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Secure SDLC: The Good, The Bad, and The Ugly

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INFORMATION SECURITY PRACTICES

Agenda

- Secure Development Programs
  - The Good, The Bad, and The Ugly
- QSA Perspectives
  - Application Security in a *PCI World*
- Secure SDLC
  - The Essential Elements & Where to Start
- Post-Mortem
  - A Flawed “AppSec” Program Made Right
- Q & A

Secure Development Programs

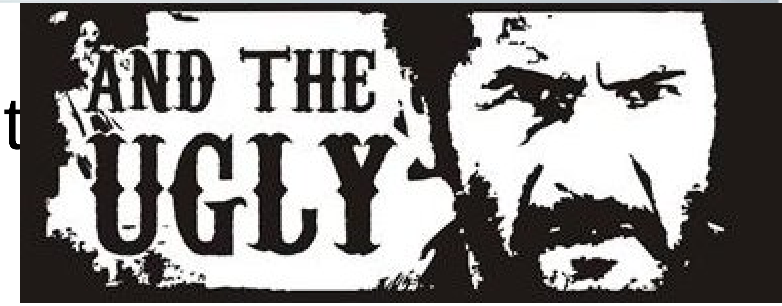
THE GOOD

- Top -> Down Support
- Clearly Defined Processes
- Focus on Training and Education
- Security is a Function of Quality Management
- Properly Leveraging Technology
- Third-party Partnerships
- Go – No-Go Authority
- Working **Smarter**, Not **Harder**

THE BAD

- Insufficient Support from Management
- Reactive Security Posture
- Check-in-the-box Mentality
- Insufficient Vulnerability Management
- No Developer Training
- Lack of Application Security Awareness
- Insufficient Standardization
- Development Silos

The Ugly



- Complete Lack of Management Support
- Devoid of Security Awareness
- “Wow, there’s organizations devoted to Application Security that offer free information, tools, and standards?”
- Complete Lack of Vulnerability Management
- Little Standardization
- No Quality Management
- Pattern of Denial

QSA Perspectives

QSA Perspectives

"I'm concerned that as long as the payment card industry is writing the standards, we'll never see a more secure system. We in Congress must consider whether we can continue to rely on industry-created standards, particularly if they're inadequate to address the ongoing threat."

- Rep. Bennie Thompson

Elements of a PCI Compliant Program

- Security Throughout the Lifecycle
  - Requirements, checkpoints, accreditation, testing
  - No concept of OWASP, inability to examine code for common defects, no peer reviews, etc.
- Well-documented and Maintained SDLC
  - I’m from Missouri…
- Knowledgeable Developers
  - Coding examples, processes
- Peer Reviews
  - Someone other than the dev; examine comments

Um, sorry, that is not compliant…

- Homegrown Encryption
  - Publically available, commercial/open source
- Code Reviews
  - No, you can't review your own…
- Look at the Pretty WAF!
  - Yes, it has to actually be configured to block, /sigh
- "We have a WAF, so we don't need to fix our code."
- "Our IPS can totally block SQLi and XSS!"

