# Discount accessibility engineering: Haven't we met before?

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# Discount accessibility engineering: Haven't we met before?

Position paper for the INTERACT'99 workshop "Making designers aware of existing guidelines for accessibility" by Fredrik Winberg, fredrikw@nada.kth.se

The situation today with the existing guidelines for making new technology and information accessible (for example World Wide Web Consortium, 1999) reminds much about the state of HCI or usability engineering in the late 1980. Jacob Nielsen speaks about something he calls "the intimidation barrier" (Nielsen, 1994a, 1994b). This barrier makes most people refrain from using any usability method since most methods require a lot of knowledge, are expensive, and are too complex.

Nielsen developed a method, or a set of techniques, that he called *discount usability engineering* (Nielsen 1994a, 1994b). The basis of this method could be stated as "don't aim at perfection, rather the best one can do" or "it's better to do a little than not doing anything at all". The foundation of this method is the four techniques *User and task observation*, *Scenarios*, *Simplified thinking aloud*, and *Heuristic evaluation*.

User and task observation is simply that you have an early focus on the users and observe the users while they are working and observe the user and the tasks.

A scenario is a cheap kind of prototyping where one simulates the interface with for example a paper mock-up while following a planned path of action.

Simplified thinking aloud is a variant of the more complex thinking aloud protocol that many psychologists use. This method requires the user to verbalize his or her thoughts while performing a task, to think aloud. The difference is simply that anyone could do this and that data analysis could be done with just notes taken during the session. No video recording equipment is needed.

Heuristic evaluation is a set of 10 usability principles that are used instead of guidelines with hundreds of rules. This work actually requires a usability expert, but different studies has showed that even a novice on these principles can use them and get good results, especially if more than one evaluator is used (Nielsen, 1994b, pp. 32-35).

For a good example of what I am talking about, one could compare with the somewhat classical collection of guidelines assembled by Smith and Mosier (1986). This looks very much like how the accessibility guidelines look today. Of course, one cannot expect to be able to sum up a complex set of accessibility guidelines in ten neat rules of thumb, but these rules of thumb could be useful for the designers and actually be used. The result might not be as good as if they had used the full guidelines, but the result would definitely be better than having no guidelines at all.

My proposal is that this approach is something that should be guiding in future work in this area. I don't think that it is fruitful to believe that the extensive guidelines that exist today will have more impact than the ones that was formulated for general usability issues do. If one wants to influence the designers, the material that one uses must be suited for the designers and not for accessibility experts. Large collections of guidelines are not the answer.

Another misconception seems to be that to use guidelines is to apply a method. To discuss this issue one must first look into what a method is. Olson and Moran (1996) summarizes a method as "[…] a systematic, repeatable way to design" and as something that includes (1) a statement of the problem that the method addresses, (2) a device (a tool, technique or model), (3) a procedure for using the device, and (4) a result, or rather a statement of the nature of the

result. According to this definition and to the intuitive image one might have of a method, just using guidelines doesn't qualify as a method at all. What we need is a framework for using these guidelines, if we are to use them at all that is. Perhaps the guidelines should rather be used as a foundation for new methods and as a good way of validating their performance.

A very effective way of understanding the users and the context in which they are using the technology is to pretend to be that user. When working with general usability questions it can be virtually impossible to pretend to be a novice user, not the expert that one is. But when it comes to accessibility this is sometimes much easier. I am not saying that it is possible to fully understand by doing this, but rather to get a notion about what it's like and some of the implications. One could use the text based web browser lynx to browse the web, turn of the loudspeakers and try to use some multimedia application, disable custom colors when browsing the web, try to use just one hand or just one index finger when using a word processor, or use a screen magnifying application when browsing the list of files and folders on the hard drive, just to mention a couple of examples. The power of "seeing is believing" is more striking than one hundred pages of guidelines.

How should this be accomplished? In the same manner as the discount usability engineering was once formulated, by extensive research on discount methods in comparison with the more formal and complex methods and guidelines on real cases of technology development.

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