

Lesson 3

Experiencing PI Planning

- 1. Introducing Scrum in SAFe
- 2. Characterizing the role of the Scrum Master
- 3. Experiencing PI Planning**
- 4. Facilitating Iteration Execution
- 5. Finishing the PI
- 6. Coaching the Agile Team

SAFe® Authorized Course: Attending this course gives learners access to the SAFe® Scrum Master exam and related preparation materials.

Learning objectives

- 3.1 Prepare to experience PI Planning
- 3.2 Create and review draft PI plans
- 3.3 Finalize plans and establish business value
- 3.4 Review final plans and commit to a set of PI Objectives
- 3.5 Facilitate an effective PI Planning process

3.1 Prepare to experience PI Planning

PI Planning

Cadence-based PI Planning events are the pacemaker of the Agile Enterprise.

- ▶ Two days every 8 – 12 weeks (10 weeks is typical)
- ▶ Everyone attends in person if at all possible
- ▶ Product Management owns Feature priorities
- ▶ Development teams own Story planning and high-level estimates
- ▶ Architect/Engineering and UX work as intermediaries for governance, interfaces, and dependencies



Before PI Planning: The cadence

The program planning calendar can be set for a year in advance.

Program Level calendar

- ▶ PI Planning
- ▶ Demos
- ▶ Inspect and Adapt workshops



Team Level calendar

- ▶ Iteration Planning
- ▶ Iteration Review
- ▶ Iteration Retrospectives

Features have benefit hypothesis and acceptance criteria

- ▶ ‘Feature’ is an industry-standard term familiar to marketing and Product Management
- ▶ Benefit hypothesis justify Feature implementation cost, and provides business perspective when making scope decisions
- ▶ Acceptance criteria is typically defined during Program Backlog refinement
- ▶ Reflect functional and Non-functional Requirements
- ▶ Fits in one PI

SSO example:

Multi-factor authentication

Benefit hypothesis

Enhance user security via both password and a device.

Acceptance criteria

1. USB tokens as a first layer
2. Password authentication second layer
3. Multiple tokens on a single device
4. User activity log reflecting both authentication factors

Exercise: Feature writing

- ▶ Your team is tasked with coming up with a hot, new, cool, mobile app
- ▶ In your groups, brainstorm ideas for two Features you would like to see on the new app

Feature 1, Benefit Hypothesis, Acceptance Criteria:

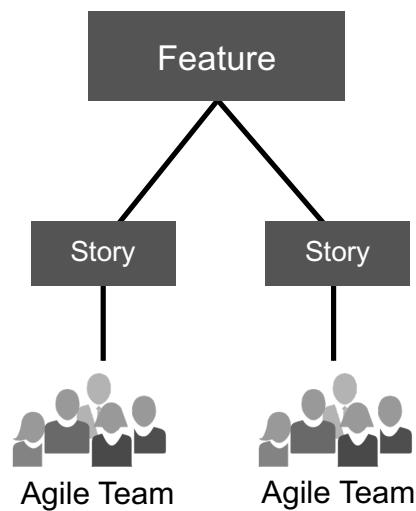
Feature 2, Benefit Hypothesis, Acceptance Criteria:



Features are implemented by Stories

Features are decomposed into Stories by the teams on the train.

- ▶ Teams on the train collaborate to deliver Features
- ▶ Features are implemented incrementally via User Story
- ▶ Teams demonstrate working increments of Features by delivering Stories on a regular cadence
- ▶ Stories fit in one Iteration for one team



User Story guidelines — The 3 Cs

Card	Conversation	Confirmation
Written on a card or in the tool and may annotate with notes As a spouse, I want a clean garage so that I can park my car and not trip on my way to the door.	The details are in a conversation with the Product Owner 	Acceptance criteria confirm the Story correctness ► Tools have been put away ► Items on the floor have been returned to the proper shelf ► Bikes have been hung

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Source: 3 Cs coined by Ron Jeffries

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User Stories

- Containers for User or customer value
- Written using the following template:

As a <user role> I want <activity> so that <business value>

- **User role** is the description of the person doing the action
- **Activity** is what they can do with the system
- **Business value** is why they want to do the activity

As a driver, I want to limit the amount of money before I fuel so that I can control my expenditure.

As a driver, I want to get a receipt after fueling so that I can expense the purchase.

As the Finance Department, we want to print receipts only for drivers who request them so that we save on paper.

(Roles can be people, devices, or systems)

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Acceptance criteria

- ▶ Acceptance criteria provide the details of the Story from a testing point of view
- ▶ Acceptance criteria are created by the Agile Team

As a driver, I want to limit the amount of money before I fuel so that I can control my expenditure.

Acceptance criteria

1. The fueling process stops automatically on the exact value
2. I can stop fueling before the limit has been reached and will only be charged for the amount fueled

As a driver, I want to get a receipt after fueling so that I can expense the purchase.

Acceptance criteria

1. Receipt includes: Amount fueled, Amount Paid, Tax, Vehicle number, Date, Time

Exercise: Story writing

- ▶ Based on the previous exercise, decompose the Features for the mobile app into User Stories
- ▶ Using the 3 C's as a guideline, write 5-7 Stories on index cards for the new mobile app
 - Card
 - Conversation
 - Confirmation

NOTE: Don't worry about acceptance criteria yet



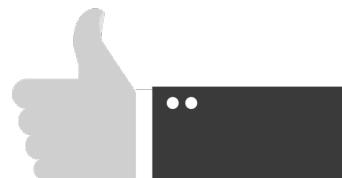
What is acceptance criteria?

