Measuring Energy Efficiency of Selected Working Software

Csaba Szabó and Emira Mustafa Moamer Alzeyani

Department of Computers and Informatics
Faculty of Electrical Engineering and Informatics
Technical University of Košice
Letná 9, 042 00 Košice, Slovakia
`csaba.szabo@tuke.sk`

Energy consumption is a key performance indicator of any software run on mobile devices. Working or application software is the main category of software where such energy (in)efficient performance becomes accelerated between users and other stakeholders. Measuring energy efficiency is becoming a part of automated and manual performance testing as well – both answering to the increasing usage requirements and addressing acceptance testing optimization. In this paper, we select three software tools – an e-mail client and two social network applications, those energy consumption is being measured and analyzed. We decided to apply very generic profiles during our measurements, where the actions were performed all manually. Our results show that besides the difference in the number of features covered by the software, also their implementation plays an important role in energy consumption. Focusing on a specific feature within the working software does not imply that all quality indicators of it are the best among the software group's implementations.