NOT a software development engineer



William Smith

Partner Program Manager
Jamf

@talkingmoose

Jamf Nation
MacAdmins Slack
Mastodon.social

Software developers



Administrators



End users

End user experience

How a Feature is Born





How a Feature is Born



"Why don't they add my feature?

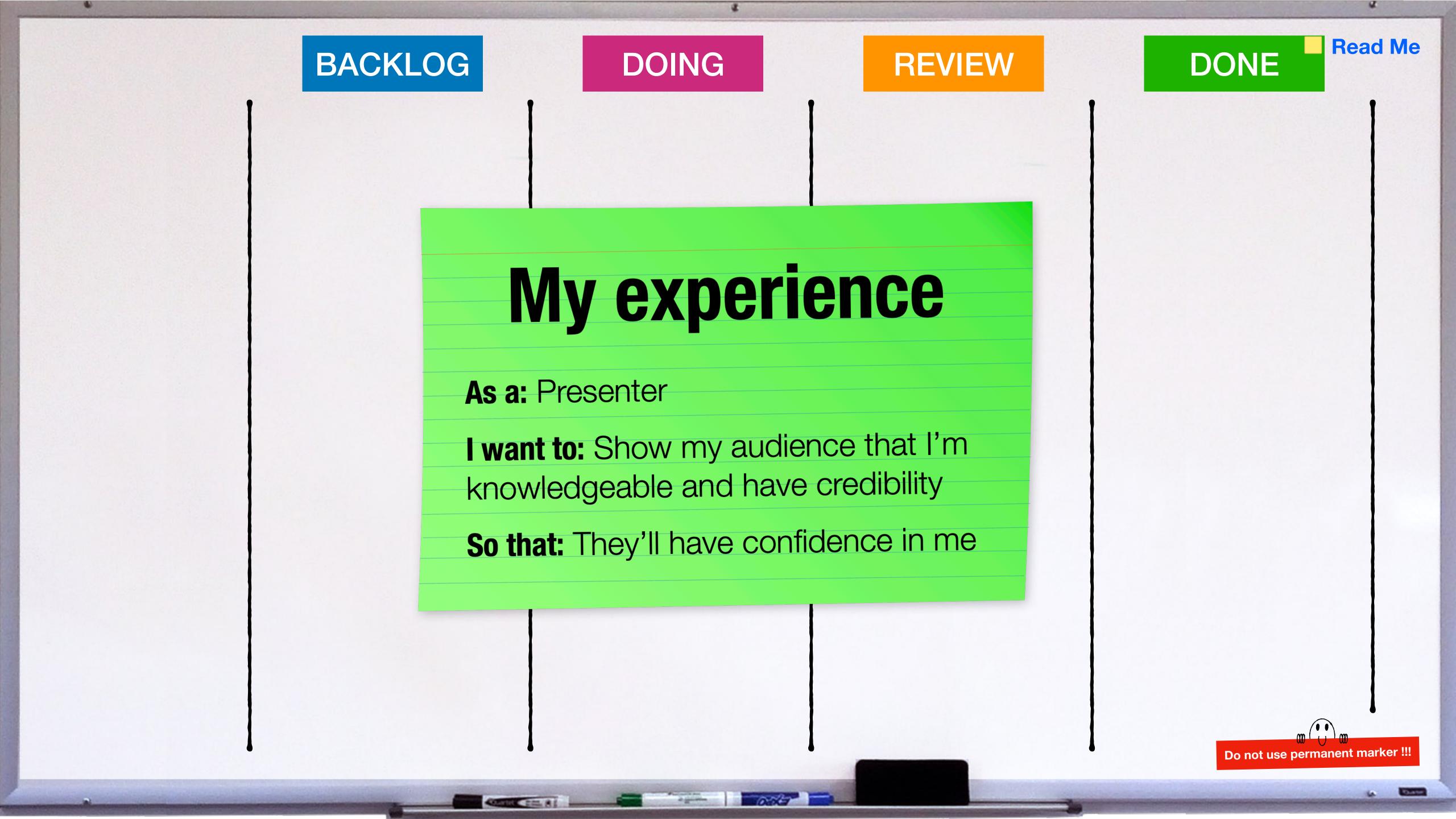
It should be easy!"

"This software is only half-baked!"

"I don't know why
I'm paying to beta test
their software!"







