



**HEXWARE**

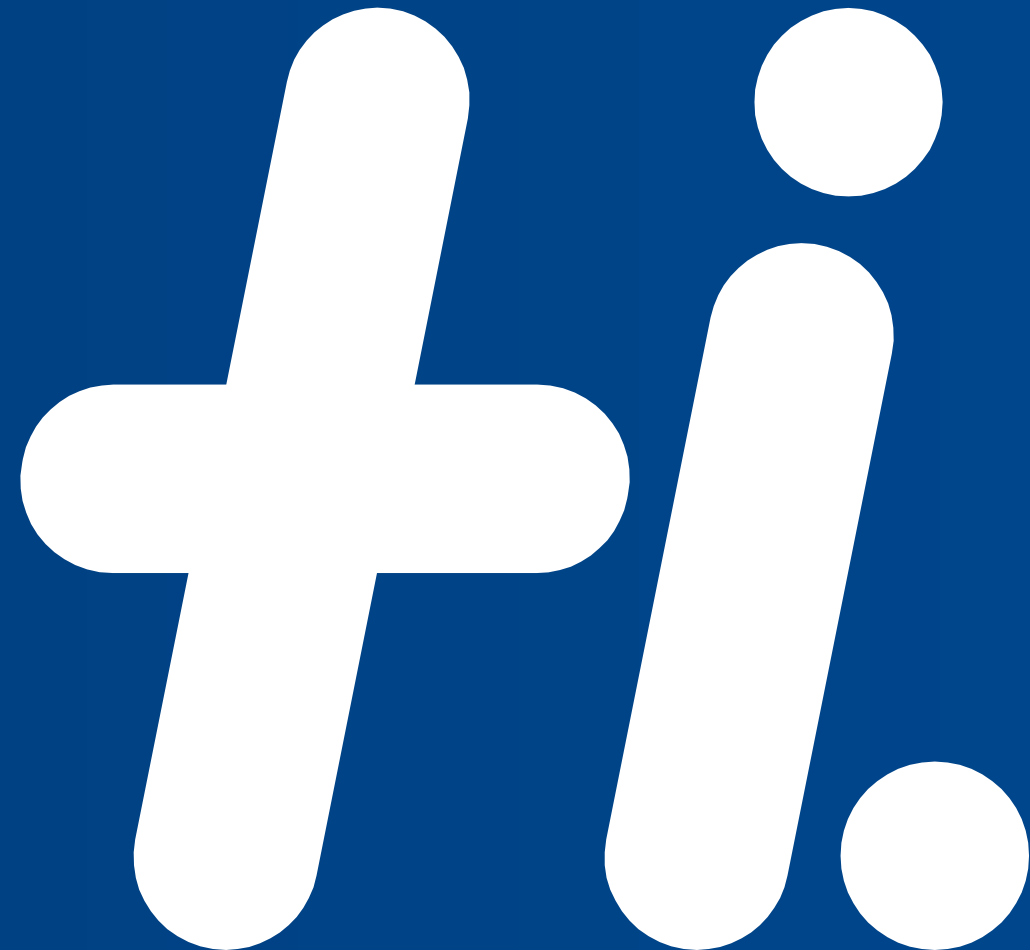
**Agile - Scrum**



# Objective

- Knowing Scrum
- Doing Scrum

Knowing Scrum



# Origin- The Emergence of Scrum

- Scrum formalized in 1996 by Ken Schwaber
  - “The Origins of Scrum”, OOPSLA 1996





# We're Losing the Relay Race

“The... ‘relay race’ approach to product development...may conflict with the goals of maximum speed and flexibility. Instead a holistic or ‘rugby’ approach—where a team tries to go the distance as a unit, passing the ball back and forth—may better serve today’s competitive requirements.”

Hiroataka Takeuchi and Ikujiro Nonaka,  
“The New New Product Development  
Game”, *Harvard Business Review*,  
January 1986.

