Upright Education

Agile Development

Software Development Bootcamp

Topic

Agile Project Management

What Is Agile Project Management?

Agile is an iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer complications.

Agile Manifesto

Why Use Agile?

Traditional project management methods often struggle with software development

Agile helps teams:

- Respond to change quickly
- Deliver working software frequently
- Maintain close collaboration with stakeholders
- Focus on customer satisfaction

The Scrum Framework

Scrum is the most popular Agile framework

- Works in sprints (typically 2-4 weeks)
- Daily stand-up meetings
- Focus on incremental progress
- Regular retrospectives

Key Agile Roles

- Product Owner
    - Represents stakeholder interests
    - Manages product backlog
    - Sets priorities
- Scrum Master
    - Facilitates the process
    - Removes obstacles
    - Protects the team
- Development Team
    - Self-organizing
    - Cross-functional
    - Delivers the work

Agile Ceremonies

- Sprint Planning
  - Team plans work for the sprint
  - Sets sprint goals
  - Estimates effort
- Daily Stand-up
  - 15-minute daily check-in
  - Share progress
  - Identify blockers
- Sprint Review
  - Demo Completed work
  - Get stakeholder feedback
  - Plan adjustments

Agile Artifacts

- Product Backlog
  - List of all desired features
  - Prioritized by value
  - Continuously updated
- Sprint Backlog
  - Selected items for current sprint
  - Detailed tasks
  - Team commitment
- Board
  - Visual progress tracking
  - Shows work remaining
  - Identifies issues early

Kanban Boards

A visual system for managing work

- Cards represent work items
- Columns show workflow stages
- Work moves left to right

Kanban Key Principles

- Visualize work
- Limit work in progress
- Manage flow
- Make process policies explicit

Kanban Best Practices

- Effective board management
  - Keep cards small and specific
  - Set WIP (Work In Progress) limits
  - Regular board updates
  - Clear card descriptions

Common Kanban Column Types

- Backlog / To Do
- In Progress
- Review / Testing
- Done / Completed
- Blocked / On Hold

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Common Agile Tools

Trello

- Popular Kanban-style board tool
  - Visual task management
  - Drag and drop interface
  - Custom board layouts
  - Easy collaboration

Trello Key Features

- Cards for tasks
- Lists for workflow stages
- Labels for categorization
- Checklists and due dates

Jira

- Enterprise-level Agile management
  - Comprehensive project tracking
  - Advanced reporting
  - Multiple Agile frameworks
  - Integration capabilities

Jira Key Features

- Scrum and Kanban boards
- Sprint planning tools
- Customizable workflows
- Detailed analytics

GitHub Projects

- Project management within GitHub
  - Direct code integration
  - Issue tracking
  - Project boards
  - Milestone tracking

GitHub Projects Key Features

- Kanban boards
- Automated workflows
- Pull request linking
- Project templates

Choosing The Right Tool

Factors to consider:

- Team size and experience
- Project complexity
- Budget constraints
- Integration needs
- Learning curve

Best Practices

- Start simple
- Focus on team adoption
- Evaluate free tiers first
- Consider scalability

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User Story

What Is A User Story?

A user story is a simple description of a feature told from the user’s perspective.

- Who needs something
- What they need
- Why they need it

Who (The User)

- Be specific about user type
- Consider different roles
- Think about user needs

What (The Action)

- Clear actionable description
- Focus on user’s perspective
- Avoid technical details

Why (The Value)

- Business or user benefit
- Clear purpose
- Measurable outcome

INVEST In Good User Stories

Independent: Can be developed separately

Negotiable: Details can be discussed as a team

Valuable: Delivers clear value to users

Estimable: Team can size the work

Small: Completable in one sprint

Testable: Clear acceptance criteria

Writing Acceptance Criteria

- Conditions that must be met:
  - Given [initial context]
  - When [action occurs]
  - Then [expected outcome]

Example User Story

1. Given I am logged into my account
2. When I select multiple photo files
3. Then I should see a preview of all selected photos

And I should be able to upload them all at once

Common User Story Mistakes

- Too technical
  - ❌ As a system, I want to implement JWT…
  - ✅ As a user, I want secure access…
- Too Large
  - ❌ As a user, I want a complete CMS
  - ✅ As a user, I want to create a blog post…
- Missing Value
  - ❌ As a user, I want to click a button…
  - ✅ As a user, I want to save my progress…

User Story Points

- 1: Very small task
- 2: Small task
- 3: Medium task
- 5: Large task
- 8: Very large (consider splitting)
- 13+: Too big, needs breaking down

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Agile: Common Mistakes, Benefits, Getting Started

Common Agile Mistakes

Common pitfalls to avoid:

- Rigid adherence to processes over people
- Neglecting documentation
- Not empowering the team
- Micromanaging daily work

Benefits Of Agile

- Delivers value faster
- Improves team collaboration
- Increases project visibility
- Reduces risk
- Better adapts to change

Getting Started With Agile

- Start small
- Focus on communication
- Embrace change
- Measure and improve
- Keep it simple