Section 6.6 Compliance

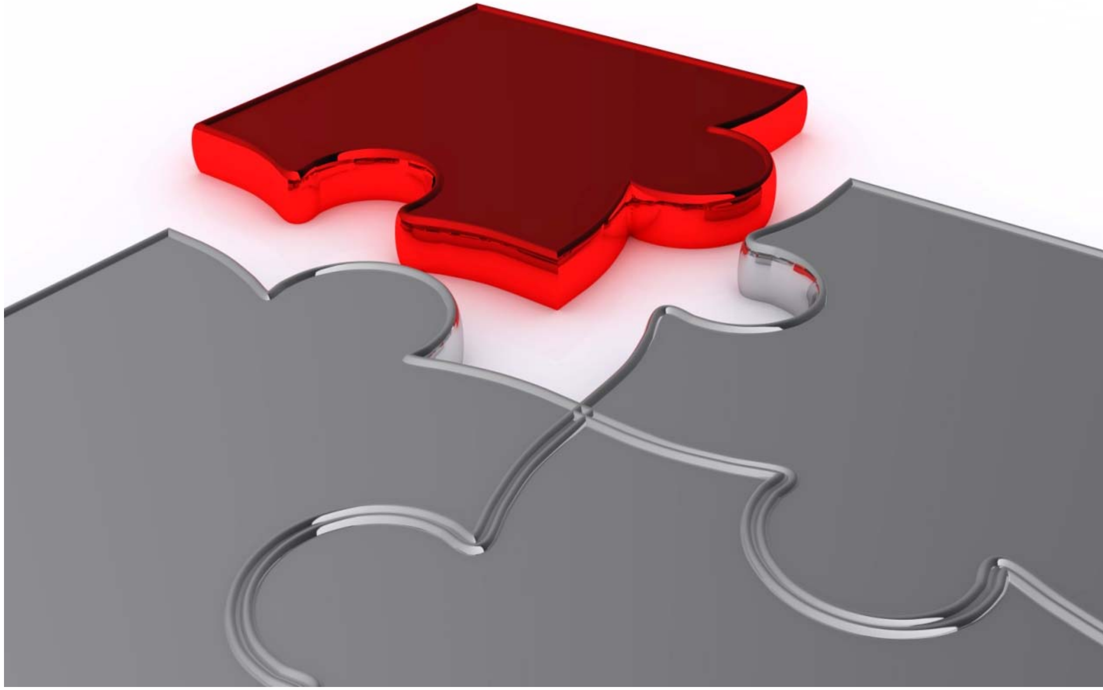
- WAF
  - Network diagrams
  - Configuration
  - Logging
- Code Reviews
  - Documented policy, process, methodologies
  - Reports
  - Internal or third-party?
  - Tester’s role
  - Tester’s credentials

