 2010 13:10 - Terminal 1	**Las Vegas, Mccarran Int'l (LAS)** Sat 16-Oct 2010 14:54 - Terminal 2	1	319	Ta
	AC597: This flight includes a stop in null.				
AC5233*	**Las Vegas, Mccarran Int'l (LAS)** Tue 19-Oct 2010 19:15 - Terminal 1	**San Francisco, San Francisco Int'l (SFO)** Tue 19-Oct 2010	0	320	Ta

aircanada.com

ght Itinerary

ht	From	To
597	**Toronto, Pearson Int'l (YYZ)** Sat 16-Oct 2010 13:10 - Terminal 1	**Las Vegas, Mccarran I** Sat 16-Oct 2010 14:54 - Terminal 2
	AC597: This flight includes a stop in null.	
5233*	**Las Vegas, Mccarran Int'l (LAS)** Tue 19-Oct 2010 19:15 - Terminal 1	**San Francisco, San Fr Int'l (SFO)** Tue 19-Oct 2010

aircanada.com

Remote side reported: An outstanding acknowledge pdu was not received in time (probably high udp data loss)

The enhancement client proxy could not communicate with the server proxy.

If you contact your satellite service provider because of this message, please include a copy of your Log File

Message generated by enhancement client proxy on host YIA_3456 at 2007-06-13 20:20:24 UTC.

Error Message
Via Rail, between Montreal and Toronto, 2007

But I can't contact my… oh, never mind.

Remote side reported: An outst
received in time (probably high

The enhancement client proxy could not communicate with the server pr

If you contact your satellite service provider because of this message, pl

Message generated by enhancement client proxy on host VIA_3456

Error Message
Via Rail, between Montreal and Toronto, 2007

Hyatt Regency, 2008

If you can't do math, it's a nickel extra.

Hyatt Regency, 2008

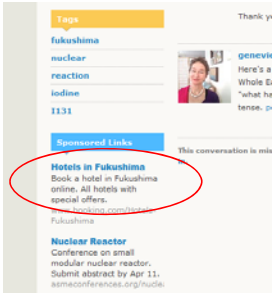
Why you shouldn't let an unsupervised algorithm choose your sponsored links (1).

Vimeo's Web Page
Spring 2010

Why you shouldn't let an unsupervised algorithm choose your sponsored links (2).

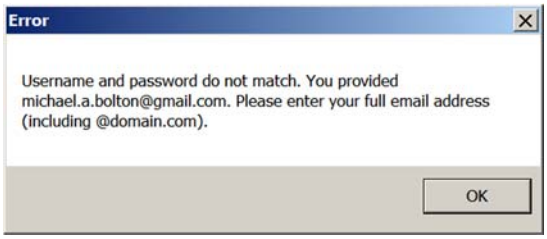
Vimeo's Web Page
Spring 2010

Why you shouldn't let an unsupervised algorithm choose your sponsored links (3).



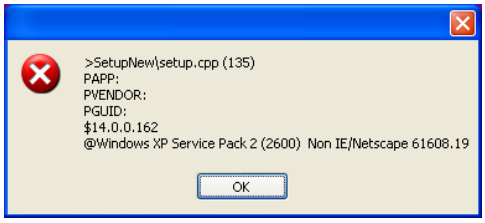
Vimeo's Web Page
Spring 2010

Google Chrome

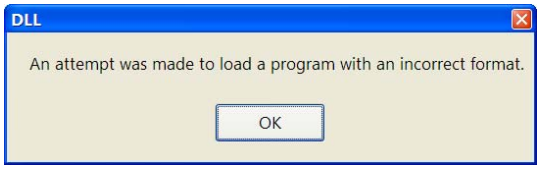


Google Calendar Update

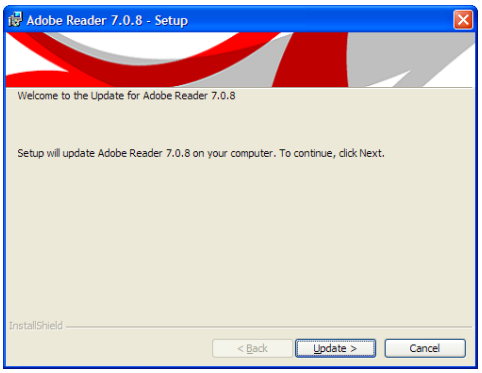
OK, fine.



