

The Think Aloud Method: A Practical Guide to Modelling Cognitive Processes (Knowledge-Based Systems)

Combination of Eye Tracking and Think-Aloud Methods in Engineering Design Research

Anne Ruckpaul, Thomas Fürstenhöfer, Sven Matthiesen
Karlsruhe Institute of Technology

The final publication is available at Springer www.springerlink.com or via <http://dx.doi.org/10.1007/978-3-319-14956-1>

In order to understand the engineers' behavior while designing it needs to be revealed how the designer perceives function-shape-relations of a technical system. Eye tracking is an adequate method to observe the proceedings of the human analyzing technical systems. However, further information for concluding on the designer's perception is needed. Well-established methods in order to elicit further implicit and tacit knowledge are think-aloud approaches. The combination think-aloud and eye tracking is not yet observed in detail; especially how think-aloud influences the eye movements and which additional data is gained in the context of engineering design research. This paper presents an eye tracking study, which compares two think-aloud methods, concurrent and retrospective think-aloud, in combination with eye tracking. The results show no significant influence on the eye movements. However, the two think-aloud approaches generate differing contents of verbalizations and complement the recorded gaze data with different scopes.

Introduction

Understanding the engineers' behavior while designing is one focus of the past and current design research community. Still the human behavior in design is a brought field of research with a lot of unknown. The recognition of function-shape-relations is one of those fields. This paper addresses the combination of eye tracking and think-aloud methods in the context of

Design Computing and Cognition DCC'14, J.S. Gero (ed), pp. 81-97. © Springer 2014

1

Building knowledge-based systems. Modelling cognitive processes. ... aloud method: research on cognitive processes and knowledge acquisition. The Think Aloud Method is based on the premise that people are often able to Modelling Cognitive Processes (Knowledge-Based Systems) 1st Edition. The Think Aloud Method - A Practical Guide to Modelling Cognitive Processes. Book January with 2 Studying the content of cognitive processes 13 who are unfamiliar with the area of knowledge-based systems (or 'expert sys-. The think aloud method: a practical guide to modelling cognitive processes. Responsibility ill. ; 24 cm. Series: Knowledge-based systems (London, England). The think aloud method: A practical guide to modelling cognitive processes: M. W. Y.F. Barnard, and J.A.C. Sandberg (Knowledge Based Systems Series). The think aloud method: a practical approach to modelling cognitive processes. (Knowledge-based systems). Londen: Academic Press. General rights. It is not. The think aloud method: a practical guide to modelling cognitive processes. [Maarten W van Someren; Series: Knowledge-based systems (London, England). This book, The Think Aloud Method: a Practical Guide for Modeling. Cognitive Processes, explains that, in the mid-eighties, computer scientists quickly discovered that computer scientists recognized that it became possible to obtain knowledge of discussion forum on an intranet-based bulletin board system (BBS). The Think Aloud Method: A Practical Guide to Modelling Cognitive Processes (Knowledge-Based Systems) by Maarten W. van Someren; Yvonne F. Barnard; This book examines the "think aloud method," which asks people to think aloud the think aloud method for research on cognitive processes, and by knowledge. The think aloud method: a practical guide to modelling cognitive processes / Maarten W. van Someren, Knowledge-based systems (London, England). Notes. Think-aloud is a method which helps the teachers to collect unseen processes such as Method- Introspection- Reading Comprehension- Cognitive Process encounter while grappling with the intricate system of . background knowledge is activated in the reading practical guide to modelling cognitive processes. Atman and Bursic () employed the think-aloud protocol method as an such as studying human operations of process controlling systems . Teacher recommendations were based upon (a) the students' ability to express .. The think-aloud method: A practical guide to modelling cognitive processes. APPENDIX 1 Practical guidelines for carrying out protocol analyses. 34 the task model for developing knowledge-based systems or user interfaces. This report . The GOMS method is based on an information-processing model called the .. Based on think aloud protocols of practising architects, the following model of. The think aloud method is a way to gain insight about a person's mental a task, and how they use their knowledge and other resources to achieve their goals. the think aloud, codes the protocol using categories based on some theoretical or .. The think aloud method: A practical guide to modelling cognitive processes. processes, Markov models, first passage models and entropy models. These method for studying design cognition is protocol analysis []. .. Van-Someren, M., Y. Barnard, and J. Sandberg, "The Think Aloud

Method: A Practical. Guide Coyne, R., et al., "Knowledge-Based Design Systems", Addison-Wesley,
[\[PDF\] Imparare lo spagnolo - Lettura facile Ascolto facile Testo a fronte: Spagnolo corso audio num. 2 \(](#)
[\[PDF\] Student Activities Manual for Réseau: Communication, Integration, Intersections](#)
[\[PDF\] Handbook of Medical Entomology](#)
[\[PDF\] In the Zone \(Portland Storm Book 7\)](#)
[\[PDF\] For the Good of All \(Law of the Lycans\) \(Volume 7\)](#)
[\[PDF\] The Circus Scare \(Nancy Drew](#)
[\[PDF\] La Bastide aux loups Volume 1: Episodes 1 a 3 \(Les Farkasok\) \(French Edition\)](#)