Abstract

The complexity of image processing algorithms using mathematical calculations grows from the nature of the image to be processed and the desired result. A hardware implementation of these algorithms for the needs of real-time and embedded systems improves performances. In this paper we present some existing approaches used for hardware systems modeling. We propose a new graphical tool for designing image and video processing embedded systems called VIP DESIGN (Video and Image Processing Design). The novelty of our approach is that we bypass the shortcomings of existing languages by providing a high level of abstraction through two kinds of diagrams: structural diagram and filter edition diagram. It also allows formal verification and automatic code generation for ASIC and FPGA implementation.
A Specific-domain Design Tool for FPGA-based Image and Video Processing System

References


Index Terms

Computer Science
Multimedia
Keywords
VIP DESIGN  Structural diagram  filter editing diagram