Agile Project Management

WE'RE GOING TO TRY SOMETHING CALLED AGILE PROGRAMMING.
THAT MEANS NO MORE PLANNING AND NO MORE DOCUMENTATION. JUST START WRITING CODE AND COMPLAINING.
I'M GLAD IT HAS A NAME.
THAT WAS YOUR TRAINING.
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What Is Agile?

- Agile is a group of software development methodologies
  - Scrum
  - Extreme Programming (XP)
  - Lean
  - Etc.
- Key Characteristics:
  - Small increments
  - Adaptive to change
  - Collaborative

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Defining Agility

- Individuals and interactions over processes and tools
  - Encourage engagement between functional areas
  - Avoid using documents to hand off information

- Working software over comprehensive documentation
  - Focus on incrementally attacking the problem
  - Stay releasable

Defining Agility

- Customer collaboration over contract negotiation
  - Prioritize based on business value
  - Work together to ensure that value is maximized

- Responding to change over following a plan
  - Plan just enough (no more than necessary)
  - Defer to the last responsible moment
  - Stay flexible and leverage what you've learned

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Why Do It?

- It results in better software
  - Higher productivity (you get what you need quicker)
  - Higher quality
  - More customer satisfaction
  - More visibility
  - Better morale

Roles

- Product Owner
- Scrum Master
- Team Member

Product Owner

- Prioritizes the backlog
- Communicates what is important … and what is not
- Is a proxy for the customer

Scrum Master

- Responsible for the process
- Facilitates agile meetings
- Helps to remove road blocks

Team Member

- Signs up for work
- Asks questions
- Collaborates with others
- Communicates progress / blocking issues
- Makes it happen

What Does It Look Like?

- Backlog
- Release
  - Release Planning
  - Iterations (1-4 weeks long)
    - Iteration Planning
    - Daily standup
    - Demo
    - Iteration Retrospective
  - Release Retrospective

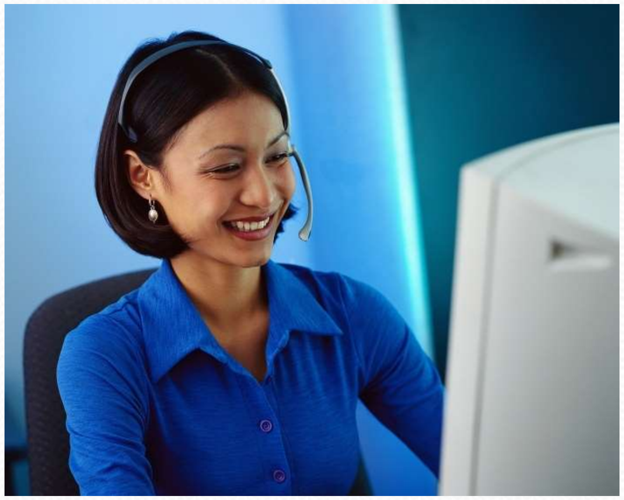
The Backlog

- A ranked list of stories
- What is a story?
  - A scenario that we must do work to implement which results in business value
  - Typically in the form of: "As a <type of user>, I want <feature> so that <business value>"
  - Good stories meet the INVEST criteria

