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Sommario/riassunto

The first book focusing on one of the hottest new topics in Internet-of-Things systems research and development Studies estimate that by 2020 we will have a vast Internet-of-Things (IoT) network comprising 26 billion connected devices, including everything from light bulbs to refrigerators, coffee makers to cars. From the beginning, the concept of cyber-physical systems (CPS), or the sensing and control of physical phenomena through networks of devices that work together to achieve common goals, has been implicit in the IoT enterprise. This book focuses on the increasingly hot topic of Human-in-the-Loop Cyber-Physical Systems (HiTLCPS) - CPS that incorporate human responses in the IoT equation. Why have we not yet integrated the human component into CPS? What are the major challenges to achieving HiTLCPS? How can we take advantage of ubiquitous sensing platforms, such as smartphones and personal devices to achieve that goal? While mature HiTLCPS designs have yet to be achieved, or a general consensus reached on underlying HiTLCPS requirements, principles, and theory, researchers and developers worldwide are on the cusp of realizing them. With contributions from researchers at the cutting edge of HiTLCPS R&D, this book addresses many of these questions from the theoretical and practical points of view. . An

essential primer on a rapidly emerging Internet-of-Things concept, focusing on human-centric applications.. Discusses new topics which, until now, have only been available in research papers scattered throughout international literature. Addresses fundamental concepts in depth while providing practical insights into the development of complete HiTLCPS. Includes a companion website containing full source-code for all of the applications described This book is an indispensable resource for researchers and app developers eager to explore HiTL concepts and include them in their designs. It is also an excellent primer for advanced undergraduates and graduate students studying IoT, CPS, and HiTLCPS.