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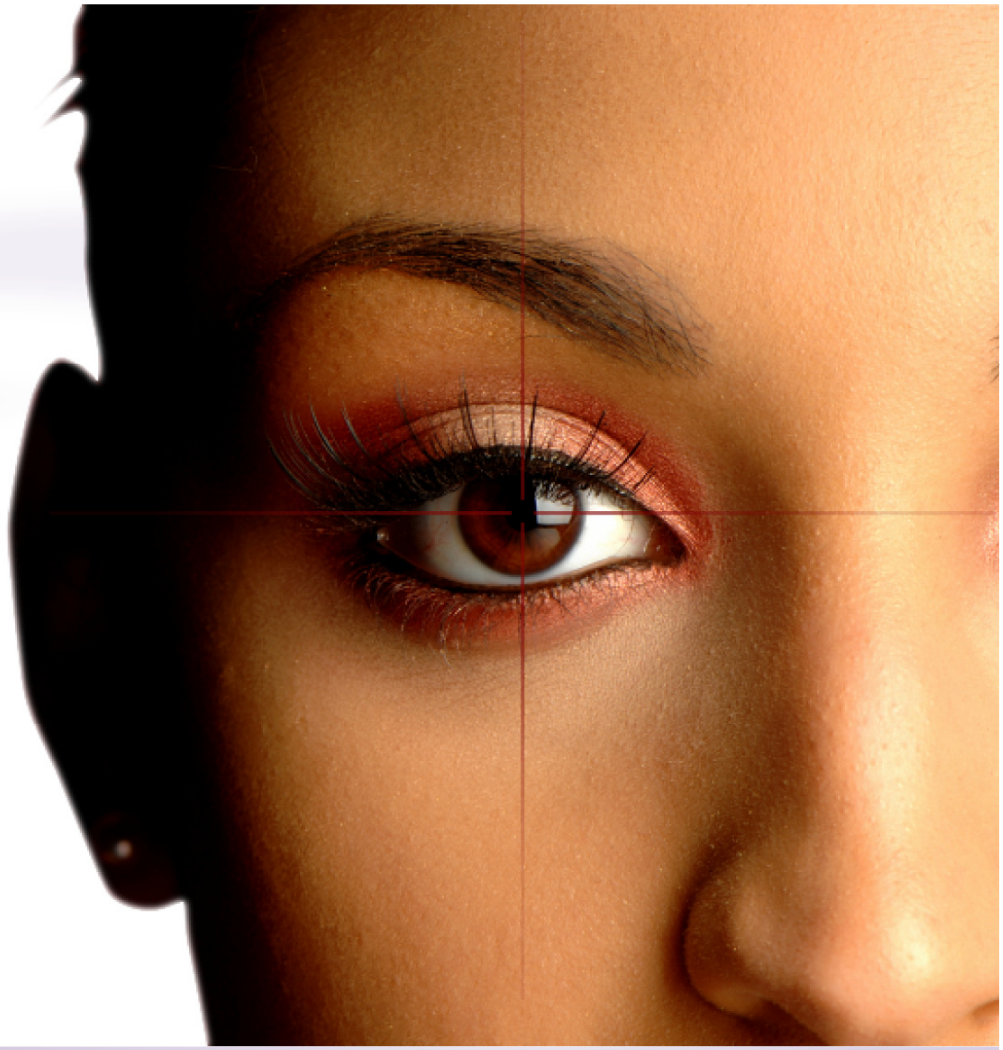

A Journey to Agile

Presented by: Chris Va'a

Presented by :

So, who am I and why am I standing here?

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- Marie Walsh (Associate member of ANZTB) has incriminating photo's involving a poodle, two goldfish and whipped cream
- Agile is something that is here to stay and we need to 'adapt or die'
- I've completed the ScrumMaster certification program
- Even though the Organisation started their transition in 2008, the lessons of 4 years are much more relevant given the anecdotal evidence to support the transition.
- I am currently a Principal Consultant with Access Testing
- Experience with the following domains
  - Health, Telco, Education, Manufacturing, Insurance / Superannuation, Local and National Government Agencies / Departments
- http://au.linkedin.com/in/chrisv2008
- Twitter: Jetstream07

Who are Access Testing?