- ▶ Acceptance criteria express the conditions that need to be satisfied for the customer
- ▶ Acceptance criteria provide context for the team, more details of the Story, and help the team know when they are done
- ▶ Acceptance criteria are written by the customer/Product Owner and refined by the team during backlog grooming and Iteration planning
- ▶ User Acceptance Test Scenarios are a good starting point for acceptance criteria



Advantages of acceptance criteria

- ▶ Continue the conversation between the Product Owner and the team
- ▶ Helps solidify expectations for the Story
- ▶ Spawns negotiation, trade-offs, and options to split a large Story into smaller Stories
- ▶ Establishes a high-level test plan
- ▶ Provides a basis for Solution design



Formats for acceptance criteria

Test that <criteria>

- OR -

Demonstrate that <this happens>

- OR -

Verify that when <a role> does <some action> they get <this result>

- OR -

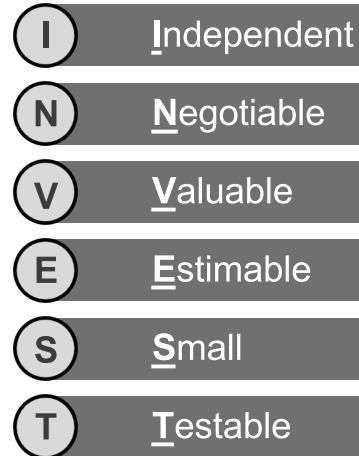
Given <a context> when <this event occurs> then <this happens>

How much acceptance criteria?

- ▶ Stop writing acceptance criteria when
 - You have enough to size the Story
 - Testing will become too convoluted
 - You have made 2-3 revisions of the criteria
- ▶ No need to focus on all test cases and scenarios, account for the most important



INVEST in a good Story



An example

As a theatre patron, I want to reserve a seat online so that I am sure I can go to the play.

- Test that I can choose any seat available
- Verify a reservation cannot be made if the show is sold out
- Demonstrate that my information is saved when I get knocked off the Internet before I finish

Exercise: Adding acceptance criteria

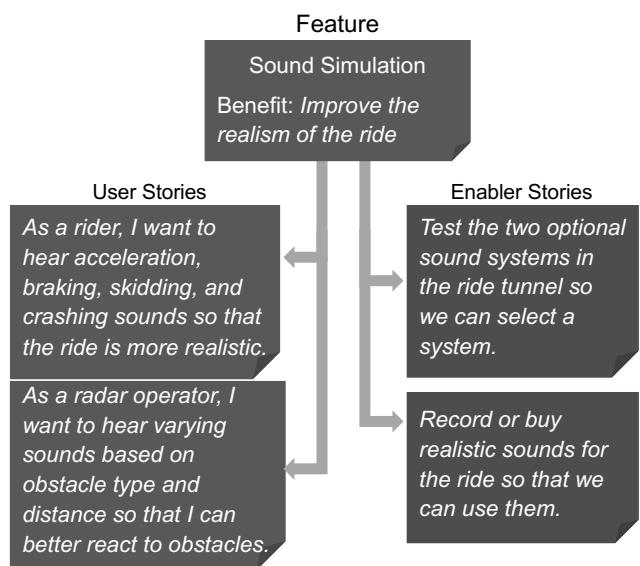
Using your Stories from the previous exercise, write acceptance criteria for at least three Stories.



PREPARE | SHARE
10 min | 5 min

Enabler Stories support value

- ▶ They can represent different types of work:
 - Exploration
 - Architecture
 - Infrastructure
- ▶ Enabler Stories are demonstrated like any other Story



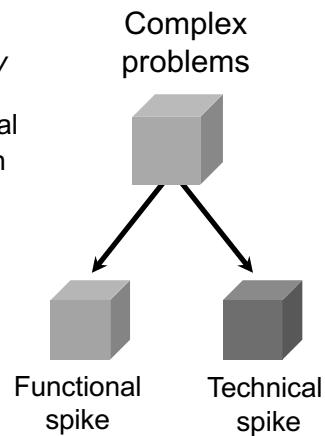
Spikes and Refactors are types of Enablers

Refactors are a systematic approach to improving the system without changing observable system behavior

- ▶ Example: Improving maintainability, performance, or scalability

Spikes are research activities to reduce risk, understand a functional need, increase estimate reliability, or define a technical approach

- ▶ Technical spikes - Researching a technical approach or unknown
- ▶ Functional spikes - Researching how a user might use or interact with the system



Estimate Stories with relative Story points

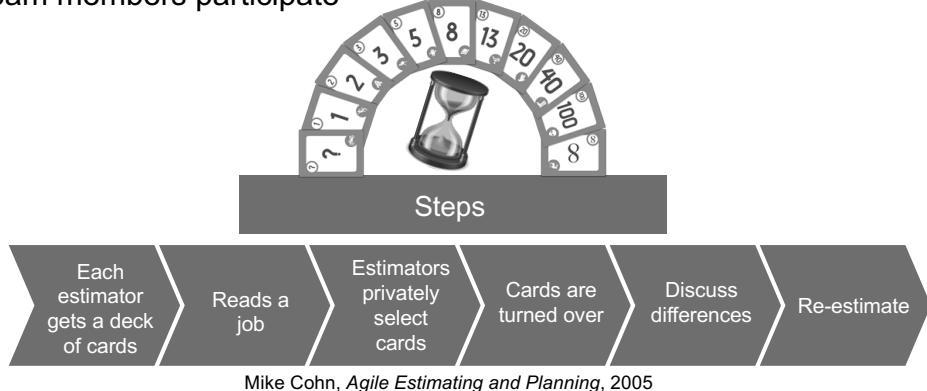
- ▶ A Story point is a singular number that represents:
 - Volume: How much is there?
 - Complexity: How hard is it?
 - Knowledge: What do we know?
 - Uncertainty: What's not known?
- ▶ Story points are relative; they are not connected to any specific unit of measure
- ▶ Compare with other Stories (an 8-point Story should take 4x longer than a 2-point Story)

How big is it?



