Optimization in Power Usage of Smartphones

Abstract

The demand for smartphones and mobile based applications is growing very fast since past few years. Thousands of applications on Google Play store received millions of downloads. The growing smartphone functionalities have increased its energy requirements. The applications provide amazing features and rich user interfaces, make use of hi-tech sensors leading to high power utilization. Many such application contains various kinds of power bugs which leads to unnecessary processes running in the system. There is large scope to optimize power utilization in smartphones. This paper identifies various components in smartphones that utilize power causing unnecessary power wastage in the system. It highlights various subsystems proposed by researchers in order to optimize power consumption in smartphones.

References

- Olsen, C. M. Narayanaswami, "Power-Nap: An efficient power management..."
- Nanowire battery can hold 10 times the charge of existing lithium-ion battery, Stanford technical report, Stanford, 2007.
- Ning Ding, Daniel Wagner, Xiaomeng Chen, Characterizing and Modelling the Impact of Wireless Signal Strength on Smartphone Battery Drain.
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- U-BLOX AG. ATR0630 Data Sheet, July 2006. GPS. G4-X-06009-P2.
- Xiao Ma, Peng Huang, Xinxin Jin, Pei Wang, Soyeon Park, Dongcai Shen. "eDoctor: Automatically Diagnosing Abnormal Battery Drain Issues on Smartphones."
- Xiao Ma, Peng Huang, Xinxin Jin, Pei Wang, “eDoctor: Automatically Diagnosing Abnormal Battery Drain Issues on Smartphones”,

**Index Terms**

Computer Science

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Keywords

Smartphone  Applications  Power usage  Energy bugs  Optimization.