

Cognitive Walkthrough

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WHAT IS IT?

The cognitive walkthrough (Wharton et al, 1994) involves going through tasks on an interface and looking for problems users may encounter. Experts will continuously ask whether the user will experience difficulties at any stage during the task by focusing on the user knowledge and their goals.

WHY DO YOU NEED IT?

The method has a couple of really useful pros:

- Predicts problems when learning a product by exploration.
- A useful method if the application uses complex operations.

However, although not using heuristics, the method involves expert judgement rather than real users. Additionally, it is quite a time consuming process compared with a heuristic evaluation, but not as expensive as user testing. To be successful, it requires an understanding of the user cognitive process for an accurate walkthrough.

WHEN DO YOU NEED IT?

The walkthrough should happen early on, ahead of any user testing.

HOW DO YOU DO IT?

Preparation

1. You need a fairly detailed design available (the location of buttons and labels is important).
2. Create several important tasks to investigate.
3. Provide the correct sequence of actions.
4. Prepare a description of the user: their experience, knowledge, the task and their interaction expertise.
5. Also prepare the problem reporting forms and instructions.
6. Invite 2-3 experts to participate.

The Walkthrough

7. The expert walks through the task, step by step.
8. The expert tells a credible story on the user's interaction with the interface: how they behave, why they will/won't select next correct action, i.e. the mental model versus the system design.
9. During the process, the following four questions are asked at each action:
 - i. Will the user be trying to achieve the correct effect? *Are they doing the right thing?*
 - ii. Will they know the correct action is available? *Will they be able to find it, e.g. context-sensitive menus?*
 - iii. Will they know that the correct action will achieve the desired effect? *Once selected, will they know it was the correct action, e.g. a poor button label?*
 - iv. If correct action, will the user see things are going well? *Is the feedback appropriate?*

Analysis

10. Aggregate the problems across the evaluators.
11. Assess and rank the severity of the problems.
12. Types of problems encountered:
 - Missing functionality – expect to take an action that's not there.
 - Inadequate functionality – exists but not compatible with mental model.
 - Hidden functionality – exists but cannot be found.
 - Misleading cues – prompts/metaphors ambiguous.
 - Absent/poor feedback – not present or misleading.
13. Determine the fixes (redesign recommendations).

EXAMPLE DOCUMENTATION

You can set up a simple spreadsheet for evaluators to record their issues.

Action	1. Aligned Goal	2. Findable	3. Correct	4. Feedback	Comments
Press Submit button	Y	Y	Y	N	The button has no down state - looks inactive

WANT TO KNOW MORE?

View Wharton’s technical paper which was later incorporated into the book *Usability Inspection Methods*.

<https://www.colorado.edu/ics/sites/default/files/attached-files/93-07.pdf>