Apply Estimating Poker for fast, relative estimating

- ▶ Estimating Poker combines expert opinion, analogy, and disaggregation for quick but reliable estimates
- ▶ All team members participate



Estimation is a whole-team exercise

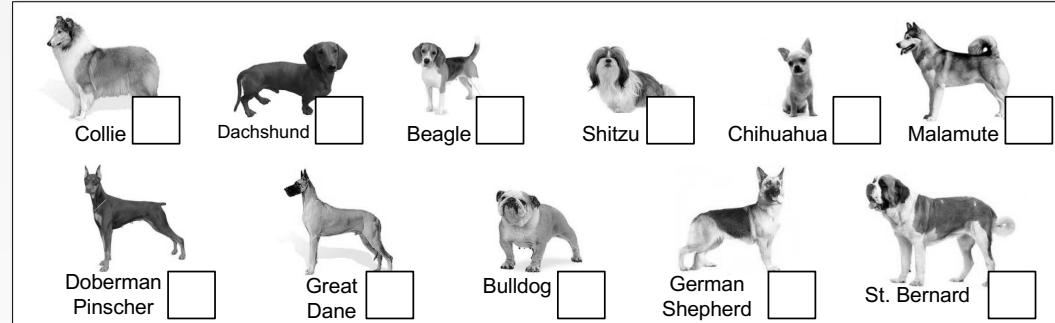
- ▶ Increases accuracy by including all perspectives
- ▶ Builds understanding
- ▶ Creates shared commitment

Estimation performed by a Product Owner, manager, architect, or select group negates these benefits.



Exercise: Dog sizing, part 1

- ▶ Determine your method for comparing dogs
- ▶ Apply one of the following numbers to each dog: 1, 2, 3, 5, 8, 13 (numbers can be reused)



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Exercise: Dog sizing, part 2 (Discussion)

- ▶ These types of dogs cloud the issue. Where would you put these?
- ▶ Consider complexity, effort, and doubt.
- ▶ Where would these fit in the estimates you just did?



Complexity



Effort, Complexity and Doubt

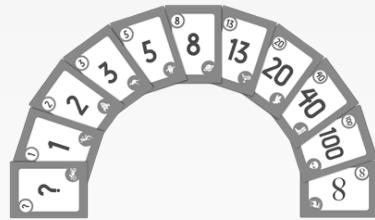


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Exercise: Estimate your Stories

- ▶ Using the Estimating Poker cards, apply one of the following to each Story
- ▶ If the number is greater than 13, consider refactoring the Story to be smaller
- ▶ Use the question mark card if you're completely uncertain of the estimate
- ▶ Record the estimation number on the index cards



The Scrum Master's role in facilitating estimations

- ▶ Make sure everyone participates
- ▶ Ensure relative estimates are used
- ▶ Focus the discussion on contested items
- ▶ Keep time spent estimating Stories to a minimum
- ▶ Identify subject matter experts who need to be present

Common anti-patterns



- Pressure by stakeholders to lower estimations
- Only a few people participate
- Not using the adjusted Fibonacci scale

3.2 Create and review draft PI plans

Simulation

PI Planning: Simulation overview

- ▶ In this simulation, we will plan the first Program Increment for 'geekbooks.com,' an online bookstore and community portal targeting technology professionals
- ▶ Due to time constraints, only two of the typical five Iterations will be planned



Simulation

Exercise: Identify program roles

- ▶ Volunteers will play the roles
- ▶ Note: For the simulation, the System Architect/Engineer, UX, and development manager will be played by one person
- ▶ Make sure all program roles have been assigned

Simulation role	Assigned to
RTE	Instructor
Executive	
Product Manager	
System Architect, UX, and development manager	



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Simulation

Exercise: Identify team names and roles

- ▶ Your team is your table. Work together to create a team name, and identify a Scrum Master and Product Owner
- ▶ Make sure your team name is visible to the other tables
- ▶ While the teams perform the exercise, the trainer will instruct the Program Level roles for the upcoming 'PI Planning Briefings' exercise



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Establishing velocity before historical data exists

Normalized estimation technique:

- ▶ For every full-time developer and tester on the team, give the team 8 points (adjust for part-timers)
- ▶ Subtract 1 point for every team member vacation day and holiday
- ▶ Find a small Story that would take about a half-day to develop and a half-day to test and validate, and call it a 1
- ▶ Estimate every other Story relative to that one
- ▶ Never look back (don't worry about recalibrating)



Example: Assuming a 7-person team composed of 3 developers, 2 testers, 1 Product Owner, and 1 Scrum Master, with no vacations, etc.

Exclude Scrum Master and Product Owner from the calculation.

Estimated Capacity = $5 * 8$ pts =
40 pts/Iteration

Simulation

Exercise: Calculate initial velocity

- ▶ Use the *Establishing velocity before historical data exists* slide (previous slide) on the previous page to calculate your team's starting velocity
- ▶ Calculate your estimated velocity for the next pair of two-week Iterations
- ▶ Use your real availability and estimate velocity for two Iterations
- ▶ The first Iteration starts Monday



Simulation

Exercise: Select the Feature for your team

- ▶ Each team's Product Owner will select one Feature for the simulation
- ▶ The Product Owner should then obtain the starter Stories for the Feature



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Simulation

Exercise: PI Planning briefings

- ▶ The RTE facilitates the PI Planning event and kicks off the briefings
- ▶ The executive, Product Manager, System Architect/Development Manager/UX role conduct their briefings to the entire Agile Release Train
- ▶ The RTE briefly reviews the purpose of the meeting (alignment) and presents the agenda, planning guidance, and planning requirements
- ▶ The executive presents the business context slides
- ▶ The Product Manager presents the Vision and Feature and benefits slides
- ▶ The System Architect/Development Manager/UX role presents the Architecture, UX, and Developer manager briefing slides



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Simulation

Why are we here?
Alignment to a common mission!