BACKLOG

DOING

REVIEW

DONE

Read Me

My experience

As a: Presenter

I want to: Show my audience that I'm knowledgeable and have credibility

So that: They'll have confidence in me

Fleming Financial Publishing Microsoft

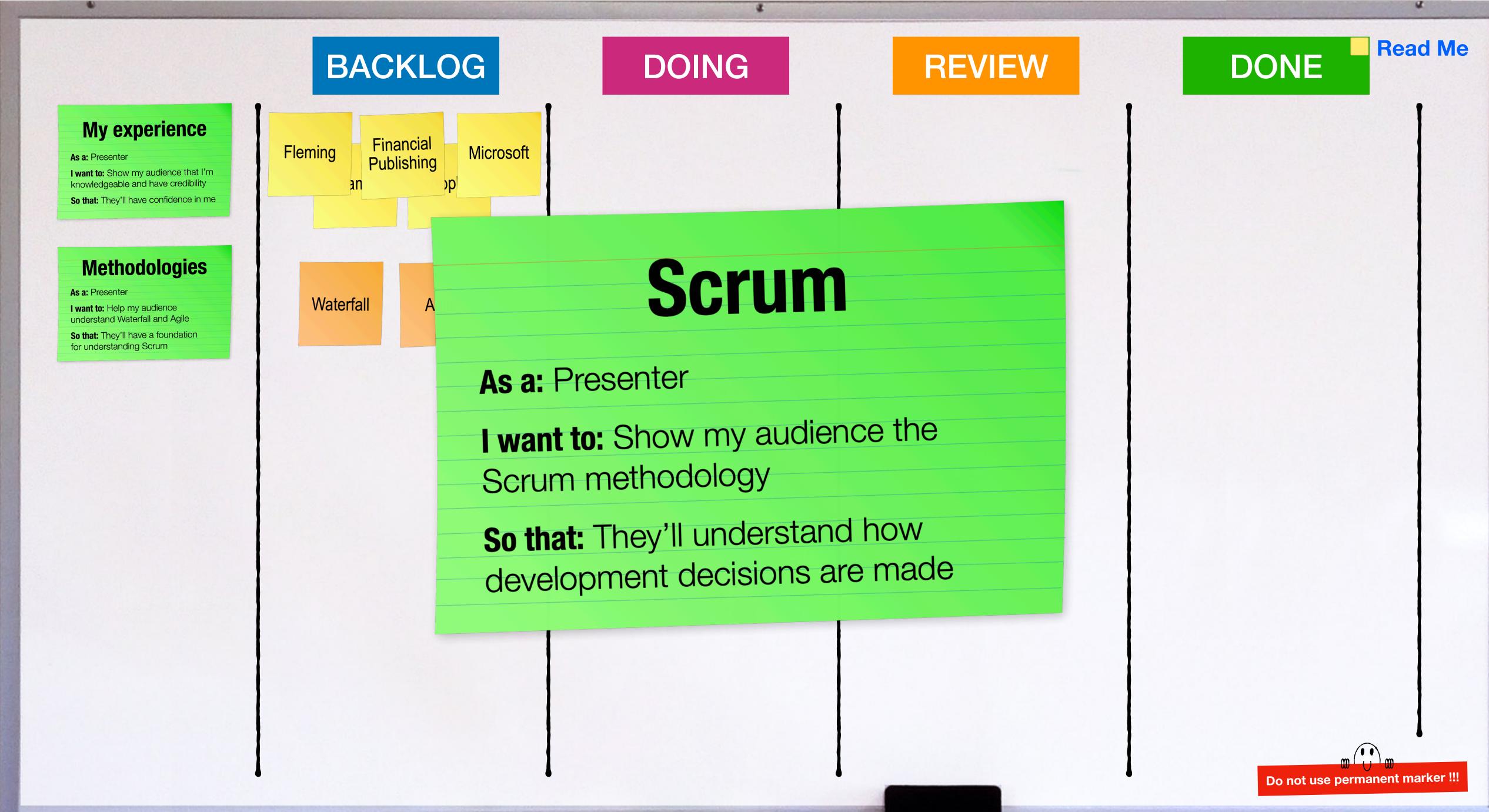
Methodologies

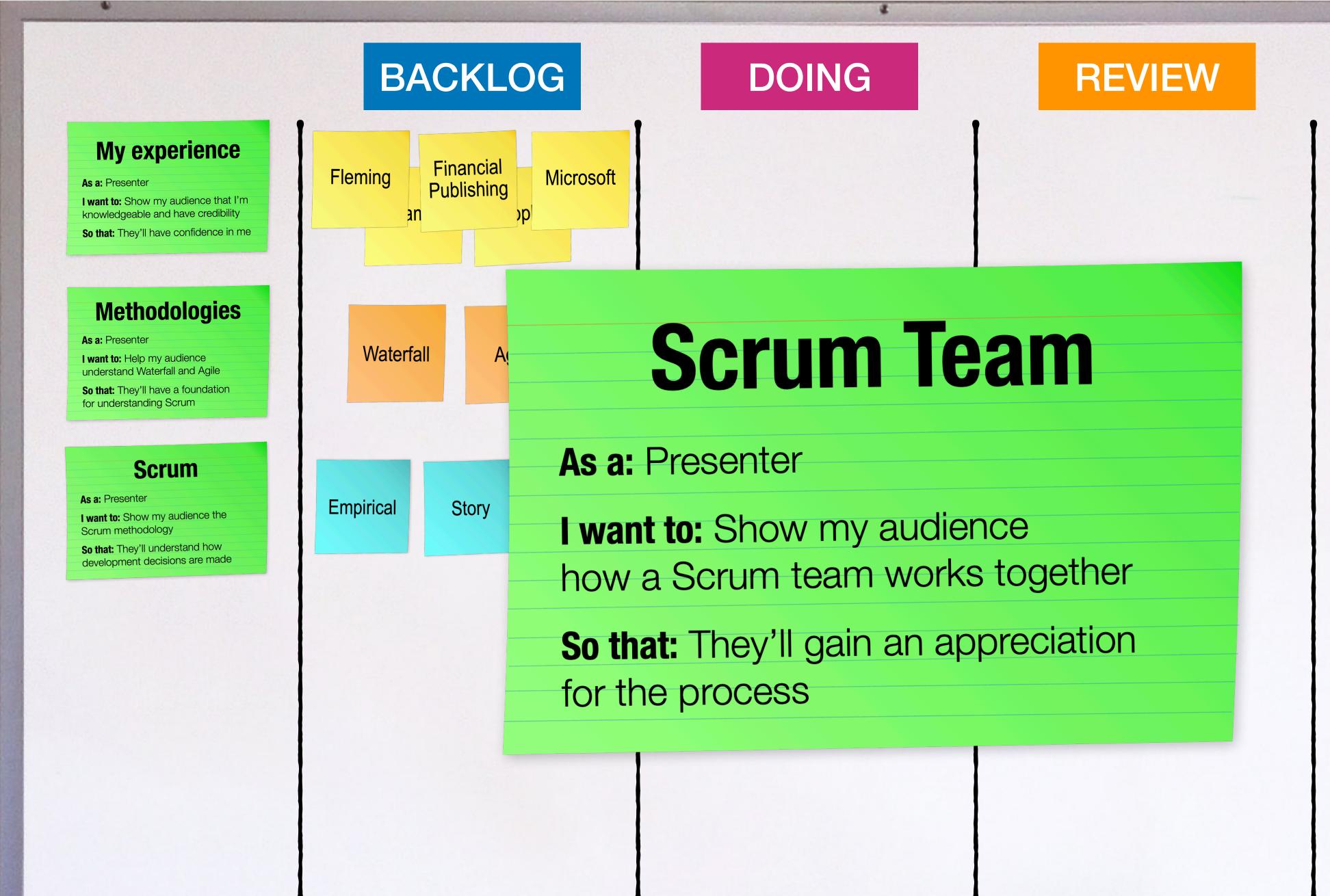
As a: Presenter

I want to: Help my audience understand Waterfall and Agile

So that: They'll have a foundation for understanding Scrum

Do not use permanent marker !!!

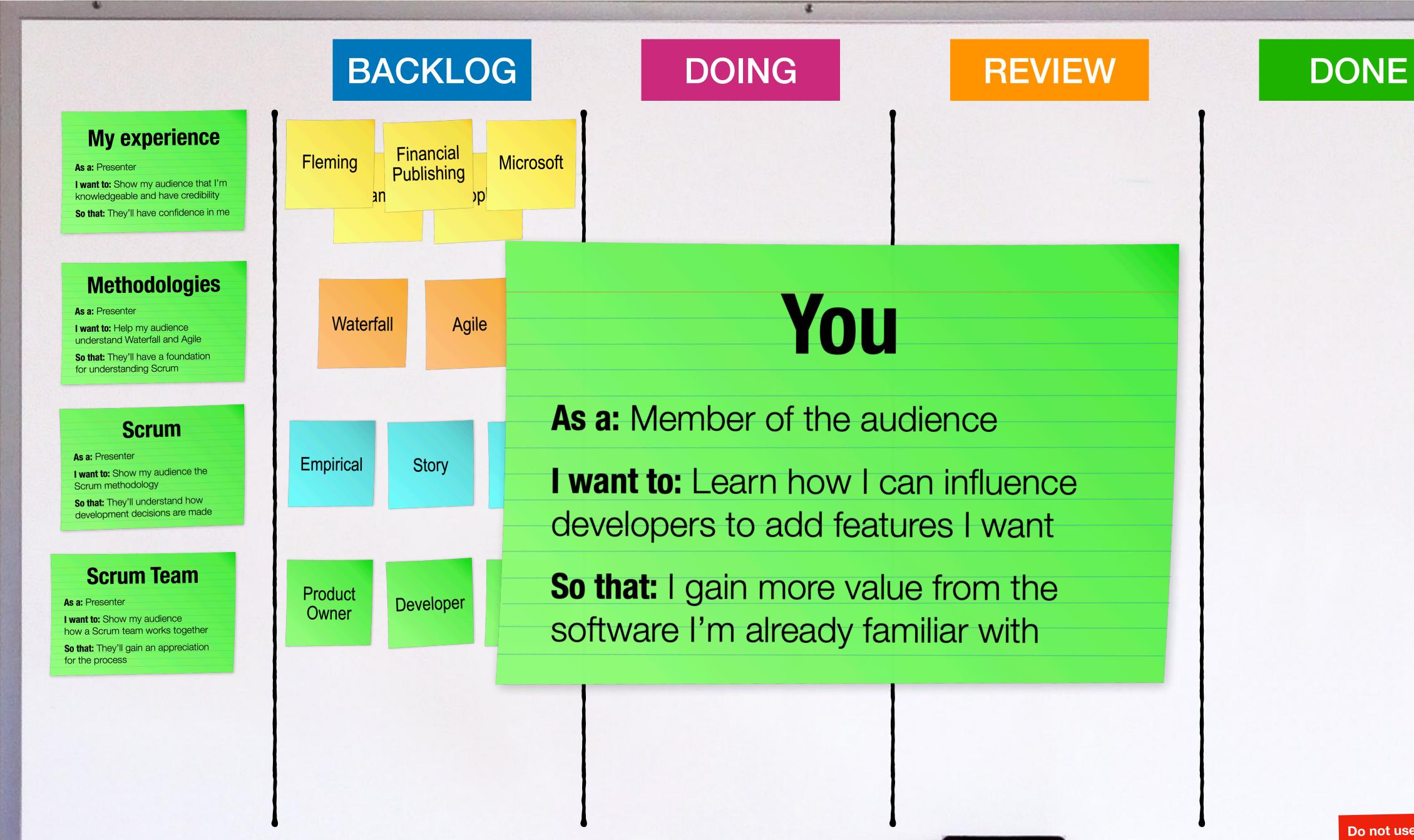




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Read Me

DONE



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O. Charles

CONT. CO. 81

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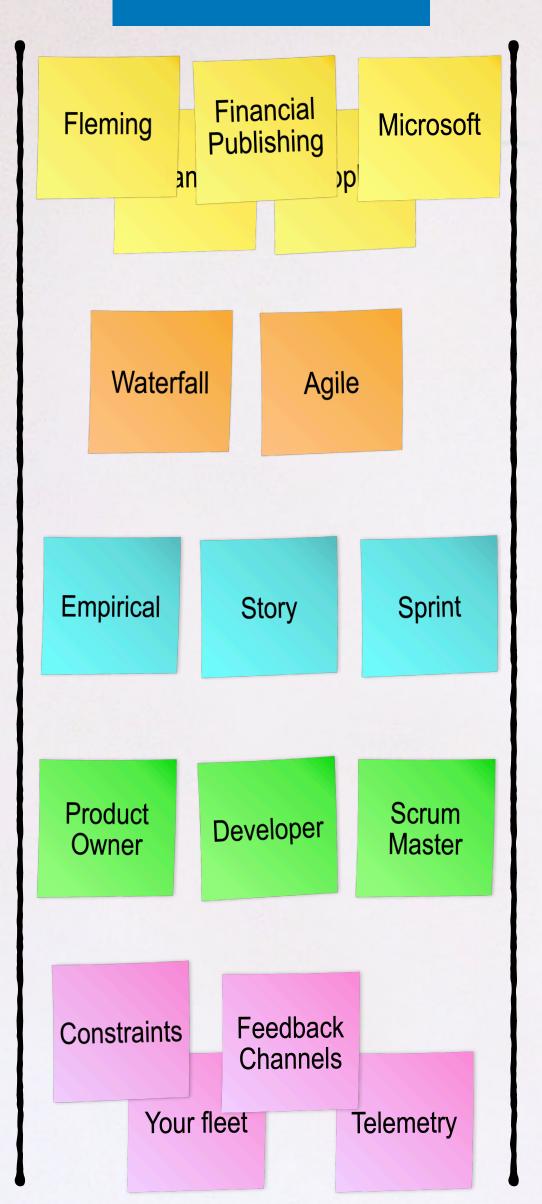
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Financial Publishing

