

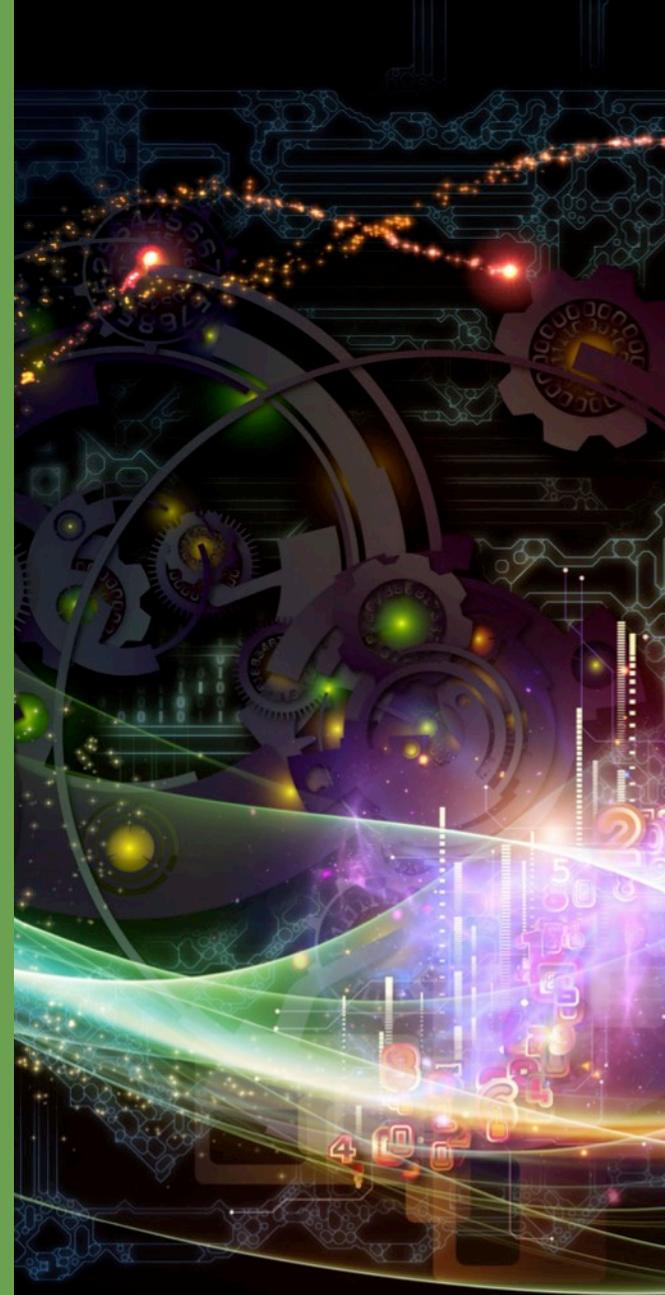
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Agile Project Success and Failure (The Story of the FBI Sentinel Program)

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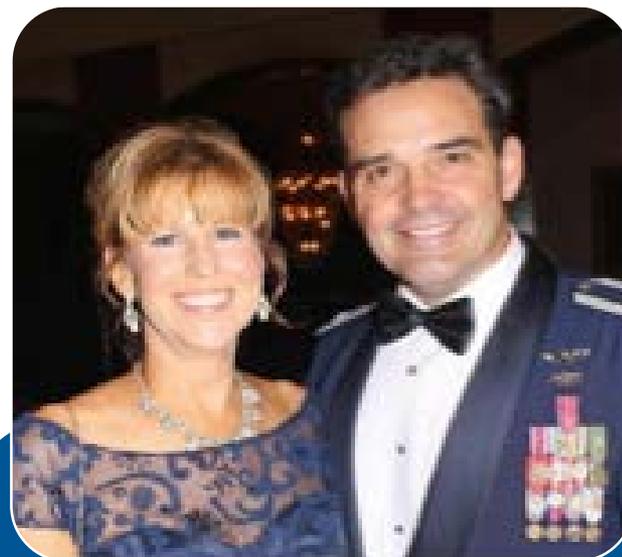