Don't Know Who This Was



Adobe Acrobat



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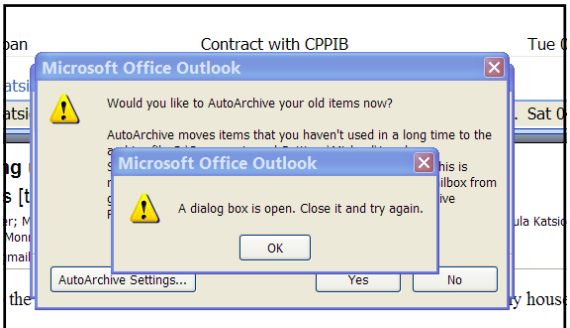
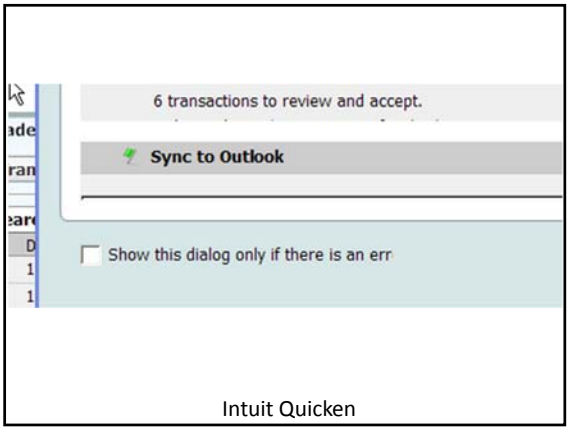
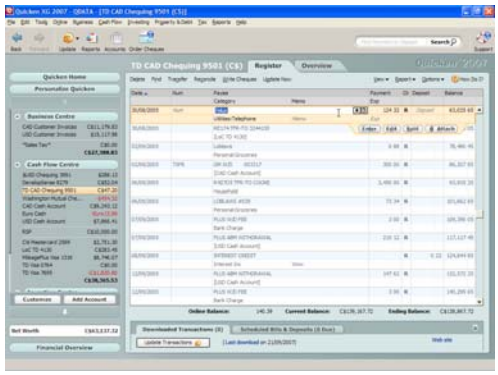


Microsoft Outlook



Intuit Quicken



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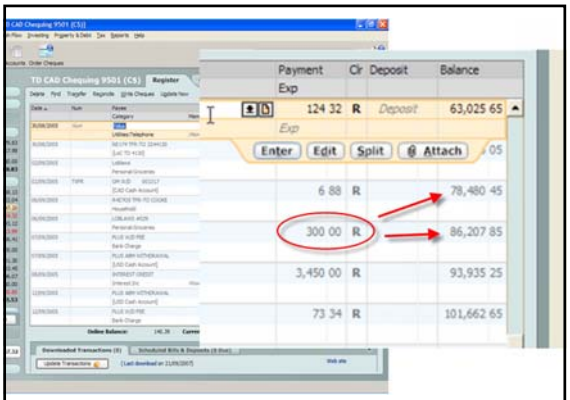

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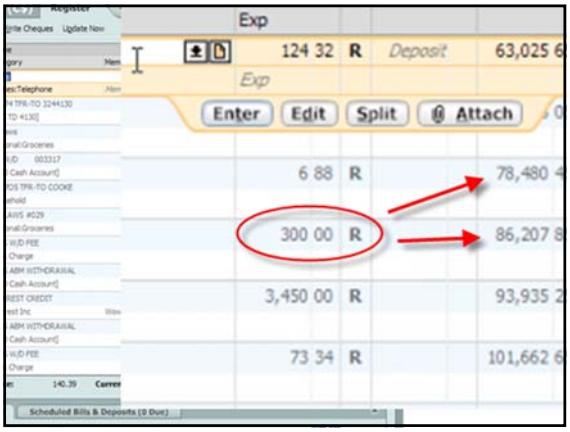