# The Goal of Scrum

**Manage Complexity, Unpredictability  
and Change  
through Visibility, Inspection and  
Adaptation**



# Scrum Characteristics & Values

## Characteristics

- Self-organizing teams
- Product progresses in a series of month-long “sprints”
- Requirements are captured as items in a list of “product backlog”
- No specific engineering practices prescribed
- Uses generative rules to create an agile environment for delivering projects

## Values:

- Openness – sharing ideas
- Focus – Task Oriented
- Commitment – Adhere to task completions
- Courage – Open to discuss the impediments and solutions
- Respect - Opinions
- Visibility – What and how



# What is Scrum Development Process?

Iterative and Incremental Software Development

Amount of work remaining in a Sprint

Team Assess Own Progress

## The Agile: Scrum Framework at a glance

Inputs from Executives,  
Team, Stakeholders,  
Customers, Users

Keeps the Team Focused on its Goal.

A Product Owner creates a Prioritized Wish List

Burndown/up  
Charts

Scrum  
Master

Daily Scrum  
Meeting

Every  
24 Hours

Team  
Demonstrate  
...New  
Functionality

Sprint Review

Finished Work

Shippable  
Functionality

Sprint  
Retrospective

1-4 Week  
Sprint

Sprint end date and  
team deliverable  
do not change

Projects move forward via a series of Iterations

Team reflects to improve in the new Sprint.

The Team pulls a small chunk from the top of the Sprint Backlog, and decides how to implement those pieces.

Committed  
Functionality

Sprint  
Planning  
Meeting

Team selects  
starting at top  
as much as it  
can commit  
to deliver by  
end of Sprint

Sprint  
Backlog

Task  
Breakout

1  
2  
3  
4  
5  
6  
7  
8  
Ranked  
list of what  
is required:  
features,  
stories, ...

Product  
Backlog



Product Owner



The Team





# Scrum Framework

## ➤ Roles

- Product owner
- Scrum Master
- Team

## ➤ Ceremonies

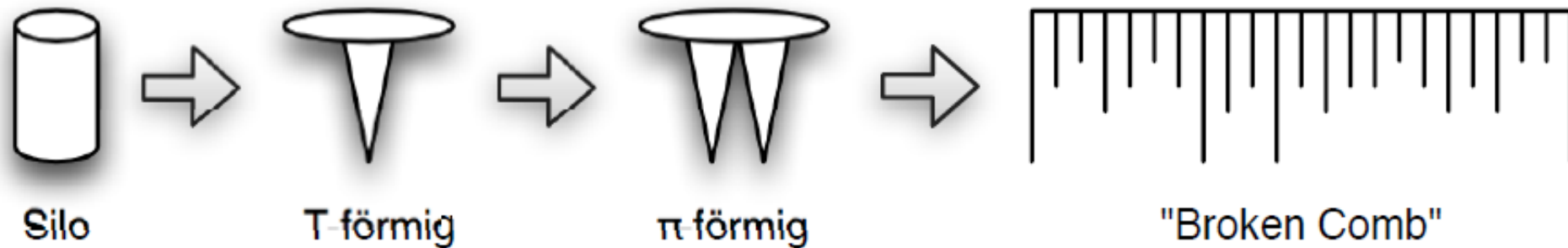
- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

## ➤ Artifacts

- Product backlog
- Sprint backlog
- Burn down charts

## The Team

# Team Member's Knowledge Structure changes over time



# Scrum Framework

## ➤ Roles

- Product owner
- Scrum Master
- Team

## ➤ Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

## ➤ Artifacts

- Product backlog
- Sprint backlog
- Burn down charts



# Sprint

- ★ Scrum projects make progress in a series of “sprints”. An iteration of work during which an increment of product functionality is implemented.
- ★ Product is designed, coded and tested during the sprint
- ★ Typical duration is 2–4 weeks or a calendar month at most
- ★ The sprint starts with sprint planning. Many daily Scrum meetings occur during the sprint (one per day). At the end of the sprint we have a sprint review meeting, followed by a sprint retrospective meeting.
- ★ During the sprint, the team must not be interrupted with additional requests. Guaranteeing the team won't be interrupted allows it to make real commitments it can be expected to keep.