We are here to gain alignment and commitment around a clear set of prioritized objectives. I will now review the agenda for the next two days of the PI Planning event.



 Presented
by the RTE

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Day 1 agenda

8:00 – 9:00	Business context		State of the business and upcoming objectives
9:00 – 10:30	Product/Solution Vision		Vision and prioritized Features
10:30 – 11:30	Architecture Vision and development practices		▶ Architecture, common frameworks, etc. ▶ Agile tooling, engineering practices, etc.
11:30 – 1:00	Planning context and lunch		Facilitator explains planning process
1:00 – 4:00	Team breakouts		▶ Teams develop draft plans and identify risks and impediments ▶ Architects and Product Managers circulate
4:00 – 5:00	Draft plan review		Teams present draft plans, risks, and impediments
5:00 – 6:00	Management review and problem-solving		Adjustments made based on challenges, risks, and impediments

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Simulation

Day 2 agenda

8:00 – 9:00	Planning adjustments		Planning adjustments made based on previous day's management meeting
9:00 – 11:00	Team breakouts	1 2 3 4	▶ Teams develop final plans and refine risks and impediments ▶ Business Owners circulate and assign business value to team objectives
11:00 – 1:00	Final plan review and lunch		Teams present final plans, risks, and impediments
1:00 – 2:00	Program risks		Remaining program-level risks are discussed and ROAMED
2:00 – 2:15	PI confidence vote		Team and program confidence vote
2:15 – ???	Plan rework if necessary	1 2 3 4	If necessary, planning continues until commitment is achieved
After commitment	Planning retrospective and moving forward		▶ Retrospective ▶ Moving forward ▶ Final instructions

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Simulation

Business context

- ▶ At GeekBooks, we provide technology professionals with a much richer experience than brick-and-mortar bookstores and online competitors by creating immersive experiences far beyond shopping
- ▶ Unlike Amazon and other competitors, we provide community-building social experiences, such as book club chats, coding dojos, and Communities of Practice in an inspiring incubation environment, encouraging hackathons and prototyping
- ▶ We have an investor demo in 5 weeks to secure our second-round funding. This event is critical for our growth!



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Business context – SWOT

Strengths

- The best software engineers in the industry
- A nimble organization
- Adopting SAFe
- Collocated
- Great strategy!

Weaknesses

- Difficulties finding qualified FTEs in DevOps
- No System Team in place

Opportunities

- Develop new online social experiences rather than copying existing ones
- Accelerate global expansion through faster content translation
- Develop product offerings beyond books
- Build an advertising model

Threats

- Amazon has clear dominance
- LinkedIn tech communities continue to grow



Vision – online bookstore

- ▶ Our program Vision is to provide technology professionals with a more richer experience than brick-and-mortar book stores and online competitors by creating immersive experiences far beyond shopping
- ▶ We will leverage industry best practices and Features such as those offered by Amazon. This includes:
 - Tailoring our bookstore specifically to technology professionals
 - Having the easiest, fastest, and best online bookstore purchasing experience
 - Providing books in both electronic and print form
 - Starting in the U.S. and expanding into the global market
 - Supporting multiple languages
 - Supporting online Communities of Practice (book club chats and coding dojos, to start)
 - Selling items other than books to learners

Remember: The investor demo is in 5 weeks!



Features

Priority	Feature	Description
1	Flexible search	Users will have a flexible, easy-to-use search capability to locate books
2	Shopping cart	Users can manage items in a shopping cart for immediate or future purchase
3	Purchase by credit card	Users can purchase products from us (as soon as implemented—only beta up until then)
4	Shipping method selection	Users can select a shipping method based on cost, delivery speed, and carrier
5	Profile management	Users can create and maintain their profiles rather than entering in their information each time they order
6	Book detail	Users can see informative and enticing details about each book
7	Book list sorting	Users can sort a list of books in a number of ways to more easily find what they are looking for
8	Book browsing	Users will have a simple and enjoyable way to discover new books and authors
9	Book rating	Users can rate books they've purchased to help others in their selection process
10	Commenting	Users can comment on books they've purchased to help others in their selection process



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Feature descriptions (for reference only)

Priority	Feature	Description
1	Flexible search	Search by author, title, or genre from a single search field. Misspelling substitutions (i.e., “Did you mean ... ”). Present results as per-match algorithm.
2	Shopping cart	Users can easily access their cart from any page, view the same information displayed in the book list, change the quantity, remove books from their cart, or save them for later. A subtotal for all items in their shopping cart should be displayed at the bottom. Items saved for later should appear below that.
3	Purchase by credit card	Users can select from their preferred credit card and shipping address as defined in their Profile or add new ones. Visa, Mastercard, Discover, and Diners Club are the required options. American Express is optional. Must be PCI compliant.
4	Shipping method selection	Users can select a shipping method based on the price, delivery speed, and estimated delivery date for all major carriers (USPS, UPS, and FedEx).
5	Profile management	Users can manage their login credentials (ID, password), personal information (name, email address, home address), nickname for book rating and commenting, credit card information (multiple), and shipping address (multiple). Physical addresses, email addresses, and credit card info should be verified as valid. Passwords must meet our current security standards.



