Agile Primer

The nuts and bolts of Agile practices, terms and metrics
What is All the Buzz About?

• Agile is documented to help large projects cut time-to-market by 50% and increase productivity by 25%
• It shares values with Lean manufacturing to promote:
  – disciplined project management
  – frequent inspect and adapt cycles that minimize waste
  – self-organizing, cross-functional teams that make and meet commitments
  – engineering practices that rapidly deliver high-quality software
What Makes Agile Development So Different?

Agile projects build software incrementally, typically using short iterations of 1-4 weeks, to keep development aligned with changing business needs.

So, instead of a single pass, 6-18 month release that predicts all requirements and risks up front ...

Agile adapts to frequent feedback by delivering working, tested code every 1-4 week iteration. 

First time for real feedback. oops...

Final Software Out
Agile Rewards Value Delivery over Illusion of Control

Waterfall

Fixed
Scope
Resources
Time

Agile

Adaptive
Rewarded for delivering value

Predictive
Rewarded for providing illusion of control

Estimated
Resources
Time
Scope

Early scope commitment drives cost & schedule estimates. But needs change faster than software can be delivered.

Scope is estimated and allowed to evolve to stay aligned with needs. Teams commit to always work on highest value features
The Product Owner drives the product from the business perspective. Responsibilities include:

• Define the requirements and prioritize their value
• Determine the release date and content;
• Lead the iteration and release planning meetings
• Ensure the team is always working on the most valuable requirements
• Accept or reject work results of each iteration

The ScrumMaster is a facilitative team leader who ensures the team is fully productive so they can make and meet commitments. Responsibilities include:

• Enable close cooperation across all roles and functions
• Remove blocks and shield the team from disturbances
• Work with management to track progress and re-factor structures & processes of the organization
• Ensure Agile’s inspect and adapt processes are followed, including Daily Stand-ups, Planning Meetings, Demo Reviews and Retrospectives.
Agile Scales by Replicating Agile Teams

We don’t increase Agile team size!

Instead, we grow our disciplines to synchronize many distributed teams.

Agile improves collaboration across all roles with greater transparency into work in progress, quality, readiness and costs.
A Team Works in Iterations to Deliver User Stories

The team plans stories into their iteration based on each story’s priority and size. The team uses their velocity (how much they get done per iteration), to decide how much scope to plan into the iteration.
User Story is a Requirement from the User’s Perspective

During release planning, user stories are given a **rough size estimate** using a *relative scale like points*.

Later, during iteration planning, we’ll break the story down into tasks.

Agile is very disciplined about producing useful, realistic estimates. Make sure you check out the "Estimation" Slideshow in this series for a thorough introduction.

"As a buyer, I want to have my shipping information confirmed so I get a chance to correct any errors"
Real work is more granular than stories. Each story is really a collection of **Tasks**.

We *wait* to break stories into tasks until the story is planned for the current iteration. Elaborating details *just-in-time* takes advantage of learning and feedback.

Tasks are estimated in hours, typically sized between 2-12 hours.
Stories are Validated with Acceptance Tests

User Story 23

Validate Customer Shipping Info

- Test Case 137: Pass
- Test Case 138: Pass
- Test Case 139: Fail
Teams determine what done means. Criteria can include:

- all tasks completed (dev, test, doc, etc.)
- all acceptance tests running and passing
- zero open defects
- accepted by the Product Owner
- could be delivered to users
Agile Metrics Make Progress Visible

Iteration Task Status

Storyboard

Velocity Chart

Iteration Burndown
Quick Glossary of Some Agile Terms

**User Story:** A simple expression of a requirement, commonly in the form of: As a <User Role> I want <Functionality> so that <Business Value>

**Task:** A single unit of work that helps a Story reach delivery/acceptance

**Estimating:** Gauging the *relative size* of a User Story in points, and/or the number of hours to complete a task

**Ranked Backlog:** A list of User Stories prioritized by importance/value to the customer

**Velocity:** The rate at which a team completes work, usually measured in story points. Used to decide how many stories to plan into the release.

**Release Planning:** Estimate stories in points, and select and rank them in order to satisfy the release conditions of schedule, scope and resources. Agile teams respond to feedback and typically adjust scope to meet the release theme and date.

**Iteration Planning:** Select stories to be delivered by the iteration deadline, detail their acceptance criteria and estimate their tasks in hours.

**Commitment:** Entire team commits to the iteration stories and schedule
Next Steps

• View these other Agile Planning guides:
  www.rallydev.com/learn_agile/agile_planning/
  – Agile Estimating
  – Release Planning
  – Iteration Planning