

FAQ

expert answers to
frequently asked
questions

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How do you know you're finished?

This question is fundamental to all the software engineering I've ever done. It's the question I'm asked by my clients as I organize projects. It's the question I'm asked by my team members to focus their testing. It's the question I'm asked by my students to help apply lessons to their testing.

The question challenges notions of quality by forcing the issue—What is good enough?

If products deliver value to stakeholders, then it is important to know what value is delivered to whom. *I know I am finished when the value I deliver matches the needs of project stakeholders.*

The question challenges notions of completeness—Did we test enough?

If I did not test enough, I may have missed important issues. Did I explore each testing objective reasonably well? *I know I am finished when I have done the tests I set out to do and explored to the depth I intended while adapting to the knowledge gained as I learned about the product.*

The question challenges notions of effort—Should we invest more effort in testing?

I often think of testing like insurance. My willingness to invest in insurance depends on my risk tolerance and potential payout. The payout from testing is knowledge. I want to make sure I spread my budget reasonably across the risks. Did I rebalance my testing portfolio as I gained product knowledge? *I know I am finished when the budget is reasonably spread across risks based on knowledge of technical risk and business importance.*

The question challenges notions of time—Is it time to move on?

There may be a point in time at which the market does not need the product I am testing. *I know I am finished when any further delay in the project would dramatically diminish the value of the product no matter what works and what fails.*

The question challenges notions of focus—Did we test the right things?

Verification helps us understand if we tested the thing right. Validation helps us understand if we test the right thing. *I know I am finished testing when I am testing the right things well.*

The question challenges notions of skills—Did we apply the best testing in the best way?

Domain and testing skills, knowledge, and experience are critical factors. *I know I am finished when the best testers applied their skills to the right problem with the support of expert domain specialists to assess correctness.*

The question challenges notions of decision making—How do we decide we're ready?

In testing, it is important to know how we are going to make decisions before we start testing. *I know I am finished when I focus testing and fix bugs with stakeholder-supported decision making.*

I wrote a children's book called *I am a Bug*, which offers this simple answer: "I know I am finished when the bugs that are left are the bugs that we can live with at least for now!"