Painless Agile Security

Why is this all so hard?

Julian Simpson, Safe Advisory

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Without them, this Conference couldn't happen.

The next 30 minutes

- How did we get here?
- How does Agile go wrong?
- How do you make it better?

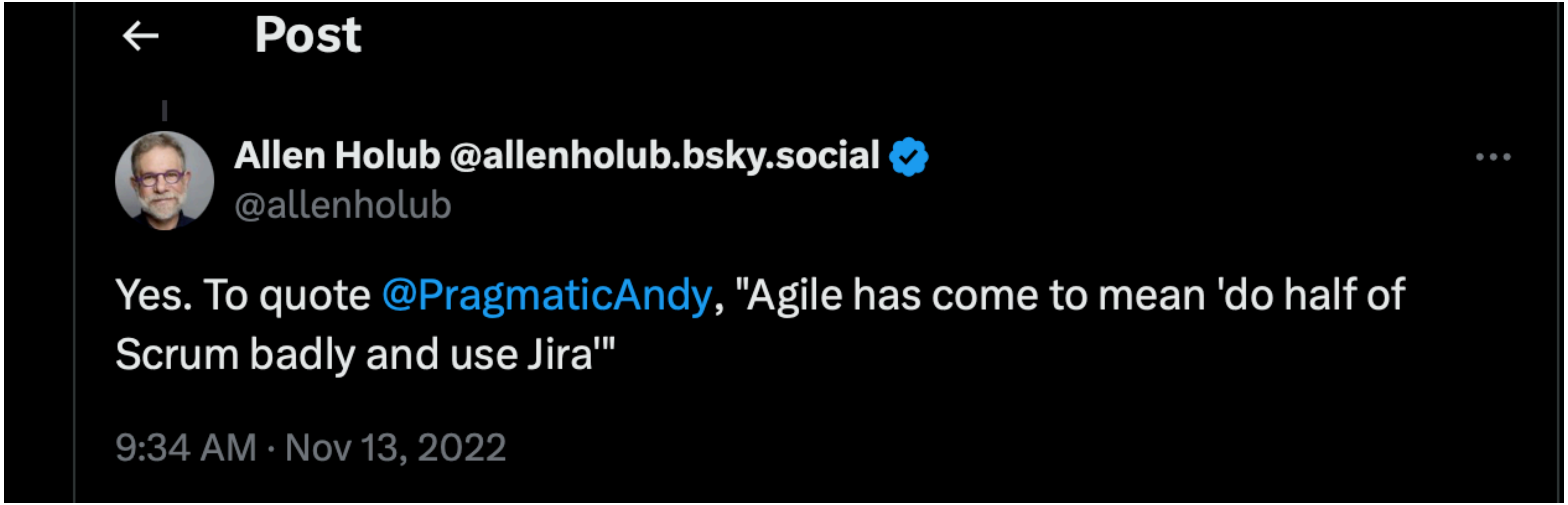
1 minute of Agile hate

- Scrum Masters (awkward name!)
- Sprint packing
- Sprint planning meetings
- Micromanagement
- Daily standoffs

Getting Agile wrong

Getting Agile wrong

Also, we don’t understand Rugby metaphors



Post

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Yes. To quote @PragmaticAndy, "Agile has come to mean 'do half of Scrum badly and use Jira'"

9:34 AM · Nov 13, 2022

Getting Agile wrong

What do we mean when we say Agile?

- There are many Agile methodologies (with a big “A”)
- There are lots of agile practices (with a small “a”)
- Process alone will not help teams deliver working software to production
- That takes a team, with skills and autonomy

Getting Agile wrong

The 90s

- There was no Git, SVN, or TFS
- You were probably doing well to have any source control
- Developers branched code for months
- JIRA didn’t exist
- C# didn’t exist
- People still used Visual Basic and Perl

Getting Agile Wrong

2001-ish

- Kent Beck publishes the eXtreme Programming Explained book
- Based on real world success of Smalltalk nerds at Chrysler in late 90s
- Project was a real success and they wrote up the lessons as XP

Getting Agile Wrong

12 XP practices

- Pair programming
- Planning game
- Test-driven development
- Whole team
- Continuous Integration
- Refactoring
- Small releases
- Coding standards
- Collective Code Ownership
- Simple Design
- System metaphor
- Sustainable pace

Getting Agile Wrong

As XP takes off, Scrum appears from 1993 to ruin the match

- Scrum team
- Sprints
- Scrum Master
- Product Owner
- Product backlog
- Sprint backlog
- Velocity

Getting Agile Wrong

How the scrum collapses

- Teams can stick to the scrum “rules”
- There are no rules about software development practice
- That works, until delivery stops because of technical debt

Ways to do Agile, poorly

- Prioritising delivery over code quality
- “Refactoring sprints”
- Features without testing, security, or operational requirements
- Estimates as a commitment
- Sprint stuffing
- Senior management in standup and retrospective
- Not shipping to production when code is “done”

Doing Agile better

Everything fits in the timebox

Doing Agile better

Everything fits in the timebox

- An Agile sprint or iteration is meant to contain the full lifecycle of a project
- That means TDD (before the code)
- Acceptance tests (after the code, in the same repo if you can)
- Security
- Deployment

Doing Agile better

Everything fits in the iteration / sprint

- If that means you do fewer features, but better, that is OK
- Retrospectives, velocity, yesterday’s weather etc. are designed to help the team do better in the next iteration or sprint

Doing Agile better

Estimates are for the devs

- The team doing the work needs to estimate the **complexity** of the work (not the duration)
- If things are more complicated than expected, the team can review their estimation
- Estimated complexity shouldn’t be a delivery commitment

Doing Agile better

Iterative, not Incremental

- Incremental approaches are for building houses
- We iterate on software every day
- We also iterate on features as we understand more

Doing Agile better

How do you know when it works?

- TDD is a superpower for iterative work
- You get to make changes in the small in code with lower risk
- Acceptance tests prove that your app can be “wired up” properly

Doing Agile better

You can measure quality

- Unit Test Coverage %
- Acceptance Test Coverage %
- Number of Code Smells
- Percentage of Duplication
- Cyclomatic Complexity
- Number of SAST vulnerabilities

Doing Agile better

Beware of Conway’s Law

- Teams need to deliver working code
- In a single branch
- Abandoned branches (including PRs not merged) don’t help us deliver code
- Continuous Integration and Trunk Based Development fixed that in the 90s

Sneaking security into the sprint

Sneaking security into the sprint

Start Small

- Agile is all about breaking work up into small chunks
- Any security tool is better than nothing
- Adding new analysis is an iterative and incremental improvement - and it doesn’t matter if you throw it away later
- That could be SCA, SAST, DAST.
- Just do something. Inside this sprint.

Sneaking security into the sprint

Work with Developers and QA

- Find the team members who care about the whole thing
- You're a team member, not a cop - gain everyone's trust by helping them with security
- Use the team's tools
    - e.g. if they use Atlassian products, hold your nose and use them too
    - or if they like diagrams in code, learn those

Sneaking security into the sprint

Fit into the team’s workflows

- You want to find security issues in new code
- Ideally within the sprint, so it’s still relevant to the devs
- And work with them through standups and retrospectives to help them get better

Summary

- Processes or Methodologies aren’t enough
- But it is possible to do Agile well
- You can do security in Agile, but you need to work with it

Thanks!

- If there’s time, feel free to ask questions
- Or come have a chat if you see me
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