

Understanding Quality

Raising your Testing Powers to ★Awesome★

© Paul Carvalho | STAQS
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What will I cover here...

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

✓ Individuals and interactions over processes and tools
✓ Working software over comprehensive documentation
✓ Customer collaboration over contract negotiation
✓ Responding to change over following a plan

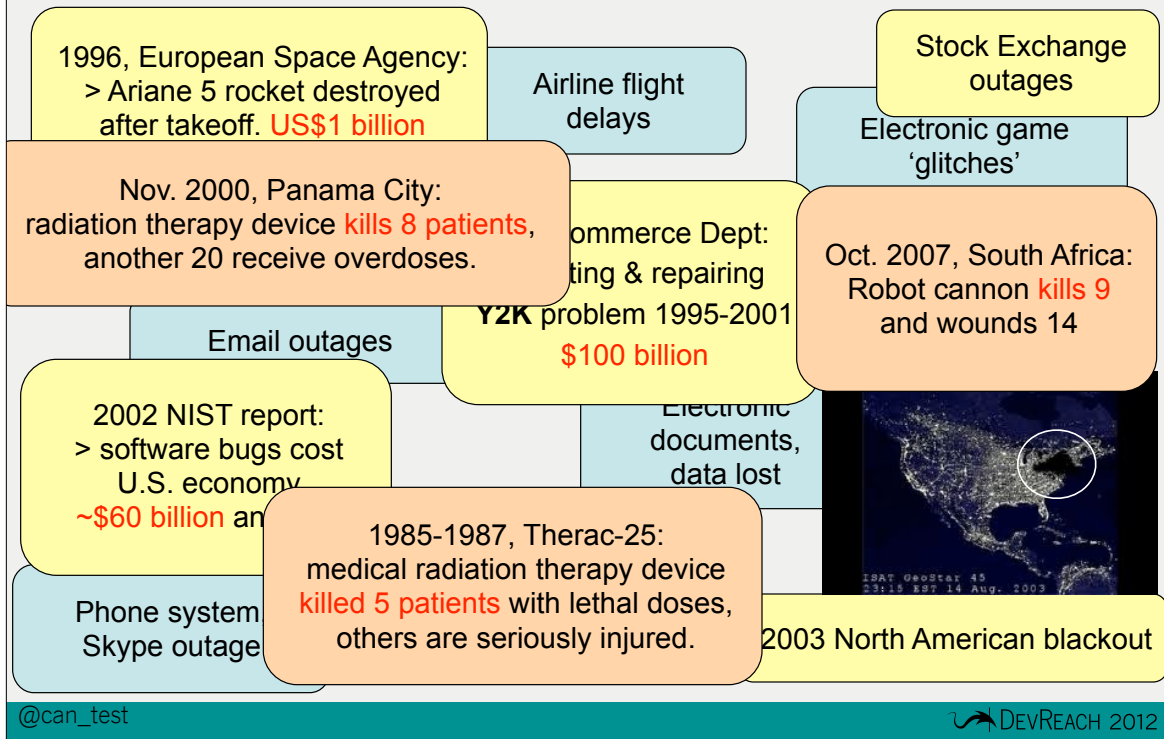
That is, while there is value in the items on the right, we value the items on the left more.

BAD
TESTING
WARNING!!!

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So, what's wrong with regular Software Testing?



Regular Software Testing “practices” aren’t good enough!

Most people who test are not formally trained how to do it well.

Regular Software Testing “practices” aren’t good enough!

Many people don’t care.

- They follow the rituals and create test documentation because “that’s the way it’s always been done.”
- They do testing because they want a job doing something else.