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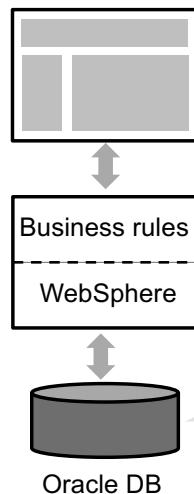
Feature descriptions (for reference only)

Priority	Feature	Description
6	Book detail	Display book name, book cover (which can be enlarged when clicked), author and bio, book description, genre, publishing info (publisher, release date, etc.), book rating, and comments. Hyperlink author's name to a list of other books by the same author.
7	Book list sorting	Sort by book title, author, price, book rating, and release date. Allow for user to select the number of search results to appear on each page.
8	Book browsing	Allow user to browse books by genre, top sellers in our book store, <i>Tech Valley Times</i> best sellers, and book rating. When presenting books within a genre, place <i>Tech Valley Times</i> best sellers at the top and then sort the remaining by book rating.
9	Book rating	Use a five-star rating system. Users can only rate a book if they've purchased it, and they may select whether they show their nickname (defined in their profile) or remain anonymous.
10	Commenting	A single comment should be limited to the number of characters that can fit within half the browser window (so that there are at least two comments that can appear at the same time). Users can only comment on a book if they've purchased it, and they may select whether they show their nickname (defined in their profile) or remain anonymous.

 Referenced by the Product Manager, but not presented

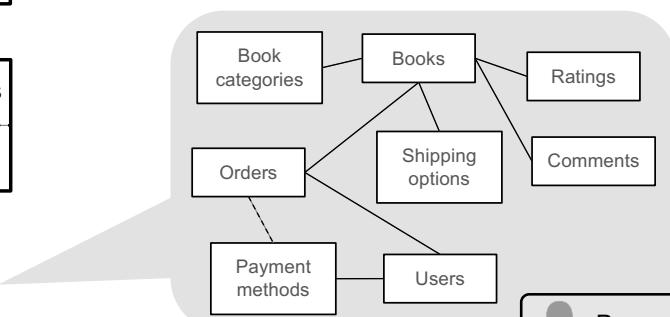
Architecture and Lean UX briefing

UI: HTML 5 / CSS



NFRs:

- ▶ Security (see Wiki)
- ▶ Performance: Avg. response time < 2 sec



 Presented by the System Architect

Architecture and Lean UX briefing

- ▶ Platform: WebSphere Application Server and Java (environments already tested)
- ▶ Internationalization Strategy
 - Epic in analysis for PI 2
- ▶ Performance guidelines are located at:
internal.webserver.com/performanceguidelines
- ▶ Wireframes and CSS are defined at: internal.webserver.com/ux



Presented by the
System Architect

Development practices

- ▶ Automated system integration is not in place. We want to integrate twice per Iteration:
 - Start using Jenkins for Continuous Integration
 - Use a single program branch
- ▶ Don't forget: Upgrade Eclipse to latest version for stability



Presented by the
System Architect

Planning guidance

Expect this first PI Planning to feel a bit chaotic. Future PI Planning meetings will become more routine.

Product Owners – You have the content authority to make decisions at the User Story level.

Scrum Masters – Your responsibility is to manage the timebox, the dependencies, and the ambiguities.

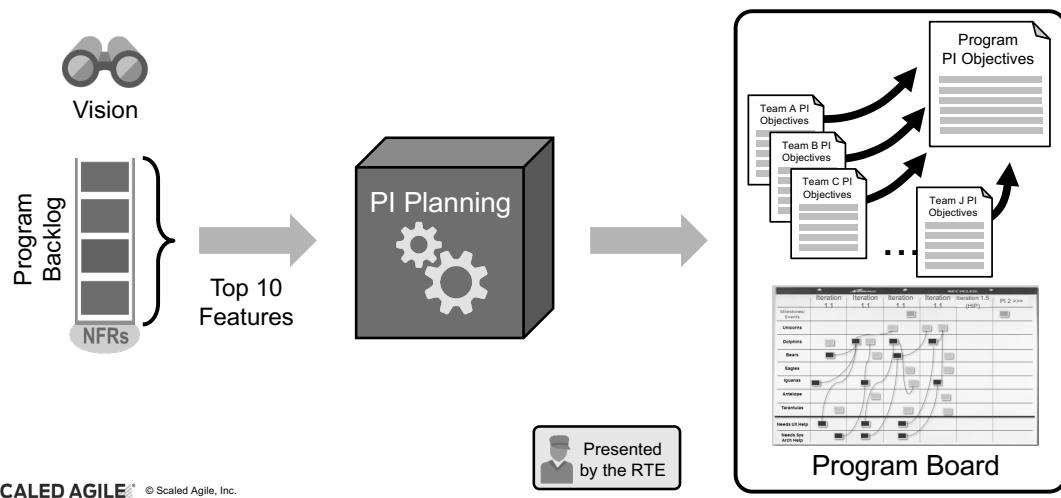
Agile Team – Your responsibility is to define Uses Stories, plan them into the Iteration, and work out interdependencies with other teams.



The PI Planning process

Input: Vision and top 10 Features

Output: Team and Program PI Objectives and Program board

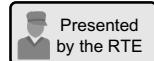


Align to a mission with PI Objectives

Objectives are business summaries of what each team intends to deliver in the upcoming PI.

They often map directly to the Features in the backlog, but not always. For example:

- ▶ Aggregation of a set of Features, stated in more concise terms
- ▶ A Milestone, such as a trade show
- ▶ An Enabler Feature needed to support the implementation
- ▶ A major refactoring



Objectives for PI 1

Business Value

- › Structured location and validation of locations
- › Build and demonstrate a proof of concept for context images
- › Implement negative triangulation by tags, companies, and people
- › Speed up indexing by 50%
- › Index 1.2 B more web pages
- › Extract and build URL abstracts

Stretch Objectives for PI 1

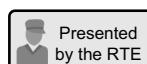
- › Fuzzy search by full name
- › Improve tag quality to 80% relevance

Stretch objectives

Stretch objectives provide a reliability guard band.

Stretch objectives do count in velocity/capacity:

- ▶ They are planned, and aren't extra things teams need to do, 'just in case you have time'
- ▶ They are not included in the commitment, thereby making the commitment more reliable
- ▶ If a team has low confidence in meeting a PI Objective, encourage them to move it to stretch
- ▶ If an item has many unknowns, consider moving it to stretch, and put in early spikes



SMART Team PI Objectives

Teams should write their PI Objectives in the SMART format.