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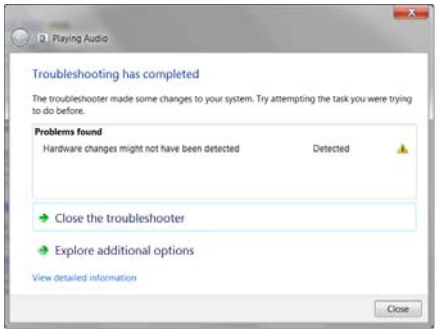
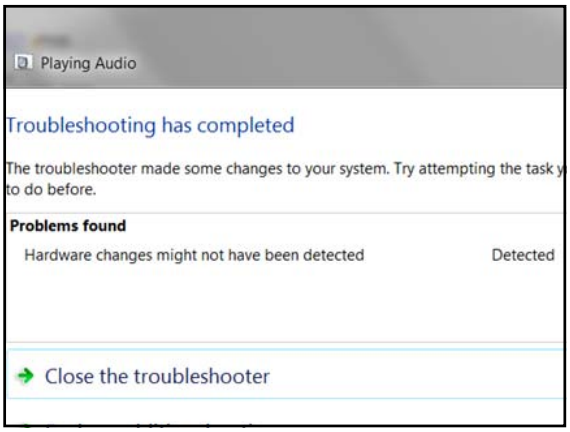


Windows



Windows

I don't know!

Windows

iTunes

Testing is more than checking.

An Example

- I wanted to add a new slide to this presentation
- I hit Ctrl-N
- I got a *new* presentation

First Feeling

Surprise

Second Feeling

Confusion

Third Feeling

Frustration

Fourth Feeling

Annoyance

An Important Theme

Feelings are the first part of the answer we get to the fundamental question of testing:

Is there a problem here?

Boredom

Testing is like food or sex… if you're bored, *there's something wrong with the relationship*.

Do feelings matter?

Is there a place for emotions in software testing?

Let's Talk About Red Cars

Jerry Weinberg, Quality Software Management Vol. 2, First Order Measurement

"Feelings exist. Feelings are facts… If you can't stand dealing with feelings as facts, then your own feelings are getting in the way of your success. And if that's not touchy-feely, what is?"

—Jerry Weinberg

Moreover, if you're not using your feelings as powerful heuristic tools, you're ignoring a valuable source of information, and you're more likely to miss important problems.

What feelings do we experience

- …in everyday life?
- …within a development project?
- …as we're designing and performing testing?

Why do we even *have* feelings?

What do we do with them?

Trigger Heuristics

- Ideas associated with an event or condition that help you recognize when it may be time to take an action or think in a particular way.
- Like an alarm clock for a slumbering mind.
- Feelings evolved to help keep us out of trouble.
- When you feel an emotion while testing, look into it.

Why Is This Important, Testers?

- Software development is a human activity.
- Humans are creatures of rationality *and* emotion.
- Emotions and feelings are triggers for alertness and awareness.
- Problems are linked to desires, and desires are linked to feelings.
- Feelings are heuristic—powerful, inexpensive, yet *fallible* ways to solve problems or make decisions.
- THEREFORE: An implicit part of your *preparation* and your *mission* is to recognize, analyze, exploit, and manage your emotional states and reactions.

The Root of All Progress

Desire

The Root of All Problems

Desire

Problem

- "A difference between what is perceived and what is desired."[1] (according to some person; by some person)
- "An undesirable situation that is significant to and maybe solvable by some agent, though probably with some difficulty."[2] (by some person)

Problems (bugs, issues) are not attributes of a product, but relationships between products and (some) people.

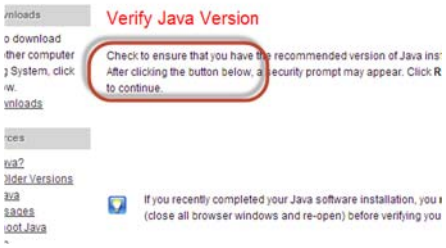
1. *Dewey, J. (1933), How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*
2. *Smith, G.F. "Towards a Heuristic Theory of Problem Structuring",* Management Science. Vol. 34, No. 12

Okay, let's see how this works.

Amusement

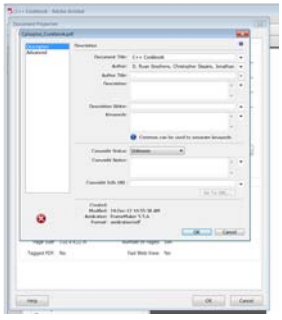
Is There A Problem Here?

Is There A Problem Here?