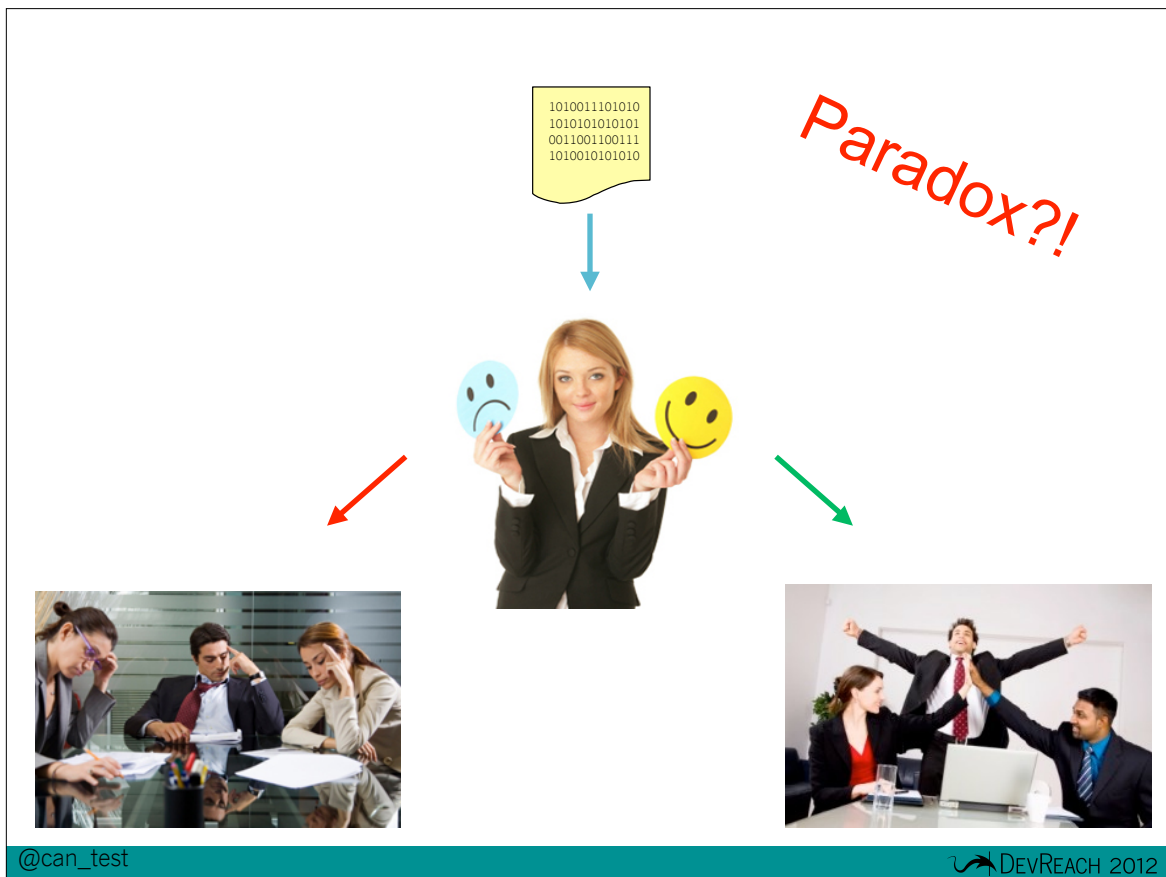
Regular Software Testing “practices” aren’t good enough!

People affected by bad software -
they notice.

It is not enough to learn good Testing approaches
and techniques.

There is much more.

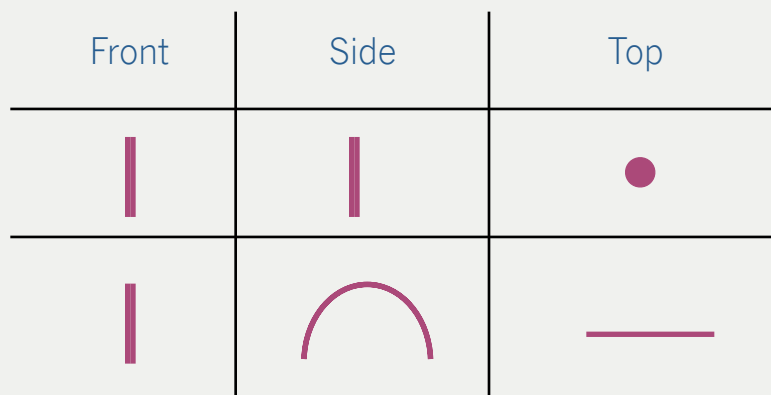
...and it starts with Quality...



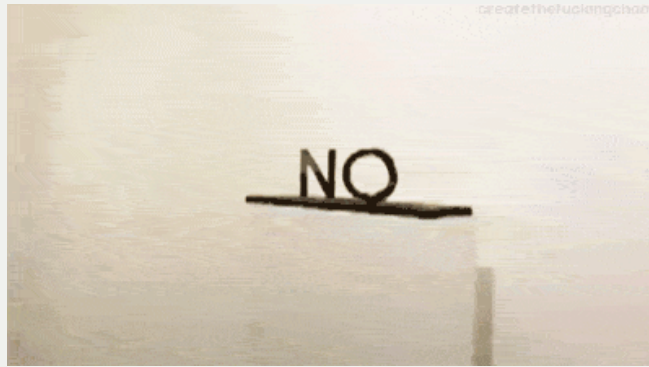
Foundations of Quality and Testing

Quality: Who's looking? How?

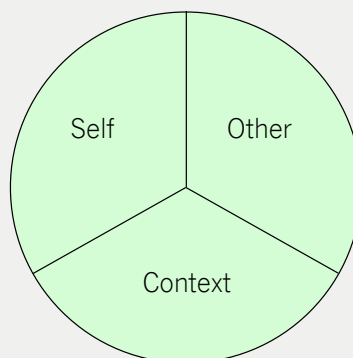
- Experiment in Relativity...



