Software-Based Encoder for UHD Digital Signage System

S.W. MOON*, J.W. LEE*, J.S. LEE*, H.T. JUNG*, K.S. YOON*
* ETRI(Electronics and Telecommunications Research Institute), Korea
moonstarry@etri.re.kr, jeongwoo@etri.re.kr, jslee2365@etri.re.kr, htjung@etri.re.kr, ksyoon@etri.re.kr

Abstract—With the rapid growth of the digital signage industry, high resolution video contents are used for digital signage. In this situation, advertisers want to use UHD video contents to advertise their product. In this paper, we propose a software-based encoder for UHD digital signage contents which can divide frames into appropriate form for the layout of a digital signage display system and manage quality of divided frames.

Keyword—Digital Signage, Software-Based Encoder, Ultra High Definition

Sungwon Moon received his B.S and M.S degrees of computer science from KAIST, Korea in 2010 and 2012. He is a RESEARCHER of Electronics and Telecommunications Research Institute(ETRI), Korea. His research interests are Digital Watermarking, Video Forensic, and Video Processing.

Jungsoo Lee received his B.S. and M.S. degrees from Jeonbuk University, Korea in 1995 and 1997, respectively and his Ph.D. degree in Electronic Engineering from Hanyang University, Seoul Korea in 2005. From 2000 to 2005, he was a senior member of MarkAny Research Institute. Currently, he is a senior member of Electronics and Telecommunications Research Institute(ETRI). His research interests are digital watermarking, fingerprinting, image processing, digital rights management, digital cinema and digital signage.

Jeongwoo Lee received the B.S. degree in information and telecommunication engineering from Jeonbuk National University, Jeonju, Korea, in 1996, and the M.S. degree in information and communications engineering from Gwangju Institute of Science and Technology (GIST), Gwangju, Korea, in 1998. He received the Ph.D. degree in the Information and Communications Department from GIST in 2003. He is currently working in Electronics and Telecommunications Research Institute (ETRI). His research interests include digital video coding algorithms, implementations for H.264 and HEVC, rate control algorithms for video coding, scalable video compression, and gpu-based coding algorithms.

Hyo Taeg Jung received his B.E. and M.S. in Electronic Engineering at Kyungpook National University and Computer Science at Yonsei University, Korea in 1986 and 1997, respectively. He received his Ph.D. degree in Software Engineering at the University of Texas at Dallas in 2008. Since 1987, he has been working as a principal researcher at Electronics and Telecommunications Research Institute(ETRI). His research interests are requirement engineering, contents engineering, digital content management and digital signage.

Kisong Yoon received his M.S. and Ph.D degrees in Computer Science from New York City University in 1988 and 1993 respectively. From 1993, he was a principal member of Electronics and Telecommunications Research Institute (ETRI). His research interests are digital contents distribution, digital rights management and digital cinema/signage.