

Smartphone Energy Consumption: Modeling and Optimization


By Sasu Tarkoma, Matti Siekkinen, Eemil Lagerspetz, Yu Xiao

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With an ever-increasing number of applications available for mobile devices, battery life is becoming a critical factor in user satisfaction. This practical guide provides you with the key measurement, modeling, and analytical tools needed to optimize battery life by developing energy-aware and energy-efficient systems and applications. As well as the necessary theoretical background and results of the field, this hands-on book also provides real-world examples, practical guidance on assessing and optimizing energy consumption, and details of prototypes and possible future trends. Uniquely, you will learn about energy optimization of both hardware and software in one book, enabling you to get the most from the available battery power. Covering experimental system design and implementation, the book supports assignment-based courses with a laboratory component, making it an ideal textbook for graduate students. It is also a perfect guidebook for software engineers and systems architects working in industry.

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Editorial Review

Review

"Energy is a vital resource for mobile computing. This book gives a comprehensive treatment of energy from the viewpoint of battery-powered mobile devices. A broad range of topics is covered, and each topic is discussed in depth. This book will be a valuable resource for graduate students and mobile system engineers."

Mahadev Satyanarayanan, Carnegie Mellon University

About the Author

Sasu Tarkoma is a Full Professor in the Department of Computer Science at the University of Helsinki, Finland. He has worked in the IT industry as a consultant and chief system architect as well as principal researcher and laboratory expert at Nokia Research Center. His interests include mobile computing, Internet technologies and middleware.

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Eemil Lagerspetz is a doctoral student in the Department of Computer Science at the University of Helsinki. His research interests include mobile energy awareness, data analysis and cloud computing. He has published many scientific articles on mobile energy efficiency.

Yu Xiao is currently a postdoctoral researcher in the Department of Computer Science and Engineering at Aalto University. Her research interests include energy-efficient wireless networking, mobile cloud computing and mobile crowd-sensing.

Users Review

From reader reviews:

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Playing with family in a very park, coming to see the coastal world or hanging out with close friends is thing that usually you might have done when you have spare time, and then why you don't try thing that really opposite from that. 1 activity that make you not sensation tired but still relaxing, trilling like on roller coaster you have been ride on and with addition info. Even you love Smartphone Energy Consumption: Modeling and Optimization, you are able to enjoy both. It is very good combination right, you still need to miss it? What kind of hang type is it? Oh come on its mind hangout guys. What? Still don't have it, oh come on its referred to as reading friends.

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