

QA Workshop - Day 6

BIT 5th Semester (Professional Class)

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Agile QA: Quality Software Development

Agile means faster, more flexible software. We'll show how QA makes quality a core part of Agile, from start to finish.

Agile: Flexibility and Fast Delivery

Agile focuses on flexible, fast improvements. It delivers customer value quickly, rather than waiting for large releases. Agile embraces change, adapting products to evolving user needs.

Flexible & fast delivery

Work in small, easy parts.

Regular feedback

Gather customer ideas early and often.

Embrace change

Adapt to new needs, even late in development.

Constant working software

Release functional software frequently.

Agile vs. Waterfall: Quality Differences

Agile and Waterfall differ greatly in their approach to quality.

Waterfall: Step-by-Step

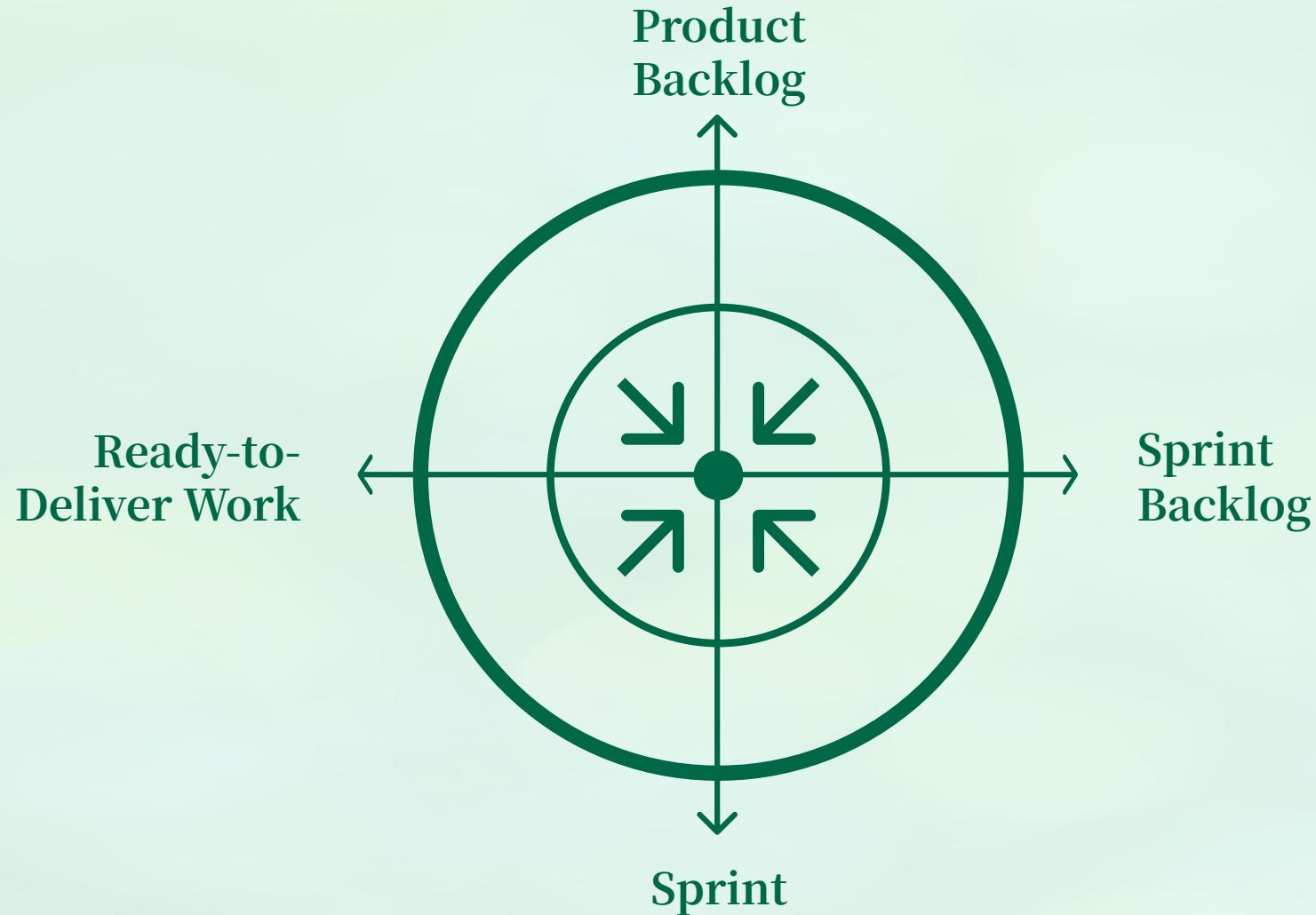
- **Testing:** Done at the end.
- **Needs:** Fixed; changes are costly.
- **Risk:** Higher; late bugs cost more.