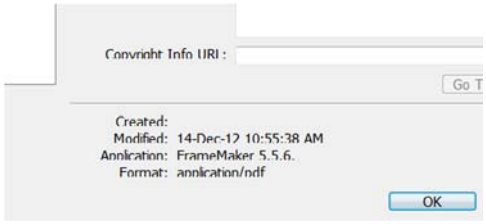


Impatience

Is There A Problem Here?



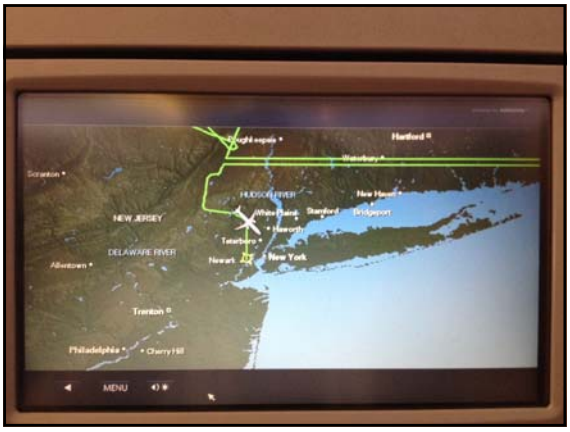
Is There A Problem Here?



Embarrassment

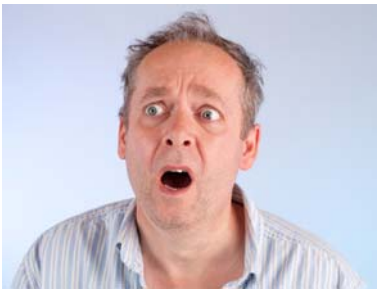
Is There A Problem Here?

Is There A Problem Here?



Surprise

Fear



Confusion

Confusion

Confusion is a sign that there's something **confusing** going on.

If you're confused, is there are a possibility that the programmers might be confused too?

Confidence (The Good)

Affective Priming

Preparing Your Emotional Mindset

- developing self-confidence
- pushing aside feelings of intimidation
- building tolerance for mistakes
- allowing tolerance for confusion
- inoculating yourself against stress
- embracing and celebrating the new
- avoiding learned helplessness
- managing reactions and responses
- recognizing emotional oracles

Confidence (The Not-So-Good)

Confidence

- "When I talk to senior project and product stakeholders outside of test teams, confidence in the system—especially, confidence that it will have a sufficient level of quality—is one benefit they want from a test team involved in system and system integration testing. Another key benefit such stakeholders commonly mention is providing timely, credible information about quality, including our level of confidence in system quality."

http://www.rbcs-us.com/blog/2010/05/27/software-test-coverage-dimensions-measures-of-confidence/

Confidence Isn't Our Business

It's okay for people to **desire** confidence... But usually there's plenty available.

As testers, we are not here to build confidence, but to destroy **unwarranted** confidence.

Feelings and Oracles

How I Recognize a Bug

General Examples of Oracles

things that suggest "problem" or "no problem"

- A reference document with useful information.
- A known good example output.
- A known bad example output.
- A process or tool by which the output is checked.
- A process or tool that helps a tester identify patterns.
- A person whose opinion matters.
- An opinion held by a person who matters.
- A disagreement among people who matter.
- A feeling like confusion or annoyance.
- *A desirable consistency between related things.*

Mechanisms

People

Feelings

Principles

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Consistency ("this agrees with that")

an important theme in oracle principles

- **Familiarity:** The system ***is not consistent*** with the pattern of any familiar problem.
- **Explainability:** The system *is consistent* with our ability to describe it clearly.
- **World:** The system *is consistent* with things that we recognize in the world.
- **History:** The present version of the system *is consistent* with past versions of it.
- **Image:** The system *is consistent* with an image that the organization wants to project.
- **Comparable Products:** The system *is consistent* with comparable systems.
- **Claims:** The system *is consistent* with what important people say it's supposed to be.
- **Users' Expectations:** The system *is consistent* with what users want.
- **Product:** Each element of the system is *consistent* with comparable elements in the same system.
- **Purpose:** The system *is consistent* with its purposes, both explicit and implicit.
- **Standards and Statutes:** The system *is consistent* with applicable laws, or relevant implicit or explicit standards.

Consistency heuristics rely on the quality of your models of the product and its context.

