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Query Integrity Assurance of Location-based Services Accessing Outsourced Spatial Databases

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Abstract

Outsourcing data to third party data providers is becoming a common practice for data owners to avoid the cost of managing and maintaining databases. Meanwhile, due to the popularity of location based-services (LBS), the need for spatial data (e.g., gazetteers, vector data) is increasing exponentially. Consequently, we are witnessing a new trend of outsourcing spatial datasets by data collectors. Two main challenges with outsourcing datasets is to keep the data private (from the data provider) and ensure the integrity of the query result (for the clients). Unfortunately, most of the techniques proposed for privacy and integrity do not extend to spatial data in a straightforward manner. Hence, recent studies proposed various techniques to support either privacy or integrity (but not both) on spatial datasets. In this talk, I will present a technique that can ensure both privacy and integrity for outsourced spatial data.

Bio

Wei-Shinn Ku received his Ph.D. degree in computer science from the University of Southern California (USC) in 2007. He also obtained both the M.S. degree in computer science and the M.S. degree in Electrical Engineering from USC in 2003 and 2006 respectively. He is an Assistant Professor with the Department of Computer Science and Software Engineering at Auburn University. His research interests include spatial and temporal data management, mobile data management, geographic information systems, and security and privacy. He has published more than 40 research papers in refereed international journals and conference proceedings. He is a member of the ACM and the IEEE.

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