# Sprint Planning

- Team selects items from the product backlog they can commit to completing
- Sprint backlog is created
  - Tasks are identified and each is estimated (1-16 hours)
  - Collaboratively, not done alone by the Scrum Master
- High-level design is considered

As a vacation planner, I want to see photos of the hotels.

Code the middle tier (8 hours)  
Code the user interface (4)  
Write test fixtures (4)  
Code the foo class (6)  
Update performance tests (4)

# No Changes During a Sprint



Plan sprint durations around how long you can commit to keeping change out of the sprint



# Daily Scrum

- Parameters
  - Daily
  - 15-minutes
  - Stand-up
- Not for problem solving
  - Only team members, Scrum Master, product owner, can talk
- Helps avoid other talks
- Every one Answers 3 questions
- These are *not* status for the Scrum Master
  - They are commitments in front of peers

1 What did I do yesterday?

2 What will I do today?

3 Is anything in my way (Impediments)?



# The Sprint Review

- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
  - 2-hour prep time rule
  - No slides
- Whole team participates
- Invite the world



# Sprint Retrospective

- Inspect and Adapt
  - team assesses the way they worked together in the sprint and identifies positive ways of working together that can be encouraged as future practice.
  - the team also identifies the things that could work better and develops strategies for improvement
- 
- Whole team participates
    - Scrum Master
    - Product owner
    - Team
    - Possibly customers and others





# Start / Stop / Continue

- Whole team gathers and discusses what they'd like to:

Start doing

Stop doing

Continue doing

This is just one of many ways to do a sprint retrospective.