Microsoft

Jamf

Apple

Fleming

Automated Pages

Keep your eye on the project manager

- Weekly grocery store ads for newspapers or mailings
- A system that can automatically build 90% of the ads
- \$1 million to build a system in one year
- Complexity and scope creep
- The developer sold our business a year later



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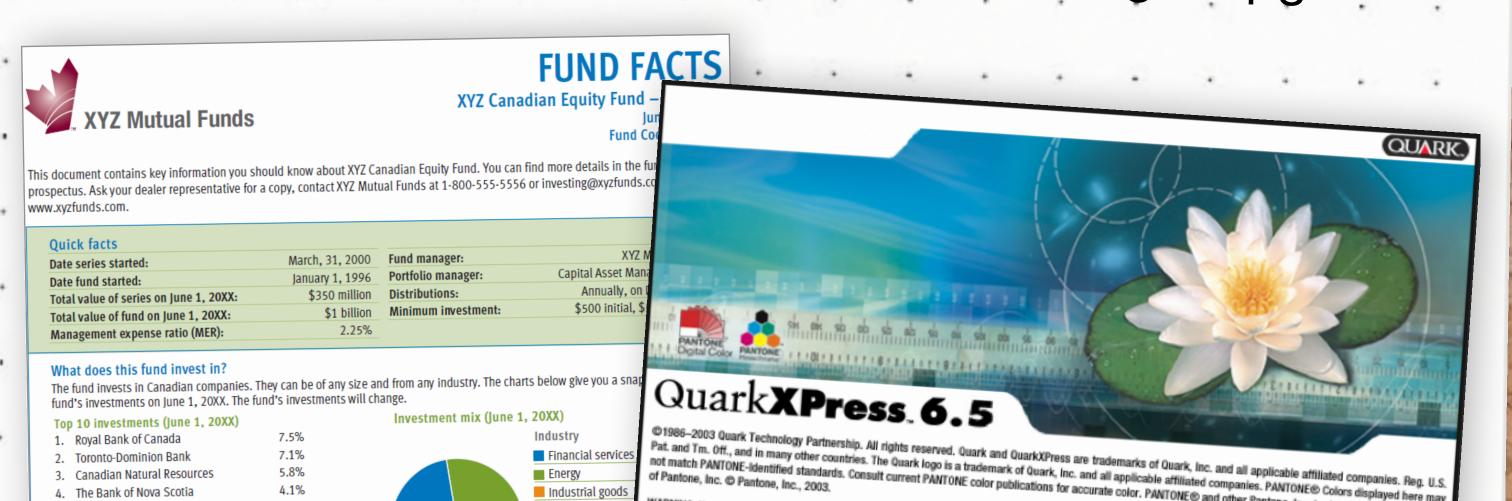
Apple

Financial Publishing

Company X

A project to upgrade every 3-5 years

- Government compliant legal documents
- Mistakes were expensive
- Heavy investment in custom QuarkXPress XTensions
- Upgrades were a 1-2 year project every time
- Developer was acquired and could no longer upgrade



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Jamf

Apple

Microsoft

Office for Mac

Always behind Windows

- Office '97 / Office '98 for Mac
- Office XP / Office X for Mac
- Office 2000 / Office 2001 for Mac
- Office 2003 / Office 2004 for Mac
- Office 2007 / Office 2008 for Mac
- Office 2010 / Office 2011 for Mac
- Office 2016 for Windows and Mac
- MacBU ported Office code to Mac
- "This doesn't make sense!"
- Started converging for Office 2008



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Jamf

Apr 27, 2015

Created on

Choice changes XML

Install Microsoft 365 and Office for Mac

Install

Install

Skip

Install

Skip

Install

619.2 MB

300.9 MB

101.8 MB

224 MB

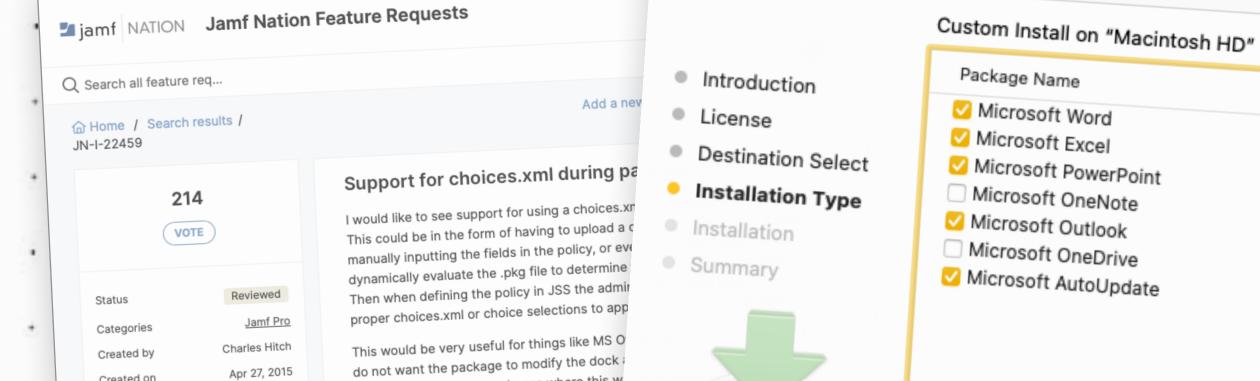
1.11 GB

12.9 MB

Worth the effort?

- Open since 2015 with more than 200 upvotes
- Command line option to change an installer's selected choices when installing software
- My opinion: It's not worth it
- What would customers expect?

se many other packages where this w



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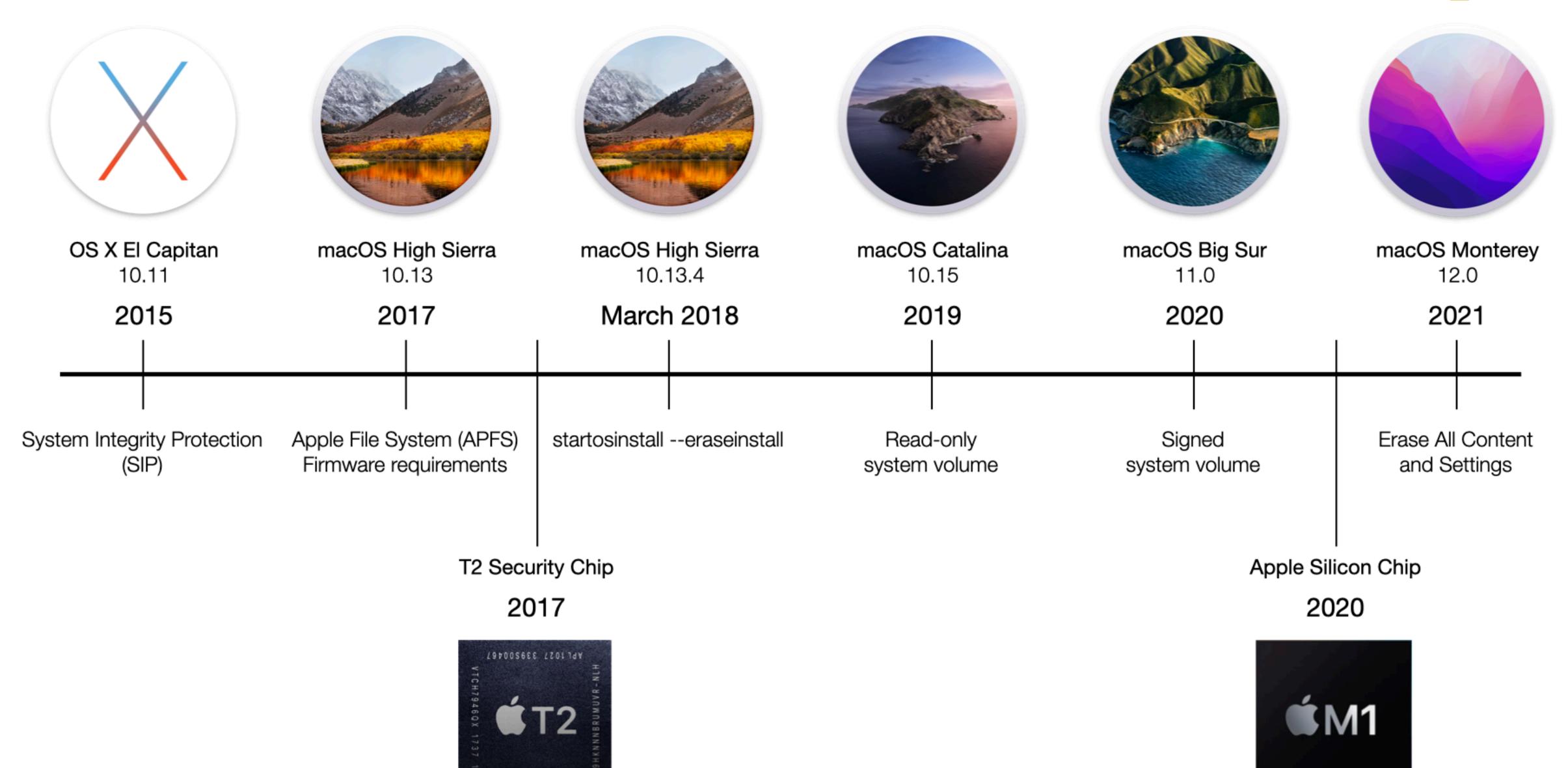
Apple