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- Thought Leadership + Passion + Innovation = Australia's #1 testing organisation
  - Started up in 1995. We now have over 200 testing professionals working out of our offices and testing labs in Sydney, Melbourne, Canberra and Brisbane and most recently Hong Kong.
  - We believe that Customer Experience and not technology is the source of long term competitive advantage for companies.
  - We introduced eye tracking technology to Australia in 2001
  - We pioneered Engagement Testing globally in 2008 to enable us to test at every customer contact point. Innovation and thought leadership is part of our DNA
- Access Testing CEO: Tony Bailey: tony.bailey@accesstesting.com
- Access Testing General Manager: todd.pasley@accesstesting.com
- Our website: www.accesstesting.com.au
  - We are currently recruiting for testers at all levels

Transition Planning

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1. Choosing Agile over more traditional methods of software development
2. Choosing the right Agile 'Flavour'
3. Reviewing the 'Agile Manifesto'
4. Contextualising the 12 'Agile Manifesto' principles in an Agile Charter
5. Contextualising the chosen Agile 'Flavour'
6. Changing the Test Team
7. Adapting the traditional Test Artefacts
8. Test Planning & Execution in Scrum
9. Our first Scrum Project
10. Changes to Reporting in Scrum
11. Lessons Learned
12. Assess, Review and Adapt

Waterfall vs. Agile

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Question: What's wrong with Waterfall?

Answer: Nothing

Question: What will Agile give us that Waterfall doesn't?

Answer:

- Scalability to meet time to market and legislative considerations
- Development of self contained 'features' instead of big bang that are 'solution centric, not application centric
- The ability to work directly with the customer instead of 'in spite of' or instead of
- Iterative and incremental development
- Promotes 'conversation over documentation' to keep people on track

Waterfall vs. Agile (detailed)

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Waterfall (Traditional Methodology for SDLC)	Agile (Contemporary Methodology for SDLC)
Assumes all business requirements are defined and signed off up front •Difficulties in handling 'evolving requirements and Scope Creep	• Agile is 'feature based' meaning that 'features' can be delivered as standalone items to production. • The Organisation that decided Agile would be an enabler to deliver and meet the challenges of 'Time to Market' considerations as well as legislatively date driven immovable requirements
Development is typically application centric •Connectivity and other environment problems are detected late and serious integration failures can lead to project slippage	• Agile development is feature centric, in that a feature includes all the application touch points from ends to end. • Defining end to end features as opposed to Solution or Application centricity would deliver granular measure of quality and quantity desired, i.e. Working Software • Points of integration and life cycling the data would be tested much earlier than in the traditional test phases defined in a Waterfall paradigm
Multiple handover points to different teams which then require detailed documentation •Some documentation sections are superfluous and / or repetitive.	Agile allows the customer and development to talk about success criteria for features and includes user stories of the people who will be using the system. User stories are defined as As a <User Role>… I want <Feature>… So that <Success Criteria / Measure>…

Waterfall vs. Agile (detailed)

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Waterfall (Traditional Methodology for SDLC)	Agile (Contemporary Methodology for SDLC)
Waterfall doesn't cope with evolving / changing requirements	A list of self-contained features is more easily managed when defining Sprint Goals and features that cannot be completed or incomplete can be prioritised for the next available sprint. This provides flexibility to deliver more 'working' features in a sprint than delivering partial features or non working features to production.
By the time a solution is delivered, is it what was originally required?	Defining and articulating the User Story correctly means the result for easy measurement and management of features readiness to go to production. User stories are defined as As a <User Role>… I want <Feature>… So that <Success Criteria / Measure>… The Scrum team would become fully conversant with the objectives and outputs required of each item in the product list as prioritised by the Product Owner

What 'flavour' of Agile to choose?

