Usability Testing

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Usability Testing

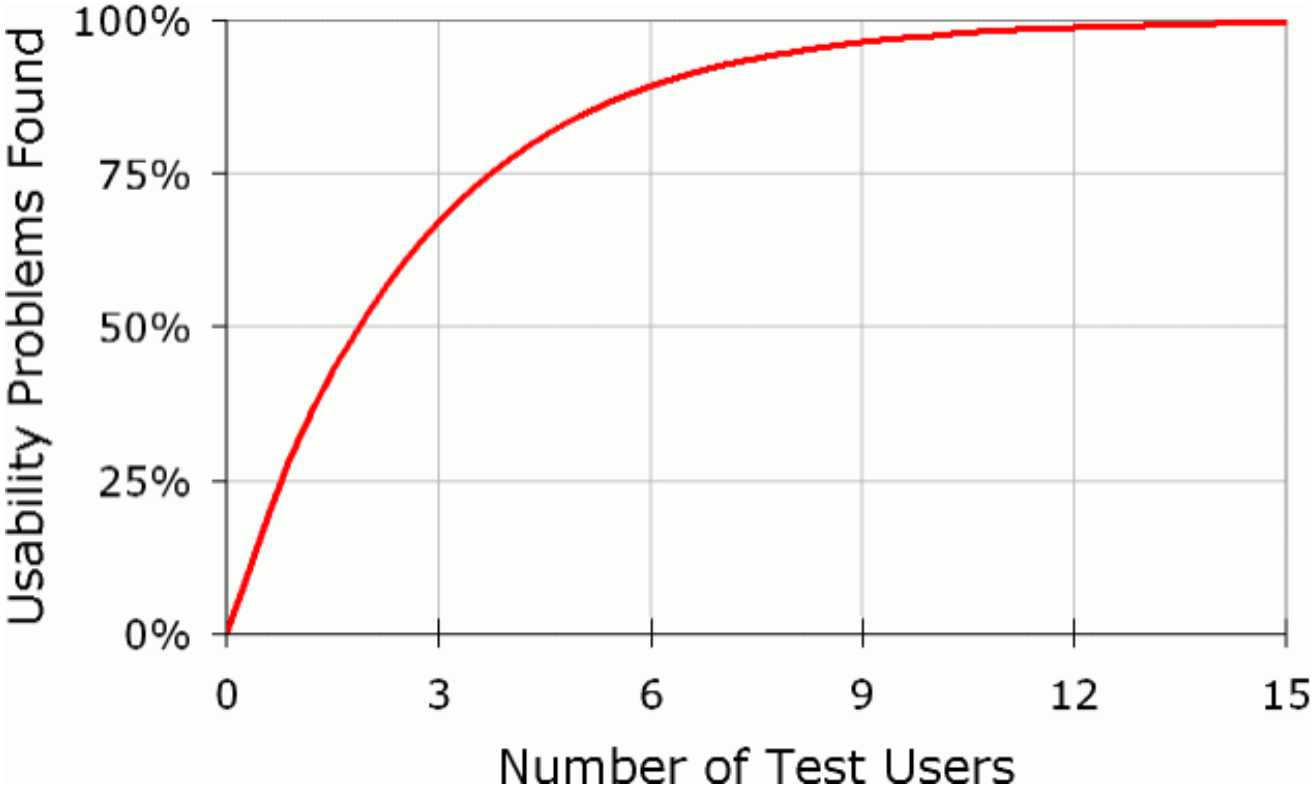
- Usability Testing ~~is~~ should be one of the most critical parts of software development: designing experiences!
- Consider web search – a user wants most relevant results in the fastest way, relevance could be measured by analysing user clicks on the result link, but what about speed? Is 1s fast or 0.3s or 0.03s? Is it about the actual speed or about speed's perception by the user?
- Usability studies help to answer those questions by using two types of user research: quantitative (data points) and qualitative (perception)
- Quantitative results allow to draw conclusions approximating them on to the whole target user set, i.e. "launching a new banking website will cause no more than 0.1% of online banking users to call the support line"
- Qualitative results allow to capture how users feel about their experience with the product/ service
- Good usability studies will use both approaches

Usability Study Design

- Method
  - define user interactions that are going to be tested, how the user is instructed and how the system is implemented (real product/ prototype / simulator) - test setup
  - define how the user feedback is captured: interviews, scoring cards - approach
  - define session time
  - define how user interactions are observed and analysed: video and screen capture, eye trackin
- User group (Know Your Customer!)
  - choose the user group to provide a representative set of product/ service users
    - an app for remote access to computers (e.g. SSH client) is likely to be used by **experienced** computer users
    - a web conferencing app (e.g.WebEx) need to be easier to setup by **business** (non-technical) users
    - a call/chat client (e.g. Skype) should be easy to use by **any** computer user
  - segment target users by their characteristics: demographics: age, gender; level of experience…
- Scenarios - specific actions users are asked to perform
- Results presentation – a report should include
  - conclusions based on observations of users by the specialists to identifying e.g. a common source of confusion
  - qualitative user feedback
  - quantitative results: rankings/scoring by user groups (charts/tables)