Tom Friend - Bio



Corporate IT

- Agile Scrum Coach
- 12+ Years Agile Scrum
- 25+ Year IT Application Dev
- Airline Transport Pilot

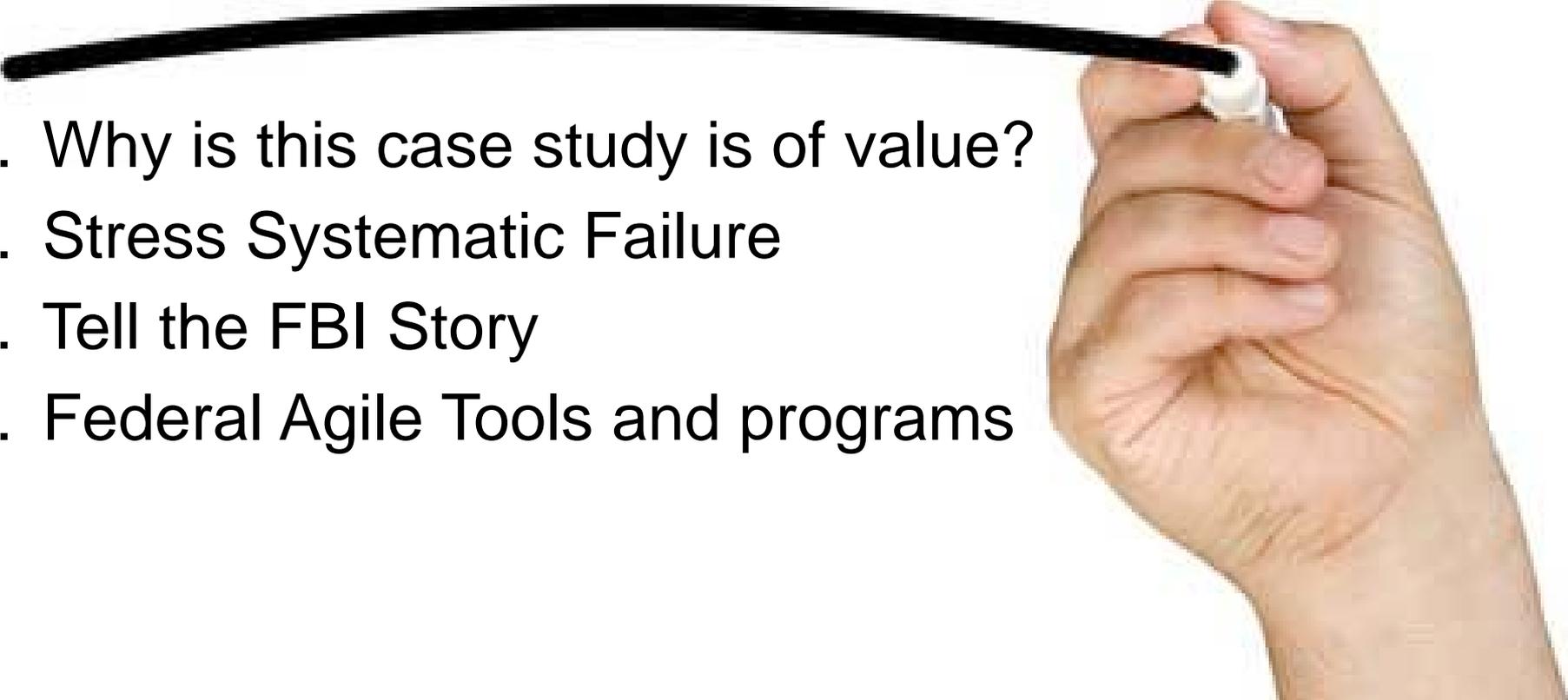


Military / Aviation

- US Naval & Air Force Pilot
- Air War College
- Squadron Commander
- B.S. Aeronautics