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Crystal Methods	• Crystal is a family of methodologies including Crystal Orange, Crystal Light which purports that since each team has different skills and each project has different requirements, they should follow a different process tailored to it.
Adaptive Software Development (ASD)	• Uses and iterative approach to improving an organisations process not just the software they're developing • Take key learnings from mistakes made due to false assumptions in the previous iteration and adapt for the next
Dynamic Systems Development Model (DSDM)	• Similar to RUP it is a flexible framework rather than a prescriptive approach emphasizing continuous User Involvement and employing techniques such as MoSCoW Prioritisation, Time-boxing, Facilitation and prototyping. • DSDM consists of 3 phases: pre-project phase, project life-cycle phase, and post-project phase. • The project life-cycle phase is subdivided into 5 stages: feasibility study, business study, functional model iteration, design and build iteration, and implementation.
Extreme Programming (XP)	• XP places more focus on actual programming techniques than other mainstream Agile methodologies. Practices include: ○ Test Driven Development (TDD) where unit tests are written before the code they test. ○ Continuous integration where everyone commits code daily and the build process automatically runs the unit tests. ○ Pair programming where 2 programmers or programmer / tester combo
Feature Driven Development (FDD)	• FDD follows a more traditional waterfall software development approach in the initial phases of the project with distinct overall modelling and feature list building and planning phases followed by iterations of feature design and build phases. • Features are functionality of business value expressed in the form <action> <result> <object>, e.g.: "Calculate the total of a sale". Typically more suitable for projects with stable requirements.
Lean Software Development (LD)	• Borrows principles from manufacturing processes developed by Toyota which focus on eliminating waste and bureaucracy.
Rational Unified Process (RUP)	• RUP is a collection of many practices from which organisations select elements that match their common and individual project needs, consequently it is more a process framework rather than a process.
Scrum	• Scrum concentrates on the management aspects of software development, placing much less emphasis on engineering practices. • Easy to learn and implement with little documentation. • The development team is self-organising and works closely with the client who is ideally available as often as possible. • Tasks are listed in the product backlog in priority order, and the team selects which stories to do in the iteration (sprint).

Why our Organisation chose Scrum?

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- The development manager at the time was a Kiwi
- The Test / Agile Consultant was a Kiwi
- Scrum allowed for scalability to meet time to market considerations and legislatively driven dates to deliver end to end features (products) as opposed to solution or application centricity typified by Big Bang implementations
- Allows continuous conversation between the people that matter (Pigs and Chickens)

A Pig and a Chicken are walking down the road. The Chicken says, "Hey Pig, I was thinking we should open a restaurant!". Pig replies, "Hm, maybe, what would we call it?". The Chicken responds, "How about 'ham-n-eggs'?".

The Pig thinks for a moment and says, "No thanks. I'd be committed, but you'd only be involved!"

Reviewing the 'Agile Manifesto'

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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!

Contextualising Agile Manifesto principles

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Agile Manifesto Principle	Organisational Charter
Our highest priority is to satisfy the customer through early and continuous delivery of valuable software	The Organisation will engage and involve the customer in the Scrum methodology via participation in Scrum meetings.
Welcome changing requirements, even late in development. Agile processes harness change for the customers' competitive advantage	Changing requirements are a fact of the SDLC (Software Development Life Cycle). Time to market and legislative considerations must be accounted for
Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to a shorter timescale	Sprints will be typically 4 weeks within the Organisation but will have enough flexibility should it be required.
Business people and developers must work together daily throughout the project	The organisation accepts that there are 3 principal roles within Scrum, being ScrumMaster, Product Owner and Core Team
Build projects around motivated individuals. Give them the environment and support they need and trust to get the job done.	The Organisation recognises the benefits of supportive teams working collectively and collaboratively to a common goal

Contextualising Agile Manifesto principles

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Agile Manifesto Principle	Organisational Charter
The most efficient and effective method of conveying information to and within a development team is face to face conversation.	The Organisation has already adopted the framework of Daily Stand-up and with the adoption of virtual teams will be able to use 'Triage' or 'War room' scenario's as and when required
Working software is the primary measure of the development progress.	Break each feature down to its smallest component a.Core Flow (the minimum amount of data required for a successful transaction within a feature) b.Secondary / Alternate flows c.Exception flows and Error Handling
Agile processes promote sustainable development. The sponsors, developers and users should be able to maintain a constant pace indefinitely	During the proof of concept and the sprint phases, the Organisation will review the number of features delivered in each sprint to ascertain the optimal sustainable output that can be achieved
Continuous attention to technical excellence and good design enhances agility	The Organisational Architects will provide Governance level assistance to Lead Developers assigned to each Agile team to deliver Operational Level designs. Periodically, these will be reviewed to ensure that technical excellence and technical debt are effectively managed

Contextualising Agile Manifesto principles

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Agile Manifesto Principle	Organisational Charter
Simplicity – the art of maximising the amount of work done, is essential	The Organisation defines done as when the feature has been defined, designed, built and tested according to the standard definitions of the SDLC.
The best architectures, requirements and designs emerge from self-organising teams	The Organisation is committed to having: • Product Owner • ScrumMaster • Scrum team consisting of at least a Lead Developer, Business Analyst and Test Analyst.
At regular intervals, the team reflects on how to become more effective, then tunes its behaviour accordingly	The Organisation is committed to Demo's and retrospectives as part of a Continuous Improvement Process and valuable lessons learned at the end of each sprint.