# Sprint Termination

Only in extreme cases

Team terminates: cannot meet sprint goal

Product Owner terminates: priority change

Work reverted to end of prior sprint

Raises visibility of problems



# Scrum framework

## Roles

- Product owner
- Scrum Master
- Team

## Ceremonies

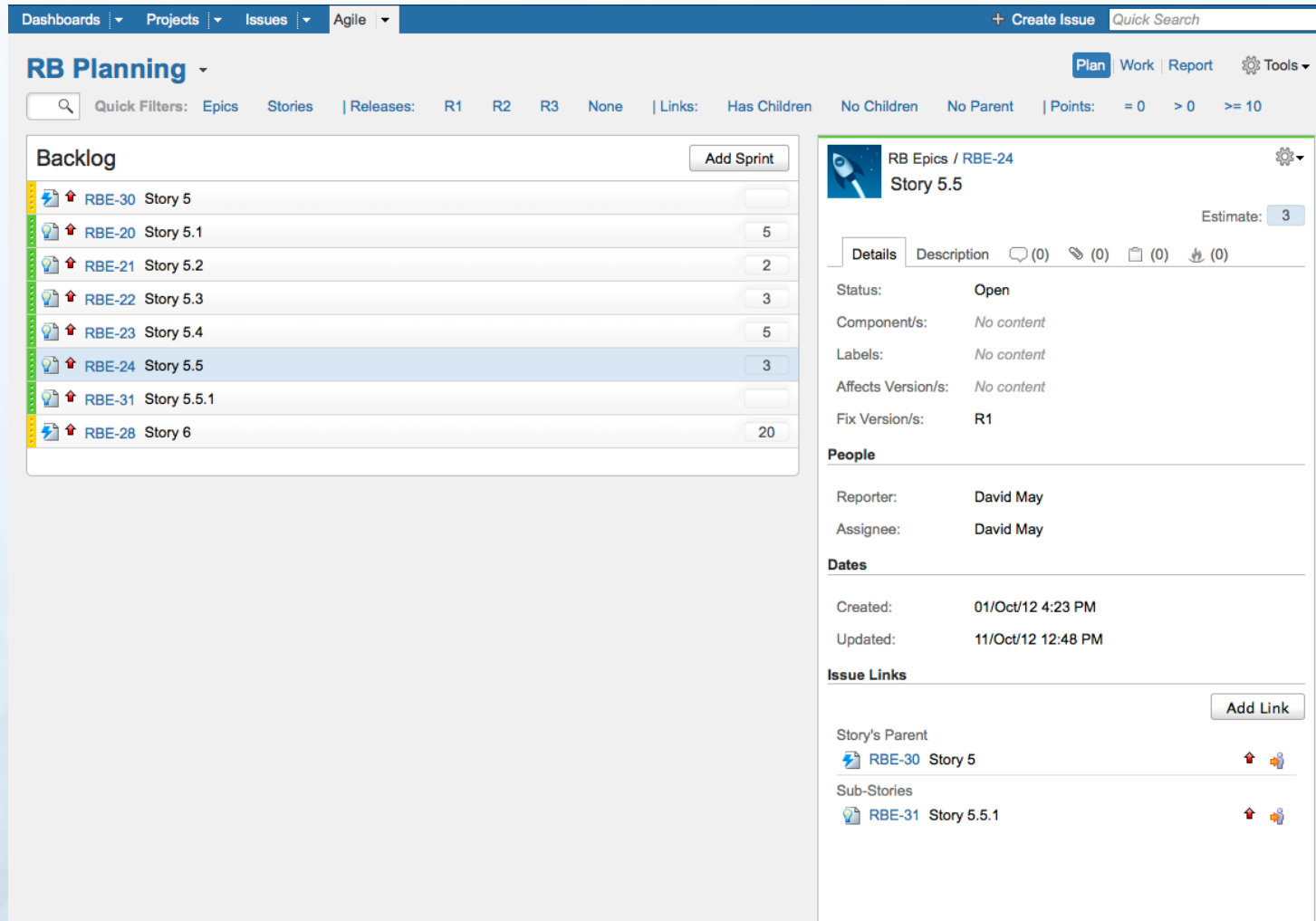
- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

## Artifacts

- Product backlog
- Sprint backlog
- Burndown charts



# Product Backlog



The screenshot displays the 'RB Planning' interface. On the left, a 'Backlog' table lists several stories with their IDs, names, and estimates. The story 'RBE-24 Story 5.5' is highlighted. On the right, the details for 'RBE-24 Story 5.5' are shown, including its status, component, labels, version, fix version, reporter, assignee, creation and update dates, and issue links.