Specific State the intended outcome as simply, concisely, and explicitly as possible. (Hint: Try starting with an action verb.)



Measurable It should be clear what a team needs to do to achieve the objective. The measures may be descriptive, yes/no, quantitative, or provide a range.

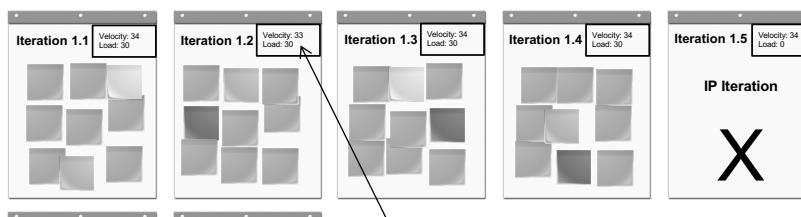
Achievable Achieving the objective should be within the team's control and influence.

Realistic Recognize factors that cannot be controlled. (Hint: Avoid making assumptions.)

Time-bound The time period for achievement must be within the PI, and therefore all objectives must be scoped appropriately.



Planning requirements



Velocity (Capacity): _____

Load: _____

For velocity, use historic information or
8 x (number of developers + testers).

Be sure to adjust for holidays and
vacation time.

Color coding gives visibility into investments

	= User Stories		= Exploration Enablers		= Risks and dependencies
	= Infrastructure/Enablers		= Maintenance		= Addressed risks and dependencies



Team deliverables – detail

Iterations



Story...

Story dependency

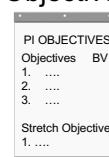
- If a Story has a dependency, put a red sticky on it describing the dependency. Put a check mark through it once the dependency has been addressed.
- If a risk is broader in nature, put it on the risk sheet
- If needed, allocate a percentage of capacity for unplanned activities such as maintenance and production support

IP



- The last Iteration will be used for Innovation and Planning (IP)
- You should have a velocity but not a load on the IP Iteration, since it should not contain any user value Stories

Objectives



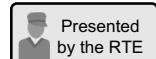
- PI Objectives should be written as SMART objectives
- Objectives are assigned business value during the second team breakout
- Stories supporting stretch objectives are included in the load calculation

Risks



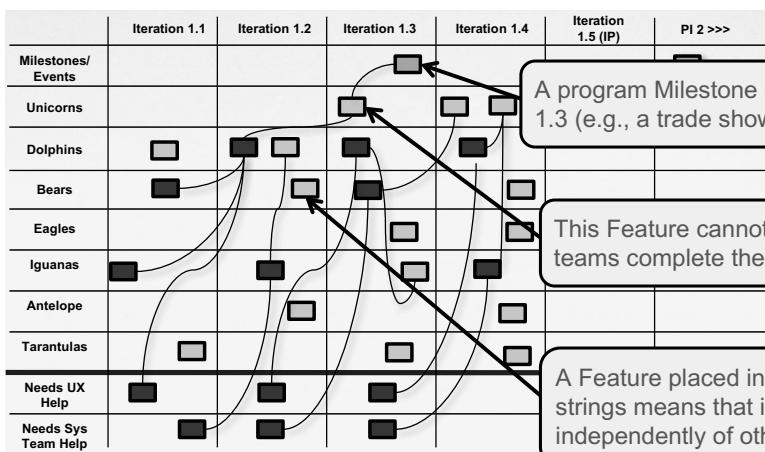
- Program risks are those that need to be escalated to the program level. They will be captured and 'ROAMED' after the final plan review.
- Team risks are those under the team's control. They won't be presented.

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Program board — Feature delivery, dependencies, and Milestones



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F = Features **D** = Significant dependency **M** = Milestone/ event **Red string** = A dependency requiring Stories or other dependencies to be completed before the Feature can be completed

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Scrum of Scrums checkpoints

The Scrum of Scrums checkpoints help keep teams on track and facilitate early identification of risks.

Simple planning “radiators”

Day 1	
1:00 pm	Getting started
2:00 pm	Iteration Planning progress
3:00 pm	Team Objectives progress
3:45 pm	Draft plan readiness
Day 2	
10:30 am	Progress check-in
11:30 am	Final plan readiness



Set up your team area

- ▶ Setup team area as shown below. Enter the velocity for each Iteration.
- ▶ Acceptance criteria
- ▶ Team area setup

Iteration 1.1 Velocity: _____ Load: _____	Iteration 1.2 Velocity: _____ Load: _____	PI OBJECTIVES - - - - ----- Stretch Objectives - -	RISKS
--	--	--	-------

Velocity (Capacity): _____
Load: _____

5 min

Exercise: Team Breakout #1

- ▶ You will be planning a short Program Increment with two Iterations
- ▶ You will need to resolve ambiguities and manage dependencies. Negotiate with your Product Owner, other teams, and Business Owners.
- ▶ Make sure your team completes the following:
 - Team velocity (capacity) entered for Iterations 1 and 2
 - All Stories estimated, no Story bigger than 8 Story points
 - Iteration loaded and entered for Iterations 1 and 2; load is less than or equal to velocity
 - PI Objectives are written in clear business language
 - Stretch objectives are identified
 - Program risks are identified on red sticky notes
- ▶ RTE conducts Scrum of Scrums sync after 30 minutes (see next exercise)



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Exercise: Scrum of Scrums (SoS) sync

- ▶ The RTE conducts the SoS sync. The entire class will observe for learning.
- ▶ Each Scrum Master will respond to each of the questions for the team.
- ▶ RTE holds a ‘Meet After’ the sync (limited to 1–2 topics for the simulation).