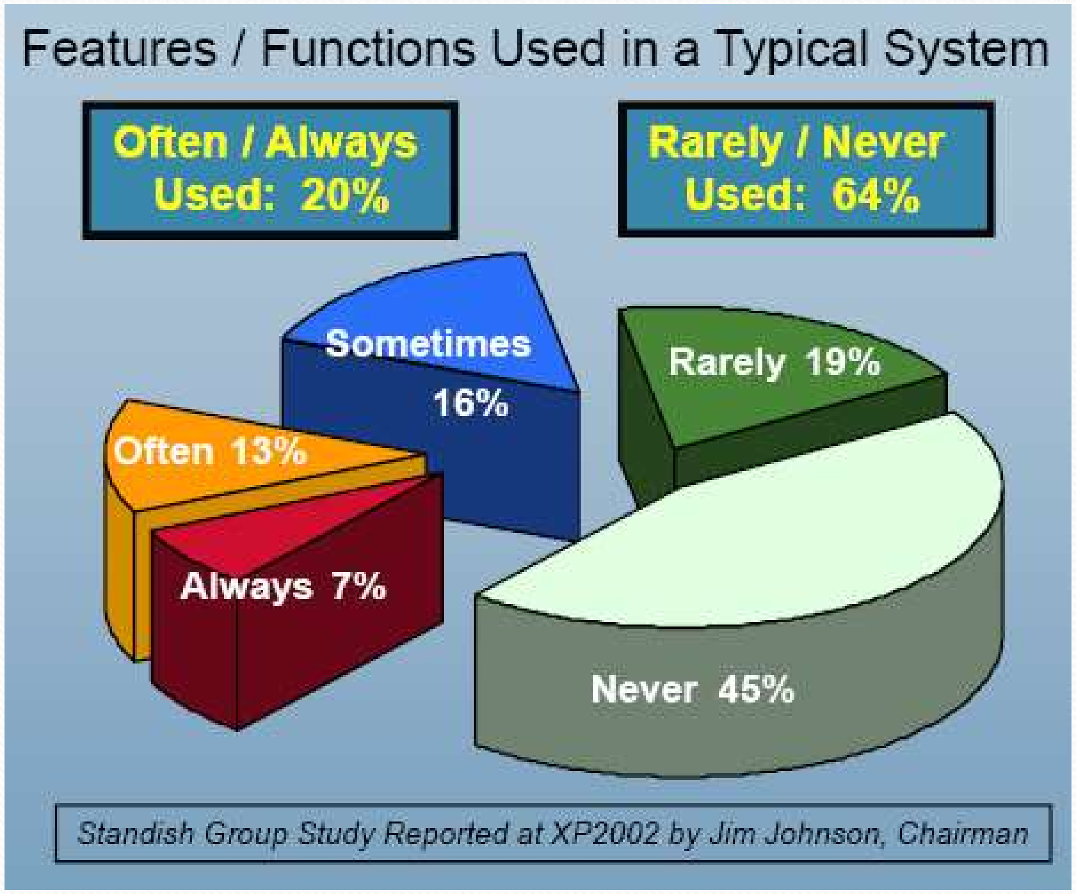
Example

Post a Job

- As a recruiter I want to be able to post a job to the web site so that I can generate interest in the position.



Why Prioritize?



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Prioritization Doesn’t Stop

- The product owner re-prioritizes after each iteration
  - We’ve learned more about the business
  - Let’s take advantage of that
- The further down the list something is, the less defined it will be and the less important it is to prioritize precisely

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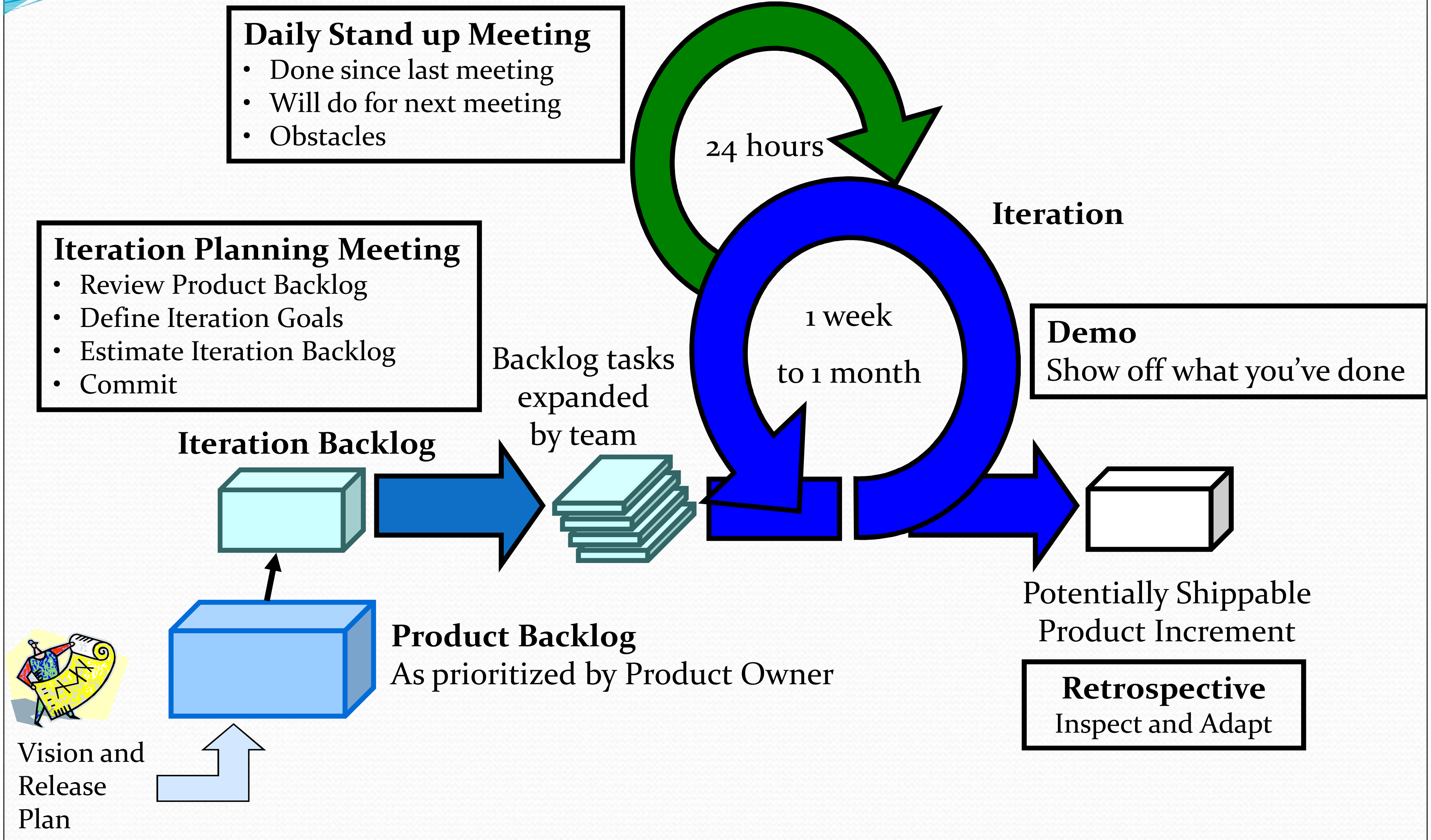
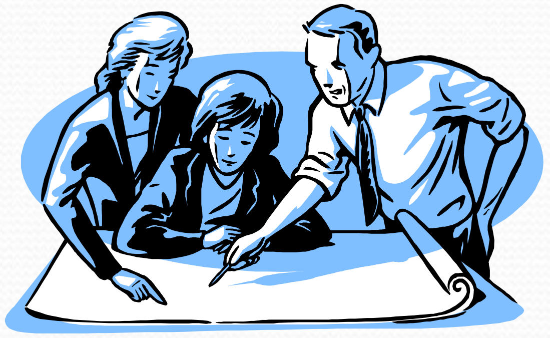
What Does an Iteration Look Like?


