Abstract

Image compression using hardware approach is emerging area for researchers. Paper focuses on a new technique using digital camera using the Evaluator-9t development board (ARM9TDMI) and the OVT9650 digital imaging sensor for compression of Bit Map Images. Uncompressed images taken by the image sensor and then compressed using JPEG compression using ARM processor. Compressed images then transferred to Desktop computer pertaining 32-bit Windows operating system. Compressed image follows all the steps involved in JPEG compression technique. We have used various techniques like Digital imaging, Image compression technologies, embedded application of JPEG compression, ARM microcontrollers Serial communication. Most important factor in image processing is to compress image which helps a lot in world of digital consumer application like handheld mobile, digital camera to save memory which is the most expensive thing in this era. So we need a new approach to do this and that is most recent and fastest way to compress the image using JPEG compression standard. This design can be used for digital photography applications to achieve low computation, low storage. It is a competitive solution for scanner to have compression, function embedded for scanner to solve the bandwidth problem between PC and scanner.

References
Platform Independent JPEG Encoder

- Chung-Jr Lian, Liang-Gee Chen, Hao-Chieh Chang, and Yung-Chi &quot;Embedded JPEG Encoder IP Core and Memory Efficient Preprocessing Architecture for Scanner&quot; Chang 0-7803-6253- 5/00/$10. 00 ©2000 IEEE.
- Shinsuke Kobayushi, Kenturo Mita Graduate School of Engineering Science, &quot;Rapid prototyping of jpeg encoder using the asip development systempeas-111&quot; Osaka University 0-7803-7663- 3/03/$17. 00 ©2003 IEEE
- Tumeo A.; Monchiero M.; Palermo G.; Ferrandi F.; Sciuto D. &quot;A Self-Reconfigurable Implementation of the JPEG Encoder&quot;; Application-specific systems, architectures and Processors, 2007. ASAP. IEEE International Conf. on 9-11 July 2007 Page(s):24 - 29
- Yun-Lung Lee, Jun-Wei Yang, and Jer Min Jou Design of a Distributed &quot;JPEG Encoder on a Scalable NoC Platform&quot;; Department of Electrical Engineering, National Cheng Kung University No. 1, University Road, Tainan, Taiwan, R. O. C. 978-1-4244-1617-2/08/$25. 00 © 2008 IEEE

Index Terms

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