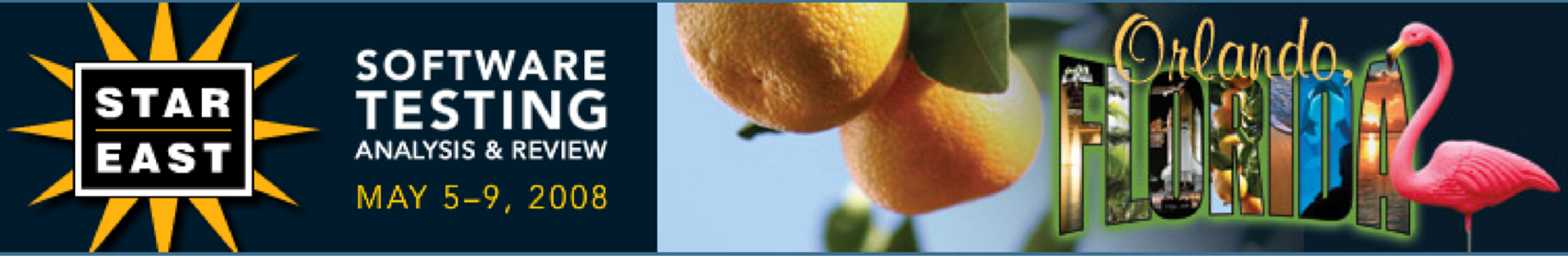

F8

Concurrent Session
Friday 05/09/2008 11:15 AM

Man and Machine: Combining Automation Tools with the Human Mind

Presented by:

Jonathan Kohl
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Presented at:
STAR*EAST* Software Testing Analysis & Review
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Jonathan Kohl

Jonathan Kohl is the founder and principal software testing consultant with Kohl Concepts Inc., based in Calgary, Alberta, Canada. A noted testing thinker, Jonathan is recognized as a leader in the exploratory testing community. He is a popular author and speaker who believes that testing is a challenging intellectual craft. Jonathan's blog on software development and testing issues is one of the most well-read testing blogs in the industry. Jonathan is a regular contributor to Better Software magazine, as an author and technical editor.

Man and Machine

Combining Automation Tools with the Human Mind

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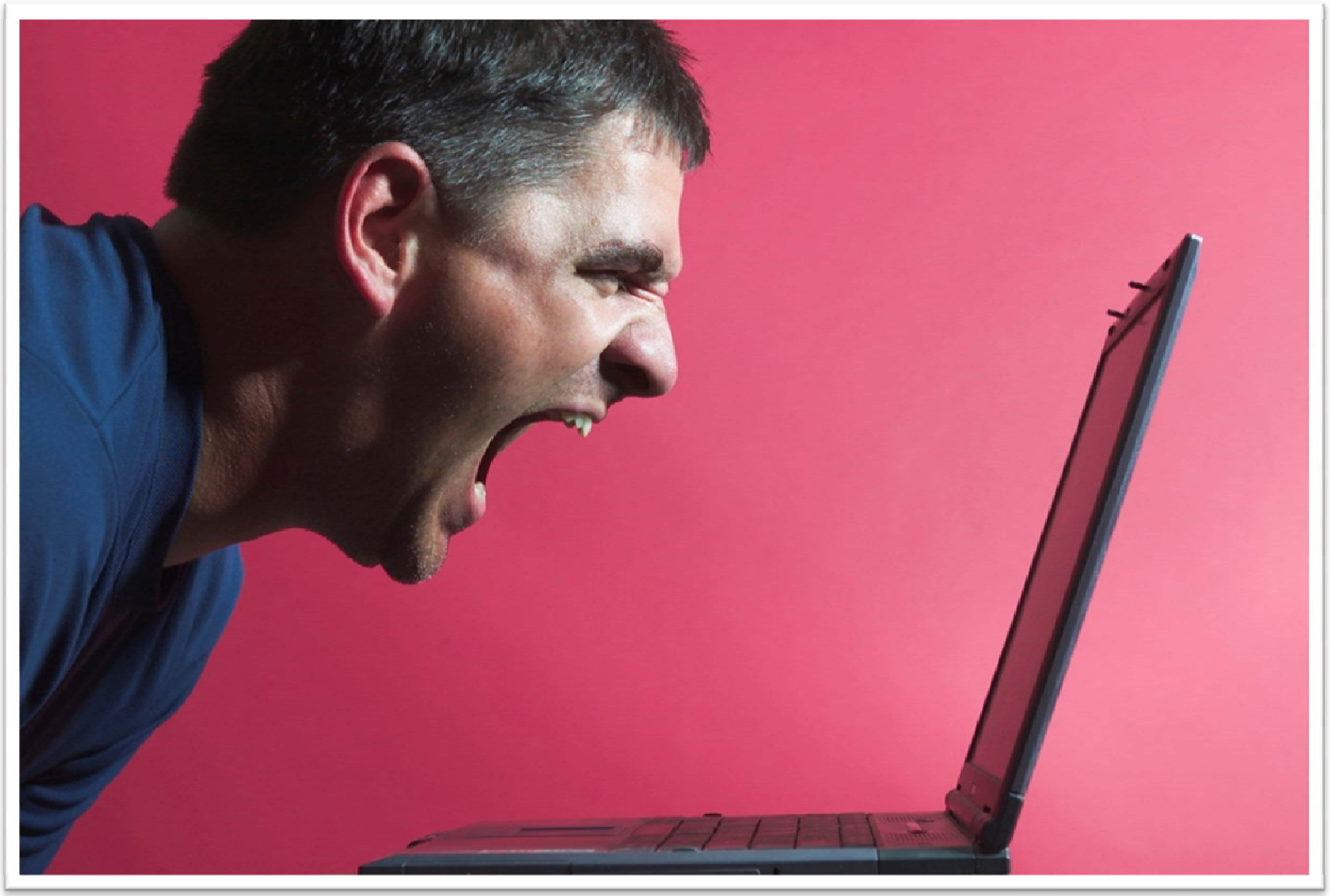
Many Automated Testing Efforts Fail