Daily Stand up Meeting
• Done since last meeting
• Will do for next meeting
• Obstacles
24 hours
Iteration
Iteration Planning Meeting
• Review Product Backlog
• Define Iteration Goals
• Estimate Iteration Backlog
• Commit
1 week
to 1 month
Demo
Show off what you've done
Backlog tasks expanded by team
Iteration Backlog
Potentially Shippable Product Increment
Product Backlog
As prioritized by Product Owner
Retrospective
Inspect and Adapt
Vision and Release Plan

Iteration Planning

- Define scope as a team
- Define a clear understanding of "done"
- Plan just enough that you can commit



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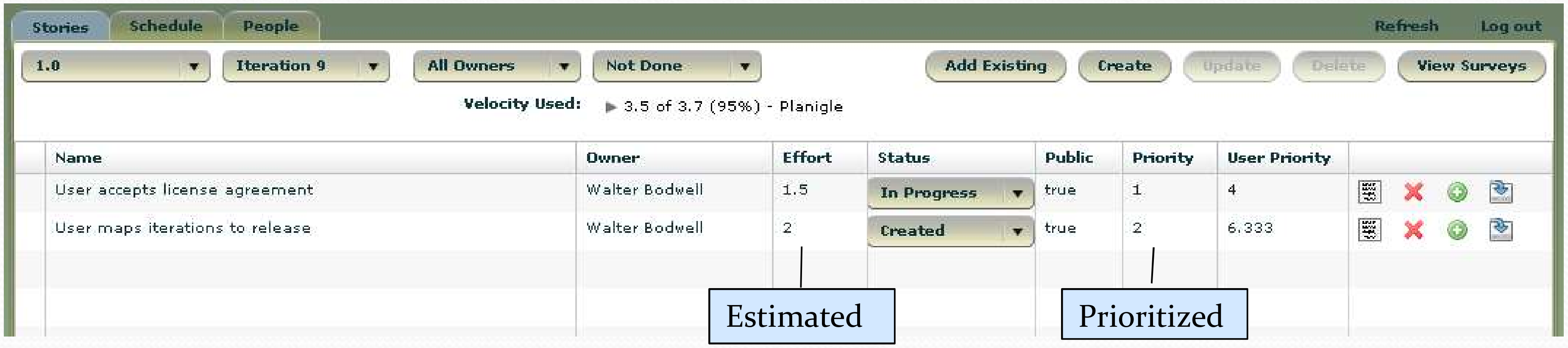
Before you Start