It's obvious, right?



Congruence



Congruence is both a state of being and a way of communicating.

Team Member Perspectives

- Who is involved in delivering the **whole** solution for your project?
 - Product Manager
 - Developer (coder, tester, designer, writer, ...)
 - Scrum Master, Project Manager, ..
 - Tech Support
 - ...
- Are you all on the same page about what **Quality** means? Are you congruent?

Quality: Definition

Quality is value to some person(s)
(at some time)

~ Gerald M. Weinberg



Quality is value to some person(s) (at some time)

("Some", not All!)

What do people value?
What will they pay for?

- Functionality
- Usability
- Reliability
- Performance
- Security
- Charm
- Support
- ...

Who are your internal & external stakeholders?

- Internal
 - Executives (people who pay you)
 - Testers, Marketing, Support, ...
 - Other Developers/Development teams
- External
 - Customers
 - Users
 - Administrators
 - Regulatory agencies
 - ...

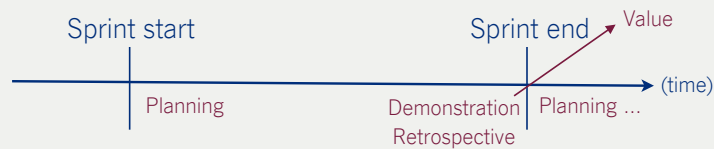
Tool Tip:
- Use "Personas"
here

Targeting Quality: Iterate to your goal



Agile Sprints = Target Practice

- You deliver “value” with each iteration (as you understand it)



- Sprint Demos provide opportunities to check your heading
 - Validate assumptions - are the target customers happy?
 - Are we going to reach the destination?
- Retrospectives let you adjust course

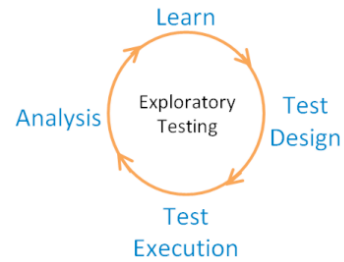
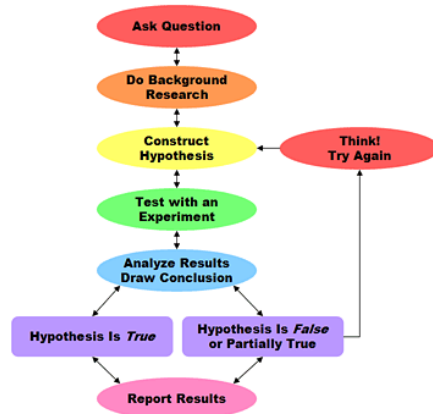
What is Testing?

“Testing makes the Quality of the system transparent.”

~ Jez Humble

The Science of Testing

- Testing is part of the Scientific Method
- Start here when you test anything anytime!



NOTE: This is different from Ad Hoc Testing



Delivering Quality: Challenges in Testing

Challenges in Testing (and Development!)



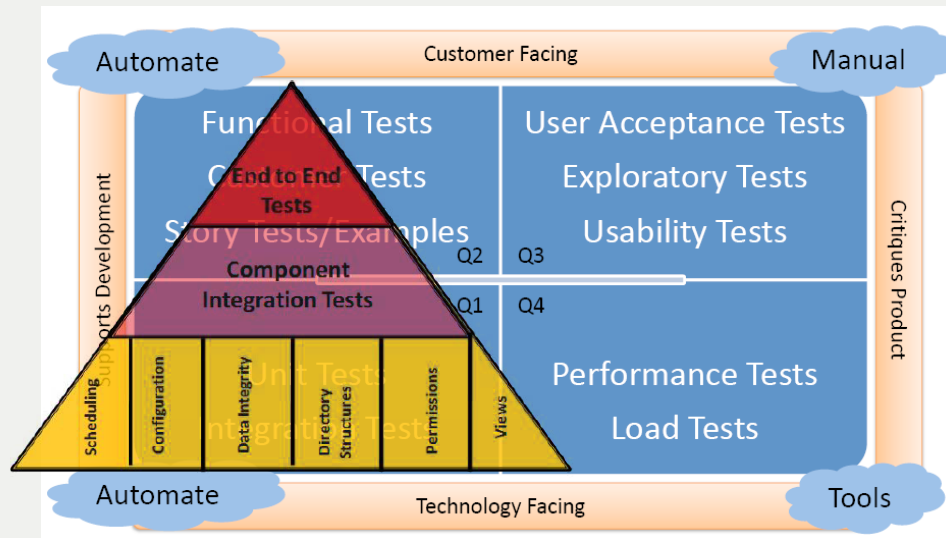
Challenges in Testing (and Development!)