Agile: Iterative & Collaborative

- **Testing:** Done in every sprint.
- **Needs:** Flexible; easy to adjust.
- **Risk:** Reduced; early testing prevents problems.

Scrum: The Heartbeat of Agile

Scrum is the most popular Agile method. It helps teams manage complex projects by breaking work into short Sprints.



Scrum uses mixed-skill teams, regular feedback, and quick delivery. Quality assurance is part of the process.

Scrum Roles: Working Together

Scrum roles are clear and help the team work well. QA is part of the Development Team, not a separate job.



Product Owner

Represents stakeholders.
Decides top product features.
Ensures the right product is built.



Scrum Master

Facilitates Scrum meetings.
Guides the team. Removes
blockers. Ensures Agile practices
are followed.



Development Team

Self-organizing group with all
skills to create finished work.
Includes developers, designers,
and QA.

Sprints: Step-by-Step Development

Sprints are 1-4 week work periods in Scrum. Each Sprint is a small project to deliver a useful product piece.

Sprint Planning

Team plans the next Sprint's work.

Retrospective

Team reflects on the Sprint to improve.



Build & Test

New parts are built and tested.

Sprint Review

Show completed work.

Quality checks are built-in. New parts are tested and confirmed within the same Sprint.

Agile QA: Test Early, Prevent Bugs

Agile QA tests early. This means quality checks start sooner, stopping bugs before they happen, not just finding them later.

01

Understand Needs Early

Join talks to know what users need and what the product should do.

02

Check User Stories

Work together to make sure needs are clear and complete.

03

Write Tests First

Create tests before coding to guide development.

04

Full Testing

Do all tests (functional, regression, performance) during the sprint.

05

Fast Bug Fixes

Report and retest bugs quickly to keep the sprint moving.

What is a User Story? Making Software from a User's Point of View



User stories are brief descriptions of a product feature, from a user's view. They guide software building and testing, ensuring clear understanding.

As a [type of user], I want to [perform some action] so that [achieve some goal].

Example:

As a customer, I want to securely log in with my email and password so that I can access my personalized dashboard.

Acceptance Criteria: Saying When Something Is "Done" for Quality Checks

Acceptance Criteria (AC) define what a software product must do to be accepted. They clarify user stories and guide quality checks.

- **Conditions for Completion:** Define when a user story is "Done."
- **QA Guidance:** Guide testing.
- **Shared Understanding:** Ensure team alignment.

Example: Login Feature

- Correct username/password leads to the main page.
- Wrong password shows "Incorrect password."
- Empty email/password shows "Field cannot be empty."

Write Test Scenarios from User Stories

Turning user stories and acceptance criteria (AC) into clear test plans is key for Agile quality. This ensures thorough checks and focuses testing on user needs.



Review User Story

Understand user needs.



Check Acceptance Criteria

Identify "Done" conditions.



Write Test Plans

Convert conditions to test plans.
Detail steps and expected results.

Login Feature: Example Test Plans

- Test login with correct username and password.
- Verify "Incorrect password" error with wrong password.
- Confirm "Field cannot be empty" for blank email/password.
- Check button and link functionality.

Questions & Discussions ??