macOS releases

In it for the long-haul

- Erase All Content and Settings!
- Annual releases | Mac OS X Mountain Lion in 2012
- Apple file system changes | OS X El Capitan in 2015

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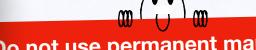
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Lessons Learned

- A customer can't wait a year to realize value for their investment
- Invest in short-term updates rather than long-term projects
- Dependencies delay value to customers
- Doing your own thing leads to technical debt
- Technical debt is expensive to pay off
- What sounds like a simple feature may require heavy investment
- Implement features that will yield the highest return on investment
- Changes to software are rarely arbitrary and standalone
- Executing a long-term plan should still show short-term benefits





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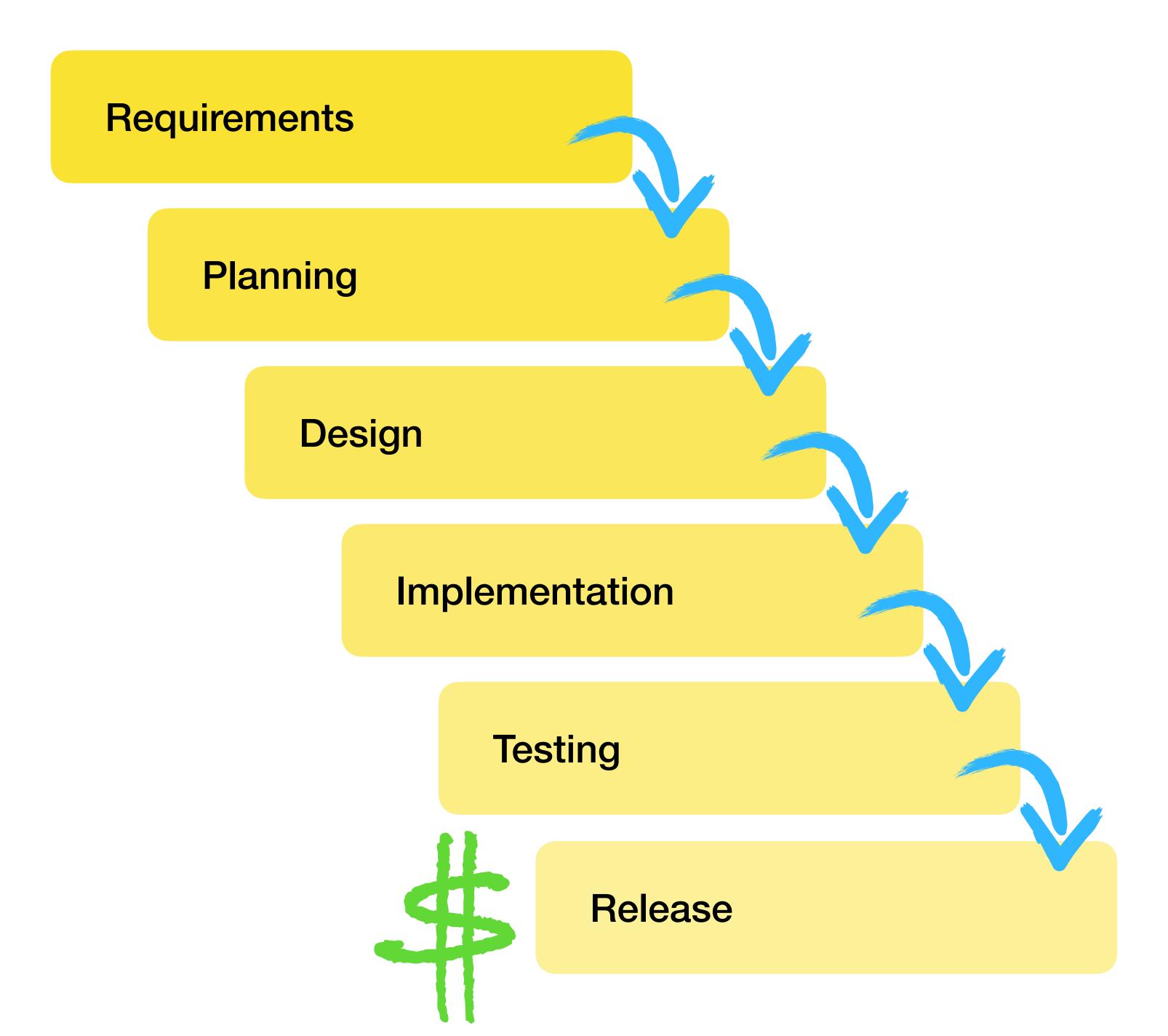
Agile