An Introduction to Scrum

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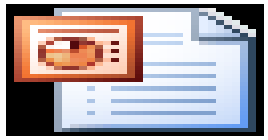
- I had a series of conversations with Mike Cohn from Mountain Goat Software.
- He provided a redistributable presentation on Scrum which is attached. In it he outlines
  - Scrum defined in 100 words
  - Scrum has been used by and used for
  - Scrum characteristics
  - The Agile Manifesto
  - Project Noise Levels
  - Scrum – An overview
  - Sprints
    - Sequential versus Overlapping development
    - No changes during a sprint
  - Scrum framework
    - Roles
    - Ceremonies
    - Artefacts
    - Scalability
    - Websites, Reading Lists, Copyright and Contacts



Microsoft
PowerPoint 97-2003 Presentation

An Introduction to Scrum

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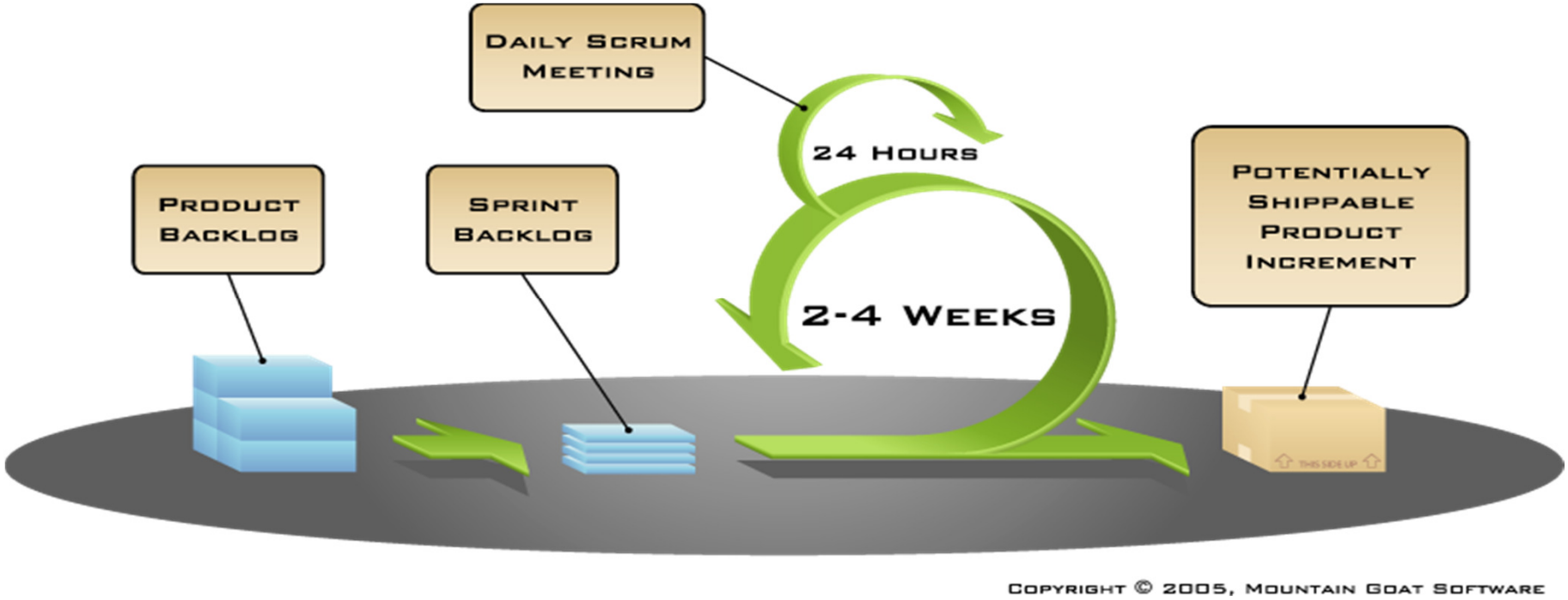

Scrum Roles

- Product Owner
- ScrumMaster
- Scrum Team

Scrum Ceremonies

- Sprint Planning
- Sprint Review
- Sprint Retrospective
- Daily Scrum Meeting

Scrum Artefacts

- Product Backlog
- Sprint Backlog
- Burndown Charts

Changes to the Test Team

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- We had 5 testers in the team
- They were assigned to a Scrum Team(s)
- While their accountability was to the Scrum team, they continued to have dotted line reporting to the Agile / Test Consultant and the Manager
- As an integral member of the Scrum Team, they became involved during all facets of the Scrum framework (roles, ceremonies and artefacts)
- Resolving ambiguities, qualifying risks and issues and challenging assumptions were done much earlier defined by user stories, success criteria and access to the Product Owner, ScrumMaster and Scrum team members.
- Asking the 3 questions
  - What did you do yesterday?
  - What are you doing today?
  - What impediments / blocks are in your way?