Sync Question	Team 1	Team 2	...
Have you identified the velocity for each Iteration in the PI?			
Have you identified most of the Stories for the first two Iterations and begun estimating?			
Have you begun resolving dependencies with other teams?			
Are you discussing trade-offs and conflicting priorities with your Business Owners?			
Have you identified any program risks?			
Will you be ready to start writing PI Objectives in the next 15 minutes?			
Is there anything you need to discuss with other Scrum Masters? If so, stay for the “Meet After”			



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Exercise: Draft plan review

One team will present the summary of their first two Iterations and one or more draft PI Objectives.

- ▶ Velocity (capacity) and load for each Iteration
- ▶ Draft PI Objectives
- ▶ Program risks and impediments



Management review and problem-solving

At Day 1 end, management meets to make adjustments to scope and objectives based on the day's planning.

Common questions during the managers' review:

- ▶ What did we just learn?
- ▶ Where do we need to adjust Vision? Scope? Resources?
- ▶ Where are the bottlenecks?
- ▶ What Features must be de-scoped?
- ▶ What decisions must we make between now and tomorrow to address these issues?



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3.3 Finalize plans and establish business value

Day 2

8:00-9:00	Business context
9:00-10:30	Product/solution Vision
10:30-11:30	Architecture Vision and development practices
11:30-1:00	Planning requirements and lunch
1:00-4:00	Team breakouts
4:00-5:00	Draft plan review
5:00-6:00	Management review and problem solving



8:00-9:00	Planning adjustments
9:00-11:00	Team breakouts
11:00-1:00	Final plan review and lunch
1:00-2:00	Program risks
2:00-2:15	PI confidence vote
2:15-???	Plan rework if necessary
After commitment	Planning retrospective and moving forward

Make planning adjustments

Based on the previous day's management review and problem-solving meeting, adjustments are discussed.

Possible changes:

- ▶ Business priorities
- ▶ Adjustment to plan
- ▶ Changes to scope
- ▶ Movement of people



Simulation

Exercise: Planning adjustments

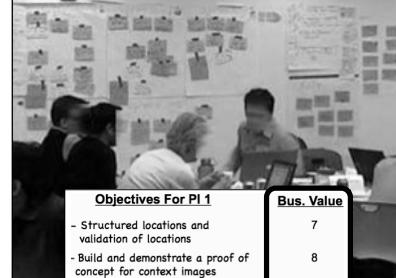
- ▶ Management decided to make the following changes:
 - One member of your team needs to move to another team
 - The Feature you were most excited about moves with him to the other team
- ▶ How will the team react?
- ▶ How can you help facilitate this news?
- ▶ What should management do to make the changes easier?
- ▶ How can you help?



Team breakout #2

Based on new knowledge (and a good night's sleep), teams work to create their final plans.

- ▶ In the second team breakout, Business Owners circulate and assign business value to PI Objectives, from low (1) to high (10)
- ▶ Teams finalize the Program Increment plan
- ▶ Teams also consolidate program risks, impediments, and dependencies
- ▶ Stretch objectives provide the capacity and guard band needed to increase cadence-based delivery reliability



Objectives For PI 1		Bus. Value
- Structured locations and validation of locations		7
- Build and demonstrate a proof of concept for context images		8
- Implement negative triangulation by: tags, companies and people		8
- Speed up indexing by 50%		10
- Index 1.2 billion more web pages		10
- Extract and build URL abstracts		7
===== Stretch Objectives =====		=====
- Fuzzy search by full name		7
- Improve tag quality to 80% relevance		4

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Simulation

Exercise: Setting business value

- ▶ The trainer will demonstrate setting business value for one team's objectives.
- ▶ Bring the Business Owners to one team's draft plans
- ▶ The Business Owners will set value on a scale of 1-10 for each identified objective
- ▶ Short discussions will illustrate the larger purposes and thought processes



Objectives For PI 1		Bus. Value
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===== Stretch Objectives =====		=====
- Fuzzy search by full name		7
- Improve tag quality to 80% relevance		4

5
min

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Exercise: Facilitating Team Breakout #2

During the second team breakout, the Business Owners come to your team. The team has picked up several items that are meant to reduce technical debt and build a testing automation infrastructure.

As the Business Owners are from the business side of the Enterprise, they rank all of these objectives as 4 or lower. You can see that the team becomes despondent.

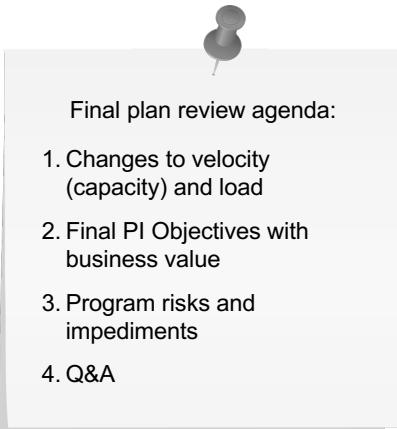
- ▶ In your group, discuss what you, as the Scrum Master, can do?
- ▶ How can you help avoid this problem before it happens?



3.4 Review final plans and commit to a set of PI Objectives

Final plan review

Teams and Business Owners peer review all final plans.



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Building the final plan

- ▶ Final plans are collected at the front of the room
- ▶ Final plans are reviewed by all teams
- ▶ Business Owners are asked whether they accept the plan
- ▶ If so, the team's plan and program risk sheet are brought to the front of the room
- ▶ If not, the plans stay in place and the team continues planning after the review



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Addressing program risks

After all plans have been presented, remaining program risks and impediments are discussed and categorized.