- Well Groomed Product Backlog
  - Prioritized
  - Estimated
- Iteration Theme/Goal



Velocity Used: ▶ 3.5 of 3.7 (95%) - Planigle

Name	Owner	Effort	Status	Public	Priority	User Priority
User accepts license agreement	Walter Bodwell	1.5	In Progress	true	1	4
User maps iterations to release	Walter Bodwell	2	Created	true	2	6.333

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A Typical Iteration Planning Session

- Discuss Logistics
- Review Iteration Goals
- Understand the Stories
- Task out the stories
- Commit

Typical Duration: 3-4 hours

Attendees:
- Product owner
- Scrum master
- Delivery team

Materials:
- Stories (cards or online)
- Task planning material (cards, whiteboard, online)
- Planning/estimation materials (e.g. planning poker cards)

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Review Iteration Goals

- Product Owner
  - Explain the Goal (theme)
  - Make priority adjustments based on feedback from delivery team
- Delivery Team
  - ASK QUESTIONS
  - Understand the Goal, not just the desired features

Discuss Logistics

- Review Historical Velocity
- Review Team Availability
  - Holidays / Vacations
  - Meetings
  - L3 Support, outside commitment, etc
- Review the Definition of Done

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Understand the Story

- Product Owner
  - Explain the Story
  - Explain the "Why" ("as a <role> I <what> so that **<WHY>**")
  - Break down as needed
  - Elaborate on acceptance criteria/tests
  - Make priority adjustments based on feedback from delivery team
- Delivery Team
  - Understand the story
  - Understand and question the acceptance criteria (how will you build a test for each? What about…)
  - Validate the size/implementability

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Task out the Story

- Define tasks
- Estimate the task work
- Validate capacity again

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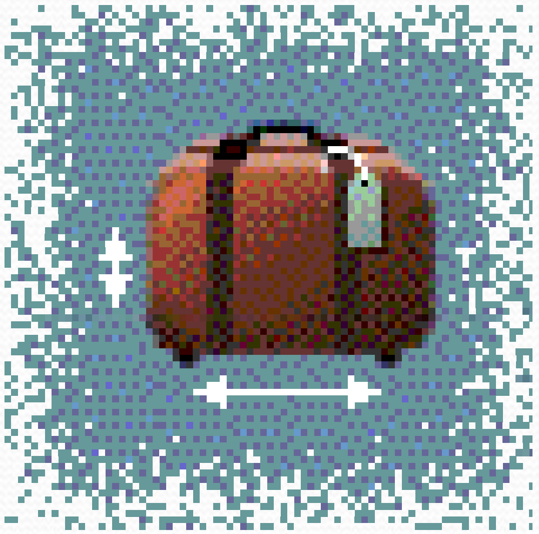
Repeat

- Until the team cannot take on more
- Split stories as necessary



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Commit

- Everyone agrees the iteration is doable
- No really…EVERYONE agrees
- Use disagreement and uneasiness in team members to drive out hidden risks, tasks, and issues
- Drive agreement with a fist of five
  - Absolutely, no question
  - I think this is good and will make it happen
  - I can support this
  - I'm uneasy about this and think we need to talk it out some more
  - Let's continue discussing this idea in the parking lot