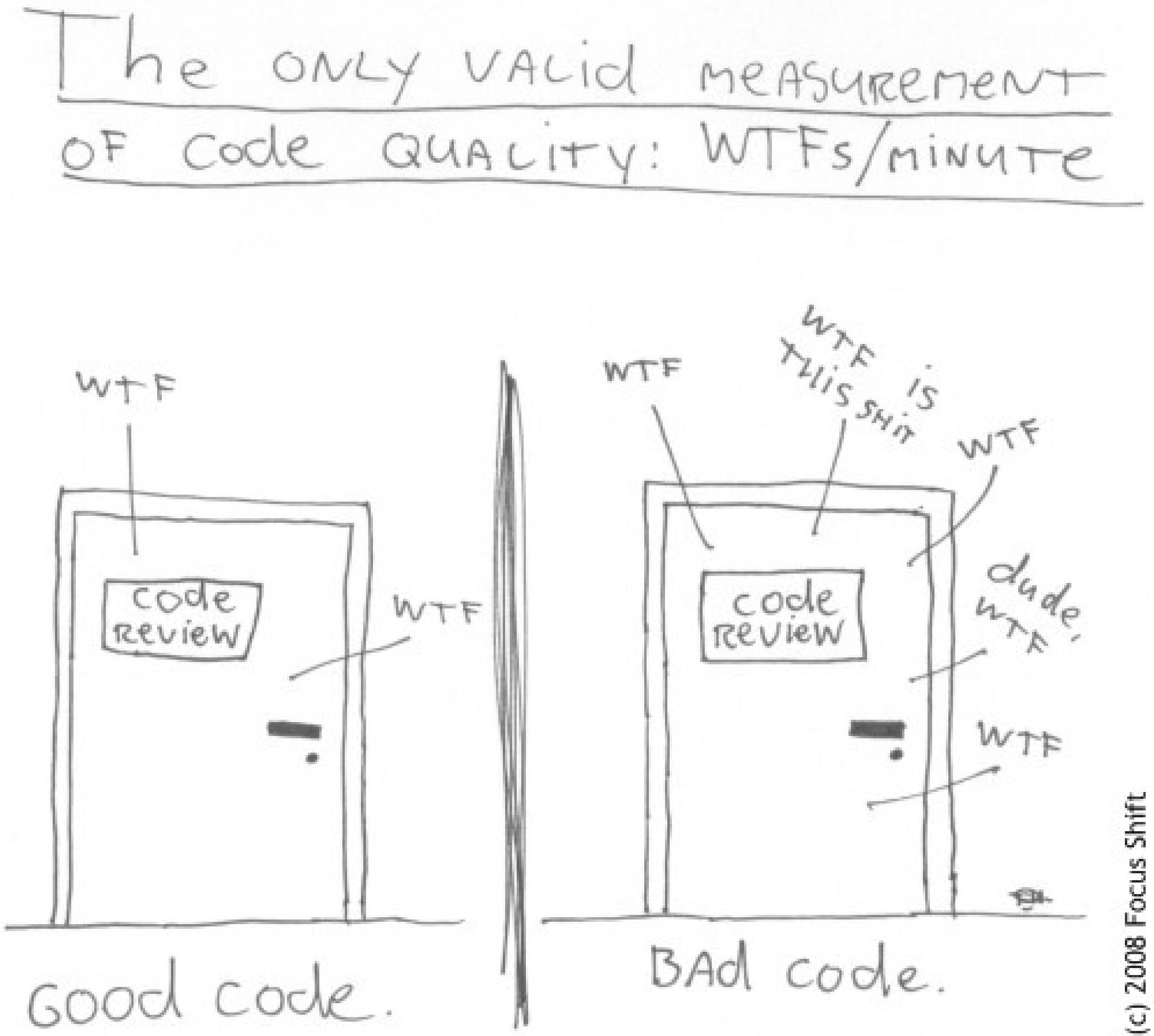
Secure SDLC

ALL OF THESE PARENTHESES AND SEMICOLONS TOTALLY RUIN THE FENG SHUI OF THE CODE.
SALLY LEARNS AN IMPORTANT LESSON ABOUT INVITING THE RIGHT PEOPLE TO HER CODE REVIEWS.

Essential Elements

- Executive Champion
- Mid-level Support
- Support of *The Business*
- People
- Process
- Technology
- *…and unfortunately;*
  - *Time & Money help a great deal*





