

Emotions in Software Testing

Michael Bolton

<http://www.developsense.com>

What feelings do we experience

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

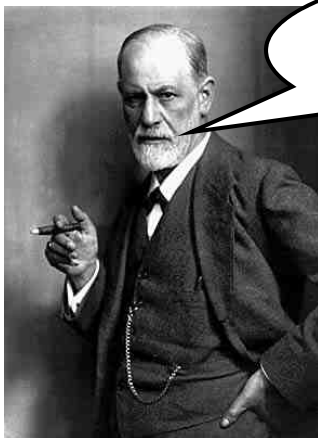
Why do we even *have* feelings?

What do we do with them?

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.
- THEREFORE: An implicit part of your *preparation* and your *mission* is to recognize, analyze, exploit, and manage your emotional states and reactions.

Templates and Machines 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**.

Affective Priming

Preparing Your Emotional Mindset

- developing 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

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

6

How Do People React to Software?



Impatience



Frustration



Amusement



Surprise



Confusion



Annoyance

What Might Feelings Tell Us?

Impatience	⇒ an intolerable delay?
Frustration	⇒ a poorly-conceived workflow?
Amusement	⇒ a threat to someone's image?
Surprise	⇒ inconsistency with expectations?
Confusion	⇒ unclear interface? poor testability?
Annoyance	⇒ a missing feature?
Boredom	⇒ an insignificant test?
Tiredness	⇒ time for a break?
Fear	⇒ a dangerous situation?
Curiosity	⇒ a pointer to useful investigation?

Oracles!

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.

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.