

User Detection in Real-time Panoramic View through Image Synchronization using Multiple Camera in Cloud

Yung Fu Tan *, Mangal Sain**, Lee Byung Gook*

*Visual Content Department Dongseo University, Busan, South Korea

** Department of Information Engineering, Dongseo University, Busan, South Korea

Yungfu88@hotmail.com, mangalsain1@gmail.com, lbg@dongseo.ac.kr

Abstract— Nowadays to manage a big collection of image data is becoming a major issue for companies as well as for smart phone devices. After panoramic view in camera, elongated fields of view technology and algorithms has been fully implemented in industrial area, commercial systems, painting and mobile devices such as smart phones and portable computers. But still majority of panoramic view is only implemented to capture wide angle scenery or a three-dimensional model. In this paper a cloud computing service and its application for data synchronization with multiple cameras has been presented. This service has been implemented using image extracted data transferring without multiple computer devices for synchronization. For image data analysis, a dedicated application is developed with single capture device and each data will be sent to server for image processing computation. The goal of this research is to provide a better image data synchronization which perform a faster real-time panoramic view and analyze human tracking information precisely. In this system multiple cameras were used for image data synchronization to get panoramic view and performing human detection from each panoramic view frames.

The system is setup with multiple camera connected with few computer where each of them sending image direct to cloud server and one of machine will be retrieving all image contents directly from cloud server for information mapping, image stitching and computation part. For better performance different cloud server has been used to analyze data transferring size, speed, computation time with different features tracking method. Finally this paper concludes with a system which can be specially use in wide are view for multiple capture devices. This system can be used in various systems which can help in vehicle safety system as well as wide are human detection.

(Pt9)Keyword— Cloud Computing, Human Tracking, Image Processing, information mapping and data synchronization



Yung Fu Tan is a master student majoring in visual contents at Dongseo University, South Korea, where he has start his sresearch here since August 2013. Prior to this he graduated with a B.S (Hons) in Software Engineering from Multimedia University, Malaysia. His recently work has focused on hand pose and hand skeleton estimation for depth sensor camera.



Mangal Sain is currently doing POSTDOC in Cryptography and Network Security Laboratory (CNSL) Dongseo University South Korea with Professor Hoon Jae Lee. He obtained his PhD in Ubiquitous Information Technology with titled “development of user centric interface in Middleware for u-healthcare information system. He has proposed and implemented a Middleware with User Interface as well as An Analysis tool to measure several healthcare data in this system. To secure that data we also implemented security algorithm in communication. He also has published more 18 papers in related international conferences and journals.



Professor Lee Byung Gook is a professor in Visual Contents department at Dongseo University, Busan, South Korea. Prior to this, he graduated with B.S in Mathematics from Yonsei University, M.S in Applied Mathematics from KAIST and Ph.D in Applied Mathematics from KAIST. Currently, his research interest is in development if high- definition 3D image processing technologies using advanced integral imaging with image processing technologies using advanced integral imaging with improved depth range.