AGENDA

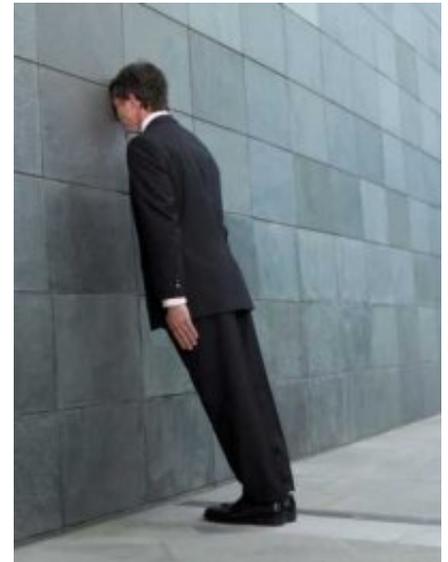


1. Why is this case study is of value?
2. Stress Systematic Failure
3. Tell the FBI Story
4. Federal Agile Tools and programs

Why? The Old Way is Not Working!

1. Traditional programs are train wrecks
2. Long Cycle can't react to change
3. Base assumptions are not valid

Cost!!! Time-Effort-Opportunity-Money



Overview of the Cost of Federal Failures

1. Federal IT is \$78 Billion
2. 90% of large IT projects fail
3. Over half were miss expectations
4. 41% failed completely - \$32 Billion Waste!



How Much is a Billion Dollars in \$100 Dollar Bills?



Original Source of FBI Story

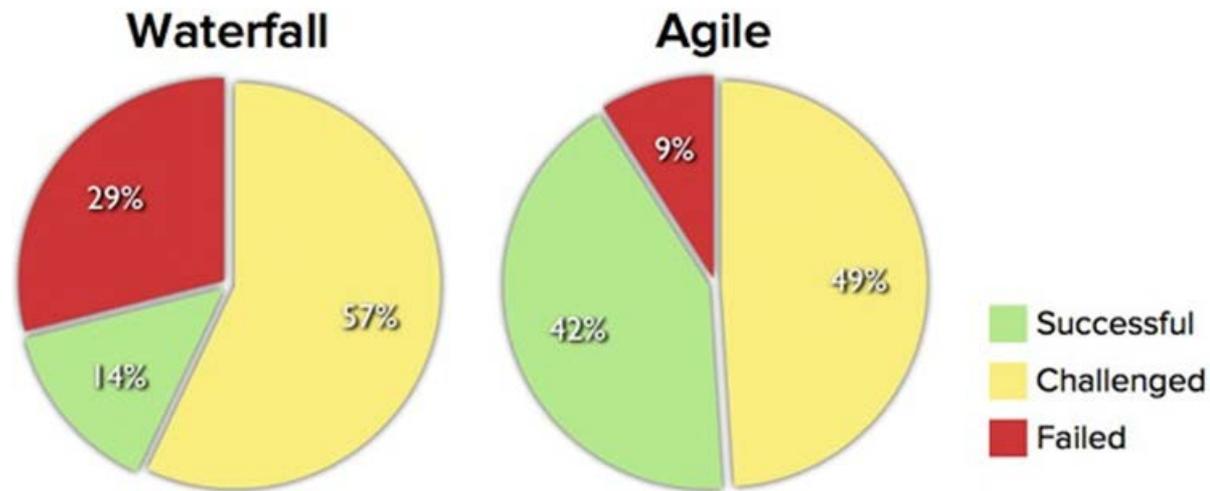
[Brian Wernham](#)

1. Director at The Association for Project Management
2. Delivery of £100m+ IT-enabled programs
3. Business Case development at Director Level +



Brian's Research Focus Area

1. Brian's research focused on critical, main-stream Federal projects.
2. Projects that had used various methods.
3. Based on the FBI case study, here is the question that we will address together today:
 - What evidence is there that Agile is suitable for large-scale projects?



