The future of the Internet involves advances in mobile communications as one of its key trends, especially with the enormous growth of mobile devices. These advances in mobile technologies are turning the Internet into a medium that connects billions of things, including devices and sensors, services and people. Part of this vision includes the possibility that in the future every person and every object could be connected through mobile technologies from virtually any position on earth. As a result, mobile smart applications will tend to use networked information and integrate devices, wireless and sensor networks with web-based enabled services as the next Internet revolution.

To pave the way for future advances, next generation mobile software technologies need to emerge in the form of novel development processes, software architectures, conceptual designs, and implementation infrastructures. In addition, we have already started to see an increasing number of transformative mobile software applications in areas such as smart urban development, transportation, tourism, and healthcare. Indeed, more and more appliances of all kinds in homes and offices are becoming part of the Internet and being controlled by mobile devices such as smart phones. Vehicles are becoming Internet enabled and mobile devices are starting to support drivers with all sorts of situational information that allows them to navigate safely and efficiently. In summary, these emerging applications use networked information to ensure, for example, fewer traffic jams, cheaper energy bills and better healthcare.

This handbook, which provides a showcase of theories, methods, processes, and tools that illustrate impact and the wide range of possibilities offered by developments in the area of mobile software engineering, will be of particular value to academics, practitioners, and students involved with or interested in this exciting field. The reader is exposed to a broad mix of research results and real-life applications, from new mobile context-aware methods and systems to location-aware approaches and applications and augmented reality techniques. In this way, the book succeeds in providing both an overview of possible applications and state-of-the-art research in mobile software engineering.

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Vinton G. Cerf is vice president and Chief Internet Evangelist for Google. He is responsible for identifying new enabling technologies and applications on the Internet and other platforms for Google. Widely known as one of the “Fathers of the Internet,” Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. Vint Cerf served as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN) from 2000-2007 and has been a Visiting Scientist at the Jet Propulsion Laboratory since 1998. Cerf served as founding president of the Internet Society (ISOC) from 1992-1995. Cerf is a fellow of the IEEE, ACM, and American Association for the Advancement of Science, the American Academy of Arts and Sciences, the International Engineering Consortium, the Computer History Museum, the British Computer Society, the Worshipful Company of Information Technologists and a member of the National Academy of Engineering. Cerf is a recipient of numerous awards and commendations in connection with his work on the Internet, including the US Presidential Medal of Freedom, US National Medal of Technology, the Prince of Asturias Award, the Tunisian National Medal of Science, the Japan Prize, the Charles Stark Draper award, the ACM Turing Award and eighteen honorary degrees. In December, 1994, People magazine identified Cerf as one of that year’s “25 Most Intriguing People.” His personal interests include fine wine, gourmet cooking and science fiction. Cerf and his wife, Sigrid, were married in 1966 and have two sons, David and Bennett.