

Preserving Our Future Through Customer Satisfaction



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*Natural selection is not the only process that changes organisms over time.
Yet it is the only process that seemingly designs organisms over time.*

Steven Pinker – "How the mind works"

Agenda

- Introduction
- The customer's wishes
- The problem in a nutshell
 - The developer testing paradox
- Solutions?
 - Testing early in the life cycle
 - Infiltrating the Development Team?
- Evolution of the profession as a solution?
 - Generalist v. Specialist?
- ...And back to the customer

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Introduction

- Where should we, Testing professionals, evolve to?
- We depend on one important aspect:

What does my customer/employer want to pay for?

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The customer's wishes

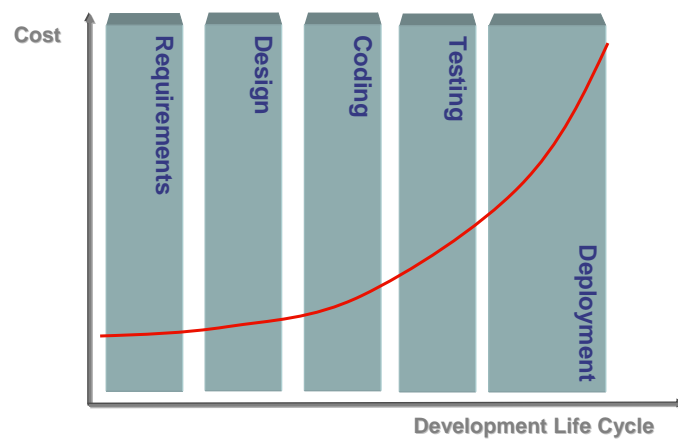
- Quality!
 - Product
 - Process
- How can we deliver?

- Assumption:
Good product Quality, as fast and cheap as possible?

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The problem in a nutshell

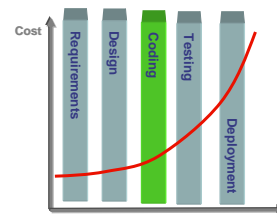
- Boehm (1981)



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The problem in a nutshell

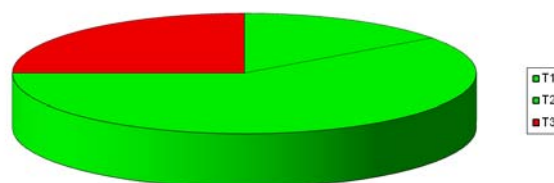
- Unit (Integration) Testing
- Pro:
 - Best option to improve quality
 - Opportunity to catch bugs early
 - Cheaper to solve bugs
- But:
 - Developer Testing Paradox (Savoia, 2005)
 - Why bother to Unit Test? (IPL, 1997)
 - Will Unit Testing go mainstream? (Koch, 2008)



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The problem in a nutshell

- Bad developer genes (Savoia, 2007)



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The problem in a nutshell

- The war against defects: Defect Migration



Sweetheart, I am sorry. They are just shipping one bug with this release. You and the kids can join me in service pack1.

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1st line: Development



2nd line: System (Integration) Testing

Solutions?

- Reinforce the second line of defense



Sweetheart, I am sorry. They are just shipping one bug with this release. You and the kids can join me in service pack1.

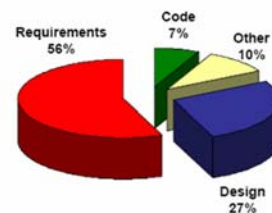
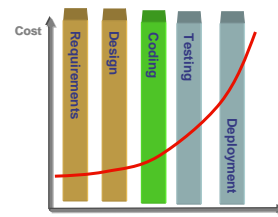
© 2001 Kasten A. Anderson



2nd line: System (Integration) Testing

Solutions?

- Testing earlier in the life cycle
- V-Model
 - Reviewing
 - Testability?
 - Consistent?
 - Unambiguous?
 - Distribution of defects
- Yet...
 - TMMi Level 3: Peer reviews
 - TPI: Scale 5



Bender RBT Inc., 2003

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Benefits of reviewing



- Early defects are often the most important
- 56% of defects are already created before coding starts
- Finds other defects than dynamic testing (design mistakes, ambiguity, ...)
- Development productivity improves
- Reduced Lead-times
- Reduced Testing cost & time
 - Less Test Cycles and retesting
- Faster and better knowledge of the OUT/SUT
- Improved Communications

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Solutions?



- Infiltrate the Development team
- Meet the new Tester (Evans & Pointon, 2005)
- Personal experience
 - Black-box independent testing within the Development Team
 - Short Iterations
 - Quick bug fixing

⇒ The article goes even beyond that

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Evolution of the profession as a solution

- But what with the profession?
- Can you reinforce the 2nd line by improving the profession?
- Can you keep on getting better at finding all sorts of defects?
- After all:

To stop evolving is to perish

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Evolution of the profession as a solution?