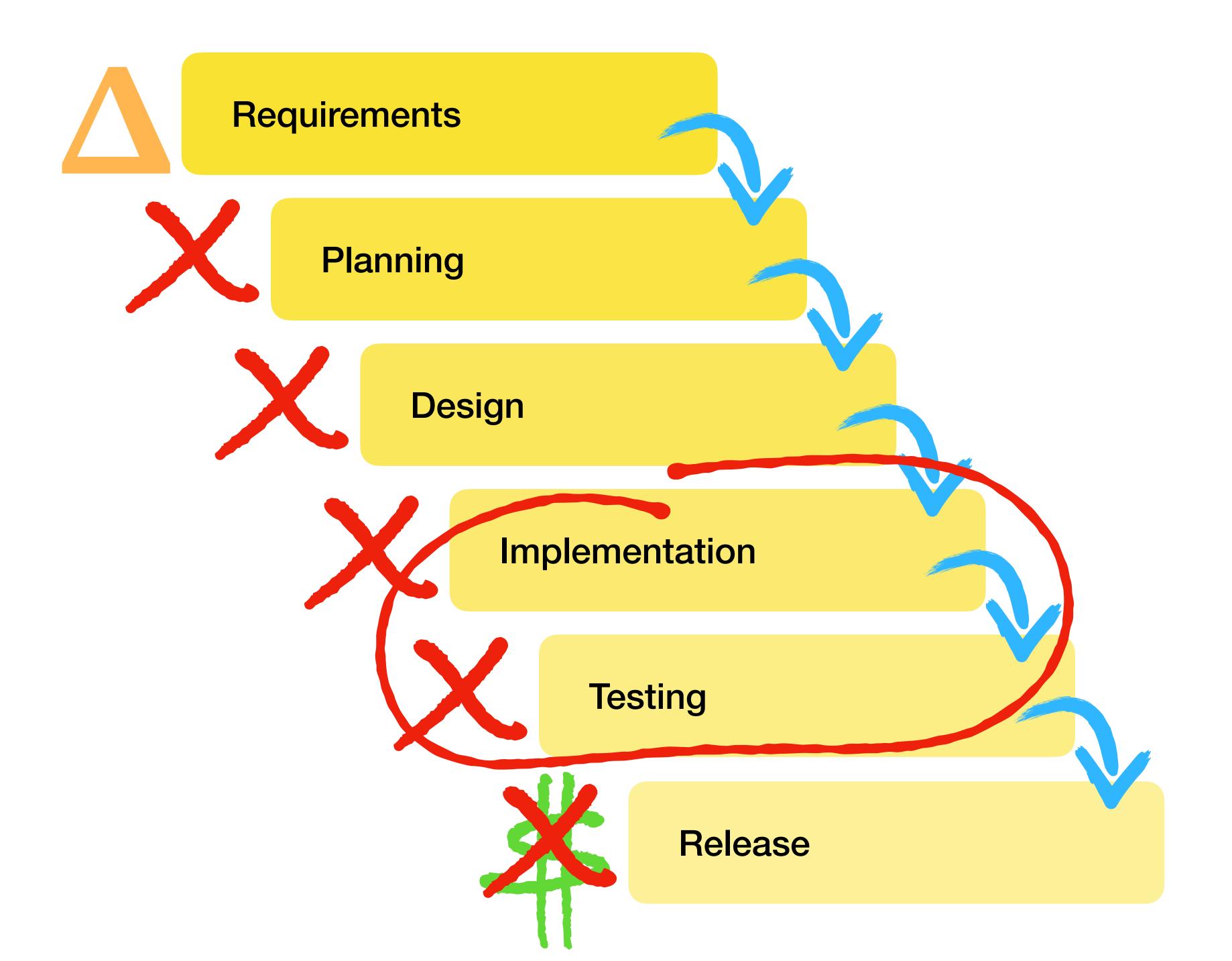
Waterfall

Project management

Traditional

• Designing a computer, remodeling, or moonshots





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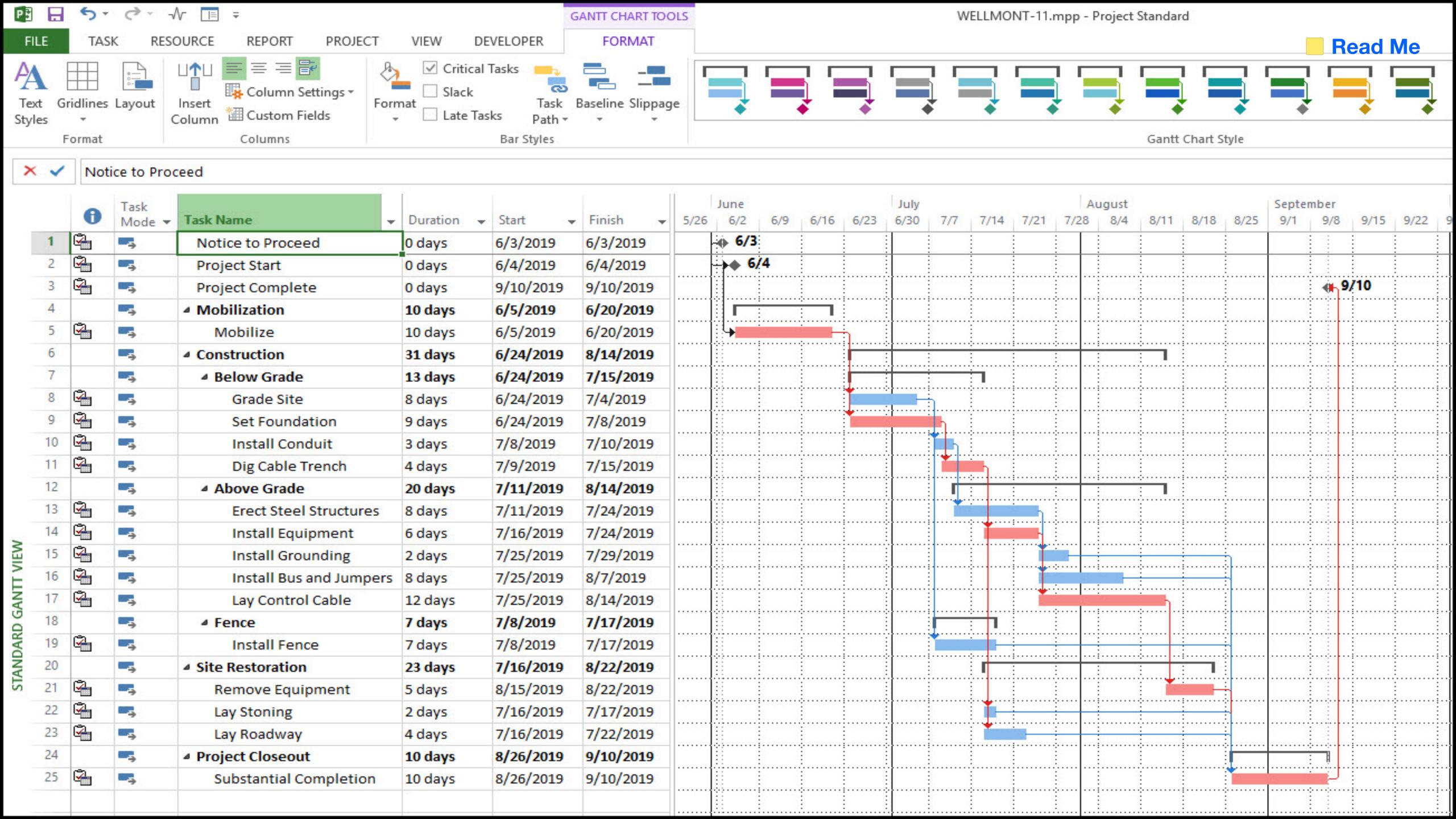
Waterfall

Project management

- Designing a computer, remodeling, or moonshots
- NASA discovery, scoping, documentation, development, testing, and launch
- Meetings, planning, strategizing, and sign-offs
- Fuji-Xerox tried NASA's method

Traditional

Quality dropped. Failure rates rose. Delivery tanked.



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- Quality dropped. Failure rates rose. Delivery tanked.
- A map is not the terrain
- 'No plan survives first contact with the enemy.'
- Standards are often lower at the end of a project than the beginning.

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Agile

Product management

Reimagined

- Microsoft 365 16.9 in January 2018
- Microsoft 365 16.75 in July 2023
- macOS frequent delivery has forced third-party developers to update and release more frequently
- Lost market share, leave the market, or die

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

https://agilemanifesto.org/

Principles behind the Agile Manifesto

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

https://agilemanifesto.org/principles.html

Continuous attention to technical excellence and good design enhances agility.

Simplicity — the art of maximizing the amount of work not done — is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

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- Feedback loop
- OODA Observe, Orient, Decide, and Act

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Lessons Learned

- Waterfall development can include a lot of bureaucracy
- It assumes the project plan is perfect and won't change
- Any change in the waterfall upsets the rest of the project plan
- Value is only realized when a project finishes
- Project success is often the result of lowered expectations
- "The map is not the terrain."
- "No plan survives first contact with the enemy."
- Agile development encourages tight feedback loops
- Observe. Orient. Decide. Act.





Scr

As a: Presenter

I want to: Show my Scrum methodolog

So that: They'll und development deci



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Story

Sprint



Just the facts, ma'am

Getting perspective

- Fact-based, evidence-based, and transparent
- Feature requests
- Customer interviews and focus groups
- Customer weight
- Subject matter experts
- Discussion boards
- App metrics
- Observe. Orient. Decide. Act.
- No blame

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Sprint

Story

Once upon a time...

Translating facts to stories

- Understand what customers think not what they say they want
- "Build credit card fields to capture card number, expiration date, and verification code."
- "I want to pay online."
- Backlog



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Sprint

Lather. Rinse. Repeat.

The cycle of development

- Generally two weeks but not more than a month
- Purposely time-blocked

X01011:

Packet

overrun'

JULY 2023 Fri Sat Sun Thu Mon Tue Wed 30 28 Planning | Daily 5, Daily 4 Daily6 Daily' standup standup standup standup Sprint 27 Daily10 Daily11 paily 2 Daily 3 15 Review 1 standup standup standup standup Retrospective 17 18 19 20 22 Sprint 24 25 27 29 26 28

Send command to update software and get feedback

As a: Desktop administrator

I want to: Send a command to a computer to install software and

receive feedback

So that: I know it succeeded or failed

Improve feedback from software update command

As a: Network administrator

feedback I receive when sending a Network Connectivity'

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Lather. Rinse. Repeat.