Formal Test Documentation

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- We wrote an enterprise test strategy encompassing Agile and Waterfall methodologies
- We attempted to write test plans based on Sprints
- We still wrote scripts per feature identified in the product list
- At the completion of each sprint, the scripts were made available to the Automation team (at the time there was 1 resource)
- Where known, non functional requirements were defined as part of the feature set.
  - Typical behaviour was usability testing and processing speed to submit a transaction
  - Performance and Load testing weren't covered at the time
  - The tool used by the Organisation was Jira which tracked build and development with testing and defects also tracked.

Test Planning & Execution in Scrum

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Test Planning

- Attending Product List prioritisation sessions (pipeline)
- Attending Sprint Planning Sessions
- Attending Daily Scrum Meetings

Test Execution

- Attending Sprint Review Meetings
- Attending Sprint Retrospectives
- Attending Daily Scrum Meetings

Our First Scrum Project

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When looking for the right vehicle to use as 'Scrum – Proof of concept' we chose the following attributes:

- Low complexity
- Scalable solution
- Categorised sprints
  - Sprint 1 – Primary Workflows
  - Sprint 2 – Secondary / Alternate Workflows
  - Sprint 3 – Exception / Error Handling Workflows
- Prioritised Product List
- Sprint planning and tasks (in hours) – Useful tool: Planning Poker
- Being cognisant of 'Epics' and 'Stories'.

Changes to Reporting in Scrum

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Test Planning

- Attending Product List prioritisation sessions (pipeline)
- Attending Sprint Planning Sessions
- Attending Daily Scrum Meetings

Test Execution

- Attending Sprint Review Meetings
- Attending Sprint Retrospectives
- Attending Daily Scrum Meetings

Test Meetings

- Weekly catch-up with Test Manager

Lessons Learned in Scrum

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- If you can, attend Scrum training sessions
  - Kane Mar facilitated ScrumMaster certification for 14 (pigs) staff within our Organisation
  - http://scrumology.com/
- Get Senior Stakeholders to support your transition plan
- Agile is considered too simple to work. The beauty is in its simplicity.
- Follow the Agile flavour chosen to the letter. Don't make changes until you've done as suggested
- If you find there's not enough time to test consider making a separate and distinct sprint for Testing
- Learn from your mistakes
- Learn from your Scrum team members
- Don't become 'FrAgile'!

Lessons Learned in Scrum

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- Have a single product owner where possible. Someone who is responsible / accountable for the feature post go-live
- Testers loved being involved earlier
- Prioritise and re-prioritise your product list as often as practicible
- Commit to your sprint and do not deviate until you know what your ‘velocity’ level is
- Stakeholders loved having shippable features at the end of each sprint.
- The Scrum team (including ScrumMaster and Product Owner) learned valuable communication skills and cross-skilling, where the Tester might have a development activity / task or a Developer takes on some testing.
- An evolving conversation between the ‘pigs’ and engagement with ‘chickens’ at points within the Scrum framework kept the team ‘on task’
- Electronic mechanisms weren’t as effective to capture velocity and burn-down charts.

Lessons Learned in Scrum

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- In the early ‘proof of concept’ stage, learning your velocity is empowering and provides a sense of accomplishment
- Every role in Scrum is important and interchageable. The only role that isn’t is that of Product Owner
- Only change the Scrum membership at the end of a Sprint (if unavoidable).
- Do not jeopardise your sprint backlog. Change should be managed through the Product backlog and worst case scenario for the ‘next sprint’.
- As we matured the Sprint process, we evolved from Sprint 1 – Core Workflow, Sprint 2 – Secondary / Alternate Workflow, Sprint 3 – Exception / Error Handling Workflows to true end to end features where the success criteria was broken down by these 3 items
- Finding the sustainable pace and rhythm were key to productivity and reduction to rework due to over-committing or under-delivering.

Lessons Learned in Scrum

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- Set aside a set time and place for daily stand-ups and have your sprint backlog and velocity chart at the same place