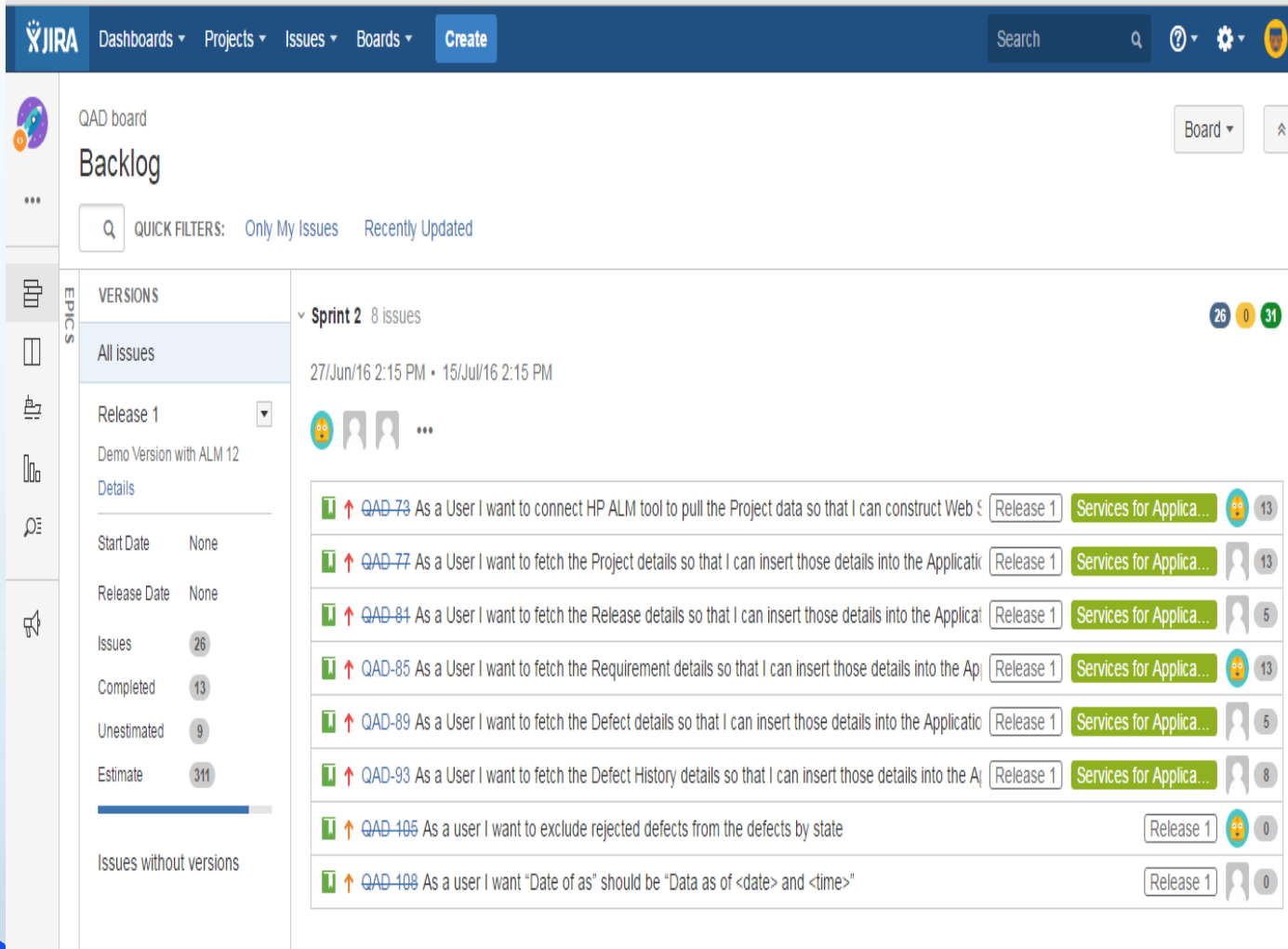
Backlog	Estimate
RBE-30 Story 5	
RBE-20 Story 5.1	5
RBE-21 Story 5.2	2
RBE-22 Story 5.3	3
RBE-23 Story 5.4	5
<b>RBE-24 Story 5.5</b>	<b>3</b>
RBE-31 Story 5.5.1	
RBE-28 Story 6	20

**Details for RBE-24 Story 5.5**

- Status: Open
- Component/s: No content
- Labels: No content
- Affects Version/s: No content
- Fix Version/s: R1
- Reporter: David May
- Assignee: David May
- Created: 01/Oct/12 4:23 PM
- Updated: 11/Oct/12 12:48 PM
- Issue Links:
  - Story's Parent: RBE-30 Story 5
  - Sub-Stories: RBE-31 Story 5.5.1

- Prepared by Product Owner
- List of customer requirements prioritized by business value
- The Scrum Team contributes to the product backlog by estimating the cost of developing features.
- Should include all features visible to the customer, as well as the technical requirements needed to build the product
- The highest priority items in the Product Backlog need to be broken down into small enough chunks to be estimable and testable
- About ten developer-days of work is a good size for a Product Backlog item that can be ready for implementation in the next iteration