The cycle of development

- Generally two weeks but not more than a month
- Purposely time-blocked
- Iterative releases

	Sun	JULY 2023						
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Lessons Learned

Scrum is about teamwork

DOING

- Developers have probably never been end users of their products
- Scrum is empirical relying on facts collected from customers
- Observe. Orient. Decide. Act.
- What customers say they want isn't always what they think
- A story is the best method to relay what customers need
- Sprints are quick and iterative, which encourages faster feedback
- Iterative development means not having to wait years for new features or to give feedback



Agile



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Scrum Master

Developer

Product Owner

Domain expert

Story teller

- Keeper of the backlog
- Represents the customer
- Not the same as a Product Manager
- PMs are responsible for long-term vision
- POs are responsible for short-term execution
- Not a committee but one person

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Developer

Scrum Master

Scrum team sensei

Herder of cats

- Servant leader
- Guides the team through the Scrum process
- What did you do yesterday?
- What will you do today?
- Are there any impediments in your way?
- Removes anything blocking a developer's progress

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Developer

Coders and testers

10-foot tall Oompa Loompas

- Self-managing
- Cross-functional with a diverse set of skills

2 X 5 = 10

senior developers units of work

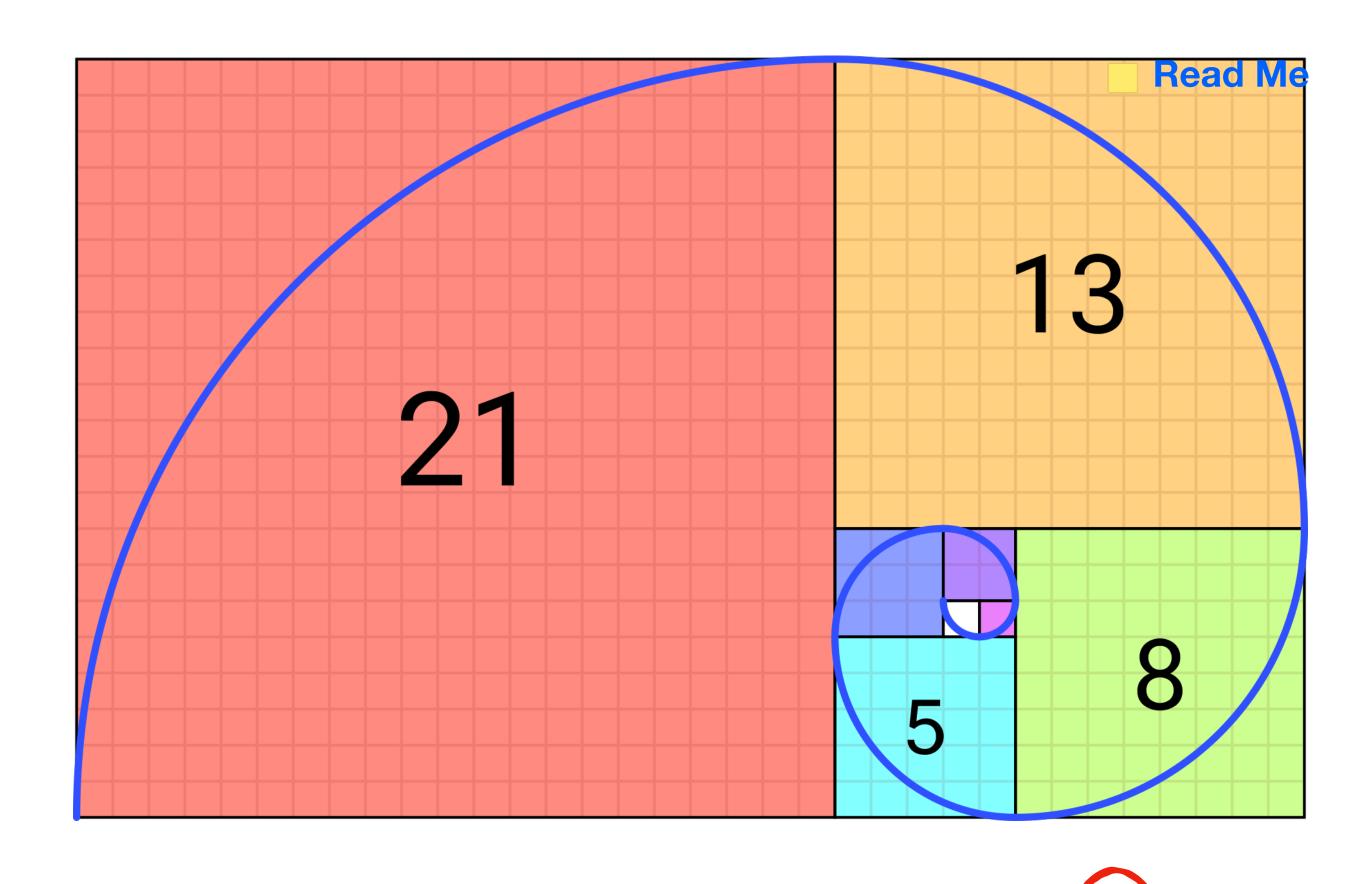
units of work

3 X 3 = 9

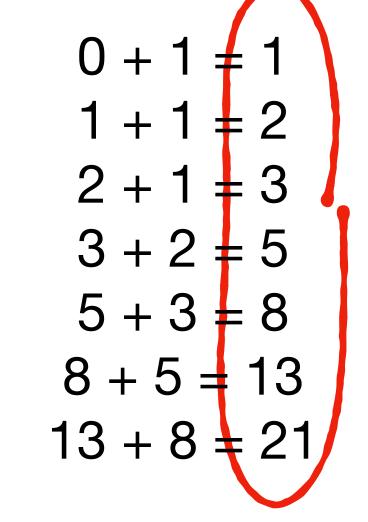
junior developers units of work

units of work

units of work



Fibonacci sequence



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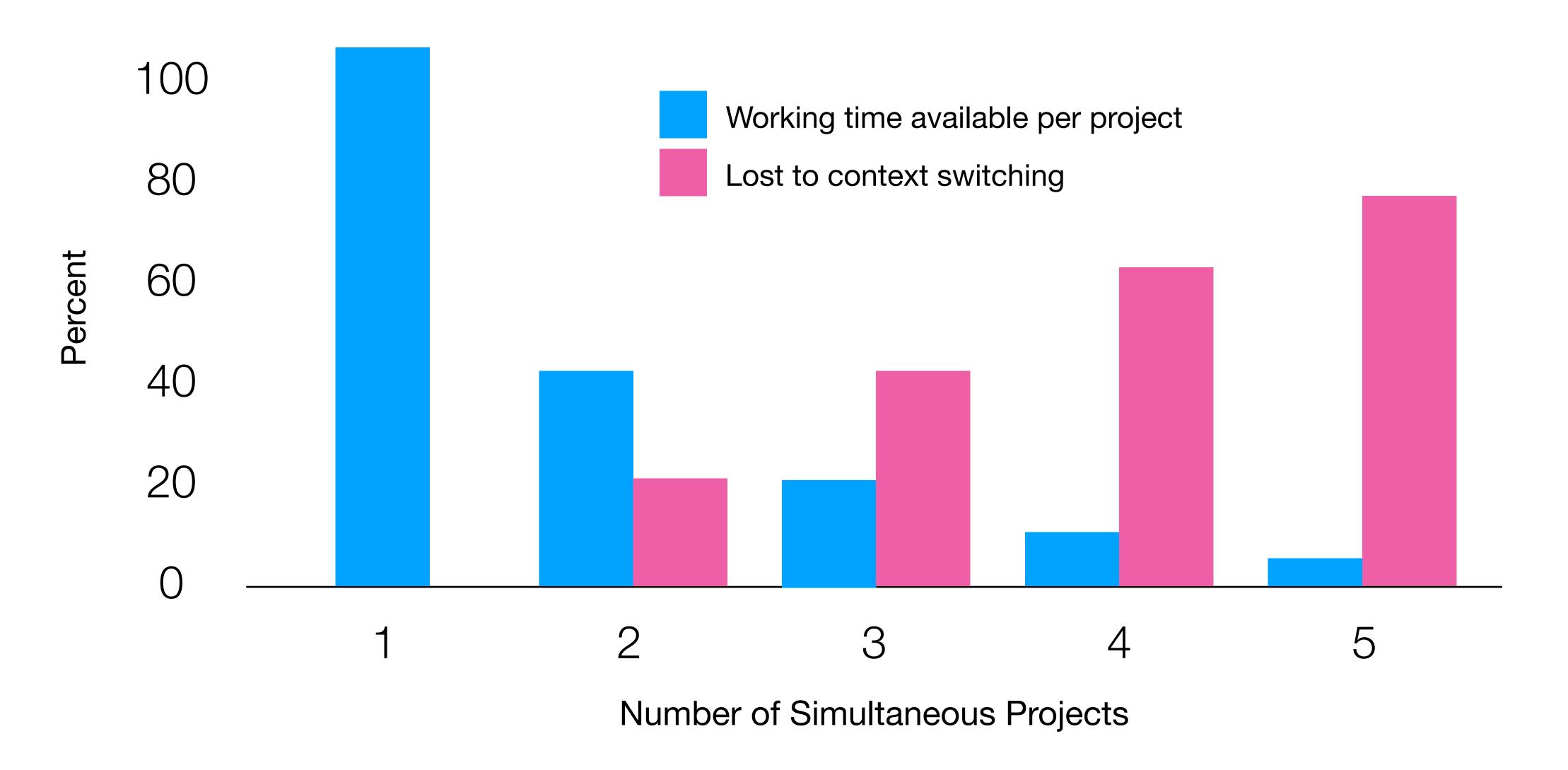
Developer