This may be familiar -- What is this?

As a <user role>
I want <goal>
So that <benefit>

Challenges in Testing (and Development!)

What Tests do we need to do? >> The ones that provide VALUE



(Agile Testing Quadrants from Brian Marick)
(Modified Test Automation triangle from Janet Gregory)

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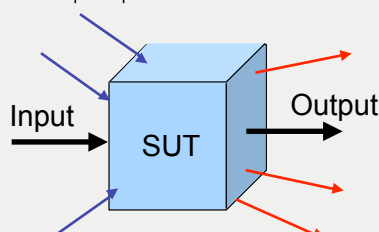
Challenges in Testing (and Development!)

- Do the Test...

Find the research and videos online at:
<http://www.theinvisiblegorilla.com/>

- Inattentional Blindness

- Detailed test steps blind people and machines to problems (focus problem)



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Challenges in Testing (and Development!)

- Psychology: Cognitive Biases and Assumptions
 - When we create something, we don't see all the problems in our own work
 - What we believe often becomes our reality
- Sample ways to compensate:

requirements/specs	prototypes, customer involvement
code	pair programming, TDD and other unit tests, compilers, code inspections, code reviews
documentation	spell check, copyedit, technical reviews
testing	? <i>what do you think ?</i>

Challenges in Testing (and Development!)

- Evaluating Test Results
 - How do you know if something is wrong?
 - How does a computer know?



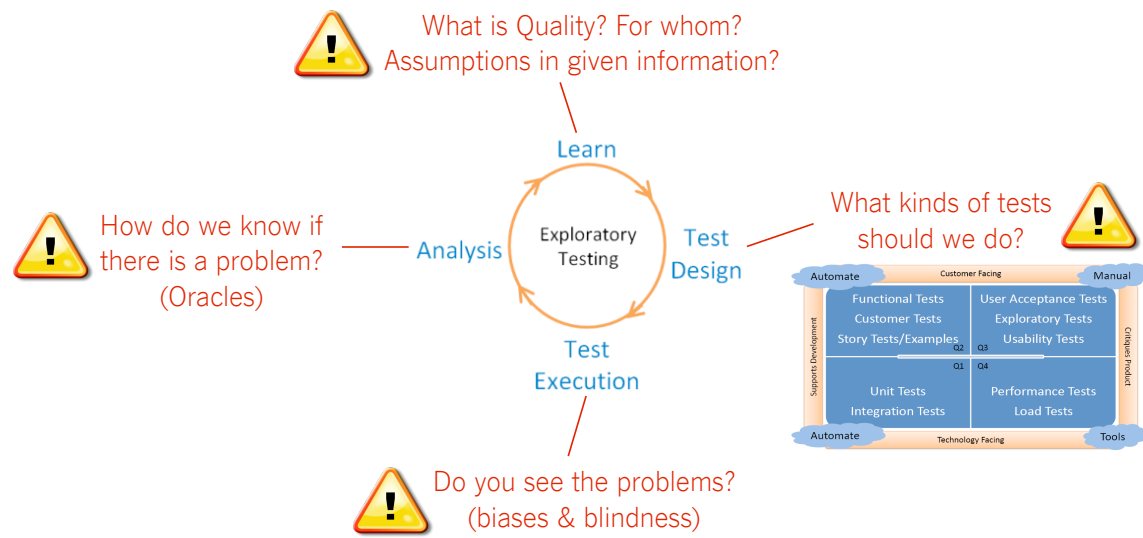
Oracle: A way to tell if there may be a problem

- Three general categories:

1. Person (Subject Matter Expert, confer with someone)
2. Reference
3. Inference



Summary: Challenges in Testing



* Testing Software well is hard!

Agile and Quality

- The Agile **Principles** are designed to help you deliver higher quality
- Some examples:
 - Satisfy the customer through early and continuous delivery of valuable software
 - Business people and developers must work together daily throughout the project (break silos)
 - Face-to-face conversation (congruence)
 - Reflect regularly and adjust accordingly (Plan-Do-Check-Act)


Awesome Testing Power

- Focus on people for clear communication, not tools and technology
- Learn Test Design
 - Free courses online at <http://TestingEducation.org>
- Beware assumptions, biases, and blindness
 - Work closely with other team members
 - Uncertainty and doubt are your enemies - ask if you aren't sure
- Reflect and act on feedback - adjust course
- Play, rest, learn, be creative, be awesome

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 www.STAQS.com

 www.linkedin.com/in/paulcarvalho

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