# Sprint Backlog



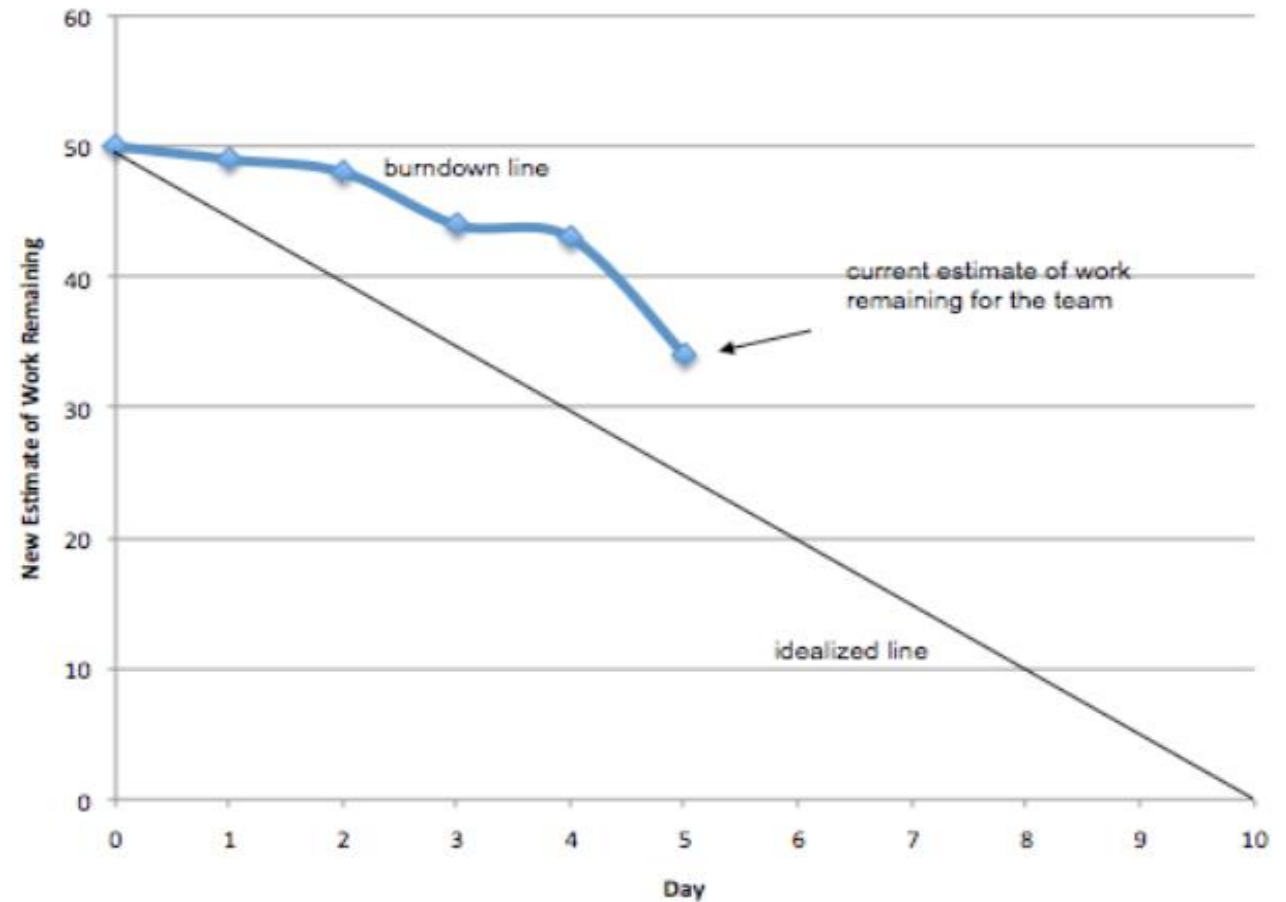
The screenshot shows the JIRA interface for a 'QAD board' Backlog. The top navigation bar includes 'Dashboards', 'Projects', 'Issues', 'Boards', and a 'Create' button. A search bar is also present. The left sidebar shows the 'QAD board' and 'Backlog' sections. The main area displays the 'Sprint 2' backlog with 8 issues. The issues are listed with their IDs, descriptions, and associated labels. The issues are:

- QAD-73: As a User I want to connect HP ALM tool to pull the Project data so that I can construct Web S...
- QAD-77: As a User I want to fetch the Project details so that I can insert those details into the Applicat...
- QAD-84: As a User I want to fetch the Release details so that I can insert those details into the Applicat...
- QAD-85: As a User I want to fetch the Requirement details so that I can insert those details into the Ap...
- QAD-89: As a User I want to fetch the Defect details so that I can insert those details into the Applicat...
- QAD-93: As a User I want to fetch the Defect History details so that I can insert those details into the A...
- QAD-105: As a user I want to exclude rejected defects from the defects by state
- QAD-108: As a user I want "Date of as" should be "Data as of <date> and <time>"

- an artifact of the Sprint Planning Meeting
- Scrum Team has selected and committed to deliver a set of top priority features from the Product Backlog, the Product Backlog's features are broken down into a Sprint Backlog
- a list of the specific development tasks required to implement a feature
- These tasks are broken down into pieces that will require less than two days (or sixteen developer-hours) of work. When the Sprint Backlog is complete, the total work estimated is compared with original estimates from the Product Backlog. If there is a significant difference, the team negotiates with the Product Owner to get the right amount of work to take into the Sprint with a high probability of success.

# Burndown Chart

- shows the cumulative work remaining in a Sprint, day-by-day
- used as a tool to guide the development team to successful completion of a Sprint on time with working code that is potentially shippable as a product



An abstract graphic of glowing blue circuit lines and nodes on a dark blue background, extending from the bottom left towards the center.

# Doing Scrum







Shanghai Tower, Shanghai

3



Wills Tower, Chicago



Jin Mao Tower

# Planning Poker for Estimation

- First, create a common understanding of User Story (no technical details)
- Choose a reference
- Estimate size in relation to reference - but don't tell anyone yet
- Show your cards at the same time
- Discuss differences
- Repeat estimation until consensus
- Estimated User Story becomes new reference

Fibonacci Series  
1, 2, 3, 5, 8, 13...

