

Using Agile With Process Models

Some definitions

- Agile manifesto: four core values, 12 principles
- **Processes** are **models** that you use to organize development into phases.
- **Practices** are **techniques** or actions that you can use to help manage and track development.
- **Methodologies** are defined groups of **practices**.
- Practices and methodologies that are based upon the agile manifesto are called **Agile Practices** and **Agile Methodologies**.

Agile principles & Process models

agile principles & process models

Try to apply principles to the linear life-cycle process models

- the Waterfall model,
- V-model,
- and Sawtooth model.

E.g., Early and continuous delivery

Waterfall & Agile principles

Product & client

the product is only truly delivered to the client at the end of the full development process.

» This is not early integration nor continuous delivery.

On documentation

- The waterfall model is also heavily reliant on documentation.

- vs: one of the core values of the agile manifesto says that **comprehensive documentation is not a priority of agile development.**

- in the Waterfall model, the document that is the main output of the phase needs to be approved before proceeding to the next phase.
- The culture of requiring contracts or sign offs is also not a priority of agile development.

» the waterfall process model doesn't work well with agile practices.

V-model & Agile practices

- The V-model shows a lot of shortcomings of the Waterfall model,
- the V-model does encourage verification to ensure the product is working the way it is supposed to.

(Verification is an important part of agile development, but the linear aspect of the model doesn't fit well with Agile practices.)

Sawtooth & In Agile, the relationship between the client and the development team is very important.

- The Sawtooth model recognizes the value of this relationship as the development team provides a couple of prototypes to the client.
- This is closer to Agile than the earlier process models because it allows feedback.
- However, just a couple of prototypes is not enough. There is not enough opportunity for close collaboration and feedback to include the suggested improvements or changes to the product.

Iterative process & agile practices

Iterative process models

- Iterations are a core concept in Agile.
 - » Repetitive cycles create many opportunities for reflection and improvement.
- Innovative models also encourage frequent and continuous releases to gather feedback.
 - » These releases are redesigned and improved in the next iterations.
- Short iterations are also a feature of Agile.

Risk & agile practices

Risk management is also a key consideration in agile planning.

- The Spiral model reduces risks, because it is constantly iterating, and risks are identified and reviewed at every iteration.
 - In the traditional Spiral process, iterations tended to be longer, and collaboration with the client wasn't frequent.
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- Use agile practices along with the Spiral model.
 - You can make the iterations shorter and have client meetings and reevaluate the product at the end of the iteration.

Unified process & agile practices

Unified process

- Of all the process models we've reviewed, the Unified process is the most compatible with agile values and principles.
- Unified has short iterations similar to what we see in agile methodologies.
- Some agile methodologies have also adopted a focus on architecture.
- » Agile Unified Process, has even been created that combines the Unified process and supplements it with agile practices.

Context: You have been called upon to help out a struggling development team.

- The team is working on developing a mobile ticket app for a professional baseball franchise and has failed to deliver a working product on schedule.
- They think they are about two weeks behind schedule, but it's hard to know because nothing is being tracked. They need help and they need it fast.
- You have heard from other product managers that agile practices have helped their projects in the past.
- You only want to implement practices that follow the agile manifesto.

Which of the following practices would you implement?

- A as tasks are started they are displayed to the entire team in a table.
- B client can't add new features after the initial planning is complete.
- C development plan is reevaluated at regular time intervals.
- D software product manager acts as a messenger between the client and the development team.

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- If you're wanting to implement agile practices, having a development plan that is reevaluated at regular time intervals is a good place to start. This follows the agile value of adapting to change, therefore, answer C is the correct answer.
- A is not correct, since in agile, you want to track progress by working software or tasks completed, not tasks started.
- Answer B does not allow client collaboration or adapting to change.
- And D is incorrect, since you want your development team and client to have constant open communication.

Values and principles » Practices (guidelines and rules) » Methodologies

- Based on the values and principles of the Agile Manifesto, many different software practices have been established.
- These practices are guidelines and rules that you can use as a software product manager to make the development process more effective.
- These practices get organized into methodologies.

Some methodologies

- Extreme Programming (XP)
- Scrum
- Lean
- Kanban ...