(c) 2008 Focus Shift

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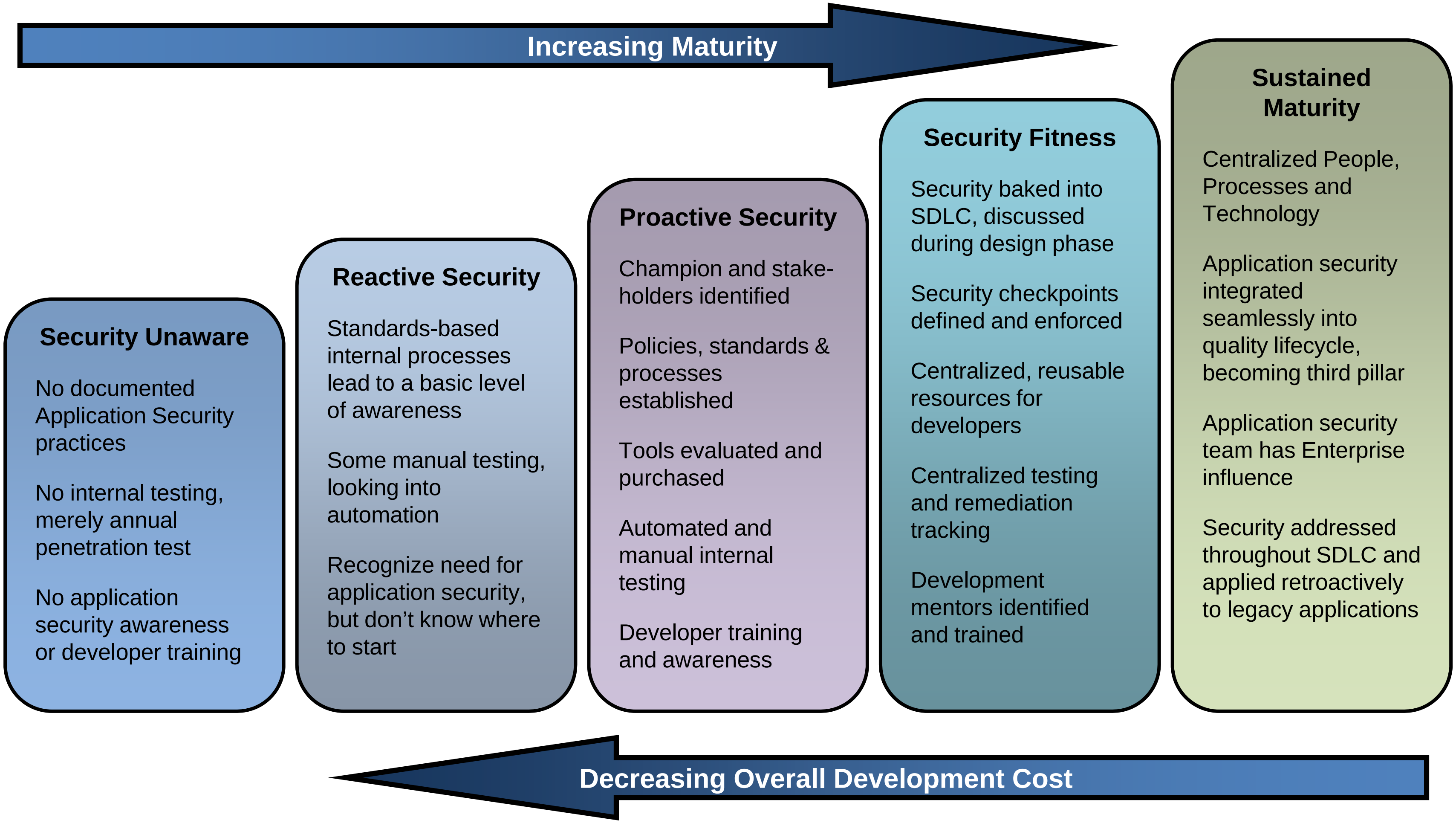
Where to Start?

- Assess your current maturity level
- Identify Business and Security Objectives
- Plan your work and work your plan!
- Document your approach
  - Who, what, when, where, how?
- Dr. McGraw’s Touchpoints:
  - Code Reviews (Static Analysis)
  - Risk Analysis
  - *Skills Assessment and Training*
  - Penetration Testing (Dynamic Analysis)