Viewpoints on Project Management Approaches

1. Normal argument is Waterfall or Agile.
2. The Federal Waterfall approach will tend towards what Kent Beck called 'Big Design Up Front' (BDUF).
 - Due to BDUF being the starting point for waterfall
3. Brian stresses that we should aim for Enough Design Up-Front (EDUF), not BDUF.

What is Big Design Up Front (BDUF)

1. 'The Simpsons' Homer the average American, is the perfect person to design a new car.
2. The car turns out to be totally unusable and too expensive to produce!



Remembering Failed DOD BDUF Programs



We Repeat What We Forget

Airborne Laser (ABL)



\$5,000,000,000

XM2001 Crusader

\$2,000,000,000



Expeditionary Fighting Vehicle (EFV)



\$3,300,000,000

RAH66 Comanche



\$6,900,000,000

Brian's Case Study: A Story of Agile Success at the FBI

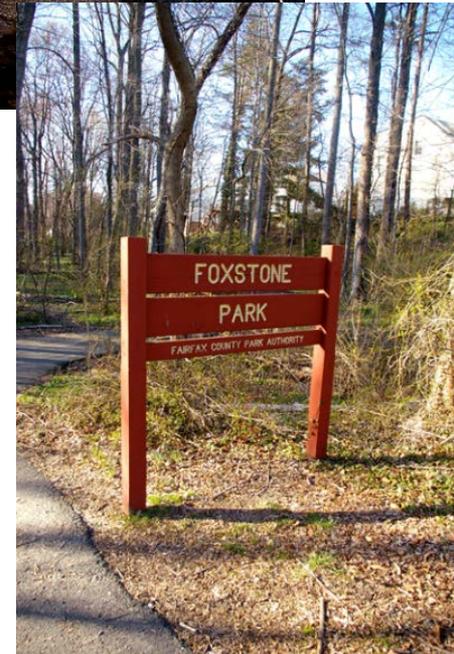
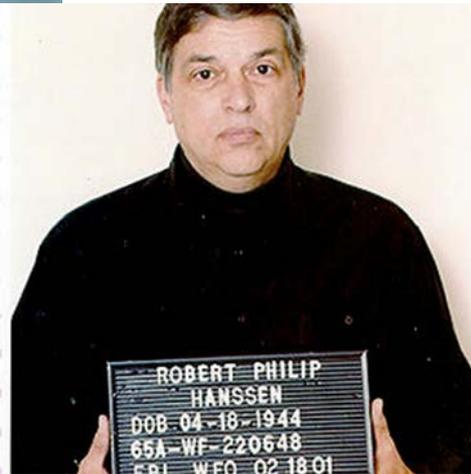
The following FBI projects detail a fascinating case study of project methodologies and how Agile leadership delivered where traditional approaches failed.

Three reasons this case study is relevant:

1. **Size:** This was a large project - hundreds of millions of dollars: Agile Scales.
2. **Prior Failure:** This Agile project succeeded where two previous waterfall projects using the same technology had failed.
3. **Visibility:** This was a high-profile and mission-critical project - in government. Precisely the environment and scale at which Agile is often misconstrued as being inappropriate.

Case Study: History (Part 1)

1. 2001 FBI Agent Robert Hanssen arrested
2. \$1.4 million in payments
3. 20 separate occasions



Case Study: History (Part 2)

1. Three months later, in May 2001, the Oklahoma City bomber was about to be executed.
2. 700 documents had not been disclosed to the defense.
3. The FBI had forgot to send and lost evidence.
4. Stay of execution was granted the FBI came under severe criticism.



