Towards the Measurement of Mental Effort in Software Engineering: A Research Agenda

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 177
Number 34

Year of Publication: 2020

Authors:
Lucian Goncales, Kleinner Farias

Abstract

Cognitive load refers to the mental effort applied to perform cognitive processes. In software engineering, developers are involved in cognitive processes such as program comprehension and change tasks. Measuring cognitive load would be a human-centered solution, instead of using measurements based on artifacts which have been shown to have no correlation with developers’ perception. Therefore, evaluate the cognitive load of the developer has potential to leverage the identification of source code issues and also improve the developers experience with their work environment. To determine a potential searcher to identify and organize this article a research agenda in relation to the measure of cognitive load of developers. This article also discusses the implications of using the cognitive load as a multipurpose indicator in software engineering. Finally, this article provides for practitioners and researchers a way to advance in the research about developers’ cognitive load in software engineering in realistic scenarios.

References
17. Randall K. Minas, Rick Kazman, and Ewan Tempero. Neurophysiological impact of


**Index Terms**

Computer Science Software Engineering

**Keywords**

Cognitive Load, Program Comprehension, Source code, Research Agenda