ABSTRACT

One constant in computing which is true also for mobile computing is the continue requirement for greater performance. Every performance advance in mobile processors leads to another level of greater performance demands from newest mobile applications. However, on battery powered devices performance is strictly limited by the battery capacity, therefore energy efficient applications and systems have to be developed. The power consumption problem of mobile systems is in general a very complex one and remained very actual for quite a long time. In this paper we aim to define a software execution framework for mobile systems in order to characterize the power consumption profile of multi-threading mobile applications. Study results for different thread libraries, multi-core processors and multithreaded parallelized applications are also presented.

REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

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INDEX TERMS

Primary Classification:
D. Software
  D.4 OPERATING SYSTEMS
    D.4.1 Process Management
    Subjects: Threads

Additional Classification:
C. Computer Systems Organization
  C.2 COMPUTER-COMMUNICATION NETWORKS
    C.2.1 Network Architecture and Design
    Subjects: Wireless communication
    C.2.4 Distributed Systems
    Subjects: Distributed applications

D. Software
  D.1 PROGRAMMING TECHNIQUES
    D.1.3 Concurrent Programming
    Subjects: Parallel programming
  D.4 OPERATING SYSTEMS
    D.4.8 Performance

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