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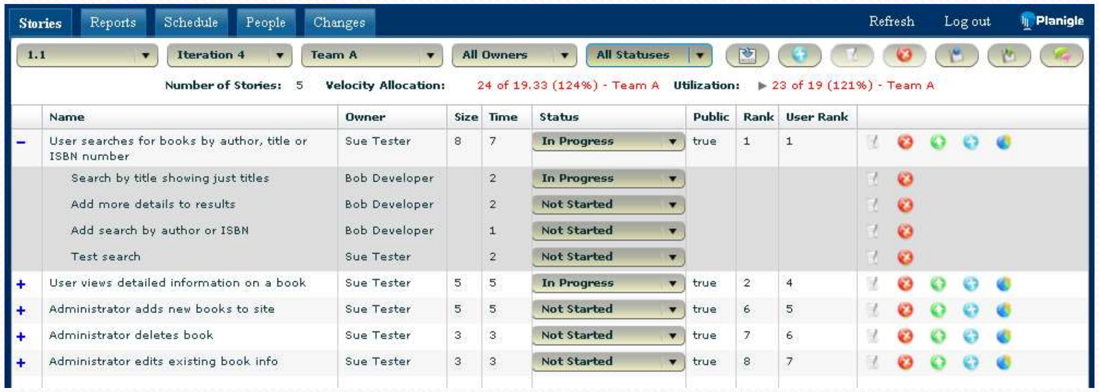
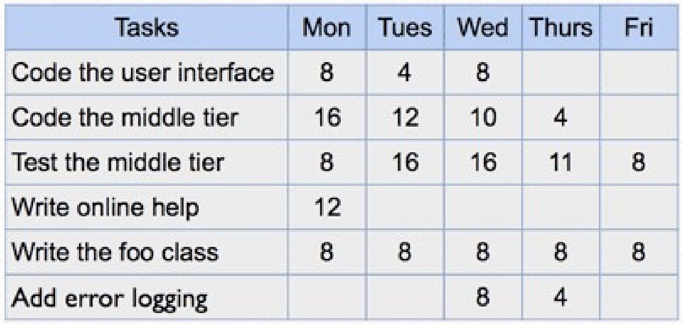
Managing your Tasks

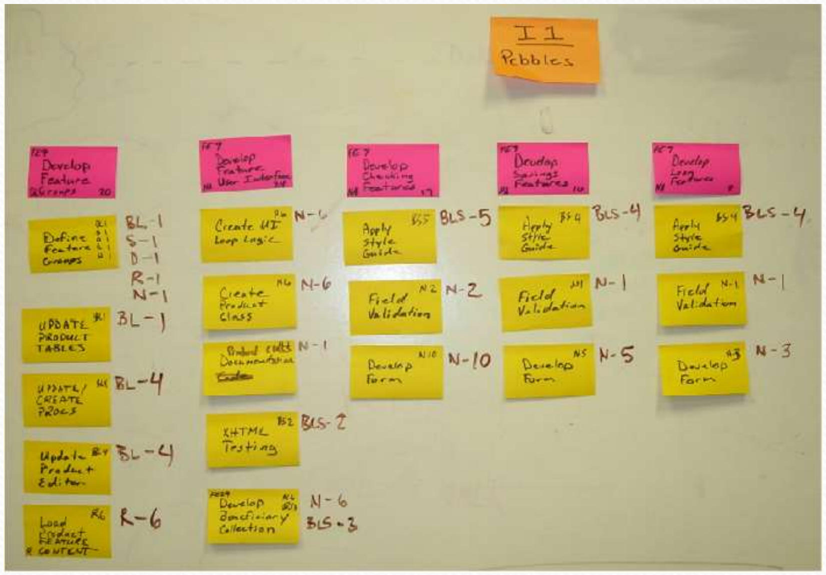


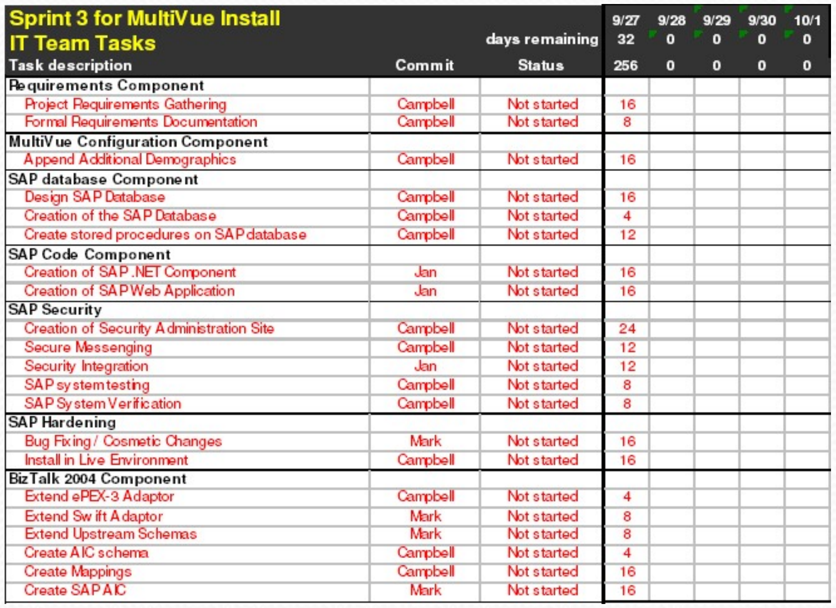
Number of Stories: 5 Velocity Allocation: 24 of 19.33 (124%) - Team A Utilization: ▶ 23 of 19 (121%) - Team A