FBI Looks for a Solution

1. Root Cause: old computer system and outdated manual processes
2. A secure and reliable set of systems and processes were required
3. The FBI sets up a project to build a new Virtual Case File system (VCF)
 - a) One \$400 contract
 - b) Brand new system as no market alternatives were deemed sufficient
4. (SAIC) won the bid and created a classic waterfall project
 - a) 200 person team spent 6 months creating the requirements
 - b) A grand design upfront
 - c) Go live at once - a classic big-bang

Scope Change 9/11 - 2001

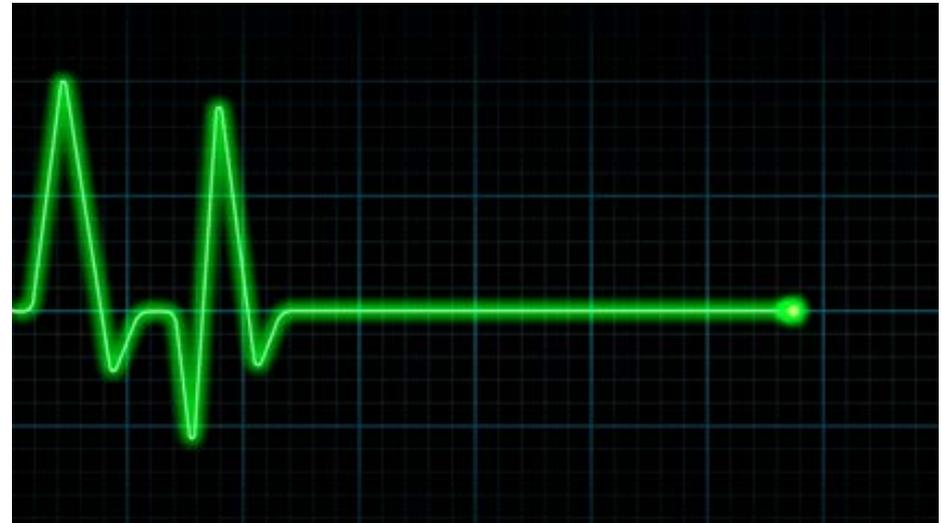
1. The 9/11 attacks increased political pressure for better homeland security and data sharing between agencies.
2. Responding to this pressure, the FBI made promises they could not keep.
3. The FBI received an additional \$78M of funding for compliance and also promised to chop off another 6 months from the schedule.
4. Summary
 - a) Waterfall-style Big Bang rollout
 - b) \$400 Million
 - c) \$78 Million Additional Funding
 - d) 300 person team for Requirements + 6 months = 600 pages of listed requirements

Results of First Attempt Over 4 Years

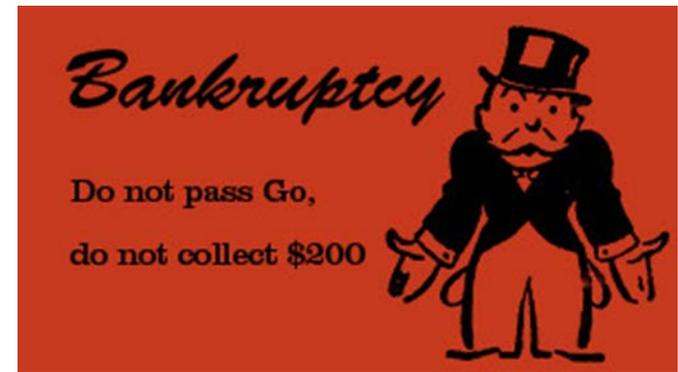
Four CIO's – one per year

1. 2002 – no delivery
2. 2003 – no delivery
3. 2004 – no delivery
4. 2005 – no delivery

Four years of no results!



Results of First Attempt =

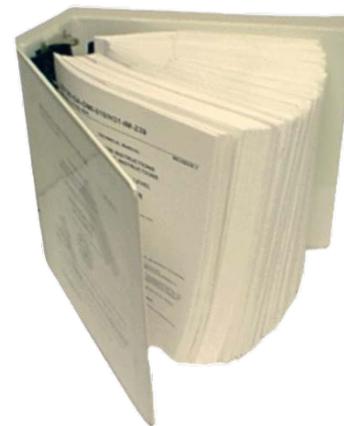


1. The 600 pages of requirements
2. 400 documented 'change requests',
3. 700,000 lines of program code had been being written and re-written time and time again.
4. 1,200 pages requirements documents
5. Classic Big Design Up Front.