Number of Test Users

- Jacob Nielsen advocated that most effective approach is multiple usability studies with 5 users at a time



http://www.useit.com/alertbox/20000319.html

- The chart above applies to the number of users of the same kind, in reality, if the target user set is diverse, so it'd be better to have 5 users for each user segment

Number of Test Users

- Laura Faulkner in “Beyond the five-user assumption: Benefits of increased sample sizes in usability testing” showed that 5 users do not necessarily deliver 85% problem discovery but a set of 20 was certainly very reliable
- In practice, the optimum number can depend on the diversity of target users and complexity of the product

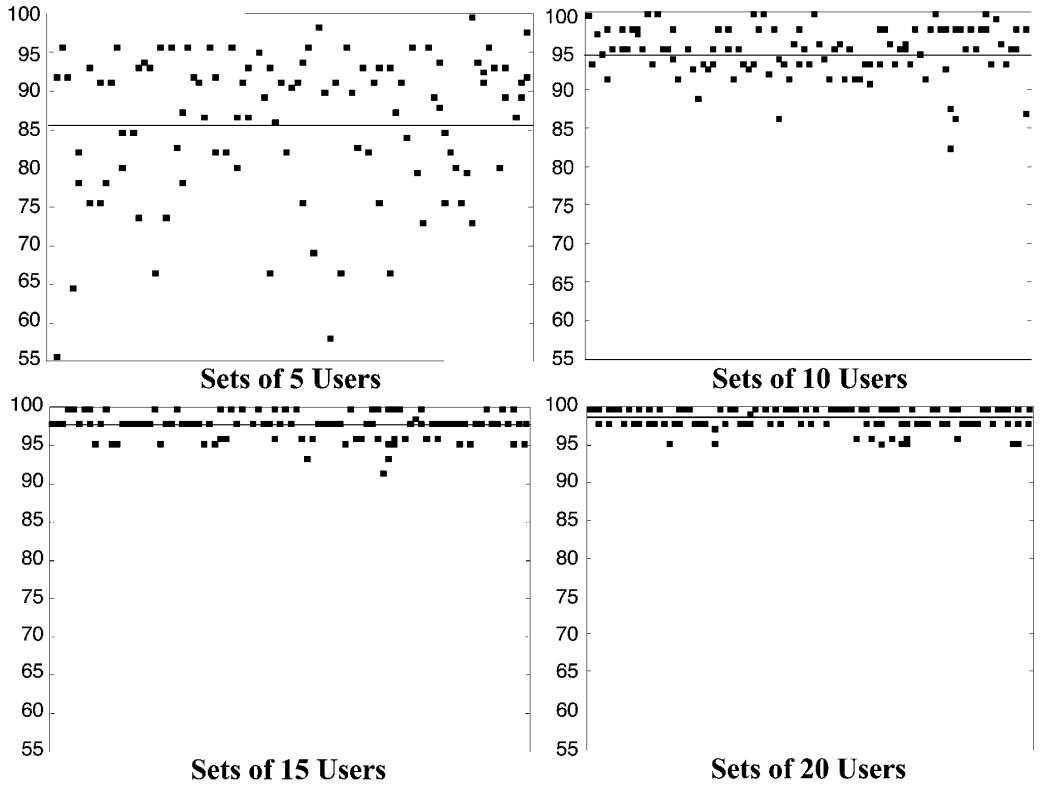
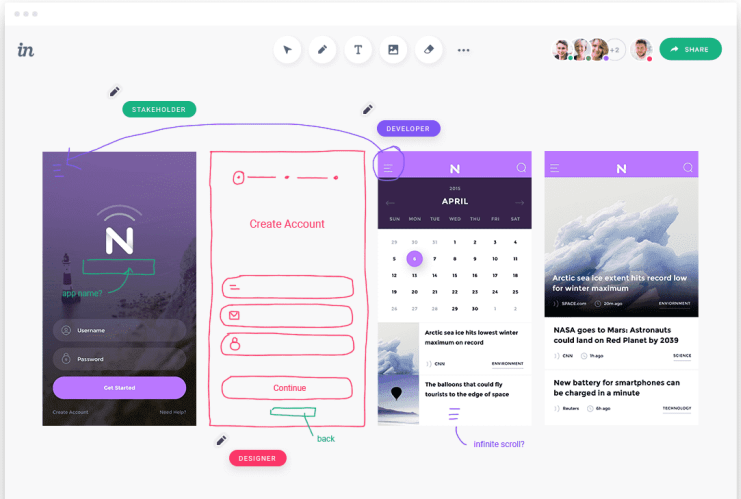


Figure 1. The effect of adding users on reducing variance in the percentage of known usability problems found. Each point represents a single set of randomly sampled users. The horizontal lines show the mean for each group of 100.

When To User Test?

- As soon as the design is starting, it's possible to test and user tests should be incorporated in the design process
- The design prototype can demonstrate the UI flow, main controls, layouts and data presentation – "Fake it till you Make it" :)
- Prototype Option A: real app
  - pros: real app, real feel
  - cons: requires developer's effort for each and every change, requires extra effort for distribution and feedback
- Prototype Option B: a digital prototyping platform
  - pros: anyone can do it, supports multiple target platforms (apps, web), easy collaboration between designers/ engineers/stakeholder, supports easy release to users and feedback
  - cons: requires graphic design to produce images to "fake" UI elements, data presentation etc.



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