	Name	Owner	Size	Time	Status	Public	Rank	User Rank
–	User searches for books by author, title or ISBN number	Sue Tester	8	7	In Progress	true	1	1
	Search by title showing just titles	Bob Developer		2	In Progress			
	Add more details to results	Bob Developer		2	Not Started			
	Add search by author or ISBN	Bob Developer		1	Not Started			
	Test search	Sue Tester		2	Not Started			
+	User views detailed information on a book	Sue Tester	5	5	In Progress	true	2	4
+	Administrator adds new books to site	Sue Tester	5	5	Not Started	true	6	5
+	Administrator deletes book	Sue Tester	3	3	Not Started	true	7	6
+	Administrator edits existing book info	Sue Tester	3	3	Not Started	true	8	7



Tasks	Mon	Tues	Wed	Thurs	Fri
Code the user interface	8	4	8		
Code the middle tier	16	12	10	4	
Test the middle tier	8	16	16	11	8
Write online help	12				
Write the foo class	8	8	8	8	8
Add error logging			8	4	





Sprint 3 for MultiVue Install IT Team Tasks Task description	Commit	days remaining Status	9/27 32 256	9/28 0 0	9/29 0 0	9/30 0 0	10/1 0 0
Requirements Component							
Project Requirements Gathering	Campbell	Not started	16				
Formal Requirements Documentation	Campbell	Not started	8				
MultiVue Configuration Component							
Append Additional Demographics	Campbell	Not started	16				
SAP database Component							
Design SAP Database	Campbell	Not started	16				
Creation of the SAP Database	Campbell	Not started	4				
Create stored procedures on SAP database	Campbell	Not started	12				
SAP Code Component							
Creation of SAP .NET Component	Jan	Not started	16				
Creation of SAP Web Application	Jan	Not started	16				
SAP Security							
Creation of Security Administration Site	Campbell	Not started	24				
Secure Messenging	Campbell	Not started	12				
Security Integration	Jan	Not started	12				
SAP system testing	Campbell	Not started	8				
SAP System Verification	Campbell	Not started	8				
SAP Hardening							
Bug Fixing / Cosmetic Changes	Mark	Not started	16				
Install in Live Environment	Campbell	Not started	16				
BizTalk 2004 Component							
Extend ePEX-3 Adaptor	Campbell	Not started	4				
Extend Swift Adaptor	Mark	Not started	8				
Extend Upstream Schemas	Mark	Not started	8				
Create AIC schema	Campbell	Not started	4				
Create Mappings	Campbell	Not started	16				
Create SAP AIC	Mark	Not started	16				

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Daily Standup

High Value

- What did I do yesterday?
- What will I do today?
- What's blocking me?

Quick

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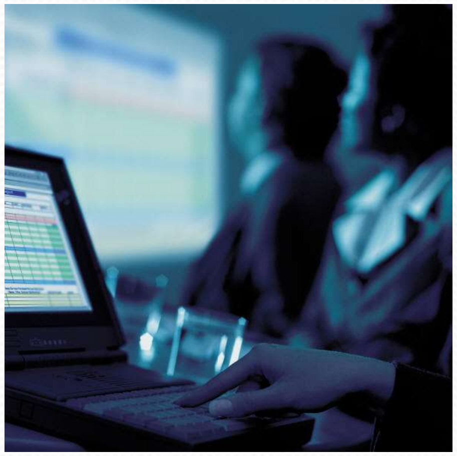
Demo

- Show off what you got "done" in the iteration
- Should be from the user's perspective
- No slides
- No code
- Just working software

If a customer could attend your demo,
you're doing it right



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Retrospective

- Review the process over the last iteration
- What went well?
- What went poorly?
- How can we do things better?
- Take the top 1-3 items and make sure you make progress on them in the next iteration

Improve

Estimating

- Identify a medium sized story that is well understood; call it a 5
- Now estimate other stories relative to that
- Is it about the same, ½ as difficult, twice as difficult?
- Use Fibonacci numbers: 1, 2, 3, 5, 8, 13, 21
- If bigger than that or if too hard to estimate, split the story
- Tackle as a team; Planning poker can help (www.planningpoker.com)

