Bluetooth Low Energy: The Developer's Handbook

Von Robin Heydon
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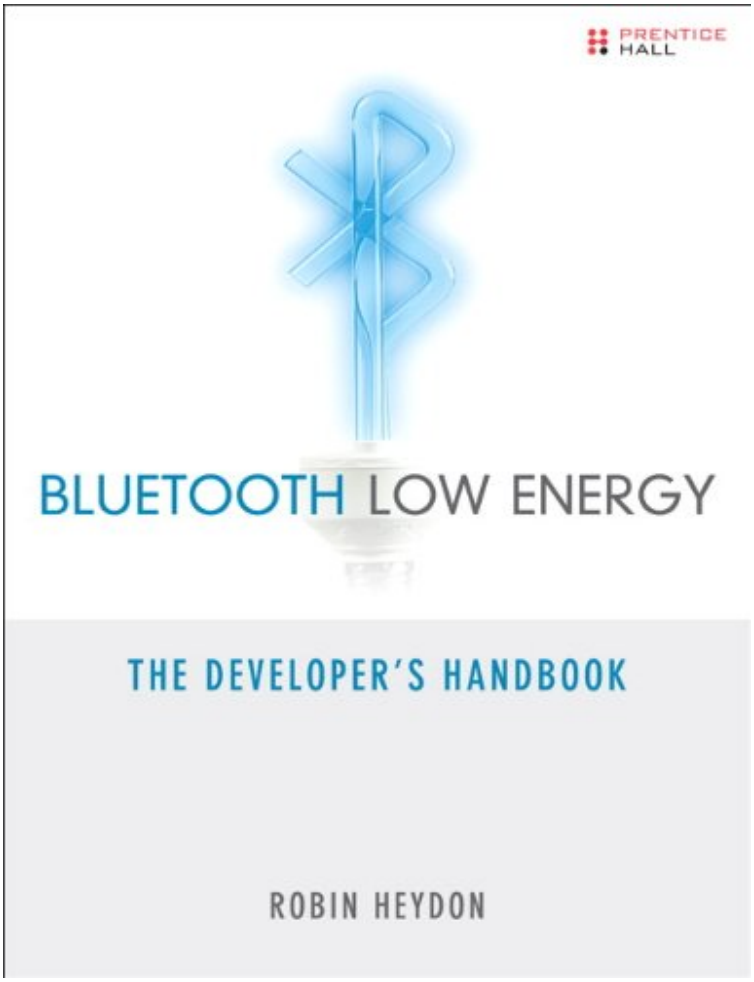

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Von Robin Heydon : Bluetooth Low Energy: The Developer's Handbook before purchasing it in order to gage whether or not it would be worth my time, and all praised Bluetooth Low Energy: The Developer's Handbook:

KurzbeschreibungThe First Complete Guide to Bluetooth Low Energy: How It Works, What It Can Do, and How to Apply It A radical departure from conventional Bluetooth technology, Bluetooth low energy (BLE) enables breakthrough wireless applications in industries ranging from healthcare to transportation. Running on a coin-sized battery, BLE can operate reliably for years, connecting and extending everything from personal area network devices to next-generation sensors. Now, one of the standards leading developers has written the first comprehensive,

accessible introduction to BLE for every system developer, designer, and engineer. Robin Heydon, a member of the Bluetooth SIG Hall of Fame, has brought together essential information previously scattered through multiple standards documents, sharing the context and expert insights needed to implement high-performance working systems. He first reviews BLEs design goals, explaining how they drove key architectural decisions, and introduces BLEs innovative usage models. Next, he thoroughly covers how the two main parts of BLE, the controller and host, work together, and then addresses key issues from security and profiles through testing and qualification. This knowledge has enabled the creation of Bluetooth Smart and Bluetooth Smart Ready devices. This guide is an indispensable companion to the official BLE standards documents and is for every technical professional and decision-maker considering BLE, planning BLE products, or transforming plans into working systems. Topics Include BLE device types, design goals, terminology, and core concepts Architecture: controller, host, applications, and stack splits Usage models: presence detection, data broadcasting, connectionless models, and gateways Physical Layer: modulation, frequency band, radio channels, power, tolerance, and range Direct Test Mode: transceiver testing, hardware interfaces, and HCI Link Layer: state machine, packets, channels, broadcasting, encryption, and optimization HCI: physical/logical interfaces, controller setup, and connection management L2CAP: channels and packet structure, and LE signaling channels Attributes: grouping, services, characteristics, and protocols Security: pairing, bonding, and data signing Generic Access Profiles: roles, modes, procedures, security modes, data advertising, and services Applications, devices, services, profiles, and peripherals Testing/qualification: starting projects, selecting features, planning, testing, compliance, and more KurzbeschreibungThe First Complete Guide to Bluetooth Low Energy: How It Works, What It Can Do, and How to Apply It A radical departure from conventional Bluetooth technology, Bluetooth low energy (BLE) enables breakthrough wireless applications in industries ranging from healthcare to transportation. Running on a coin-sized battery, BLE can operate reliably for years, connecting and extending everything from personal area network devices to next-generation sensors. Now, one of the standards leading developers has written the first comprehensive, accessible introduction to BLE for every system developer, designer, and engineer. Robin Heydon, a member of the Bluetooth SIG Hall of Fame, has brought together essential information previously scattered through multiple standards documents, sharing the context and expert insights needed to implement high-performance working systems. He first reviews BLEs design goals, explaining how they drove key architectural decisions, and introduces BLEs innovative usage models. Next, he thoroughly covers how the two main parts of BLE, the controller and host, work together, and then addresses key issues from security and profiles through testing and qualification. 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Heydon cochaired the original specification group and drove the spec through to publication. Heydon has worked in wireless communications since 2000, first as a firmware engineer and now as a full-time standards architect. He has contributed to fixing and improving every version of the Bluetooth specification. In 2010, in recognition of his work, he was honored as one of only a small group of members of the Bluetooth SIG Hall of Fame.