Final Disposition Failure

Program Cancelled

1. A **318 page post-mortem report** concluded that the contractor had: “badly bungled the project – **it should be abandoned** ... the software is incomplete, inadequate and (incompetently) designed -essentially unusable under real world conditions.”
2. Randolph Hite, GAO, said: "When you do a program like this, you need to apply a level of rigor and discipline that's very high.”



The Need is Still There....

1. That year, yet another FBI agent, Leandro Aragoncillo, is arrested.
2. The ancient FBI system had failed to spot his suspicious behavior as he fished through the existing case-management systems for over 9 months.
3. Obviously the need for a new system remained.



When you Fail, Blame the Vendor and Try Again with More Money!

1. Lockheed Martin wins the new 'Sentinel' system project 3 years 2006 to 2009. The total project budget was \$425M.
 - a) \$305M was budgeted for Lockheed Martin.
 - b) \$120M was allocated for the FBI to run a massive program office to carry out detailed and prescriptive oversight of the work.
2. That's one quarter of the budget being spent on planning and control of the contractor!



The Sentinel Project Second Try

The new project run as Waterfall

1. \$60M spent just creating a web-based front-end to the already broken system in-place.
2. Some agents called it “lipstick on a pig”.
3. Due to its incompleteness, they stopped using it.



Took Their Eye Off the Ball

1. Overly optimistic reporting.
2. In 2010, the stakeholders rejected the system even though it was compliant with the original specifications.
3. The dream of implementing electronic information sharing system was shattered.



Time to Get Serious - Remove Impediments

1. Congressional inquiry
2. Project internalized
3. The FBI CIO takes ownership
4. Agile is adopted as the project framework
 - a) Design is broken into 670 user stories
 - b) Self-organizing teams
 - c) 45 staff (not 300 as previous)
 - d) Product Owner prioritized the work
 - e) Two week sprints
 - f) Demo every sprint



Outcome, Rubber Meets Road

1. After a few sprints, it became possible to forecast the rough timescales and start to plan the dates for incremental business change and adoption of releases of the new software.
2. System delivered using only half of the budget.
3. Agents used the system on real cases. In the first quarter of its use, over 13,000 agents progressed over 600 cases, meeting or exceeding all expected targets.
4. The old mainframe system was turned off.

Outcome in Dollars and Cents

1. The three-year Agile project delivered the requested system and improvements.
2. A success after 10 years of failure and \$600 million wasted on the two previous aborted 'Waterfall' attempts.
3. Total cost of only \$99 million.



“Lessons Learned” From This?

1. Patient Protection and Affordable Care Act (PPACA).
2. Healthcare.gov changed the conversation.
3. HealthCare.gov went live in 2013.



US Federal Agile Agency Leaders Were Called Upon for their Lessons Learned

1. FBI Federal Bureau of Investigation
2. USCIS US Customs and Immigration Service.
3. Veterans Administration
4. USPTO Patent and Trademark Office



Directives

1. U.S. Digital Services Playbook (Website)
2. The TechFAR Handbook (GitHub Collaboration)
3. Leveraging Best Practices to Help Ensure Successful Major Acquisitions (GAO, Feb 2014)



Digital Services Playbook



THE U.S. DIGITAL SERVICE

U.S. Digital Services Playbook

The American people expect to interact with government through digital channels such as websites, email, and mobile applications. By building digital services that meet their needs, we can make the delivery of our policy and programs more effective.

Purpose of the Playbook

1. Establishing standards to bring the government's digital services in line with the best private sector services.
2. Identifying common technology patterns that will help us scale services effectively.
3. Collaborating with agencies to identify and address gaps in their capacity to design, develop, deploy and operate excellent citizen-facing services.
4. Providing accountability to ensure agencies see results.

