Accepted Manuscript

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PII: S0167-739X(17)32136-2
DOI: https://doi.org/10.1016/j.future.2017.11.015
Reference: FUTURE 3807

To appear in: *Future Generation Computer Systems*

Received date : 21 September 2017
Revised date : 25 October 2017
Accepted date : 7 November 2017

Please cite this article as: J. Yang, B. Jiang, H. Song, A distributed image-retrieval method in multi-camera system of smart city based on cloud computing, *Future Generation Computer Systems* (2017), https://doi.org/10.1016/j.future.2017.11.015

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ACCEPTED MANUSCRIPT

A Distributed Image-retrieval Method in Multi-camera System of Smart City Based on Cloud Computing

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Abstract

In smart city, accurate video sensing information is very critical for the whole city system. However, huge amount of information is the main characteristic of multi-camera system, and we have truly been in big data era for image/video processing. In the development of modern smart city, how to make accurate image retrieval in multi-camera system should be considered seriously. In previous researches, many approaches have been put forward. To the best of our knowledge, there is few research focusing on the method based on distributed fault-tolerant processing (DFP) method. The introduction of DFP will greatly improve the processing rate based on cloud computing, so it will be beneficial to the improvement of this issue. In this paper, we propose a distributed image-retrieval method designed for cloud-computing based multi-camera system in smart city. Through the combination of the cloud storage technology, data encryption and data retrieval technology, we achieve efficient integration and management of multi-camera resources. In this way, the cloud computing network data will be released more quickly, which can provide convenient storage service for users. What's more, experimental results show the scalability and effectiveness of the proposed method, compared with previous processing methods.

Keywords:
Smart city, cloud computing, distributed image-retrieval method, multi-camera system

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