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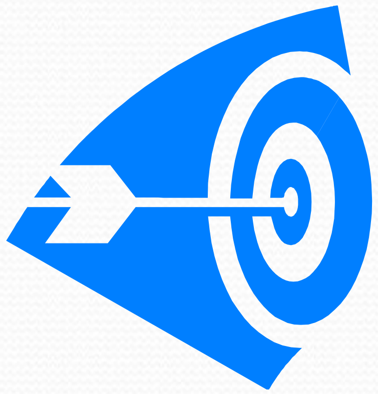
Velocity

- Now that stories have sizes, you can track how many points you typically get done in an iteration
- You can now use this to predict future completion rates



Structuring Teams

- It is preferable to have each team have the ability to complete its work by itself
- In other words, instead of a team per component, have teams with members who have knowledge of each component that will need to change to deliver something

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Release Planning

- Kick off / Overview
- Break Out Sessions
- Review Results

Release Planning Deliverables

- Plan for each Iteration
- Assumptions
- Dependencies
- Risks

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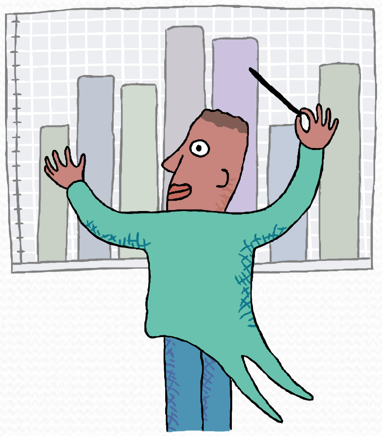
Release Planning Wrap Up

- Go through each iteration for each team
- Are things synched up across teams?
- Are you attacking the most important stories?
- Does the team believe in the results?



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After The Meeting

- Capture the results in your tool of choice
- Update after each iteration

Anti-Goals of Release Planning

Release Planning is not a commitment!

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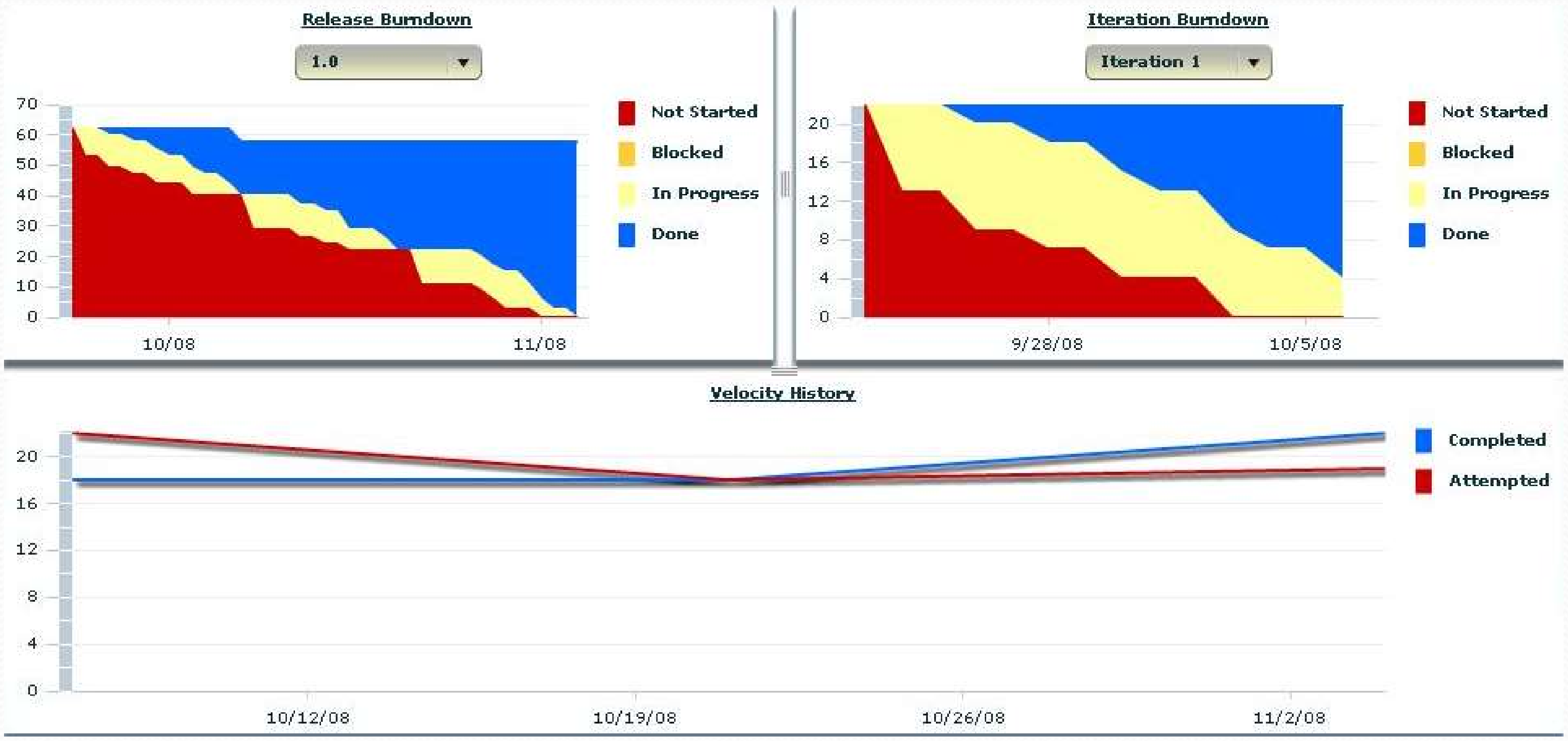
Communicating the Future

