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Geo-Tagged Video Search

Speaker: Prof. Seon Ho Kim
Department of Computer Science and Information Technology
University of the District of Columbia

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Abstract

User generated video content is experiencing significant growth which is expected to continue and further accelerate. As an example, users are currently uploading twenty hours of video per minute to YouTube. Making such video archives effectively searchable is one of the most critical challenges of multimedia management. Manual annotations are time-consuming and subjective. Current search techniques that utilize signal-level content extraction from video also have their limitations and struggle to scale.

We present a framework based on the complementary idea of acquiring sensor streams automatically in conjunction with video content. Of special interest are geographic properties of mobile videos. The meta-data from sensors can be used to model the coverage area of scenes as spatial objects such that videos can effectively, and on a large scale, be organized, indexed and searched based on their field-of-views. We present an overall framework that is augmented with our design and implementation ideas to illustrate the feasibility of this concept of managing geo-tagged video.

Biography

Dr. Seon Ho Kim received his Ph.D. in Computer Science from the University of Southern California in 1999. Since then, he had worked for the University of Denver until June 2008. His primary research interests include multimedia systems, mobile video management, spatiotemporal databases, GIS, and storage systems. He has been an active researcher in the field of multimedia and database for the past decades with more than 40 scientific publications. He has served as a program committee member, reviewer, and panelist for many professional conferences, journals, and federal agency. He co-chaired the 2004 ACM Workshop on Next Generation Residential Broadband Challenges which was held in conjunction with the ACM Multimedia Conference.