

Why You Only Need to Test with Five Users

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**Human
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Outline

- ▶ Why you only need to test with five users
- ▶ Why not test 15 users?
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Why you only need to test with five users

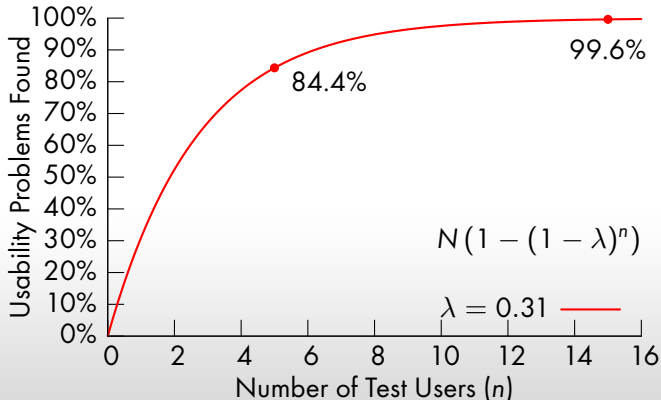
$$N(1 - (1 - \lambda)^n)$$

where

- ▶ N is the total number of usability problems in the design,
- ▶ λ is the proportion of usability problems discovered while testing a single user, and
- ▶ n is number of users tested.



Why you only need to test with five users



Why not test 15 users?

Though testing 15 users would reveal about 99.6% of all the usability problems in your system, why spend all of your resources (time and money) on a single test? Instead, you could test 3 separate iterations of your program with 5 users participating in each test.

Multiple usability tests are better than a single test because the objective is to improve the software, not simply document all of the existing usability problems.



Why not test 1 user?

or Why shouldn't I run 15 tests with 1 user each?

Since testing with a single user reveals 31.0% of the usability problems, why wouldn't 15 tests with 1 user each be better?

One reason for using more than a single user is that there is a risk of being misled by the spurious behavior of a single person who may perform certain actions by accident or in an unrepresentative manner.





When should I test more users?

If your product has multiple distinct sets of users, you may need to test with more than five users.

For instance, if you're developing a website that caters to students and professors, you will want to test your site with both students and professors, and this may require that you test more than five users. There will still, however, be a lot of overlap in the observations between the two groups of users.



References

-  Nielsen, Jakob. "Why You Only Need to Test With 5 Users," *Alertbox*. Available online at <http://www.useit.com/alertbox/20000319.html>.
-  Nielsen, Jakob and Landauer, Thomas K. "A mathematical model of the finding of usability problems," *Proceedings of ACM INTERCHI'93 Conference (Amsterdam, The Netherlands, 24-29 April 1993)*, pp. 206-213.



Questions?



A short video

http://www.youtube.com/v/_RtJN1Kq508