- Themes give you room to be flexible
  - We know we're going to do something in this area
  - We'll decide as we go how much
- If a customer is asking about a particular feature, you can get into a discussion of priorities
  - Well, that's important, but we think this and this are more important, what do you think?
- Demos are a potential opportunity to get a customer involved
- Smaller, incremental releases generate feedback on what to dig into in more detail

Tracking the Release



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Managing Risk

Waterfall

- Time, scope and resources "fixed"
- Changing one affects the others as well as quality
- Manage the plan
- Try to minimize change

Agile

- Time, resources and quality fixed
- Changing time or resources affects scope
- Manage the priorities
- Change as you learn more

Life in an Iteration

- Once in an iteration, scope is fixed
- Do the work in small increments
- Work closely with others
- It isn't done until it is really done
- If it doesn't add value, don't do it (or minimize)
- Leave decisions to the last responsible moment

It is a team effort

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Self Organizing Teams

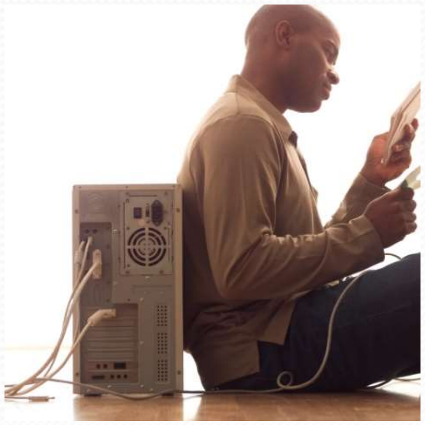
- The team members know how they can best contribute
- They figure out how to divvy the work up / attack the problem
- The scrum master facilitates and is part of the team

Feedback is key

- Do a little
- Get feedback
- Respond to feedback by doing a little more
- Automation helps decrease time to get feedback
  - Nightly/continuous build
  - Unit tests
  - Acceptance tests

Agile Documentation

- Keep to the minimal responsible amount of doc
- No more than you need at any point in time
- Everything should add value
  - If not, try to reduce or eliminate it
- Streamline so that the iteration is not interrupted
- Wiki's work well for collaborative design



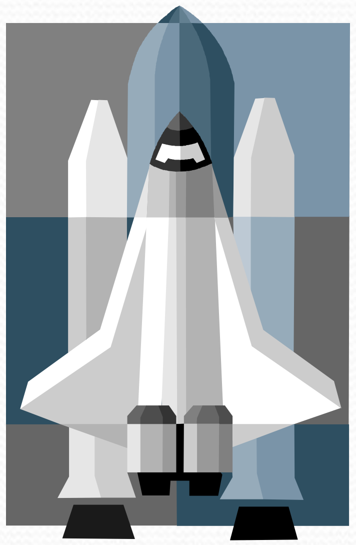
Management Is Not Enough!

- Engineering practices must change
  - Avoid specialization
  - Keep design simple and refactor as needed (YAGNI)
  - Create good automated regression tests
  - Integrate frequently
  - Peer review
- Consider
  - Test Driven Development (or Behavior Driven Development)
  - Pair Programming
  - Co-location

Staying Releasable

- Goal: Could release after any iteration
- Reality: Ability to do this will evolve over time

- Staying releasable gives you the ability to more easily change direction / take on new things
- It also tends to improve quality
- And predictability



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Definition of Done

- You need to define for your environment
- Definition will evolve over time
- Example:
  - Unit tests written and passed
  - Acceptance tests automated and passed
  - User facing documentation written
  - Checked in to the build

Questions?

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