Automation Problems

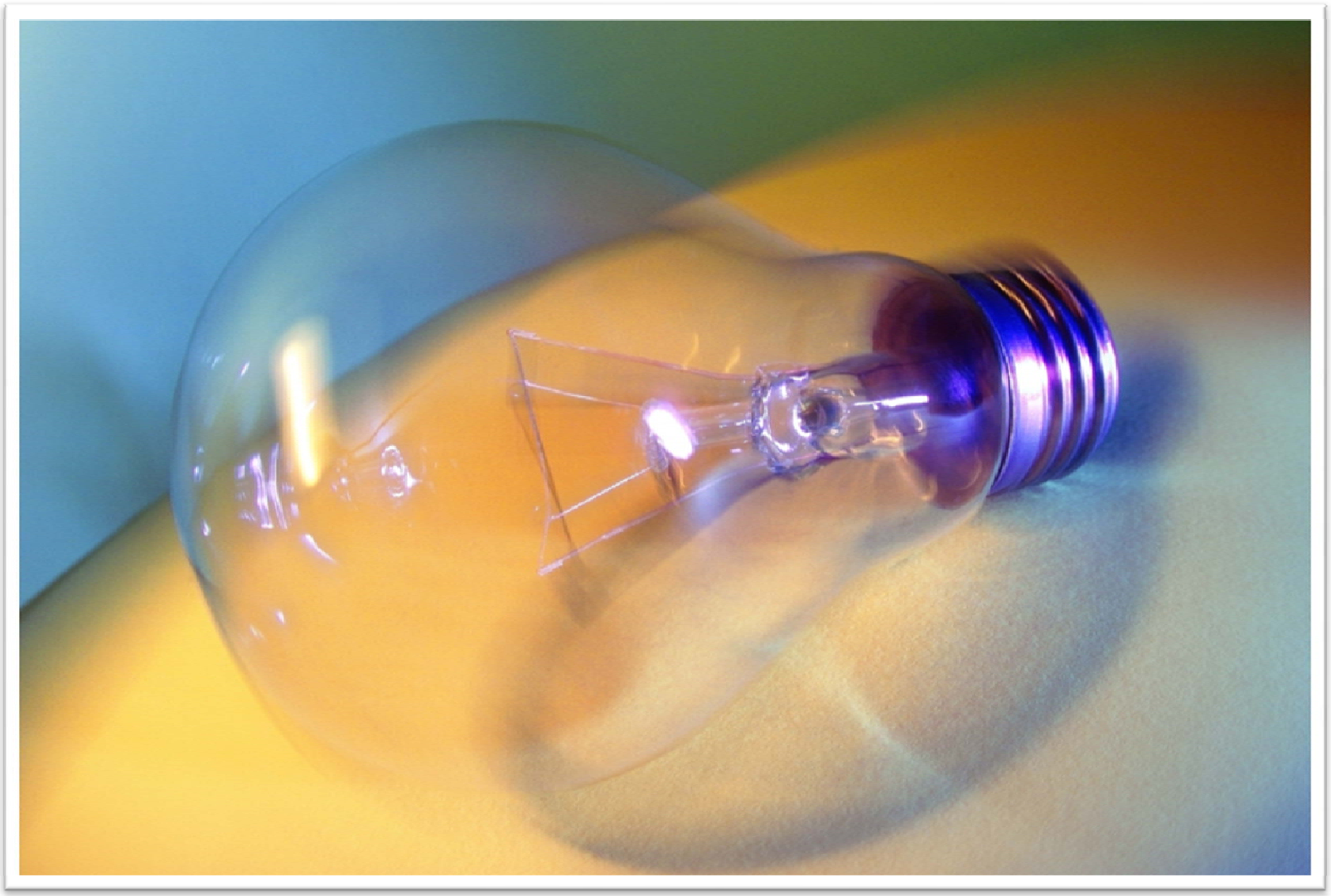
- High maintenance costs, increasing over time
- Overly-focused on automating regression tests
- Heavy reliance on the user interface (brittle tests that require a lot of rework)
- It is software development; therefore subject to software problems
- **Tools can't replicate what skilled human testers do**