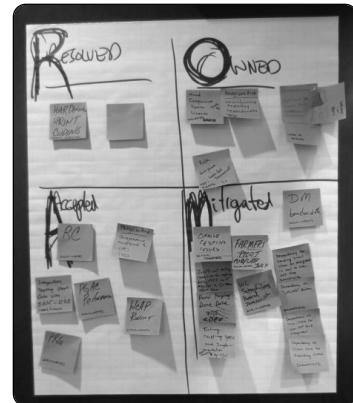
ROAMing risks:

Resolved – Has been addressed; no longer a concern

Owned – Someone has taken responsibility

Accepted – Nothing more can be done. If risk occurs, release may be compromised.

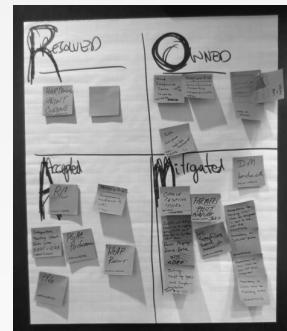
Mitigated – Team has plan to adjust as necessary



Simulation

Exercise: Manage program risks

- ▶ The trainer will demonstrate ROAMing ,1-2 risks for one team.
- ▶ Pick 1-2 risk examples,
- ▶ Read them in front of all teams and stakeholders,
- ▶ See if anyone can own, help mitigate, or resolve the risks. Otherwise accept as-is.
- ▶ Put each risk into a corresponding quadrant of the ROAM sheet for the program,



Confidence vote: Team and Program Levels

After dependencies are resolved and risks are addressed, a confidence vote is taken at the Team and Program Levels.

'Fist of five' confidence vote

- ▶ Range of 1-5
- ▶ 1 = No confidence
- ▶ 5 = Very high confidence



A commitment with two parts:

1. Teams agree to do everything in their power to meet the agreed-to objectives
2. In the event that fact patterns dictate that it is simply not achievable, teams agree to escalate immediately so that corrective action can be taken

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Run a Planning Meeting retrospective

The PI Planning Meeting will evolve over time. Ending with a retrospective will help it continuously improve.

- The Planning Meeting retrospective
- 1.What went well
 - 2.What didn't
 - 3.What we can do better next time



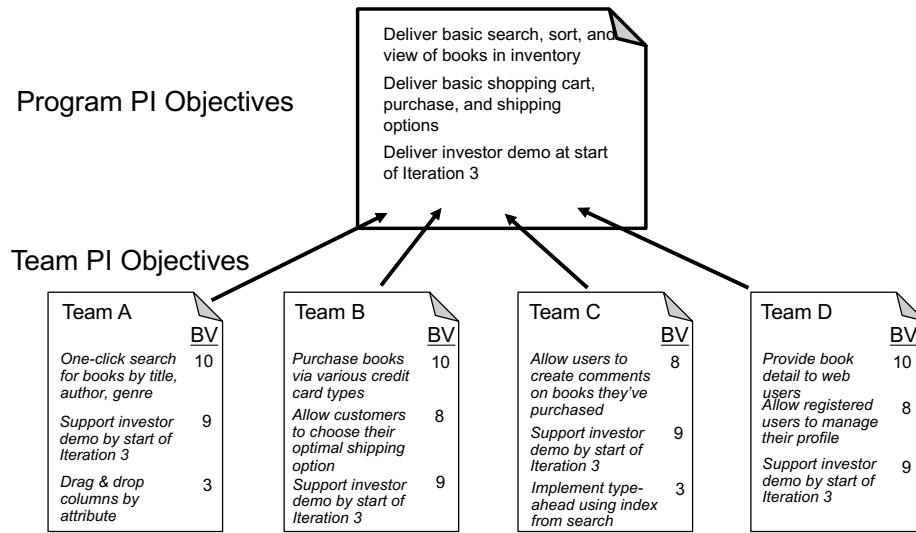
Add the action items to your Program Backlog and take action!

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RTE take-a-way: Integrated PI Objectives

Program PI objectives are the synthesis of each team's PI objectives.



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Simulation

Exercise: Simulation debriefing

Discussion of the lessons learned from the PI Planning simulation



5 min

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3.5 Facilitate effective PI Planning

Facilitating PI Planning

- ▶ What challenges do you see coming up during PI Planning?
- ▶ Discuss in your group the challenges and how you, as the Scrum Master, can help solve them



The Scrum Master's role in team breakout #1

- ▶ Ensure the team has a draft plan to present
- ▶ Identify as many risks and dependencies as possible for the management review
- ▶ Secure subject matter experts and Program Level stakeholders as needed by the team
- ▶ Facilitate the coordination with other teams for dependencies

Common anti-patterns



- No plan or partial plan at the end of the timebox
- Too much time is spent analyzing each Story
- Shared Scrum Masters and Product Owners are not available enough
- Part-time Scrum Masters don't have time to plan as part of the team

The Scrum Master's role in PI Planning

- ▶ Maintain the timebox
- ▶ Make sure the team builds a plan they can commit to
- ▶ Ensure that the team is honest in their confidence vote
- ▶ Facilitate the coordination with other teams, but don't do it for the team
- ▶ Act as a request buffer for a team that has a lot of dependencies
- ▶ Manage the program board
- ▶ Facilitate the retrospective

Common anti-patterns

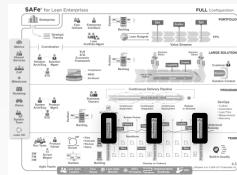


- Pressure is put on the team to overcommit
- Team under-commits due to fear of failure
- Over-planning ahead of time to make it more efficient loses the essence of PI Planning
- The plan, rather than the alignment, become the goal

Lesson summary

In this lesson, you experienced PI Planning via an exercise where you:

- ▶ Created and reviewed draft PI Plans
- ▶ Finalized plans and established business value
- ▶ Reviewed final plans and committed to a set of PI Objectives
- ▶ Explored the Scrum Master's role in facilitating PI Planning



*Suggested Scaled Agile Framework reading:
“PI Planning” article*