Scale of Maturity



Increasing Maturity

Security Unaware

No documented Application Security practices

No internal testing, merely annual penetration test

No application security awareness or developer training

Reactive Security

Standards-based internal processes lead to a basic level of awareness

Some manual testing, looking into automation

Recognize need for application security, but don't know where to start

Proactive Security

Champion and stake-holders identified

Policies, standards & processes established

Tools evaluated and purchased

Automated and manual internal testing

Developer training and awareness

Security Fitness

Security baked into SDLC, discussed during design phase

Security checkpoints defined and enforced

Centralized, reusable resources for developers

Centralized testing and remediation tracking

Development mentors identified and trained

Sustained Maturity

Centralized People, Processes and Technology

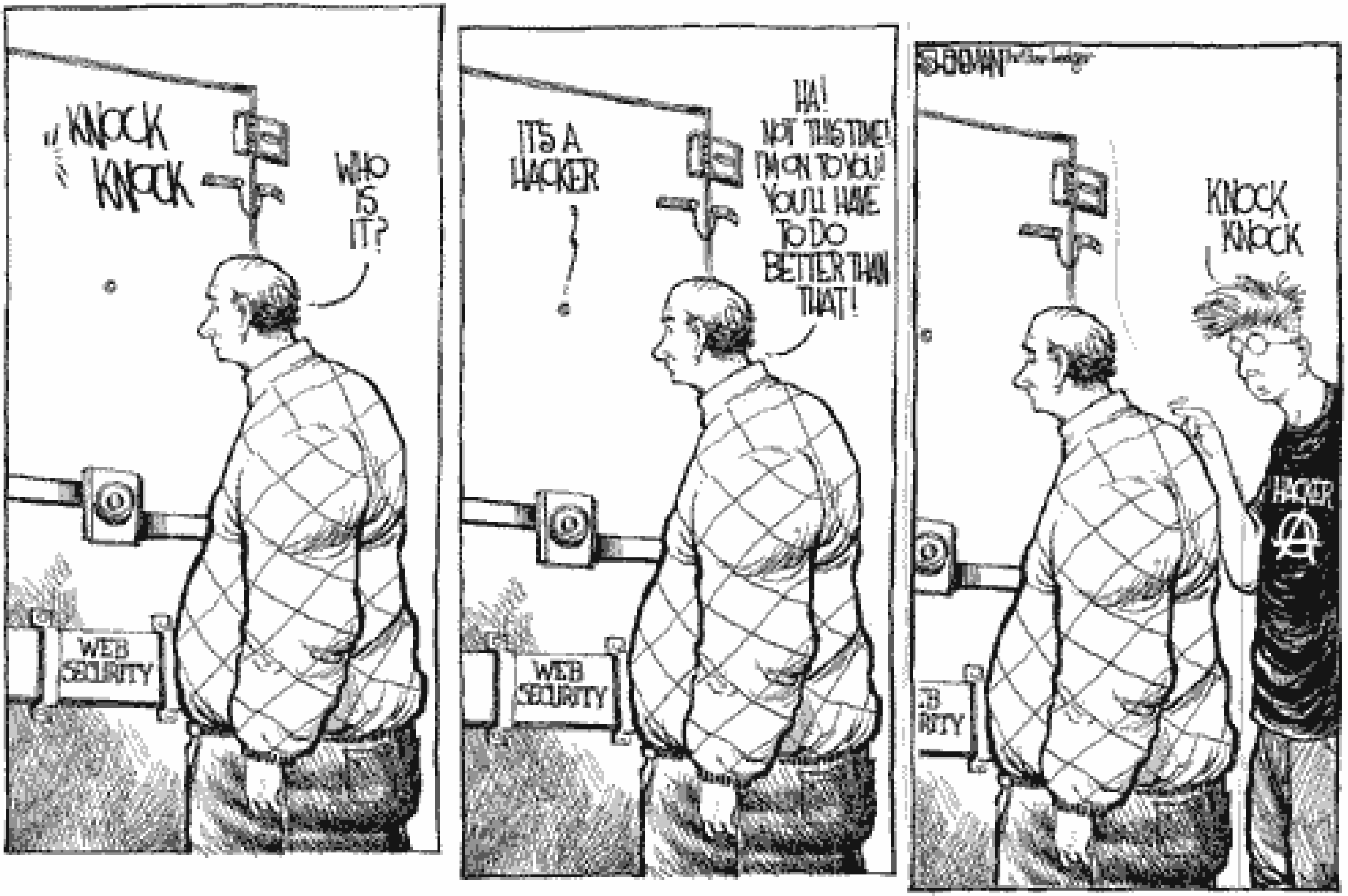
Application security integrated seamlessly into quality lifecycle, becoming third pillar

Application security team has Enterprise influence

Security addressed throughout SDLC and applied retroactively to legacy applications

Decreasing Overall Development Cost

Post-Mortem: A Flawed Attempt at Building Security In…



Mistakes / Issues *(Opportunities?!)*

- Lost executive champion
- Lack of mid-level support
- Staff Reorganization
- No business support
- No defined processes
- Not enough expertise
- Development silos
- Shelfware

Putting the Pieces Back Together

- Educate *The Business*
- Security Requirements
- Define Standards
- Define Processes
- Development Mentors
- HP AMP – *SaaS*
- Offensive Security
  - License to Pen-test

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