Manual Testing Can Be Slow

Manual Testing Problems

- Time consuming
- Testers don't make good use of tools
- Computers are better at computing
  - Making calculations
  - Repetitive tasks that don't require thought
- Often too focused on the user interface
- Difficult to repeat some tasks

Idea: Combine Human & Machine



How Other Disciplines Automate

Key ideas from other disciplines

- Automation is under human supervision
- Automation complements skilled human efforts
- It is very difficult to automate a service
- It is impossible to automate:
  - intelligence
  - curiosity
  - intuition

Example: Automated Test Fixture

Use a GUI-driving tool

- Automate test setup for exploratory testing
- Simulate typical usage
- Repeat tasks
- Perform calculations

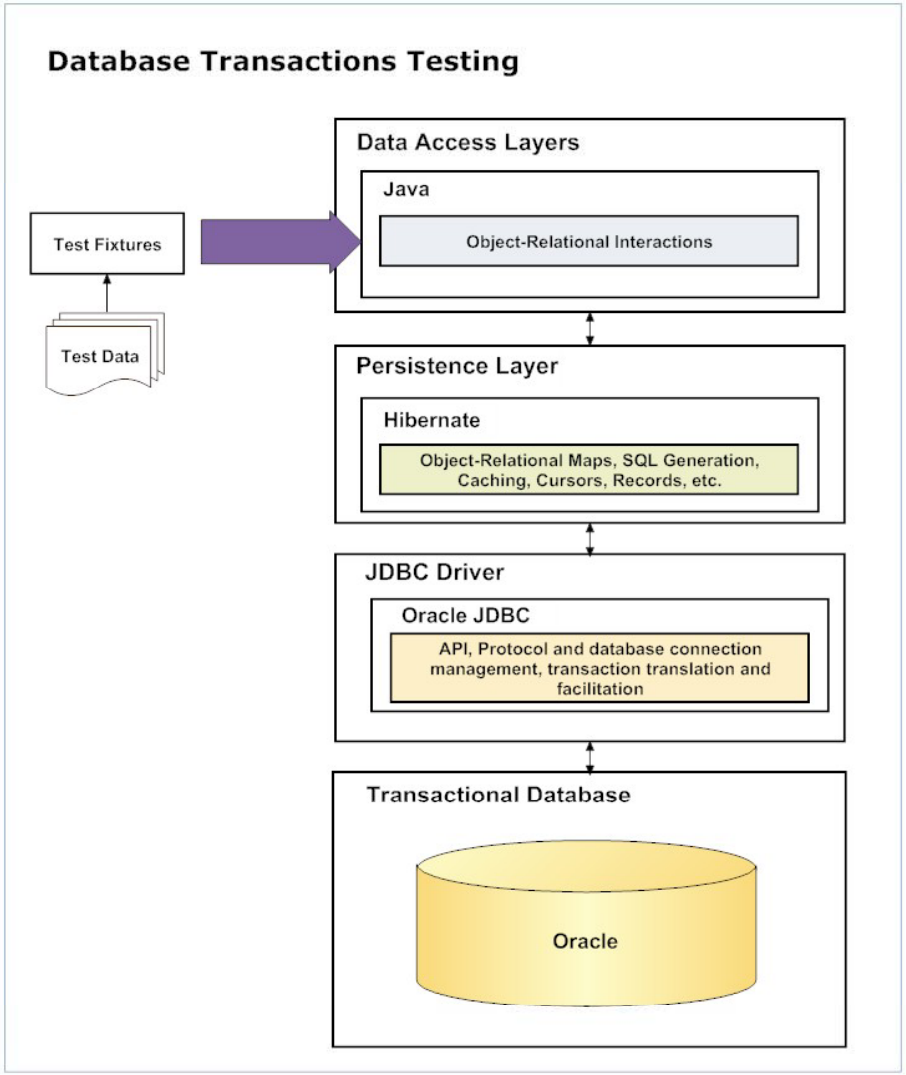
Human Supervision

Example: System Monitoring

Supervision

- Creating visibility: *What's going on behind the scenes?*
- Log File Monitoring
- Transaction visualization
  - Topic readers
  - Data transactions
- System monitors