Coders and testers

Herder of cats

- Self-managing
- Cross-functional with a diverse set of skills
- Avoid context switching
- Changing working data in our brains takes time
- 100% 20% / 2 = 40%

Context Switching



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Coders and testers

Heads down

- Self-managing
- Cross-functional with a diverse set of skills
- Avoid context switching
- Changing working data in our brains takes time
- 100% 20% / 2 = 40%
- Context switching delays release and delays ROI
- 2 developers x 1 project = Half the time?
- The Mythical Man-Month Brooks's Law

My experience

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Lessons Learned

- Product Owners are responsible for short-term execution
- Customers requesting new features want to influence POs
- Scrum masters are the servant leaders of developers
- "What did you do yesterday?"
- "What will you do today?"
- "Are there any impediments in your way?"
- Developers are self-managing and choose work for each sprint
- Context switching is detrimental to software development
- Brooks's Law: Nine women cannot make a baby in one month







Sprint



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Feedback Channels

Your fleet

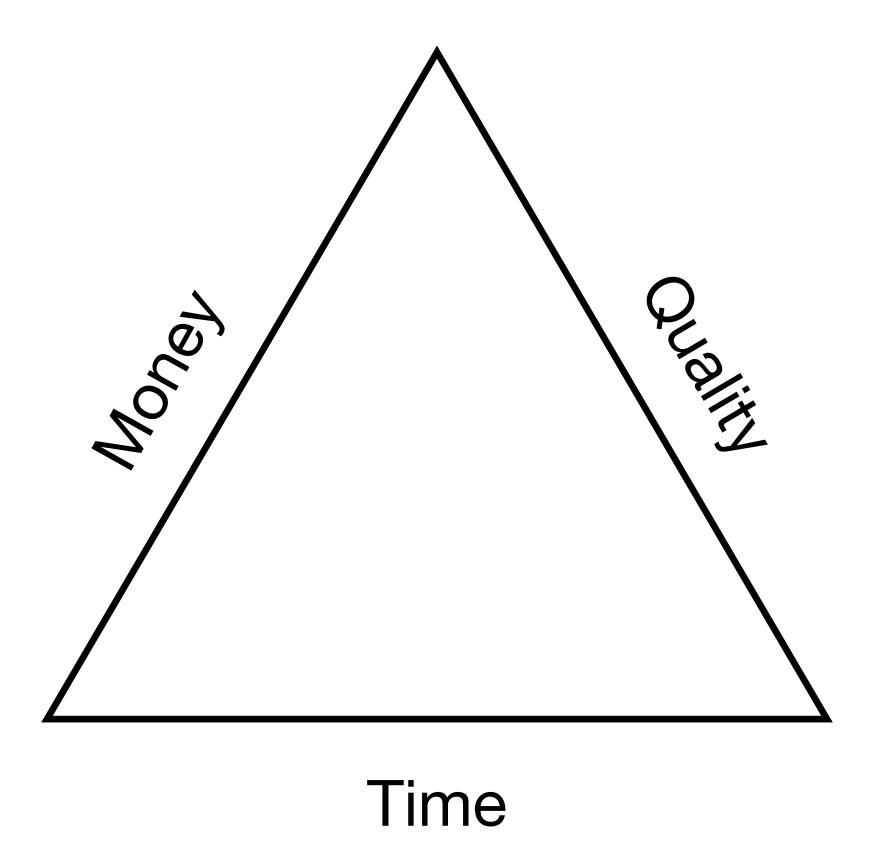
Telemetry

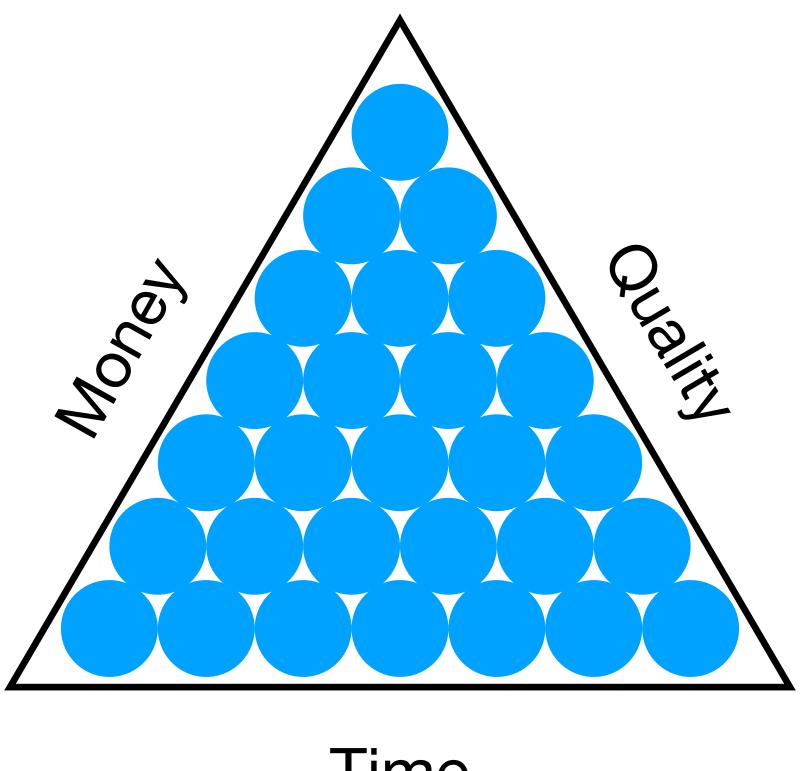
Constraints

Time, money, quality

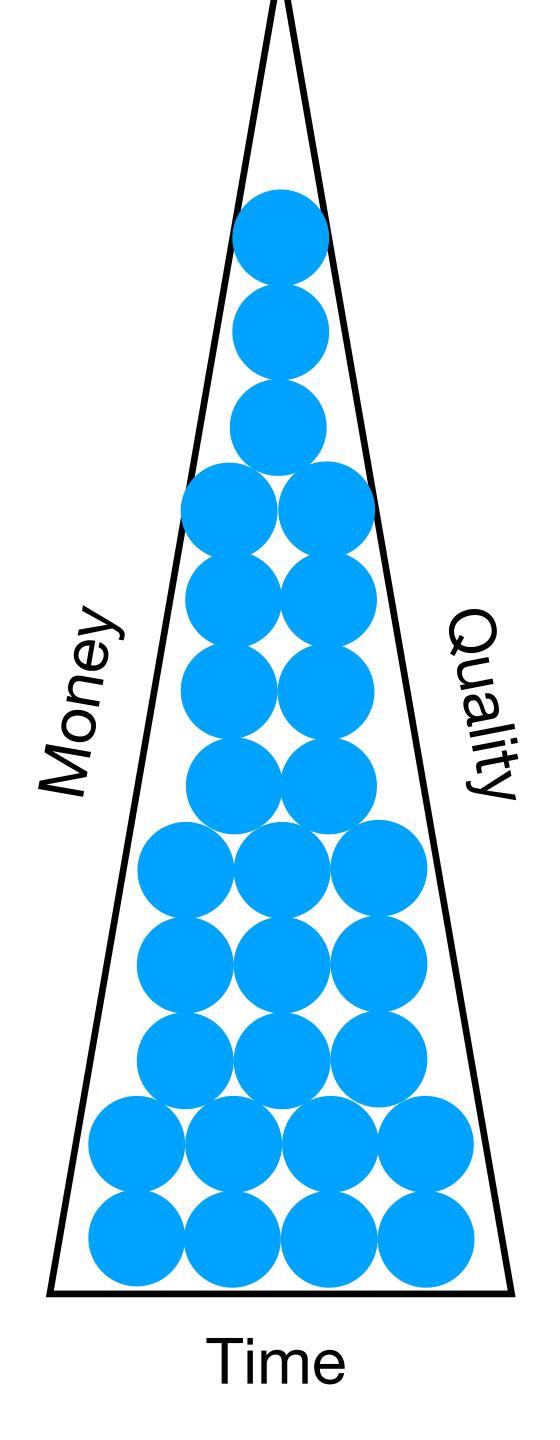
Pick any two

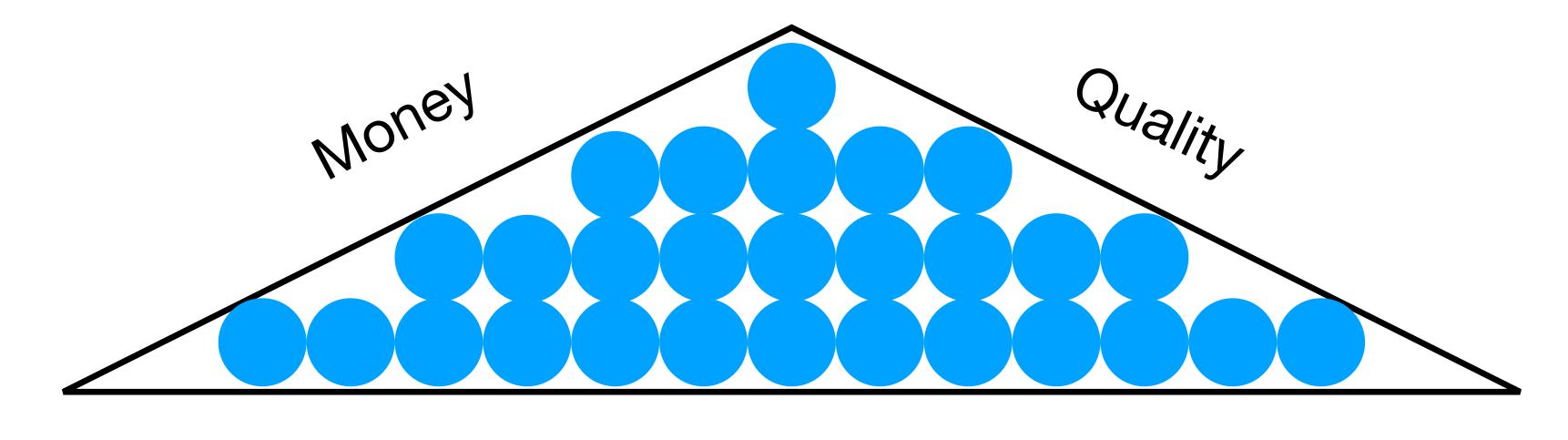
Changing any two variables constrains the third





Time





Time

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Feedback Channels

Your fleet

Telemetry

Constraints

Time, money, quality

Pick any two

- Changing any two variables constrains the third
- Cold hard facts
- "Do more with less" still requires sacrifice
- Software developers are empirical

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Feedback Channels

They are among us Hello, neighbor!

- Communities and support forums
- Public and private betas
- Betas are not the time to ask for new features
- Feature requests

Your fleet

Telemetry

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Telemetry

Your fleet

Stay up-to-date

N-2

- Operating system versions affect installed software versions
- Less incentive to release new software
- Some features rely on the latest operating system