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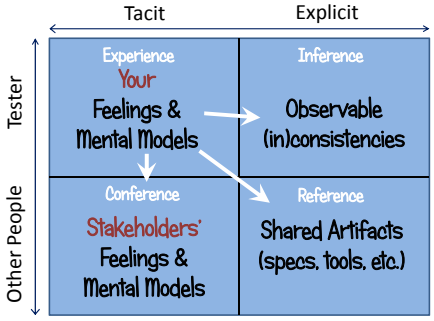
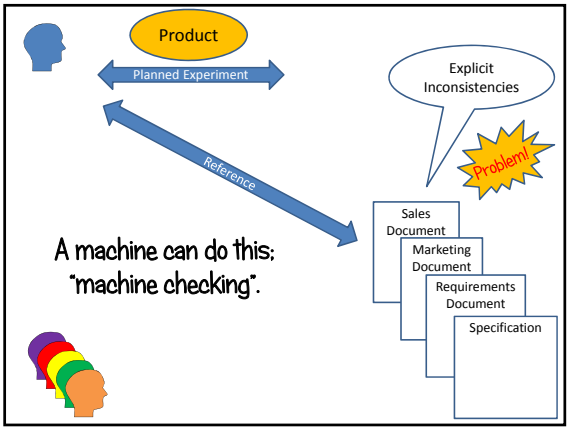
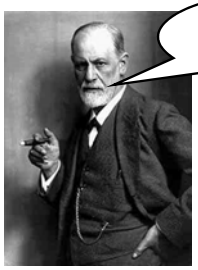
Oracles from the Inside Out