- The “Jack-of-all-trades is a master of none” principle



Specialist

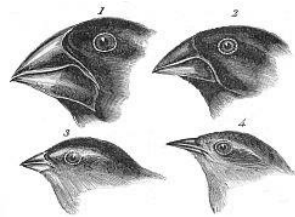


Generalist

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Generalist v. Specialist

- Diversification



1. Geospiza magnirostris
2. Geospiza fortis
3. Geospiza parvula
4. Certhidea olivacea

Finches from Galapagos Archipelago

- Niche

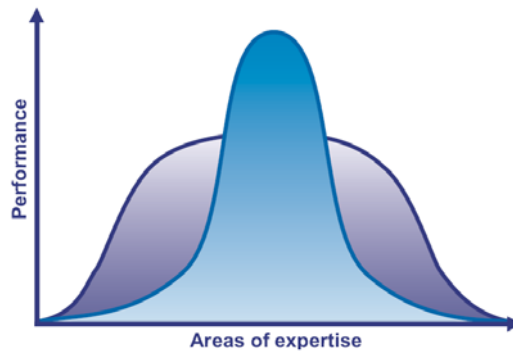
Description of a species position and use of resources within its environment

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Generalist v. Specialist

- Does a Tester have a specific niche?
 - Testing

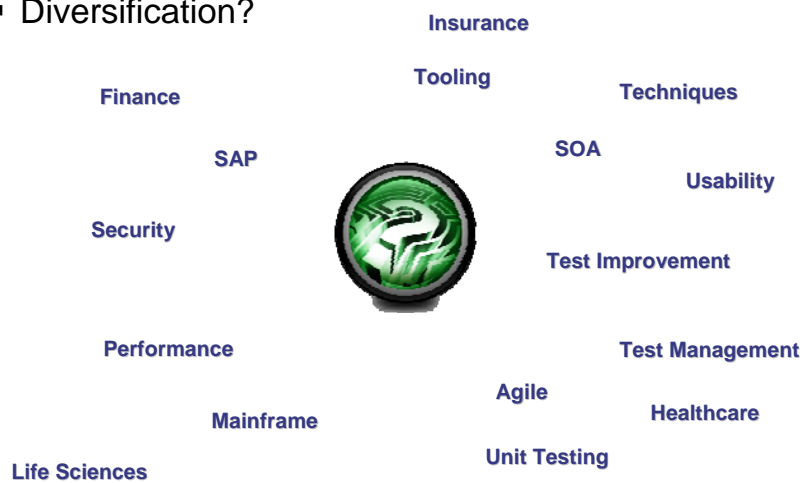
- But...



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Evolution of the profession

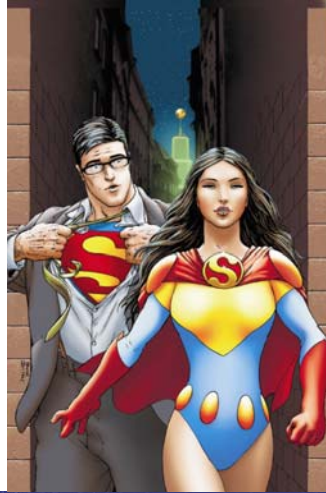
- Diversification?



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...And back to the customer

- What does the customer want a Tester to be like?



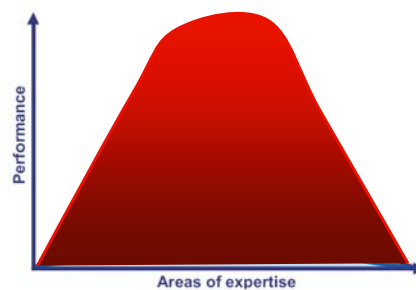
The Ultimate Tester

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...And back to the customer

- Tester has to have it all
 - Jack-of-all-trades but...

now a Master of all?



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...And back to the customer

- So we can not deliver the Ultimate Tester?
 - No, rules of biology still apply...
- One person simply can not be a master of all...



- Then what with the customer's wishes?

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...And back to the customer

- Then deliver...

the Ultimate Test Team

- Complement
- Fill the gaps
- Improve



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...And back to the customer

- Which people should be in my team?
 - Specialists or Generalists?



➤ Depends on the situation

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Conclusion

Solutions to overcome the Developer Testing Paradox

1. Improve Unit Testing
 - Reward positive behavior and the genes will spread!
2. Reviewing
3. System Testing within the Development Teams
4. Evolution of the Testing Profession



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Conclusion

- But what about the cost?
 - ROI is often very positive (Boehm)
- And remember...

The quality is remembered long after the price is forgotten

Sir Frederic Henry Royce

Thank you for your time!

Questions/Comments ?

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