- Software maintenance redirects resources away from developing new features
- Microsoft Office N-2 policy

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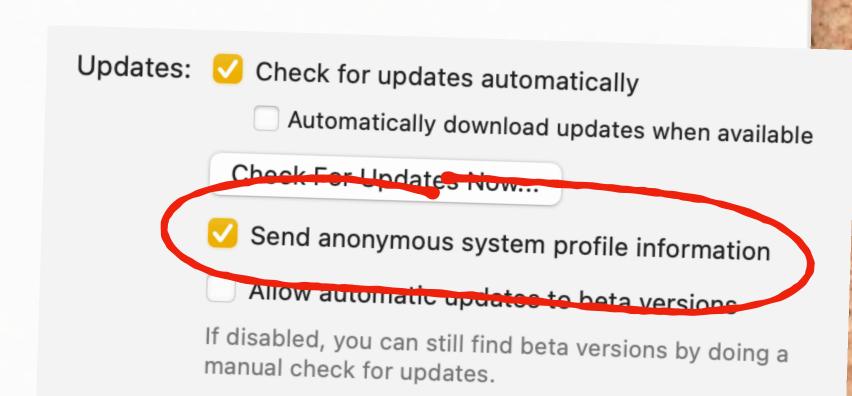
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Telemetry

Shoulder surfing

Automatic feedback

- "Help us improve our products by sharing data with us"
- Office for Mac phones home with every launch
- Sounds suspicious?
- Product features and buttons
- Online access often means automatic opt-in
- Telemetry is objective
- Understand just what data is shared



Threads

App Privacy

See Details

The developer, **Instagram**, **Inc.**, indicated that the app's privacy practices may include handling of data as described below. For more information, see the developer's privacy policy.



Data Linked to You

The following data may be collected and linked to your identity:

- Health & Fitness
- Purchases
- Financial Info
- Location
- 1 Contact Info
- Contacts
- User Content
- Search History
- Browsing History
- Identifiers
- ■■ Usage Data

Sensitive Info

Diagnostics

Other Data

Privacy practices may vary, for example, based on the features you use or your age. Learn More

Mastodon

App Privacy

See Details

The developer, Mastodon, indicated that the app's privacy practices may include handling of data as described below. For more information, see the developer's privacy policy.



Data Not Collected

The developer does not collect any data from this app.

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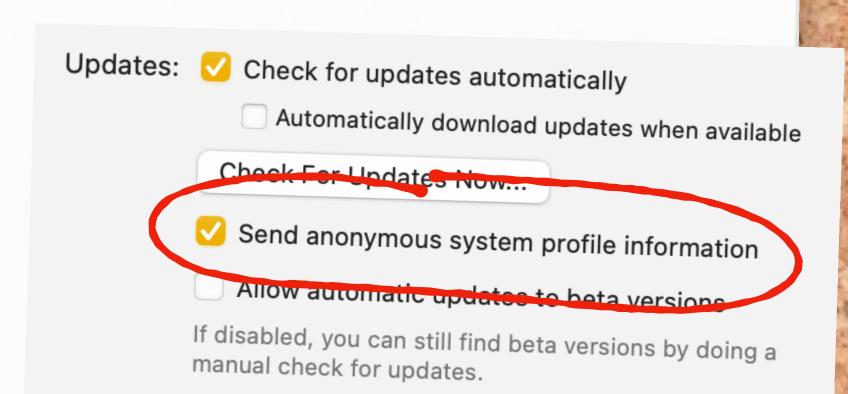
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Lessons Learned

- Time, money, quality Pick any two
- There is no such thing as "doing more with less"

DOING

- Participate in feedback channels forums and communities
- Betas aren't the time to ask for new features
- Keep up with updates to avoid supporting multiple OSes
- Allow telemetry to collect anonymized data for developers
- Review your software developer's privacy policies about data they collect







Sprint



Scrum Master



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DOING

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DONE

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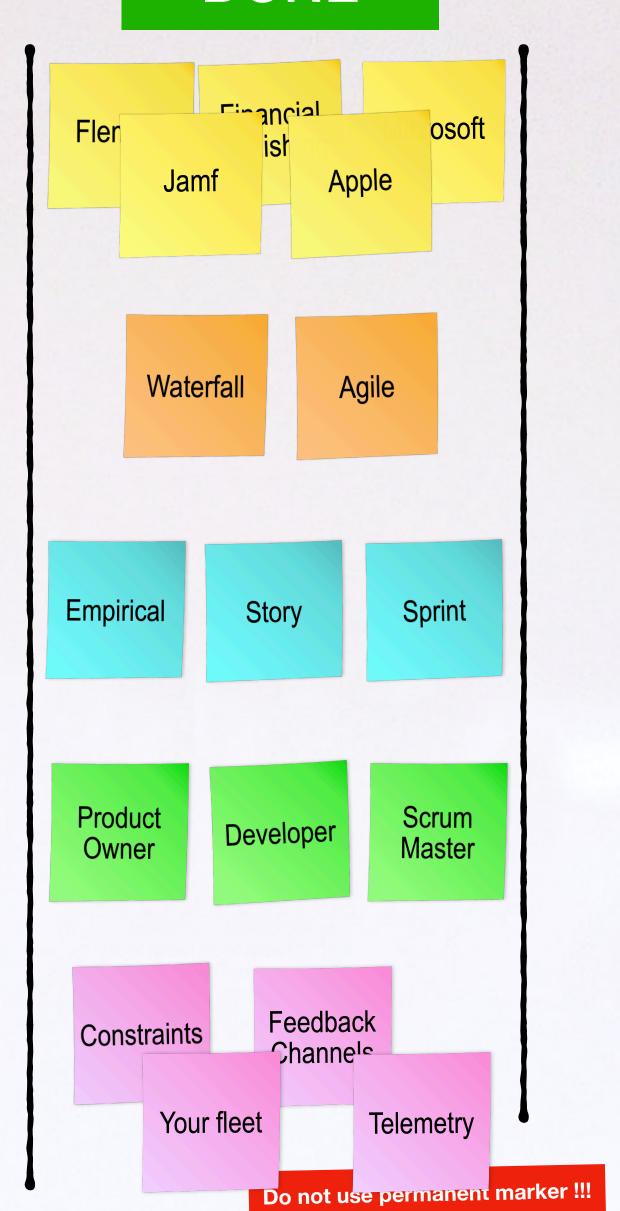
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