



Location-Based Services: Fundamentals and Operation

Axel Küpper

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DESCRIPTION

Location-based Services (LBSs) are mobile services for providing information that has been created, compiled, selected or filtered under consideration of the users' current locations or those of other persons or mobile devices. Typical examples are restaurant finders, buddy trackers, navigation services or applications in the areas of mobile marketing and mobile gaming. The attractiveness of LBSs is due to the fact that users are not required to enter location information manually but are automatically pinpointed and tracked.

This book explains the fundamentals and operation of LBSs and gives a thorough introduction to the key technologies and organizational procedures, offering comprehensive coverage of positioning methods, location protocols and service platforms, alongside an overview of interfaces, languages, APIs and middleware with examples demonstrating their usage.

- Explanation and comparison of all protocols and architectures for location services
- In-depth coverage of satellite, cellular and local positioning
- All embracing introduction to 3GPP positioning methods, such as Cell-Id, E-OTD, U-TdoA, OTDoA-IPDL and Assisted GPS
- Explains the operation of enhanced emergency services such as E-911
- Identifies unsolved research issues and challenges in the area of LBSs

This comprehensive guide will be invaluable to undergraduate and postgraduate students and lecturers in the area of telecommunications. It will also be a useful resource to developers and researchers seeking to expand their knowledge in this field.

ABOUT THE AUTHOR

Axel Küpper received a diploma in computer science in 1996 and his Ph. D in 2001 from Aachen University of Technology, Germany. Since 2001 Küpper has worked as a research assistant at the Chair of Communication Systems and Computer Networks of Ludwig-Maximilians University Munich. His research activities focus on the fields of distributed systems and mobile communications. Küpper has carried out several research projects about location and context awareness and published approximately 30 reviewed papers.

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