Development of Real-Time Monitoring System via Visual IoT

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Visual Internet of Things (IoT) is a class of IoT that collects rich visual data. In general, the visual IoT device is equipped with a video transmission equipment such as a camera. The involved technologies are advanced video transmission techniques and information extraction from images by image recognition techniques. However, since the video data size is larger than the sensor data size, one of the issues of visual IoT is high-performance video transmission in networks in which the bandwidths are limited. In this paper, we design and develop a real-time monitoring system using visual IoT device. Our system is based on a novel protocol, named high-performance video transmission (HpVT), for field monitoring via 4G LTE mobile networks. The performance of our system is evaluated in real fields to conclude that we can achieve full high-definition (full-HD) resolution video transmission with as high frame rate as 30 fps.

