

A Lightweight Personalized Image Preloading Method for IPTV System

Wen-Chang Tsai*, Chih-Lung Ko*, Chi-Shi Liu*

**Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taoyuan City, Taiwan*

wen_chang@cht.com.tw, alan_ke@cht.com.tw, csliu@cht.com.tw

Abstract—Owing to the increasing demands on high-quality video, there are numerous services about Video on Demand (VOD) on IPTV platform. Comparing with traditional IPTV channel service, the VOD service often suffers from long loading time because of the page switching and the longest waiting time is the image downloading process. In this paper, we present a lightweight personalized image preloading method for IPTV system which is suitable for embedded devices. According to our experiment result, the training time is less than 0.5 seconds when the training sets are about 1800 and the average time saving on page switching is 1.09 seconds when the prediction accuracy is approximately 30%.

Keyword—IPTV, Preloading, Personalized, Image



Wen-Chang Tsai received his BS degree in 2012 from National Cheng Kung University department of Engineer Science and his MS degree from National Cheng Kung University Engineering Science group of computer science in 2014. During two years in his master degree, he studied video decoder and cloud GPU computing which is the topic of his graduation thesis. After that, he is now a researcher in Chunghwa Telecom Laboratories, Taiwan and focuses on the field of the next generation IPTV.



Chih-Lung Ko received his MS degree in 2004 from National Changhua University of Education department of Information Management. His main research interests include VoIP protocols, IPTV & OTT applications and Enterprise ICT solutions. He is now a deputy project manager in Chunghwa Telecom Laboratories, Taiwan.



Chi-Shi Liu received his MS degree in telecommunications engineering from National Chiao-tung University, Taiwan in 1985, and his PhD degree in electrical engineering from National Tsing-hua University, Taiwan in 1996. His main research interests include speaker recognition, speaker verification, and IPTV application service. He is now a project manager in Chunghwa Telecom Laboratories, Taiwan.