Alternative Testing Interfaces



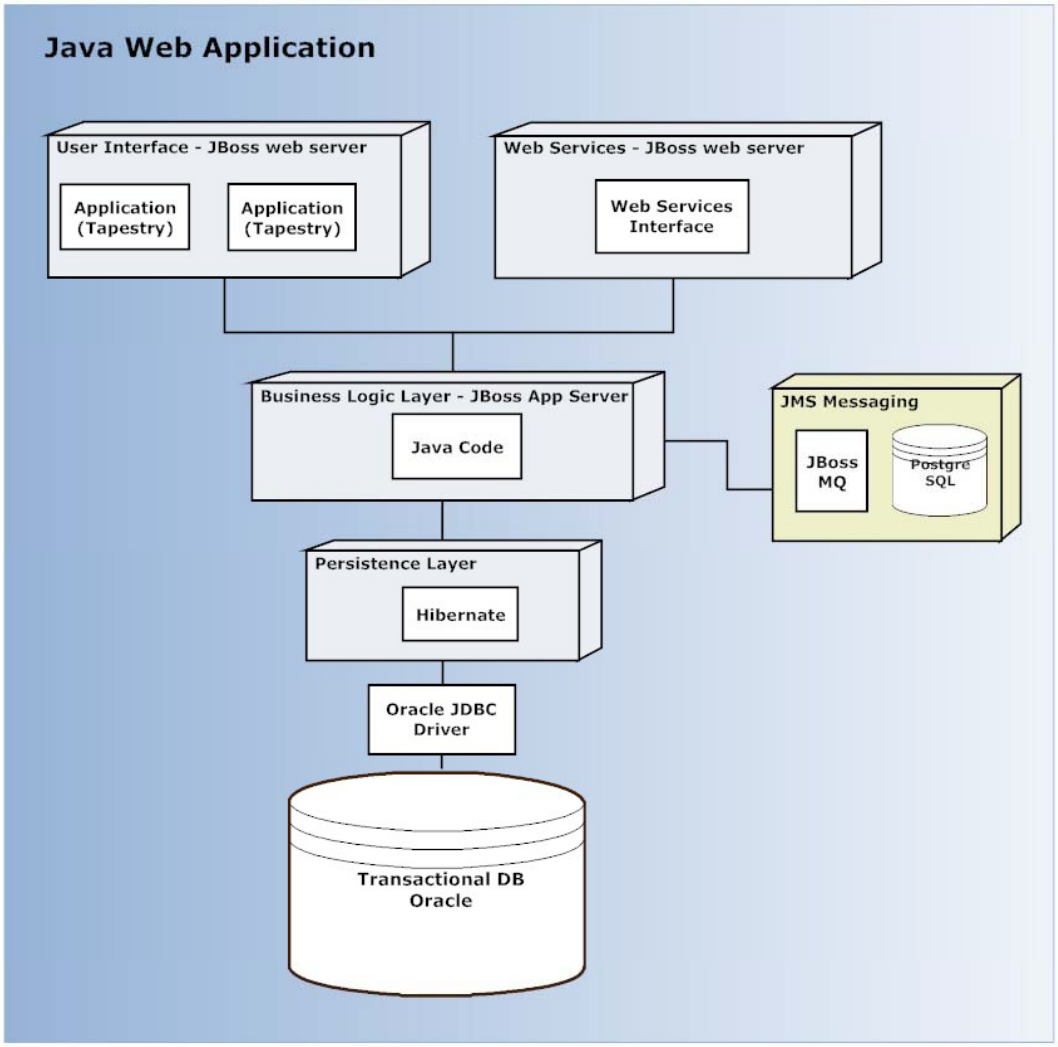
Example: Side-Door Testing*

Use a Testable Interface (other than the UI)

- Use built-in or custom APIs
- Test Data Creation
- Event, Transaction Simulation
  - web services
  - FIT (framework for integrated testing)
  - Custom testing interface

*Andrea, Jennitta. *Functional Test-Driven Development for Legacy Systems.* Presentation

Alternative Testable Interfaces



Interactive Automated Testing Hints

- Don’t try to do too much – go for low effort, high-value
- Don’t try to replace human testing, try to enhance human testing
- Stop focusing on regression testing, focus on providing testers with more power
- Think about simulation rather than replacing manual testing
- Determine your automation goals

References

My Man and Machine article

www.kohl.ca/publications

Tools Used:

- Watir, RSpec, Ruby
- Java, NetBeans
- SoapUI, FIT, Hoo WinTail

Influences:

- Cem Kaner: *Computer-Assisted Testing*
  www.kaner.com/testarch.html
- James Bach: *Tool-Supported Testing*
  www.satisfice.com/presentations/agileauto.pdf

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