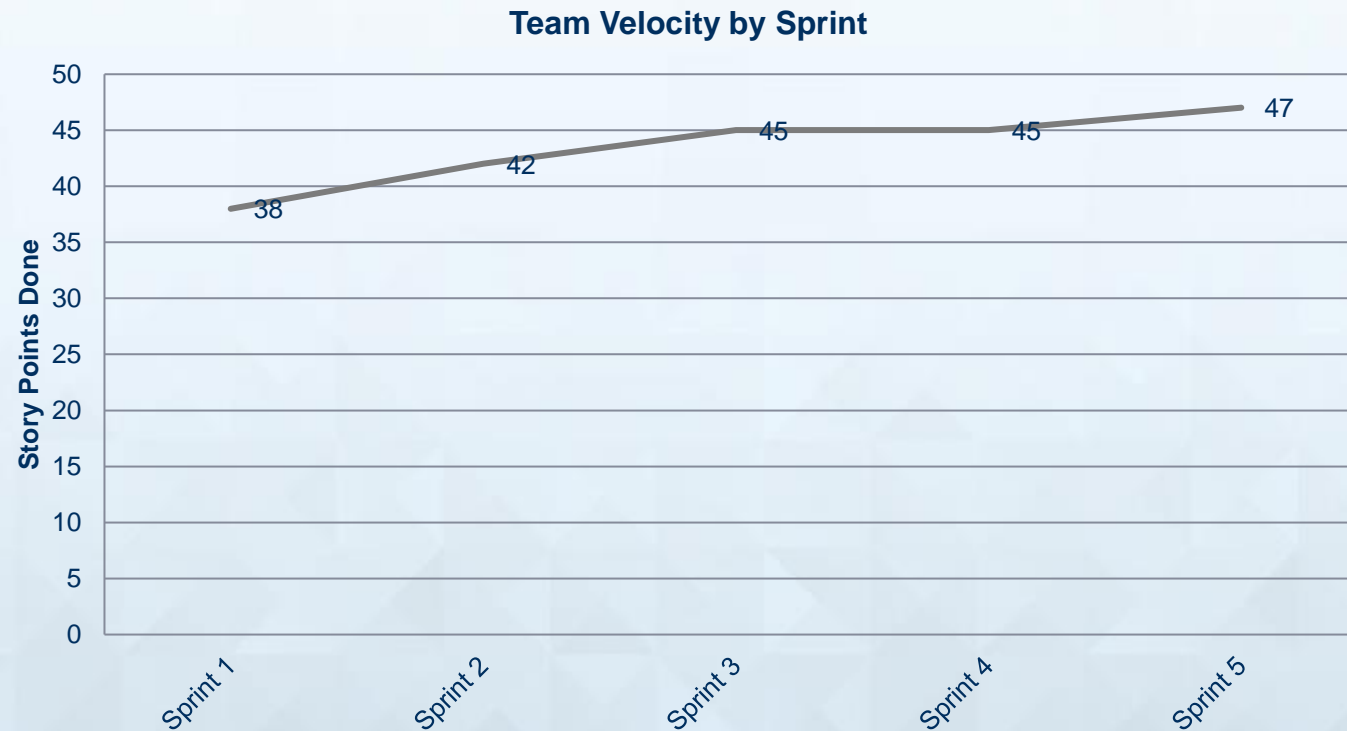
# How Do We Know If We Can Commit

## For each story in an iteration the team will:

- Ask any clarifying questions
- Break the work to complete the story into tasks using a very simple scale
  - 0.5, 1, 1.5 or 2 days are the allowable task durations
- The task list must be everything required to make the story be “**Done**”
- For each story a number representing task days per size point is calculated  
Eg. If a story is a size 3 and the task estimates add to 4 days, the number calculated would be  $4/3$  or 1.33
- After all stories have the number calculated, any story with a number that is not near the average is re-examined
  - Does the story need to be re-sized?(do it)
  - Did we forget some tasks?(add them)
  - Is it just rounding error and it is ok?

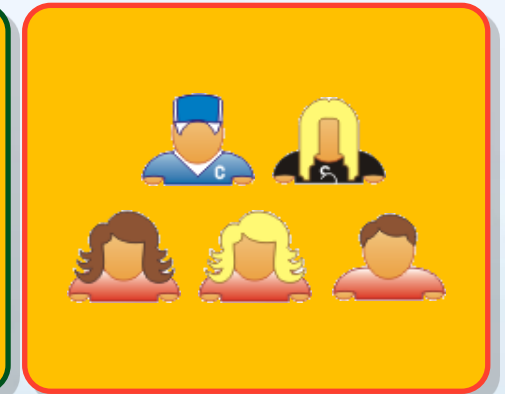
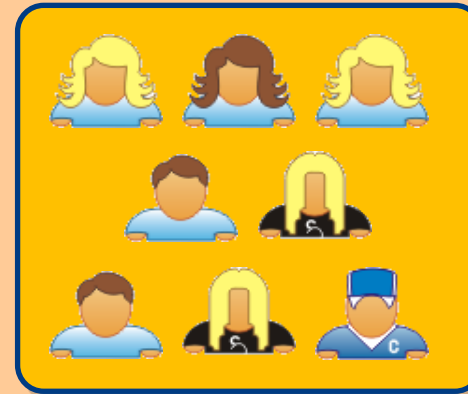
# How does Velocity Help us?

Velocity is the amount of work a team can accomplish in a given time period



# Scalability & Scrum of Scrums

- Typical individual team is  $7 \pm 2$  people
  - Scalability comes from teams of teams
- Factors in scaling
  - Type of application
  - Team size
  - Team dispersion
  - Project duration
- Scrum has been used on multiple 500+ person projects also







*Innovative Services*

*Passionate Employees*

*Delighted Customers*

*Thank you*

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