Tech-Far Handbook GitHub



This repository Search

Pull requests Issues Gist

usds / **playbook**

Watch 173 Star 578 Fork 154

Branch: gh-pages playbook / _includes / techfar-online.md

sachinag on Aug 15, 2014 Update techfar-online.md

5 contributors

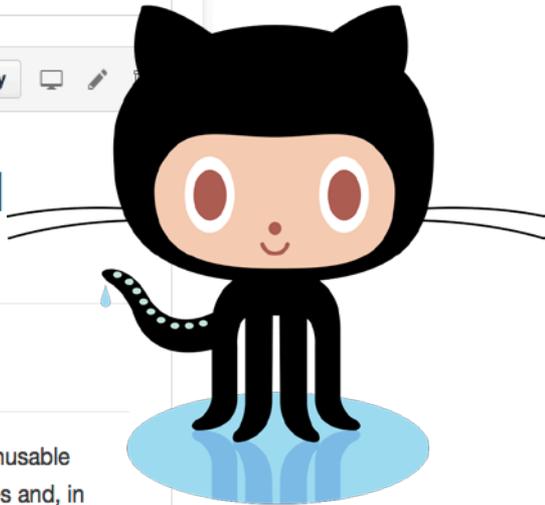
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Raw Blame History

The TechFAR Handbook for Procuring Digital Services Using Agile Processes

Executive Summary

In the Government, digital services projects too often fail to meet user expectations or contain unused or unusable features. Several factors contribute to these outcomes, including the use of outdated development practices and, in some cases, overly narrow interpretations of what is allowed by acquisition regulations. OMB is developing tools to significantly upgrade the ability of Government digital services to deliver better results to our citizens and improve the way we capitalize on information technology (IT [1]) to better serve the American people.





United States Government Accountability Office

Testimony

Before the Subcommittee on Readiness
and Management Support, Committee on
Armed Services, U.S. Senate

For Release on Delivery
Expected at 2:30 p.m. EST
Wednesday, February 26, 2014

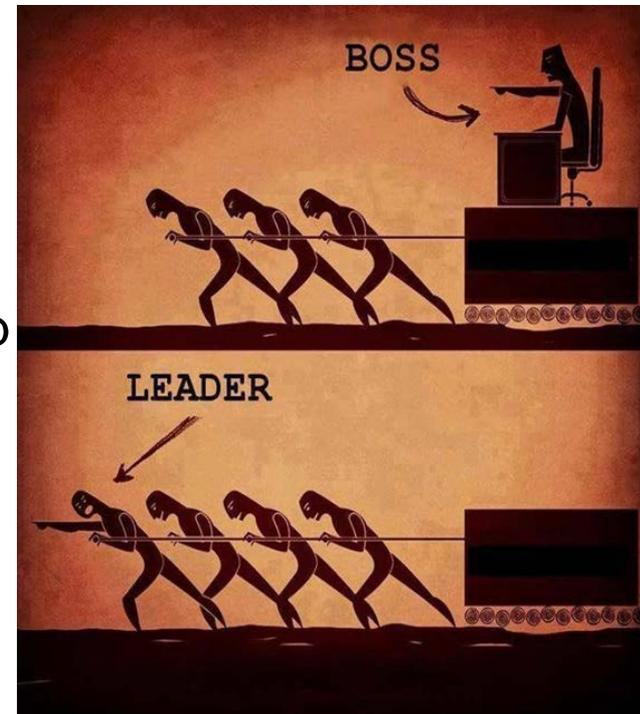
INFORMATION TECHNOLOGY

Leveraging Best Practices and Reform Initiatives Can Help Defense Manage Major Investments

In the End, What We Need is Agile Leadership

1. We need proof that Agile leadership will bring success.
2. We need people to lead projects, not manage them.
3. Agile Leadership Behaviors

- a. Satisfy the customer
- b. Harness Change
- c. Be very incremental
- d. Create trust through 'high touch' leadership
- e. Encourage face to face conversations
- f. Set targets and reward progress
- g. Pursue simplicity, not complexity
- h. Give team space they need to excel



Questions?

www.TomFriend.com

Sources

1. The Agile approach saves the FBI Sentinel Project

Brian Wernham FBCS FAPM

2. SOFTWARE DEVELOPMENT; Effective Practices and Federal Challenges in Applying Agile Methods

United States Government Accountability Office

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