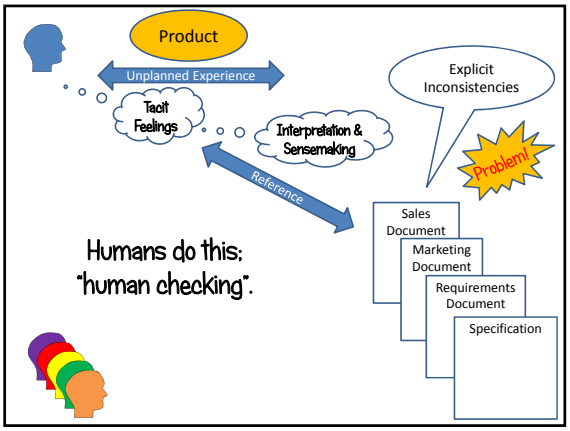


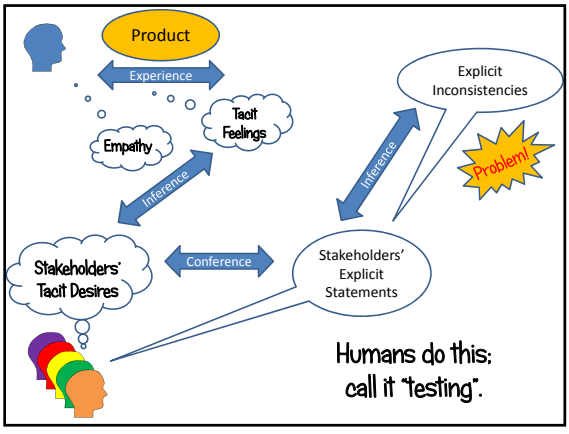
Artifacts and Tools Don't Get *Aroused*

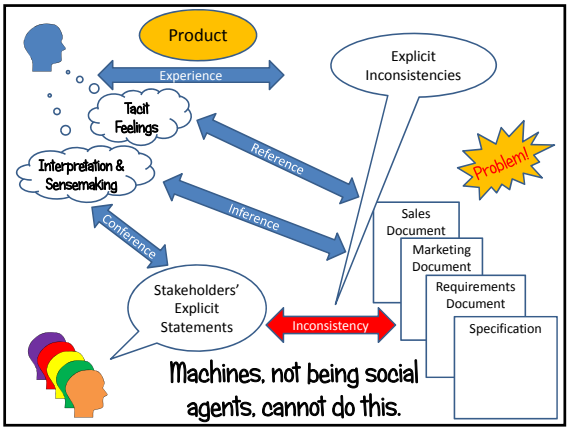


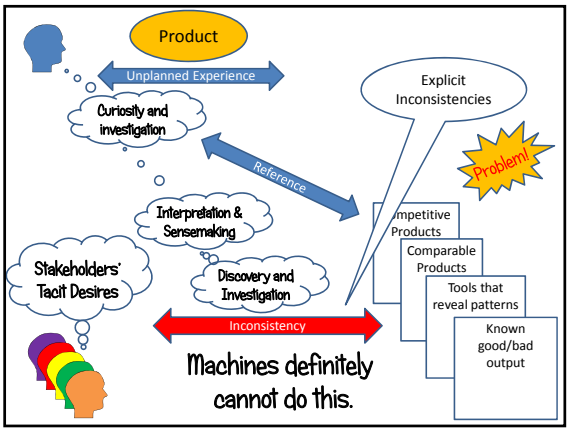
No, not THAT kind of arousal.

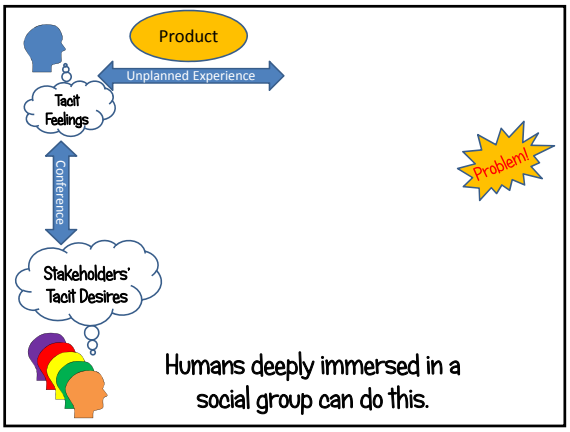
arousal (n.): a physiological and psychological state of being awake, important in regulating consciousness, attention, and information processing.











Oracles are Not Perfect And Testers are Not Judges

- You don't need to know FOR SURE if something is a bug; it's not your job to DECIDE if something is a bug.
- You do need to form a justified belief that it MIGHT be a threat to product value in the opinion of someone who matters.
- And you must be able to say why you think so; you must be able to cite good oracles… or else you will lose credibility.
- Linking feelings to principles and back to feelings is an important testing skill

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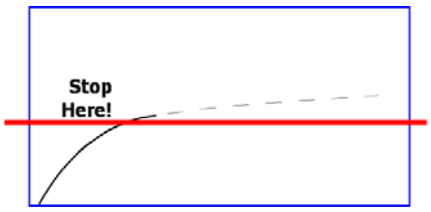
Feelings as Heuristic Triggers for Oracles

- An emotional reaction or a feeling is a trigger to attention and learning.
- Without emotion, we don't reason well.
  - See Damasio, *The Feeling of What Happens*
- When you find yourself mildly concerned about something, someone else could be *very* concerned about it.
- Observe emotions to help overcome your biases, to evaluate significance, and to calibrate responses.

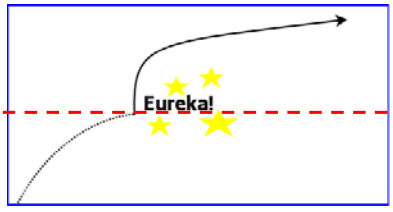
Emotions and feelings are signals.
Look into what they're signalling.

Diminishing Returns in Testing



Diminishing returns in testing is really

"diminishing satisfaction"
"diminishing patience"
"diminishing ideas"
"diminishing interest"



(We testers use our feelings, but we also think critically about them.)

What Might Feelings Tell Us?

Impatience	⇨ a threat to performance?
Frustration	⇨ a threat to capability?
Fear	⇨ a threat to security?
Surprise	⇨ a threat to reliability?
Confusion	⇨ a threat to usability? to testability?
Annoyance	⇨ a threat to charisma?
Boredom	⇨ an insignificant test?
Tiredness	⇨ time for a break?
Anxiety	⇨ a need for a particular skill?
Curiosity	⇨ a pointer to useful investigation?

Suggested Activities

- Catalog some of the feelings that we experience in project work.
- Identify the connections between feelings and oracles (ways to recognize problems) that point to bugs and issues.
- Describe the process of finding and investigating a bug, and map out the feelings involved.
- Look at the relationships between feelings, politics, power, and quality.
- Observe how feelings are honoured and devalued in the workplace.