Abstract

The Internet and wireless broadband infrastructure is adding an extra edge to the next generation video surveillance. Besides enhancing the ability to improve security, it will also help improving productivity, customer satisfaction and regulatory compliance of the business. A noninvasive video surveillance system has been developed successfully using the ARM 9 single board computer as the development platform. The hardware comprises of the Friendly ARM mini2440 SBC, customized IR sensitive camera, Wi-Fi Module. The software implementation is based on the Linux kernel and Qt framework with porting of cross-compiled OpenCV and GUI libraries. Owing to the use of open source technologies and choosing embedded Linux as the development platform, the development cost has reduced tremendously. The embedded
system target platform used in this paper is Samsung S3C2440 which based on ARM9 embedded processor core. The Linux of released version is not fit the hardware of embedded system, so the cross-develop environment is needed to customize Linux operating system. It describes the methods and progress of transplanting the embedded Linux to the target board based on the S3C2440 processor, including the establishment of cross-compiler environment, the reduction and compilation of start-up code (bootloader) and Linux kernel 2.6 and the construction of root file system with the point focused on the structure and function of bootloader as well as the transplantation is feasible and using OpenCV (Computer Vision) library, the motion detection application is developed.

References

- Zhang Xiaozhi, &quot;Image processing and detection based on ARM+Linux platform&quot;, International Journal of Image Processing, Volume (2) Issue(1), 2012.
- Li Haifeng. &quot;Based on streaming video motion information analysis system research and implementation [D ], Jilin University, 2009&quot;.

Index Terms

Computer Science  Image Processing

Keywords

Motion Detection  Arm  OpenCV  Linux  Threshold Match Algorithm  Contours